PROTOCOL Translator

DNP3 User Manual

Revision Table

Rev	Detail of Change
01	Initial issue
02	Format and style update.

This document is in support of the Multitrode Translator.

Version 1.0.9

Revision 02

This document is valid for MultiTrode Translator firmware version 1.09 or newer.

MultiTrode reserves the right to update this document without notification.

Contents

Figures

1 Introduction

Congratulations on the purchase of the advanced MultiTrode Translator. In order to gain maximum benefit from the use of the MultiTrode Translator it is recommended that a good understanding is developed on the DNP3 protocol. It is not the intention of this manual to cover this protocol in detail but only to explain the basic operation to assist with the functional installation of the unit.

This manual covers the DNP3 protocol while the MODBus protocol is dealt with in its own separate manual. For more detailed information on DNP3 you are invited to contact the DNP3 Users Group at the following address:

DNP Users Group www.dnp.org

1.1 The MultiTrode Translator

The MultiTrode Translator gathers information from a MultiTrode MonitorPro or Remote Reservoir Monitor by issuing continuous "assembled status" requests. This information is mapped to and stored in a pair of native databases (one for MODBus, one for DNP3) which can then be accessed by a Master using the appropriate protocol. Local inputs on the MultiTrode Translator are also placed into these databases. The Master may request control operations and/or point writes to control the MultiTrode device via the MultiTrode Translator. Control operations that relate to MultiTrode devices will be acknowledged immediately by the MultiTrode Translator and the appropriate MultiTrode command issued at the earliest possible time. The success or failure of a control operation is determined by subsequently reading status information for the relevant point.

2 Acronyms

APCI	Application Protocol Control Information
APDU	Application Protocol Data Unit
ASDU	Application Services Data Unit
CROB	Control Relay Output Block
CMF	Central Monitoring Facility
DNP3	Distributed Network Protocol Version 3
IED	Intelligent Electronic Device
LPDU	Link Protocol Data Unit
LSDU	Link Services Data Unit
MTT	MultiTrode Translator
RCM	Remote Comfail Master; a feature of the MultiTrode Translator
RRM	MultiTrode's Remote Reservoir Monitor
RTU	Remote Terminal Unit
SCADA	Supervisory Control and Data Acquisition
TPDU	Transport Protocol Data Unit
TSDU	Transport Services Data Unit

3 Quick Installation Guide

As the default setting of the MultiTrode Translator will meet most applications needs, the only necessity is to set the site address and desired protocol option of the unit to allow polling of the remote site by the SCADA or PLC controlling system.

- Connect the MultiTrode Translator as per diagram below.

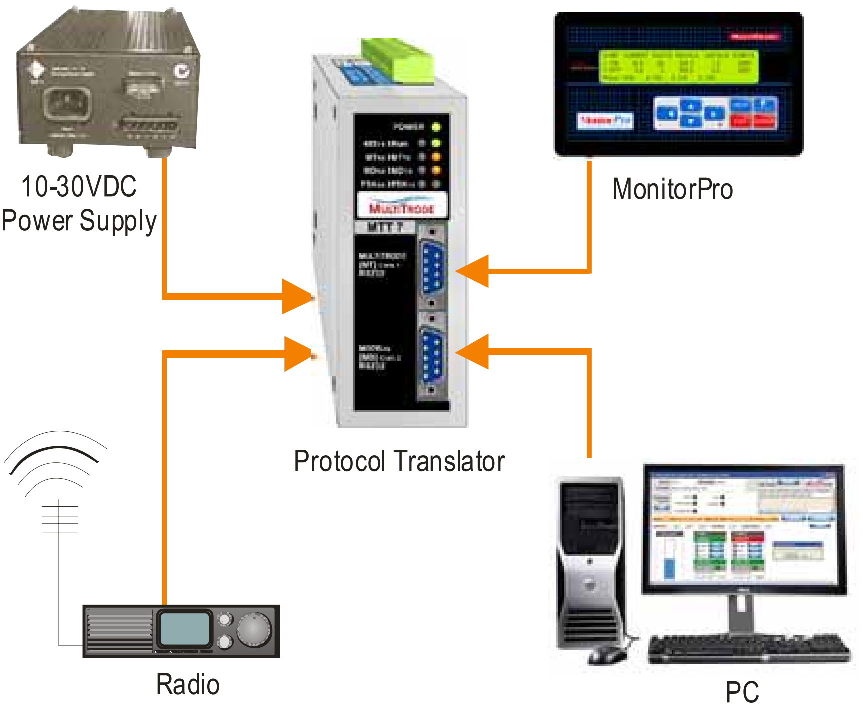

Figure 1 Overview Connection Diagram

- Using HyperTerminal® or some similar terminal emulation program, send the word “login” to the MultiTrode Translator using **[MB]Com. 2.** The word “login should be preceded with a 1 second silent period. The login command is lower case and strictly “login” without an “enter”.

Default communication settings should be 9600bps, 1 Start bit, no Parity and 2 Stop bits. The MultiTrode Translator will display the Main Menu to HyperTerminal®.

- From the Main Menu select option 1.

```
MultiTrode Translator (MultiTrode - DNP / ModBus converter)
v1.00.
Main Menu.


  1) MultiTrode Translator Address            [1]
```

Change the MultiTrode Translator’s address to the address used by the Master to communicate with it.

- Again from the Main Menu select option 2

```
MultiTrode Translator (MultiTrode - DNP / MODBus converter)
v1.00.
Main Menu.

  1) MultiTrode Translator Address           [1]
  2) Configure COM ports.
```

- By selecting option `1) Next port`, the com. Port desired for DNP3 operation can be configured.

```
COM2 (RS-232) Port Configuration.

  1) Next port
  2) Protocol                          [DNP3 Slave]
  3) Baud rate                         [9600]
```

Select option `2) Protocol` to set desired protocol.

- Press “Esc” twice and close down HyperTerminal®.
- Notice that the MT_{RX}, MT_{TX}, LED’s are polling.

The MultiTrode units should now be available via the MultiTrode Translator by the Central Monitoring Facility [CMF].

4 Introduction to DNP3

4.1 History and Background (extract from the DNP3 Users Group www.dnp.org)

The development of DNP3 was a comprehensive effort to achieve open, standards-based Interoperability between substation computers, RTU's, IED's (Intelligent Electronic Devices) and Master stations (except inter-Master station communications) for the electric utility industry. Also important was the time frame; the need for a solution to meet today's requirements. As ambitious an undertaking as this was the objective was reached. Since the inception of DNP3, the protocol has also become widely utilized in adjacent industries such as water/waste water, transportation and the oil and gas industry.

DNP3 is based on the standards of the International Electrotechnical Commission (IEC) Technical Committee 57, Working Group 03 who have been working on an OSI 3 layer "Enhanced Performance Architecture" (EPA) protocol standard for telecontrol applications. DNP3 has been designed to be as closely compliant as possible to these standards as they existed at time of development. Additionally, functionality not identified in Europe but needed for current and future North American applications has been included, e.g. limited transport layer functions to support 2K block transfers for IEDs, RF and fibre support. DNP3 has been selected as a Recommended Practice by the IEEE C.2 Task Force; RTU to IED Communications Protocol.

DNP was developed by Harris, Distributed Automation Products, in November 1993. Responsibility for defining further DNP3 specifications and ownership of the DNP3 specifications was turned over to the DNP3 Users Group, a group composed of utilities and vendors who are utilizing the protocol.

DNP3 is an open and public protocol. In order to ensure inter-operability, longevity and upgrade-ability of protocol, the DNP3 User Group has taken ownership of the protocol and assumes responsibility for its evolution. The DNP3 User Group Technical Committee evaluates suggested modifications or additions to the protocol and then amends the protocol description as directed by the User Group members.

Complete documentation of the protocol is available to the public. The four core documents that define DNP3, referred to as the "Basic 4 Document" are:

- Data Link Layer Protocol Description
- Transport Functions
- Application Layer Protocol Description and
- Data Object Library

The User Group also has available to members the document "DNP3 Subset Definitions" which will help implementers to identify protocol elements that should be implemented.

4.2 An overview of DNP3

DNP3 offers excellent flexibility and functionality that go far beyond conventional communications protocols. Among its robust and flexible features DNP3 includes:

- Output options
- Secure configuration/file transfers (not supported in MultiTrode Translator)
- Addressing for over 65,000 devices on a single link
- Time synchronization and time-stamped events
- Broadcast messages
- Data link and application layer confirmation

DNP3 was originally designed based on three layers of the OSI seven-layer model: application layer, data link layer and physical layer. The application layer is object-based with objects provided for most generic data formats. The data link layer provides for several methods of retrieving data such as polling for classes and object variations. The physical layer defines most commonly a simple RS-232, RS-485 or radio interface.

DNP3 is very efficient for a layered protocol while ensuring high data integrity. Users can expect many of the following benefits from using DNP3:

4.2.1 Short-term Benefits

- Interoperability between multi-vendor devices
- Fewer protocols to support in the field
- Reduced software costs
- Shorter delivery schedules
- Less testing, maintenance and training
- Improved documentation
- Independent conformance testing
- Support by independent users group and third-party sources, e.g. test sets, source code.

4.2.2 Long-term Benefits

- Easy system expansion
- Long product life
- More value-added products from vendors
- Faster adoption of new technology
- Major operations savings

4.3 Protocol Stack

DNP3 uses the 3 Layer Enhanced Performance Architecture [EPA] stack to define it's specification. The 3 Layer Protocol stack provides a simpler mechanism for data communication where device performance is critical and data bandwidth is limited, such as radio networks.

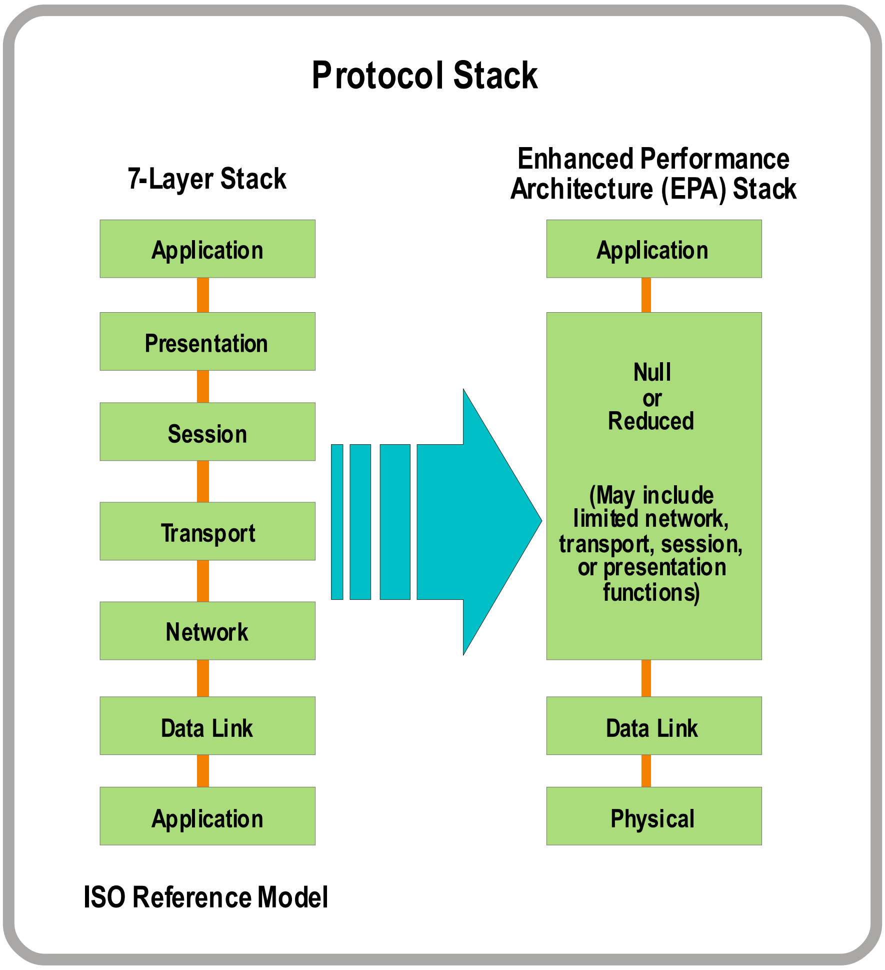

Figure 2 Protocol stack

The simple 3-Layer structure also reduces the need for end-users to fully understand the protocol to be able to use DNP3. A good understanding of the Application Layer is generally all that is required to achieve reasonable functionality from DNP3.

4.4 Physical Layer

In DNP3 the physical layer is not specifically defined and could conceivably be any medium. DNP3 was designed for serial point-to-point communication such as a multi-drop RS485 network. DNP3 is also well structured to be used over a radio network, which has a broadcast method of working. The routing of messages is done by the Data Link Layer, which inserts a source and destination address. It is possible with a radio network to broadcast to all field units using the broadcast destination address of 65535 (0xFFFF hex).

Broadcast address definitions have recently been refined in "DNP Technical Bulletin 9912-003". Broadcast addresses 0xFFFF exists as before with 0xFFFE and 0xFFFD added. These behave a bit differently to 0xFFFF. Addresses 0xFFF0-0xFFFC are reserved for future DNP3 use. The MultiTrode Translator supports these new addresses in accordance with the technical bulletin.

4.5 Data Link Layer

The Data Link Layer is the second layer in the Open System Interconnection (OSI) model. The data link layer accepts, performs and controls transmission service functions required by the higher layers.

The main purpose of the DNP3 data link layer is twofold:

- The data link layer must provide transfer of information across the physical link as described by the ISO-OSI standard. This means that user data supplied by higher layers must be converted into one frame (or LPDU) and sent to the physical layer for transmission. Conversely, individual LPDU's received by the data link layer must be assembled into one Link Service Data Unit (LSDU) and passed to higher layers. The layer provides for frame synchronization and link control.
- The data link provides indications of other events such as link status.

The actual physical network is transparent to the application using the Data Link because the Data Link Layer is responsible for connecting and disconnecting from any physical network without higher level interaction, i.e. application layer. That is, the data link (given the station destination address) will connect to the right physical circuit without control supplied from higher layers. In this way, the physical medium is totally transparent to the link layer service user.

4.5.1 Frame Format

(DNP3 uses IEC's FT3 frame formatting)

This section describes the LPDU format. A frame is defined as a fixed length header block followed by optional data blocks. Each block has a 16-bit CRC appended to it. The IEC specifies that the header fields consist of 2 start octets, 1 octet length, 1 octet control, a destination address and an optional fixed length user data field. In this implementation the fixed length user data field is defined as a source address giving the DNP3 frame structure below:

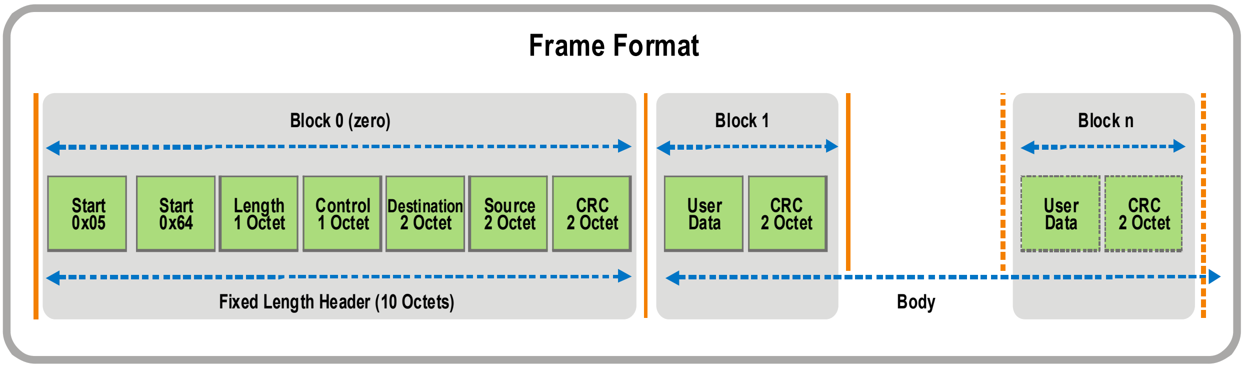

Figure 3 FT3 frame format

START	2 starting octets of the header (0x0564).
LENGTH	1 octet count of USER DATA in the header and body. This count includes the CONTROL, DESTINATION and SOURCE fields in the header however the CRC and other fields are not included in the count. The minimum value for LENGTH is 5, indicating only the header is present and the maximum value is 255.
CONTROL	Frame control octet.
DESTINATION	2 octet destination address. The first octet is the LSB and the second octet is the MSB.
SOURCE	2 octet source address. The first octet is the LSB and the second octet is the MSB.
CRC	2 octet Cyclic Redundancy Check.
USER DATA	Each block following the header has 16 octets of User defined data except the last block of a frame which contains 1 to 16 octets of User defined data as needed.

4.6 Transport Layer

This section describes the Transport layer functions, which act as a pseudo-transport layer to the DNP3 data link layer. The pseudo-transport layer function is specific only for those messages that are larger than one Link Protocol Data Unit (LPDU) between Master and RTU stations. This pseudo-transport layer acts as the DNP3 data link user in a protocol stack consisting of only the DNP3 Data Link and DNP3 Application Layer. This functionality allows the pseudo-transport layer to disassemble one Transport Service Data Unit (TSDU) into multiple Transport Protocol Data Units (TPDUs) or frames, and assemble multiple TPDUs into one TSDU.

This process works as follows:

The pseudo-transport layer takes one TSDU (user data) and breaks it into several sequenced TPDUs (each with Transport Protocol Control Information (TPCI)). Each TPDU is sent to the data link layer as Link Service Data Unit (LSDU) for transmission. It also works in the reverse fashion. The pseudo-transport layer receives multiple TPDUs from the data link layer and assembles them into one TSDU.

LSDUs are user data fragments which are small enough to fit into the defined FT3 frame format. When a Master station transmits a message to a RTU station, the transport functions break the message into LSDUs. These functions add a Transport layer Header (TH) octet at the beginning of the user data fragments that contain the information for the RTU station to reconstruct the complete message. All pseudo-transport layer messages have a TH.

The RTU station checks the TH octet on reception of each LSDU for the correct sequence and builds a TSDU message for higher layers.

The TH contains information that can identify the first and last frames and give every frame a six-bit sequence number. This information is required to reconstruct a message and also to guard against higher layers receiving misdirected or incomplete messages.

4.6.1 Transport Layer Header

After the data link receives a complete frame, the data is presented to the transport functions in a format illustrated below. The TH field is stripped out before the frame is combined with other frames belonging to the same message. Figure 4 shows the structure of a TPDU.

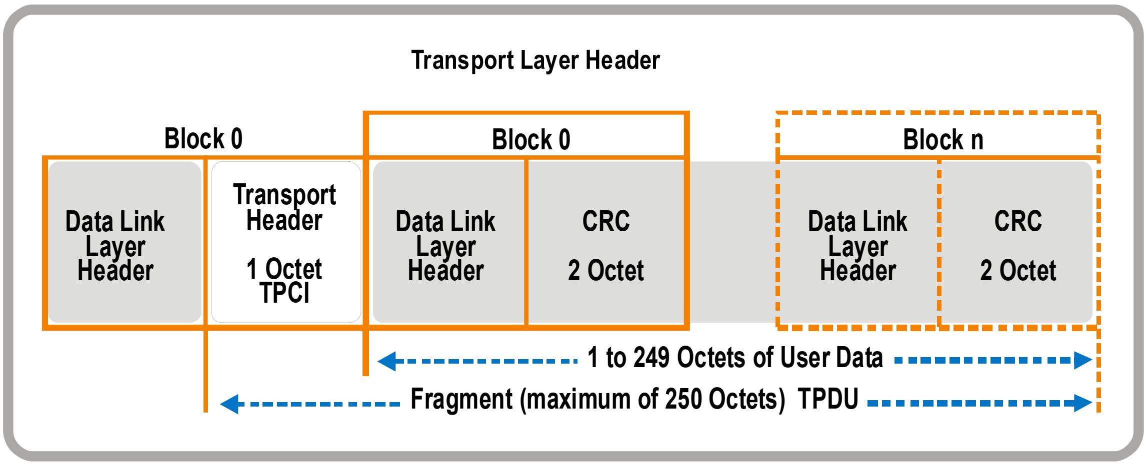

Figure 4 – Transport Layer Header

Transport Header	Transport control octet. One octet in length.
User Data	1 to 249 octets in length.

When an application requests the transmission of a long message, the message is broken into fragments small enough to fit in a single DNP3 Data Link frame of 250 octets. The maximum size of a fragment is 250 octets, which includes 249 octets of user data and 1 octet of TH data. The TH is added to the head of the fragment.

4.7 Application Layer

This section defines the formats of the application layer messages (APDU). The terms APDU and fragment are interchangeable. In this specification the Master station is defined as the station sending a request message and the RTU is the slave device to which the requested message is destined. In DNP3, only designated Master stations can send Application Layer request messages and only RTUs can send Application Layer Response messages.

Figure 5 below shows an example of a sequence of Application Layer messages between one Master and one RTU.

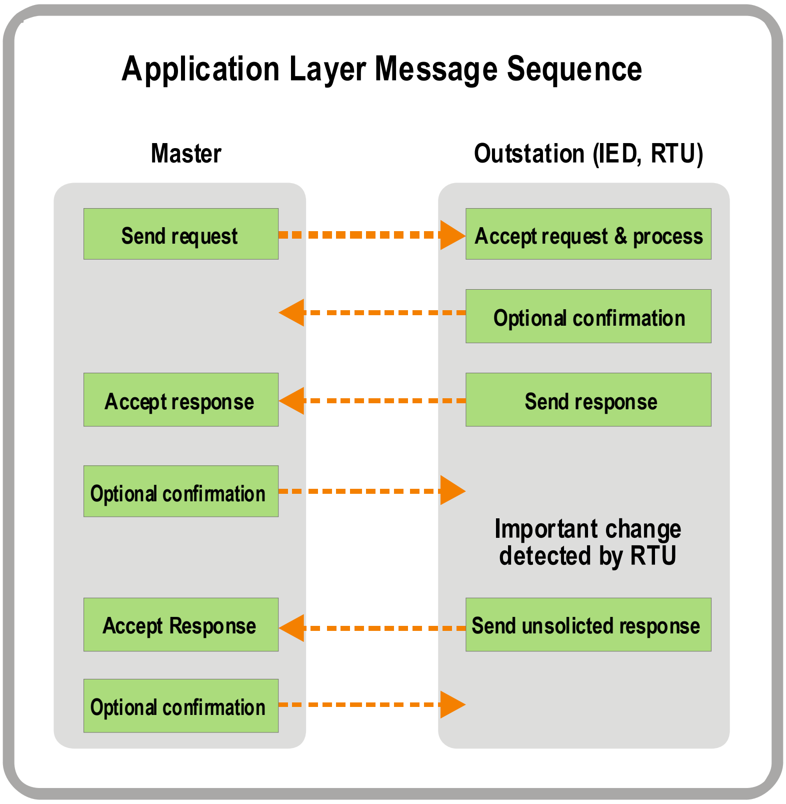

Figure 5 Application layer message sequence

As shown above, the Master station sends an Application Layer Request to the outstation, which returns an Application Layer Response. The RTU can also decide to *spontaneously* transmit data using an *Application Layer Unsolicited Response message.* For a Master, a request/response transaction with a particular RTU must be completed before another request can be sent to that outstation. A Master station may accept unsolicited responses while the request transaction is in progress.

For an outstation, a request/response transaction must be completed before any other requests are accepted or unsolicited responses are sent. Unsolicited responses can be sent before or after the request/response transaction but not during. If an RTU is presently in the middle of an unsolicited transaction, i.e. waiting for a confirmation, it may conditionally accept one request command from the Master.

In addition, each response or request can consist of one or more individual LPDU. Each however, should be digestible (parsable) and therefore executable (because the function code is part of every fragment). It is advisable that devices with limited message storage capabilities should only be sent single message requests when the expected response (from all fragments sent) is larger than one LPDU.

This is to ensure that devices can process a request and, build and more importantly, send a response before the next request is received. Otherwise, messages may require multi-fragment responses, which may require more message storage than the device has available.

4.7.1 Application Request Format

The application request message format (APDU) is illustrated in *Figure 6*. The APDU is made up of an APCI block which contains message control information and an ASDU which contains information to be processed by the receiving station. The APCI is often called a request header in an application request message. In DNP3, the ASDU is optional and is used when the message meaning is not conveyed completely in the request header. The APCI contains information on how to assemble a multi-fragment message and the purpose of the message. The APCI is present in all application layer request (APDUs). If the APCI implies all the needed information required to carry out the request, the ASDU is not present.

Each ASDU consists of one or more Data Unit Identifiers (DUI) or object headers and optional associated Information Objects (I0) or data fields.

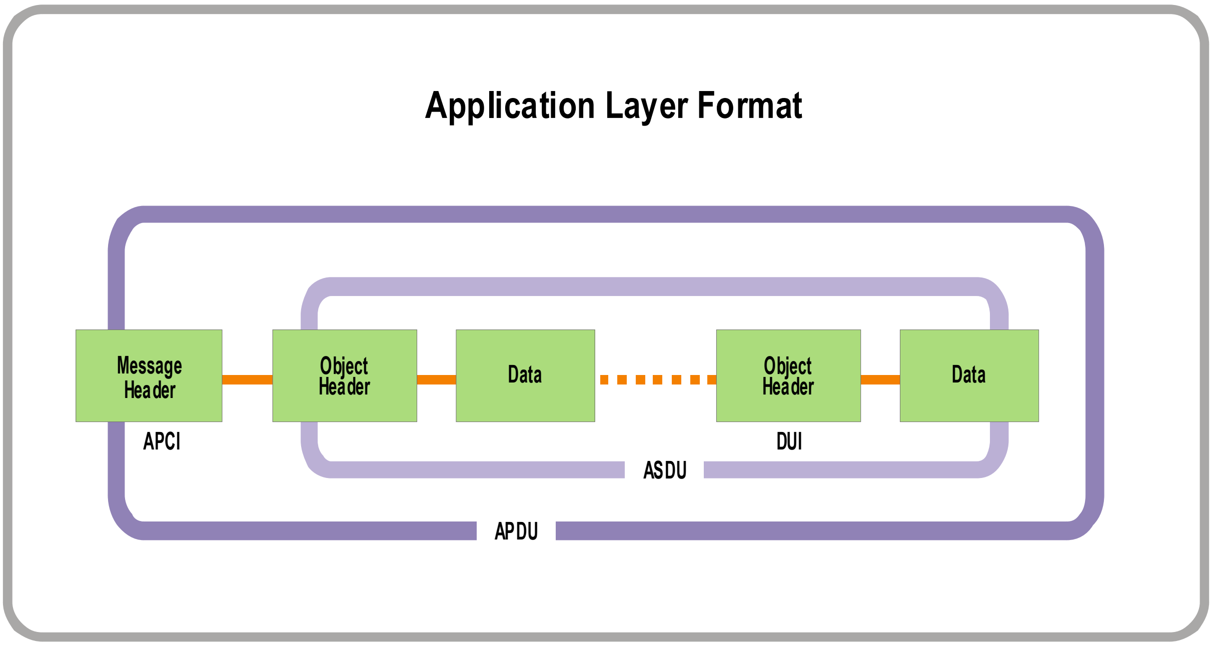

Figure 6 Application Layer Format

Message Header (Request/Response)	The request/response header identifies the purpose of the message and consists of APCI (Application Protocol Control Information).
Object Header	This header identifies the data objects that follow
Data	Data object(s) of the type specified in the object header.

4.7.2 Application Response Format

The response from an RTU to an application layer request APDU or the unsolicited response from an RTU, have the format as illustrated in Figure 6 above. The format is identical in form to the request. The APCI is often called a response header in an application response message. The response header contains the same information as the request header, plus an additional field containing internal indications of the outstation. The response header is always part of the application response.

4.8 Objects and Variations

This section will describe the general rules that apply to the DNP data objects. These rules apply to all the current objects (except where noted) and all future objects. It is recommended to acquaint oneself with the complete DNP3's Data Object Library (see Introduction Section on page 7).

4.8.1 Library Structure

The DNP application layer has an 8-bit object and an 8-bit variation field used to denote the data object. The 8-bit object denotes a general type of data such as static binary data. The variation of this object gives a different representation of the same data point, such as the size of the object or whether or not the object has flagged information.

There are generally four different categories of data within each data type, as outlined below:

- **Static Objects:** The objects which reflect the current value of the field point or software point.
- **Event Objects:** The objects which are generated as a result of data changing or some other stimulant. These are historical objects reflecting the value of data at some time in the past.
- **Frozen Static Objects:** The objects which reflect the current frozen value of the field point or software point. Data is frozen as a result of the data freeze requests.
- **Frozen Event Objects:** The objects which are generated as a result of frozen data changing or some other stimulant. These are historical objects reflecting the value of changed data at some time in the past.

Each category should be represented with a different object. All the classes of a different data type should also be organized in the same range of object numbers. So far, the following groupings have been created for all traditional SCADA or Distributed Automation data types and several non-traditional data types. These are as follows:

Grouping	Description	Reserved object Identifiers
Binary Input	The binary input grouping contains all objects that represent binary (status or Boolean) input information.	1-9
Binary Output	The binary output grouping contains all objects that represent binary output or relay control information.	10-19
Counters	The counter grouping contains all objects that represent counters.	20-29
Analog Input	The analog input grouping contains all objects that represent analog input information.	30-39
Analog Output	The analog output grouping contains all objects that represent analog output information.	40-49
Time	The time grouping contains all objects that represent time in absolute or relative form in any resolution.	50-59
Class	The class grouping contains all objects that represent data classes or data priority.	60-69
Files	The files grouping contains all objects that represent files or a file system.	70-79
Devices	The devices grouping contains all objects that represent device (rather than point) information.	80-89
Applications	The applications grouping contains all objects that represent software applications or operating system processes.	90-99
Alternate Numeric	The alternate numeric grouping contains all objects that represent alternate or custom numeric representations.	100-109
Future Expansion	The future expansion grouping is reserved for future or custom expansion of the DNP protocol.	110-254
Reserved	The objects 0 and 255 are permanently reserved and should not be used to denote any DNP object. Applications which use these object numbers may not be compatible with future versions of DNP.	

4.9 Cyclic Redundancy Check [CRC]

One of the most effective techniques for detecting multiple or singular errors in data transmissions with a minimum of hardware is the Cyclic Redundancy Check.

A two octet cyclic redundancy check is appended to each block in a frame.

The START, LENGTH, CONTROL, DESTINATION and SOURCE fields are all included when calculating the CRC for block 0 while every 16 bytes of User Data has a CRC appended.

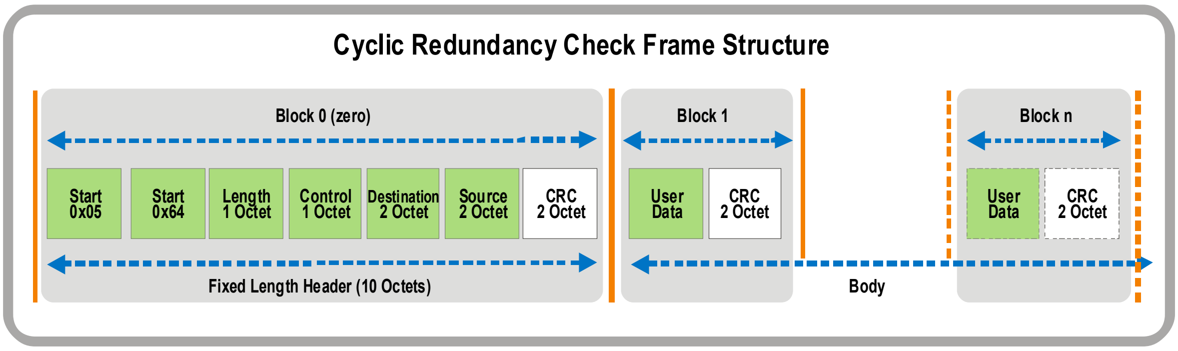

Figure 7 Cyclic Redundancy check frame structure

The 2 octet CRC check is generated from the following polynomial and then inverted before being placed in the block for transmission:

$$X^{16} + X^{13} + X^{12} + X^{11} + X^{10} + X^{8} + X^{6} + X^{5} + X^{2} + 1$$

The detailed method of generation of the CRC is beyond the scope of this document and readers are referred to the DNP3 specification (see Introduction section on page 7).

5 DNP3 Commands and Database Structure

This section covers the DNP3 implementation of the MultiTrode Translator. It starts with a preamble about the way in which data is represented in DNP3 and readers familiar with DNP3 may skip this. Much of the information provided has been extracted from the DNP3 Standard document with which, it is recommended, all users should familiarize themselves.

5.1 DNP3 Data Concepts

This section is a brief overview of DNP3 data objects in general. Some examples may not be allowable in all subset definitions of the protocol. They are purely illustrative and should not be considered an indication of the supported functionality of the MultiTrode Translator. This is covered in later sections.

All points are divided into several types known as “Objects” (commonly referred to as “Obj”). For example, Obj 1 represents all binary inputs while Obj 30 represents all analog inputs. A specific point is referenced by its index within the object group (e.g. Obj 1, Index 0 is the first binary input and Obj 20, Index 0 is the first analog input).

Some objects refer to different types of information for the same data point. For example Obj 1, Index 0 is the current (usually called static) state of the first digital input and Obj 2, Index 0 represents time stamped change events for the same point.

Each object type can also be represented in several different formats called “variations” (usually written “Var”). Sometimes the difference in variations of an object is just the format of the information. For example, Obj 30, Var 1, Index *n* is an analog input as a 32-bit value and Obj 30, Var 2, Index *n* is the same analog input as a 16-bit value. Other times, different variations provide more information. For example Obj 1, Var 1, Index *n* is a single bit that represents the state of a digital input while Obj 30, Var 2, Index *n* returns a status byte for the same digital point containing state, on-line, restart, communications lost, remote forced, local forced and chatter filter bits. Variation 0 is special and applies to all objects. Requesting a Variation of 0 tells the slave that it may respond with any variation that it pleases i.e. what the slave considers the default for a given object. Obviously, a slave can never send variation 0 in a response.

An Obj/Var/Index combination uniquely identifies a point by specifying type, format and index. When a Master performs a reading, it is not very efficient to specify all this for every point, particularly if there are many of the same type to read. Instead, a Master will specify an Obj, Var and a whole bunch of indices. Groups of indices are coded using qualifiers and ranges. The range actually specifies the required indices and the qualifier indicates how the range is to be interpreted.

For example, Qual 00 means the range is a pair of 8-bit numbers that represent start and end indices. Qual 01 means the range is a pair of 16-bit numbers that represent start and end indices. Qual 00 and 01 are usually used to retrieve static points. Qual 08 means that the range is a single 16-bit count. Qual 07 is the same but with an 8-bit count. These are usually used to retrieve event objects. Qual 28 means that the range is a 16-bit quantity followed by a number (specified by quantity) of 16-bit Indices (similarly for Qual 17 but with 8-bit values). These are usually used in responses to read requests of event objects. Qual 06 indicates that there is no range and specifies all available indices of the selected object. Many other qualifier codes exist but are not often used.

This approach allows for a great deal of flexibility but results in an inordinate number of possible combinations with around 20 different objects, some of which have up to 12 variations that can each be specified using 19 different qualifier codes. Some combinations are not even logically consistent. For this reason, DNP3 has three “Subset Definitions” (Level 1, Level 2 and Level 3) which dictate minimum sets of functionality.

In summary, when a Master sends a request, the packet will consist of an action (function code) and an “object header” that identifies one or more data points to which the action is applied. This object header consists of an object, variation, qualifier and range (multiple object headers are allowed in a request but only one function). The subset definitions dictate which combinations are legal for each level of compliance.

Examples:

Reading Obj 1, Var 1, Qual 06.	Returns all binary inputs as single bits.
Reading Obj 1, Var 0, Qual 06.	Returns all binary inputs in whichever format the slave wishes.
Reading Obj 1, Var 1, Qual 01, Range [10,20]	Returns binary inputs numbers 10 to 20 inclusive as single bits.
Reading Obj 2, Var 1, Qual 08, Range [3]	Returns the next three available change events for binary inputs without the time tag.
Reading Obj 2, Var 2, Qual 06	Returns all available change events for binary inputs with the time tag for each one.

5.2 DNP3 Protocol Implementation

The MultiTrode Translator implements DNP3 in accordance with Level 2 as specified in the “DNP3 Subset Definitions V2.00”. Level 2 was chosen to match MultiTrode’s Outpost SCADA system. It is also the most popular level and will thus maximise compatibility with other Masters.

The MultiTrode Translator supports four other features beyond Level 2:

1. Enabling/Disabling Unsolicited Responses [USR]: The Enabling/Disabling of USR’s can only be modified via the MultiTrode Translator’s configuration menu (see MultiTrode Translator Installation Manual). The configuration menu can be used to specify whether USR's are supported or not (by selecting an appropriate Com port or "No Port"). The only way they can be supported/unsupported is using the configuration menu. Once supported, they can be enabled/disabled ONLY using the appropriate DNP commands (see Device Profile, Obj 60, Fnc 20 & 21). Level 2 compliance requires that if a device supports USR's, it must announce itself on power-up with an empty USR to the master and start with all USR's disabled. It is then up to the Master to enable the classes it is interested in by using functions 20 & 21.
2. Configuration of Analog Deadbands (see Analog Deadband on page 26),
3. Store and forward sequence (see Store and Forward on page 29) and
4. Limited Peer-to-Peer communication (see Peer to Peer command on page 32).

Detailed information on the functions, objects and variations supported by the MultiTrode Translator are given in the Device Profile on page 34.

Below is a summary of the supported Objects and Variations, together with the functions that can operate on them.

Note: Functions codes 129 (solicited response) and 130 (unsolicited response) are response functions and can only be sent by slaves. All other functions are requests and can only be sent by Masters.

For any reading using variation 0, the slave is free to return any of the listed responses for that object. For any reading using non-zero variation, the slave must return the response using that same variation. The variation returned by the MultiTrode Translator when 0 is requested, is determined by the default variation listed in the “Full list of all DNP3 objects” on page 42.

5.3 Summary table of Objects, Variations and Functions Supported

Type (Obj)	Action (Fnc)	Format (Var)	Which Indices (Qual)
Binary Input (1)	Read (1)	Don't Care (0)	All (06)
	Response (129,130)	Single Bit Packed (1)	8 or 16-bit start/end (00, 01)
	Response (129,130)	With Status (2)	8 or 16-bit start/end (00, 01)
Binary Input Change Event (2)	Read (1)	Don't Care (0)	All, 8 or 16-bit count (06, 07, 08)
	Read (1)	With Time (1)	All, 8 or 16-bit count (06, 07, 08)
	Read (1)	Without Time (2)	All, 8 or 16-bit count (06, 07, 08)
	Read (1)	With Relative Time (3)	All, 8 or 16-bit count (06, 07, 08)
	Response (129,130)	With Time (1)	8 or 16-bit list (17, 28)
	Response (129,130)	Without Time (2)	8 or 16-bit list (17, 28)
	Response (129,130)	With Relative Time (3)	8 or 16-bit list (17, 28)
Binary Output (10)	Read (1)	Don't Care (0)	All (06)
	Response (129,130)	With Status (2)	8 or 16-bit start/end (00, 01)
Control Relay Output Block (12)	Select (3)	CROB (1)	8 or 16-bit list (17, 28)
	Operate (4)	CROB (1)	8 or 16-bit list (17, 28)
	Direct Operate (5)	CROB (1)	8 or 16-bit list (17, 28)
	Direct Operate – no ACK (6)	CROB (1)	8 or 16-bit list (17, 28)
	Response (129)	CROB (1)	Echo of request
Binary Counter (20)	Read (1)	Don't Care (0)	All (06)
	Immediate Freeze (7)	Don't Care (0)	All (06)
	Immediate Freeze – no ACK (8)	Don't Care (0)	All (06)
	Freeze And Clear (9)	Don't Care (0)	All (06)
	Freeze And Clear – no ACK(10)	Don't Care (0)	All (06)
	Response (129,130)	32-bit (1)	8 or 16-bit start/end (00, 01)
	Response (129,130)	16-bit (2)	8 or 16-bit start/end (00, 01)
	Response (129,130)	32-bit Delta (3)	8 or 16-bit start/end (00, 01)
	Response (129,130)	16-bit Delta (4)	8 or 16-bit start/end (00, 01)
	Response (129,130)	32-bit no Flag (5)	8 or 16-bit start/end (00, 01)
	Response (129,130)	16-bit no Flag (6)	8 or 16-bit start/end (00, 01)
	Response (129,130)	32-bit Delta no Flag (7)	8 or 16-bit start/end (00, 01)
	Response (129,130)	16-bit Delta no Flag (8)	8 or 16-bit start/end (00, 01)
Frozen Counter (21)	Read (1)	Don't Care (0)	All (06)
	Response (129,130)	32-bit (1)	8 or 16-bit start/end (00, 01)
	Response (129,130)	16-bit (2)	8 or 16-bit start/end (00, 01)
	Response (129,130)	32-bit no Flag (9)	8 or 16-bit start/end (00, 01)
	Response (129,130)	16-bit no Flag (10)	8 or 16-bit start/end (00, 01)
Counter Change Event (22)	Read (1)	Don't Care (0)	All, 8 or 16-bit count (06, 07, 08)

Type (Obj)	Action (Fnc)	Format (Var)	Which Indices (Qual)
	Response (129,130)	32-bit Without Time (1)	8 or 16-bit list (17, 28)
	Response (129,130)	16-bit Without Time (2)	8 or 16-bit list (17, 28)
Analog Input (30)	Read (1)	Don't Care (0)	All (06)
	Response (129,130)	32-bit (1)	8 or 16-bit start/end (00, 01)
	Response (129,130)	16-bit (2)	8 or 16-bit start/end (00, 01)
	Response (129,130)	32-bit no Flag (3)	8 or 16-bit start/end (00, 01)
	Response (129,130)	16-bit no Flag (4)	8 or 16-bit start/end (00, 01)
Analog Change Event (32)	Read (1)	Don't Care (0)	All, 8 or 16-bit count (06, 07, 08)
	Response (129,130)	32-bit Without Time (1)	8 or 16-bit list (17, 28)
	Response (129,130)	16-bit Without Time (2)	8 or 16-bit list (17, 28)
Analog Deadband (34)	Read (1)	16-bit (1)	All, 8 or 16-bit count (06, 07, 08)
	Write (2)	16-bit (1)	8 or 16-bit list (17, 28)
Analog Output Status (40)	Read (1)	Don't Care (0)	All (06)
	Response (129,130)	16-bit (2)	8 or 16-bit start/end (00, 01)
Analog Output Block (41)	Select (3)	16-bit Output Block (2)	8 or 16-bit list (17, 28)
	Operate (4)	16-bit Output Block (2)	8 or 16-bit list (17, 28)
	Direct Operate (5)	16-bit Output Block (2)	8 or 16-bit list (17, 28)
	Direct Operate – no ACK (6)	16-bit Output Block (2)	8 or 16-bit list (17, 28)
	Response (129)	16-bit Output Block (2)	Echo of request
Time And Date (50)	Write (2)	Time And Data (1)	8-bit count (07), [qty must be 1]
Class (60)	Read (1)	Class 0 (1)	All (06)
	Read (1)	Class 1 (2)	All, 8 or 16-bit count (06, 07, 08)
	Read (1)	Class 2 (3)	All, 8 or 16-bit count (06, 07, 08)
	Read (1)	Class 3 (4)	All, 8 or 16-bit count (06, 07, 08)
	Enable USR (20)	Class 1 (2)	All
	Enable USR (20)	Class 2 (3)	All
	Enable USR (20)	Class 3 (4)	All
	Disable USR (21)	Class 1 (2)	All
	Disable USR (21)	Class 2 (3)	All
	Disable USR (21)	Class 3 (4)	All
N/A	Cold Restart (13)	N/A	N/A
N/A	Delay Measurement (23)	N/A	N/A

5.4 DNP3 Database Objects

Information retrieved from the MonitorPro is placed into two databases, one for MODBus and the other DNP3. This section outlines how information is stored for the DNP3 protocol drivers. It is important to note that the two databases are totally independent. This means that using a Master to change the state of a point in one (say clearing a counter) will not have any effect on the associated point in the other. Only information locally generated by the MultiTrode Translator or retrieved from the MonitorPro will be duplicated into both.

This section also outlines the DNP3 database object types that are supported in accordance with DNP3 Level 2 requirements and how the MultiTrode Translator interprets and/or generates any additional information associated with some objects.

It should be noted that any counter values received from the MonitorPro appear as analog inputs and not binary counters. This is because a certain level of functionality is required by DNP3 counters, which cannot be translated to the MonitorPro (such as freezing).

The MultiTrode Translator can support unsolicited responses if configured to do so.

5.4.1 Binary Inputs

Binary Inputs are single bit read only points that contains all single bit values from the MonitorPro and MultiTrode Translator that cannot be modified by a Master. Changes are time stamped and stored as Binary Input Events. They can be reported as single bits or as a status byte with additional information (1 byte per point). The status byte includes the following bits:

State:	This is the state of the Binary Input.
On-line:	1 when the MultiTrode Translator has successfully acquired the data for the point, 0 if not. A 0 indicates that the value may not correctly reflect the physical point. The MultiTrode Translator sets this when an Assembled Status Response has been seen and clears it when communications to the MonitorPro has been lost. For internally generated points, this is 0 on power up but changes to 1 and remains there on the first capture from physical I/O.
Restart:	Indicates that the MultiTrode Translator has restarted. Set to 1 on power up and cleared after the first reading of that point.
Communications Lost:	Indicates that the MultiTrode Translator has lost communication with the originator of the data. For MultiTrode points this will be the complement of the on-line bit. It will always be 0 for locally generated inputs.
Remote Forced:	This will always be 0, as no information is available that the MonitorPro's inputs are being forced.
Local Forced:	This will always be 0, as the MultiTrode Translator never overrides input values.
Chatter Filter:	This will always be 0 for inputs from the MonitorPro and 1 for local MultiTrode Translator inputs to indicate that the MultiTrode Translator is debouncing the inputs.

5.4.2 Binary Input Events

Binary Input Events are time stamped changes of Binary Inputs. They can be reported without time, with time or with relative time.

5.4.3 Binary Outputs

Binary Outputs are the read-only status of single bit outputs (called control relays). To control the associated point, a Control Output Relay Block object must be used. They are used to trigger actions in the MonitorPro. Binary Outputs can only be read as status bytes which include the following bits:

State:	This is the state of the Binary Output. The Data Dictionary (Appendix B) outlines how this is derived for each point.
On-line:	Always 1 to indicate that a control operation may proceed.
Restart:	Indicates that the MultiTrode Translator has restarted. Set to 1 on power up and cleared after the first read of that point.
Communications Lost:	Set to 0 on power up or when the associated control operation is acknowledged by the MonitorPro. Set to 1 when the associated control operation to the MonitorPro fails. Note that this bit does not indicate that communication to the MonitorPro is currently down like it does for digital inputs but that the last control attempt to this point failed because it could not establish communications at that time.
Remote Forced:	This will always be 0, as no information is available that the MonitorPro's outputs are being overridden.
Local Forced:	This will always be 0, as the MultiTrode Translator never overrides output values.

5.4.4 Control Relay Outputs

Control Relay Outputs are used to control digital outputs and can only be written to using Select/Operate function pair in the correct sequence. The maximum allowable delay between select and operate commands is configurable via the MultiTrode Translator configuration menu.

- Direct Operate Function.
- Direct Operate without acknowledge.

Supported control operations are latch on, latch off, pulse on and pulse off. Pulsed control operations result in two operations being queued in the command queue, the second delayed by the requested pulse width. Obviously if the requested pulse width is less than the time it takes to service the initial operation, the second will be delayed until it is complete. Operation repeats are supported but similar timing considerations apply. Since there are no dual relay points in the MultiTrode Translator, all relay select codes should be NULL (the default relay for that point). Re-queuing is not supported.

5.4.5 Binary Counters

Binary Counters can be reported as 16 or 32-bits, as absolute or delta (difference since last read) values, with or without flags or any combination thereof. Counters can be read, frozen, or frozen and cleared, in a single operation. When frozen, a counter is copied into the associated Frozen Counter object, which will then contain a snapshot. The counter is then immediately able to resume counting. Changes to a counter are stored in the associated Counter Change Event Object.

Caution: Binary counters are non-volatile. As such their values are never initialised and hence counters must be cleared before first use. This can be done either by a DNP3 protocol command or via the configuration menu (refer to MultiTrode Translator Installation Manual).

The flags associated with the Binary Counter are as follows:

On-line:	1 when the MultiTrode Translator has successfully acquired the data for the point, 0 if not. Since all counters are locally generated within the MultiTrode Translator, this value is always 1.
Restart:	Indicates that the MultiTrode Translator has restarted. Set to 1 on power up and cleared after the first read of that point.
Communications Lost:	Indicates that the MultiTrode Translator has lost communication with the originator of the data. Since all counters are locally generated within the MultiTrode Translator, this value is always 0.
Remote Forced:	This will always be 0, as all counters are locally generated within the MultiTrode Translator.
Local Forced:	This will always be 0, as the MultiTrode Translator never overrides counters.
Roll Over:	This indicates that the maximum counter value has been exceeded since the last time the counter was reported. It will automatically clear after the point is read.

5.4.6 Frozen Counters

Frozen Counters hold the value of a Binary Counter as it was when the last freeze or freeze and clear operation was executed on it. They can be reported as either 16 or 32-bit, with or without flag. The flag field is the flag field of the binary counter at the time of the freeze.

5.4.7 Counter Change Events

A counter change object holds the history of changes of the associated Binary Counter. It can be reported as a 16 or 32-bit value without time stamp.

5.4.8 Analog Inputs

Multi bit (16/32) read only values. Contains all 16-bit values from the MonitorPro and MultiTrode Translator that cannot be modified by a Master. Changes are time stamped and stored as Analog Change Events. Can be reported as 16 or 32-bits, with or without additional flags byte.

The flags associated with an Analog Input are as follows:

On-line:	1 when the MultiTrode Translator has successfully acquired the data for the point, 0 if not. A 0 indicates that the value may not correctly reflect the physical point. The MultiTrode Translator sets this when an Assembled Status Response has been seen and clears it when communication to the MonitorPro has been lost. For internally generated points, this is 0 on power up, but changes to 1 and remains there on the first capture from physical I/O.
Restart:	Indicates that the MultiTrode Translator has restarted. Set to 1 on power up and cleared after the first read of that point.
Communications Lost:	Indicates that the MultiTrode Translator has lost communication with the originator of the data. For MultiTrode points this will be the complement of the on-line bit. It will always be 0 for locally generated inputs.
Remote Forced:	This will always be 0, as no information is available that the MonitorPro's inputs are being forced.
Local Forced:	This will always be 0, as the MultiTrode Translator never overrides input values.
Over Range:	Indicates that the digitised value is outside the range [-32768,+32767] when reported as a 16-bit value or [-214783648,+ 214783647] when reported as a 32-bit value. This is always 0, as all values will fit within 16-bits. The over range bit indicates that the analog value is not within the range that the value is reported not the intrinsic range of the analog itself. This is why the range differs depending on the variation being requested and not a property of the point. In addition, the scaled range of each MultiTrode Translator analog input is configurable so setting the over range bit when outside the scaled range will make Masters think it is outside the range defined above.
Reference Check:	Indicates that the reference signal used to digitise the analog input is not stable and the value may not be correct. This is always 0, as the MultiTrode Translator does not check the stability of the reference signal.

5.4.9 Analog Deadband

Analog Deadbands are associated with Analog Inputs and specify the deviation of an analog from the last evented value that will cause a new event to be generated. This prevents the event log being flooded with events caused by small fluctuations. Analog Deadbands are stored in the MultiTrode Translator's non-volatile memory ensuring Deadband settings even under power failure conditions. Deadband values can be modified via the MultiTrode Translator's configuration menu (see MultiTrode Translator Installation Manual) or by the Master (see Device Profile, Obj 34).

5.4.10 Analog Input Events

Analog input events are generated when an analog input's current value deviates from the last evented value by more than the associated Analog Deadband. Can only be reported as a 16 or 32-bit value without time.

5.4.11 Analog Output Status

Analog Output Statuses are the read only status of 16-bit outputs. To control the associated point an Analog Output Block object must be used. Analog Output Status can only be read as 16-bit values with flags. Flags include the following bits:

On-line:	Always 1 to indicate that a control operation may proceed.
Restart:	Indicates that the MultiTrode Translator has restarted. Set to 1 on power up and cleared after the first read of that point.
Communications Lost:	Set to 0 on power up or when the associated control operation is acknowledged by the MonitorPro. Set to 1 when the associated control operation to the MonitorPro fails. Note that this bit does not indicate that communication to the MonitorPro is currently down like it does for analog inputs but that the last control attempt to this point failed because it could not establish communications at that time.
Remote Forced:	This will always be 0, as the MultiTrode Translator never overrides output values.

5.4.12 Analog Output Blocks

Analog Outputs Blocks are used to control analog outputs and can only be written to using:

- Select/Operate function pair in the correct sequence. The maximum allowable delay between select and operate commands is configurable via the MultiTrode Translator configuration menu.
- Direct Operate Function.
- Direct Operate without acknowledge.

5.4.13 Time and Date

The time and date objects store time and date as a 48-bit value representing the number of milliseconds since 00:00:00.000 01/01/1970. Only one instance of this type of object exists and it reflects system time of the MultiTrode Translator. The time can also be set using a configuration menu.

5.4.14 Classes

Classes are objects that represent a group of other objects. Reading a class returns all of the objects that belong to that class. The assignment of objects to classes is hard-coded and is defined in the DNP3 Data Dictionary (Appendix B). 4 classes are available (0-3). All static objects (those that represent current values) must belong to class 0, while all event objects must belong to either class 1, 2 or 3.

Although there are many ways to read the multitude of objects that DNP3 supports, typically a Master will only do Class reads. The DNP3 subset definitions document recommends several different modes of operation for a Master:

Quiescent Operation:	Master never polls a slave. Slave sends class 0 as an unsolicited response on power up and then Class 1, 2 and 3 as points change.
Unsolicited Report-By-Exception:	Same as quiescent operation but Master periodically polls for Class 0 to verify that its database is up to date.
Polled Report-By-Exception:	Master polls frequently for event data (Class 1, 2, 3) and occasionally for Class 0. Since this will cause the slave to report mostly changes, polling is quick.
Polled Static Operation:	Master polls only Class 0 and hence gets the current value of all points in every response.

5.4.15 Locally Generated Data

In addition to the information retrieved from the MonitorPro, the MultiTrode Translator generates some information locally that is also put into the databases. This consists of analog inputs, digital inputs and status information.

5.4.15.1 Physical Inputs

Six digital and two analog inputs are available on the MultiTrode Translator and are accessible in the MODBus and DNP3 databases. The digital inputs are debounced to 5 msec resulting in frequencies of greater than 100Hz being rejected. By default, the associated points in the database reflect the instantaneous state of the inputs.

They can be independently configured to behave as latched points whereby a rising edge causes the database point to be set. It can then only be cleared by a “latch-clear” control operation (one per input). Clearing a latched database value when the physical input is still on; results in the database value remaining set.

It will only be cleared by a latch clear operation done when the physical input is off. Each digital input has an associated 32-bit accumulator that counts rising edges of the input (after debouncing and latching).

In the MODBus database, digital inputs appear as Input Status points and the latch clears are output coils. The accumulators are implemented as pairs of holding registers with the most significant word first. They can be cleared by writing zero to the holding registers.

In the DNP3 database, digital inputs appear as Binary Input points (Object 01) and the latch clears are control blocks (Object 12). The accumulators appear as binary counters (Object 20). They can be cleared using the DNP3 “Freeze and Clear” function.

The analog inputs are sampled at a rate of 645Hz and then processed using an accumulated mean algorithm to simulate low pass filtering. This can be tuned by varying the number of samples over which the signal is averaged. The inputs are scaled before being placed into the database. Scaling is totally configurable by specifying a raw minimum and maximum, as well as a scaled minimum and maximum, for each channel. To help in setting raw min/max values, a self-calibration option is supplied in the configuration menu. This allows the minimum and maximum levels to be sampled.

For example to set up a 4 to 20 mA input to appear in the database as a value from 0 to 32767, inject a 4mA signal and sample that as the raw minimum, inject a 20mA signal and sample that as the raw maximum. Finally set the scaled min and max to 0 and 32768 respectively. This method also helps to compensate for external effects on the analog signal such as transducer inaccuracies or component tolerances.

5.4.15.2 Status Information

The status information generated by the MultiTrode Translator is shown below:

Pending commands:	This indicates the number of commands currently awaiting execution in the command queue. It appears as an input register (301) in the MODBus database and an analog input (249) in DNP3.
Number of RTUs:	This is the number of RTUs reported by the MonitorPro in the last assembled status request. It appears as an input register (310) in the MODBus database and an analog input (250) in DNP3.
Number of pumps:	This is the number of pumps reported by the MonitorPro in the last assembled status request. It appears as an input register (311) in the MODBus database and an analog input (251) in DNP3.
Communications lost:	This is a flag that indicates that the MonitorPro is not responding. It is set when no valid response has been seen to a request and all retries have been exhausted. It is cleared whenever a valid response is received. It appears as an input status (956) in the MODBus database and a binary input (955) in DNP3.
Data Stale:	This is a flag that indicates that the MultiTrode Translator databases have not been updated from the MonitorPro for some time. It is set when no valid assembled status response has been received for at least 60 seconds. It is cleared whenever a valid assembled status response is received. It appears as an input status (957) in the MODBus database and a binary input (956) in DNP3.

5.5 Store and Forward Functionality

The MultiTrode Translator supports store and forwarding of DNP3 packets. This feature allows a MultiTrode Translator to re-transmit any DNP3 packets that are not addressed to it and act as a repeater for devices that are out of range of the Master. This retransmission is subject to several configurable conditions and actions that are best illustrated by example:

Consider the case of a Master and two slaves. The Master has address 1 and the slaves have addresses 2 and 3 (call them M1, S2 and S3 respectively). A problem exists if S3 is outside the range of M1. A solution would be to get S2 to pass on messages from M1 to S3 by simply retransmitting any messages not addressed to it. Unfortunately if S2 is intermittently within range of M1 (which is often the case) there is a danger of S3 receiving and answering two requests.

Address translation is used to eliminate this problem. S3 is configured with an address of 103 rather than 3 but the Master still addresses its requests to 3. This way, if S3 receives a request directly from the Master, it will be ignored. S2 is smart enough to know that requests from the Master destined for address 3 are actually meant for address 103 and it will alter the addresses in the DNP3 packet before re-transmitting it.

To prevent the same thing from happening on the return path, S2 also changes the source address of the request from 1 to 101. S3 will accept the retransmission and respond to the Master (thinking its address is 101). S2 will translate the addresses back for the response and the Master will be happy. This is illustrated in the diagram below:

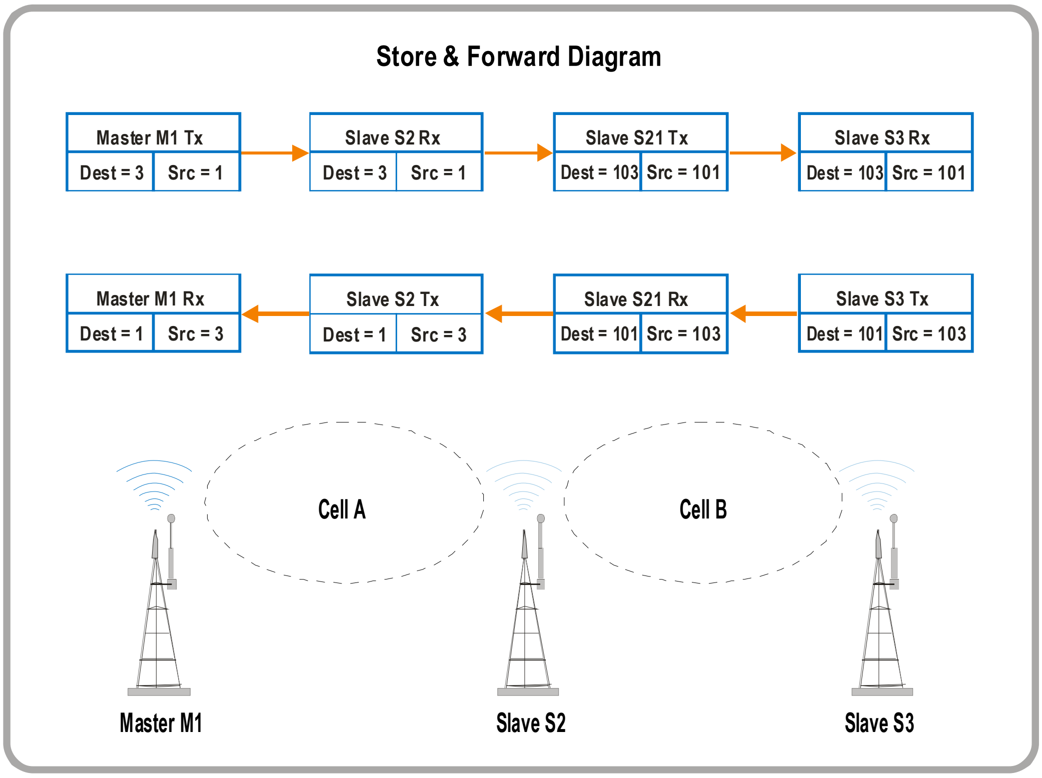

Figure 8 Store and Forward diagram

Effectively, the network has been divided into two "cells" with one on each side of the repeater (Slave S2). The repeater acts as a gateway between the two cells. In the example above, cell A has addresses 1 and 3 while cell B has addresses 101 and 103. Devices that can not normally talk to each other physically exist in separate cells but have a "virtual equivalent" in the other cell. In the example, address 3 does not really exist but M1 talks to it as if it does. Similarly, S3 responds to a Master that appears to have address 101. Normally, devices only address units within their own cell and the repeater takes care of translating it into the other cell by changing the source and destination addresses.

Using this scheme, there is nothing to prevent M1 explicitly addressing S3 with 103. If S3 is in range, it will happily respond to address 1. In this case S2 recognizes that the packet is intended to cross a cell boundary and will not re-transmit. This gives the Master a choice of path by using different addresses. Addressing the request to a device's configured address (103) will use the direct path while sending a request to the equivalent address within its own cell (3) will direct it through the repeater.

To configure the MultiTrode Translator to act as a store and forward repeater, one or more "address translation entries" need to be defined. An address translation entry specifies a range of addresses on one "side" of the repeater and the associated equivalents on the other. An address translation entry consists of three values; Side A base address, Side B base address and a count. There is no special significance attached to side A or B, other than to distinguish one "cell" from another.

The address translation operation is as follows:

1. When a packet is received by the repeater, its destination address is tested against the MultiTrode Translator's address. If it matches, the packet is accepted by the repeater as a message for it. If not, the packet is intended for another unit and is considered for forwarding.
2. If a packet is intended for another unit, the MultiTrode Translator will scan all of it's address translation entries to see if the destination address lies within either the side A or side B address range.

   ```
   dest > BaseSideA) AND (dest <= (BaseSideA + Count))
           OR
   dest > BaseSideB) AND (dest <= (BaseSideB + Count))
   ```

3. If the destination address was not within any such range, the packet is ignored and no action is taken. Otherwise, the first matching entry is used to translate the destination address to the associated address in the other side. The packet's destination address is replaced with this new value:

   ```
   new_dest = old_dest - BaseSideThis + BaseSideOther
   ```

4. Where `BaseSideThis` is the base address of the side that matched the destination address and `BaseSideThis` is the base address of the other side.
5. Steps 2 and 3 are repeated using the source address of the packet.
6. If the original source and destination were found to be on different sides of the repeater, the packet is ignored and no action is taken. Otherwise the packet is re-transmitted.

Finally, up to two communications ports can be specified for store and forwarding. If only one is specified, only packets received on that port will be considered for forwarding and will be forwarded out of that same port. If two ports are specified, packets received on either will be considered for forwarding but they will be transmitted out of the other port, i.e. in one and out of the other in either direction. If no ports are selected, store and forwarding is disabled.

Example:

A Master with address 1 is in a radio network with five slaves (addressed 2 to 6). Slaves 5 and 6 are outside the range of the Master. Slave 4 is to act as a repeater since it is within range of the Master and slave 5 and slave 6.

- Login to the configuration menu of slave 5 and 6 and change the addresses of units 5 and 6 to 105 and 106 respectively.

- Login to the configuration menu of slave 4 (the repeater) and navigate to the store and forward configuration sub-menu.

```
     DNP Store And Forward Configuration.

     1) Store and forward port 1                    [COM3]
     2) Store and forward port 2                    [None]
     3) Next address translation entry
4) Address translation entry 1, side A base  [1]
     5) Address translation entry 1, side B base  [101]
     6) Address translation entry 1, count        [1]

ESC) Back.
```

- Select "Next address translation entry"

```
     DNP Store And Forward Configuration.

     1) Store and forward port 1                    [COM3]
     2) Store and forward port 2                    [None]
     3) Next address translation entry
4) Address translation entry 2, side A base  [5]
     5) Address translation entry 2, side B base  [105]
     6) Address translation entry 2, count        [2]

ESC) Back.
```

- Entry 1 will take care of mapping the Masters address 1 on side A to 101 on side B.
- Entry 2 will take care of mapping the slave addresses 5 and 6 on side A to 105 and 106 on side B.

Note: We do not want addresses 2 and 3 to be covered by any translation entry since we don't want the repeater to retransmit for these units.

If it were units 2 and 3 that were out of range rather than 5 and 6, the configuration would only require one translation entry:

```
     DNP Store And Forward Configuration.

     1) Store and forward port 1                  [COM3]
     2) Store and forward port 2                  [None]
     3) Next address translation entry
4) Address translation entry 1, side A base  [1]
     5) Address translation entry 1, side B base  [101]
     6) Address translation entry 1, count        [3]

ESC) Back.
```

5.6 Peer to Peer command Functionality

In most applications the MultiTrode Translator would be connected to a MultiTrode MonitorPro to gather the information for its database which can be as large as 1400 points. In other applications the MultiTrode Translator may be connected to a MultiTrode Remote Reservoir Monitor [MTRRM]. The MTRRM has different functionality and provides only its local level and 6 digital input information to the MultiTrode Translator.

Under special conditions described below the Slave MultiTrode Translator can act as an Interim Master to two other Slave MultiTrode Translator’s. When these special conditions occur the MultiTrode Translator will send a DNP3 Object to the receiving Slaves. The receiving Slaves will use this DNP3 Object to populate its database (Analog Output 9) and take the action of passing this information to the MonitorPro, thus transferring level and digital input information from one Slave device to another, i.e. peer to peer communication.

A MultiTrode Translator can be designated as a "Reservoir Comfail Master" [RCM]. In this mode of operation the RCM will detect that the Master communication has broken and will automatically assume a limited role as an Interim Master. While the RCM is in the Interim Master mode it can send only one DNP3 Object to two possible remote Slaves.

Under normal conditions the RCM will act as a normal Slave but will monitor communications for messages originating from the system Master. If no such message is seen within a configurable period, it will begin to send commands to a remote Slave device until it again sees a message originating from the system Master. This works on the assumption that no communication from a Master means that it is down.

More about the configuration of this feature can be found in the MultiTrode Translator Installation Manual.

Note: This may not be the case in a system using unsolicited reporting. If Slaves are periodically issuing unsolicited reports, the Master's acknowledgments will be sufficient to keep the RCM from becoming an Interim Master but this may not always be the case. In such a system it may be necessary for the Master to issue periodic requests to announce its presence (a simple link layer "link test" would be adequate). It is not uncommon for Masters in unsolicited reporting systems to issue periodic "integrity polls" to Slaves.

6 Specifications

Dimensions:	118H x 45W x 135D - DIN Rail mounted
Supply:	Typically: 100mA at 12VDC. Minimum supply voltage 8V DC. Maximum supply voltage 38V DC. Supply is fused at 250mA (self-resetting fuse).
Inputs:	6 x digital: Voltage free input contacts. Cable length should not exceed 50m. ESD and EMC protected. -ve line is common ground. Maximum input frequency of 100Hz (10 milliseconds) 2 x analog: 0 to 22mA input. Input resistance 220 Ohms. 10bit ADC accuracy, linearity ±1lsb (0.025%). ADC value scaleable via configuration menu. External supply range 12 to 48VDC. ESD and EMC protected. -ve line is common ground.
Communications Ports:	2 x RS232 Asynchronous: 9 pin male D type connector with TD, RD, RTS, CTS, DTR and DSR.
Modem:	1 x Radio port to Bell 202, FSK - 1200 baud(fixed) Audio output: adjustable via trimpot to 400mVp-p Audio input sensitivity: 10-500mVp-p Squelch input: 5-30VDC common ground Press To Talk (PTT): Open drain 200mA at 40VDC
Indicators:	9 status LEDS
EMC: C-Tick and CE compliant	AS/NZS3548 (C-Tick) CISPR 24:1997; EN55024:1998 EN61000-4-2:1995, Including Amendment A1 EN61000-4-3:1995, Including Amendment 1:1998 EN61000-4-4:1995. IEC61000-4-5:1995. IEC61000-4-6:1995, Including Amendment A1 IEC61000-4-8:1993 IEC61000-4-11:1994.
Environmental:	Temperature -10°C to 60°C Humidity 0 to 95% non- condensing

7 Device Profile

DNP3 V3.00 **DEVICE PROFILE DOCUMENT** This document must be accompanied by a table having the following headings: Object Group Request Function Codes Response Function Codes Object Variation Request Qualifiers Response Qualifiers Object Name (optional)
Vendor Name: MultiTrode
Device Name: MultiTrode Translator

Highest DNP3 Level Supported: For Requests 2 For Responses 2	Device Function: ☐ Master ☑ Slave

Notable objects, functions, and/or qualifiers are supported in addition to the Highest DNP3 Levels Supported (the complete list is described in the attached table): Unsolicited responses [USR] can be enabled or disabled on a per class basis using function codes 20 and 21. The MultiTrode Translator configuration menu can be used to specify if USRs are enabled or disabled for each class at power-up. Analog Deadband parameters (Object 34, Variation 1) can be controlled via function codes 1 and 2 (read and write). These are stored in non-volatile memory and will be retained on reset. They can also be manually configured using the configuration menu. Explanations for items that are configurable may be found in the “Configuration” section in this document.

Maximum Data Link Frame Size (octets): Transmitted 292 Received 292	Maximum Application Fragment Size (octets): Transmitted 2048 Received 2048
Maximum Data Link Re-tries: ☐ None ☐ Fixed at ☑ Configurable, range None to 10	Maximum Application Layer Re-tries: ☐ None ☑ Configurable, range None to 10 (Fixed is not permitted)

Requires Data Link Layer Confirmation:
- ☐ Never
- ☐ Always
- ☐ Sometimes   If 'Sometimes', when? ______________________
- ☑ Configurable   If 'Configurable', how? Via Item in configuration menu

Requires Application Layer Confirmation:
- ☐ Never
- ☐ Always (not recommended)
- ☑ When reporting Event Data (Slave devices only)
- ☐ When sending multi-fragment responses (Slave devices only)
- ☐ Sometimes   If 'Sometimes', when? ______________________
- ☐ Configurable   If 'Configurable', how? ______________________

Timeouts while waiting for:

Data Link Confirm	☐ None	☐ Fixed at ___	☐ Variable	☑ Configurable
Complete Appl. Fragment	☑ None	☐ Fixed at ___	☐ Variable	☐ Configurable
Application Confirm	☐ None	☐ Fixed at ___	☐ Variable	☑ Configurable
Complete Appl. Response	☑ None	☐ Fixed at ___	☐ Variable	☐ Configurable

Others ____

Attach explanation if 'Variable' or 'Configurable' was checked for any timeout.

Sends/Executes Control Operations:

WRITE Binary Outputs	☑ Never	☐ Always	☐ Sometimes	☐ Configurable
SELECT/OPERATE	☐ Never	☑ Always	☐ Sometimes	☐ Configurable
DIRECT OPERATE	☐ Never	☑ Always	☐ Sometimes	☐ Configurable
DIRECT OPERATE - NO ACK	☐ Never	☑ Always	☐ Sometimes	☐ Configurable
Count > 1	☐ Never	☑ Always	☐ Sometimes	☐ Configurable
Pulse On	☐ Never	☑ Always	☐ Sometimes	☐ Configurable
Pulse Off	☐ Never	☑ Always	☐ Sometimes	☐ Configurable
Latch On	☐ Never	☑ Always	☐ Sometimes	☐ Configurable
Latch Off	☐ Never	☑ Always	☐ Sometimes	☐ Configurable
Queue	☑ Never	☐ Always	☐ Sometimes	☐ Configurable
Clear Queue	☑ Never	☐ Always	☐ Sometimes	☐ Configurable

Attach explanation if 'Sometimes' or 'Configurable' was checked for any operation.

FILL OUT THE FOLLOWING ITEM FOR MASTER DEVICES ONLY:	
Expects Binary Input Change Events: ☐ Either time-tagged or non-time-tagged for a single event ☐ Both time-tagged and non-time-tagged for a single event ☐ Configurable (attach explanation)	
FILL OUT THE FOLLOWING ITEMS FOR SLAVE DEVICES ONLY:	
Reports Binary Input Change Events when no specific variation requested: ☐ Never ☐ Only time-tagged ☑ Only non-time-tagged ☐ Configurable to send both, one or the other (attach explanation)	Reports time-tagged Binary Input Change Events when no specific variation requested: ☑ Never ☐ Binary Input Change With Time ☐ Binary Input Change With Relative Time ☐ Configurable (attach explanation)
Sends Unsolicited Responses: ☐ Never ☑ Configurable (attach explanation) ☐ Only certain objects ☐ Sometimes (attach explanation) ☑ ENABLE/DISABLE UNSOLICITED Function codes supported	Sends Static Data in Unsolicited Responses: ☐ Never ☑ When Device Restarts ☐ When Status Flags Change No other options are permitted.
Default Counter Object/Variation: ☐ No Counters Reported ☐ Configurable (attach explanation) ☐ Default Object 20 Default Variation 01 ☑ Point-by-point list attached	Counters Roll Over at: ☐ No Counters Reported ☐ Configurable (attach explanation) ☐ 16-bits ☐ 32-bits ☐ Other Value _______________ ☑ Point-by-point list attached
Sends Multi-Fragment Responses: ☑ Yes ☐ No	

OBJECT			REQUEST (DNP3 message components parsed by the MultiTrode Translator)		RESPONSE (DNP3 message components reported by the MultiTrode Translator)	
Obj	Var	Description	Func Codes (dec)	Qual Codes (hex)	Func Codes (dec)	Qual Codes (hex)
1	0	Binary Input - All Variations	1	06		
1	1	Binary Input			129 130	00,01
1	2	Binary Input with Status			129 130	00,01
2	0	Binary Input Change - All Variations	1	06,07,08		
2	1	Binary Input Change without Time	1	06,07,08	129 130	17, 28
2	2	Binary Input Change with Time	1	06,07,08	129 130	17, 28
2	3	Binary Input Change with Relative Time	1	06,07,08	129 130	17, 28
10	0	Binary Output - All Variations	1	06		
10	1	Binary Output				
10	2	Binary Output Status			129 130	00, 01
12	0	Control Block - All Variations				
12	1	Control Relay Output Block	3,4,5,6	17, 28	129	echo of request
12	2	Pattern Control Block				
12	3	Pattern Mask				
20	0	Binary Counter - All Variations	1, 7, 8, 9,10	06		
20	1	32-Bit Binary Counter			129 130	00, 01
20	2	16-Bit Binary Counter			129 130	00, 01
20	3	32-Bit Delta Counter			129 130	00, 01
20	4	16-Bit Delta Counter			129 130	00, 01
20	5	32-Bit Binary Counter without Flag			129 130	00, 01
20	6	16-Bit Binary Counter without Flag			129 130	00, 01
20	7	32-Bit Delta Counter without Flag			129 130	00, 01
20	8	16-Bit Delta Counter without Flag			129 130	00, 01

OBJECT			REQUEST (DNP3 message components parsed by the MultiTrode Translator)		RESPONSE (DNP3 message components reported by the MultiTrode Translator)	
Obj	Var	Description	Func Codes (dec)	Qual Codes (hex)	Func Codes (dec)	Qual Codes (hex)
21	0	Frozen Counter - All Variations	1	06		
21	1	32-Bit Frozen Counter			129, 130	00, 01
21	2	16-Bit Frozen Counter			129, 130	00, 01
21	3	32-Bit Frozen Delta Counter				
21	4	16-Bit Frozen Delta Counter				
21	5	32-Bit Frozen Counter with Time of Freeze				
21	6	16-Bit Frozen Counter with Time of Freeze				
21	7	32-Bit Frozen Delta Counter with Time of Freeze				
21	8	16-Bit Frozen Delta Counter with Time of Freeze				
21	9	32-Bit Frozen Counter without Flag			129, 130	00, 01
21	10	16-Bit Frozen Counter without Flag			129, 130	00, 01
21	11	32-Bit Frozen Delta Counter without Flag				
21	12	16-Bit Frozen Delta Counter without Flag				
22	0	Counter Change Event - All Variations	1	06,07,08		
22	1	32-Bit Counter Change Event without Time			129, 130	17, 28
22	2	16-Bit Counter Change Event without Time			129, 130	17, 28
22	3	32-Bit Delta Counter Change Event without Time				
22	4	16-Bit Delta Counter Change Event without Time				
22	5	32-Bit Counter Change Event with Time				
22	6	16-Bit Counter Change Event with Time				
22	7	32-Bit Delta Counter Change Event with Time				
22	8	16-Bit Delta Counter Change Event with Time				

OBJECT			REQUEST (DNP3 message components parsed by the MultiTrode Translator)		RESPONSE (DNP3 message components reported by the MultiTrode Translator)	
Obj	Var	Description	Func Codes (dec)	Qual Codes (hex)	Func Codes (dec)	Qual Codes (hex)
23	0	Frozen Counter Event - All Variations				
23	1	32-Bit Frozen Counter Event without Time				
23	2	16-Bit Frozen Counter Event without Time				
23	3	32-Bit Frozen Delta Counter Event without Time				
23	4	16-Bit Frozen Delta Counter Event without Time				
23	5	32-Bit Frozen Counter Event with Time				
23	6	16-Bit Frozen Counter Event with Time				
23	7	32-Bit Frozen Delta Counter Event with Time				
23	8	16-Bit Frozen Delta Counter Event with Time				
30	0	Analog Input - All Variations	1	06		
30	1	32-Bit Analog Input			129, 130	00,01
30	2	16-Bit Analog Input			129, 130	00,01
30	3	32-Bit Analog Input without Flag			129, 130	00,01
30	4	16-Bit Analog Input without Flag			129, 130	00,01
30	5?	32-Bit Floating Point Analog Input				
30	8?	32-Bit Floating Point Analog Input without Flag				
31	0	Frozen Analog Input - All Variations				
31	1	32-Bit Frozen Analog Input				
31	2	16-Bit Frozen Analog Input				
31	3	32-Bit Frozen Analog Input with Time of Freeze				
31	4	16-Bit Frozen Analog Input with Time of Freeze				
31	5	32-Bit Frozen Analog Input without Flag				
31	6	16-Bit Frozen Analog Input without Flag				

OBJECT			REQUEST (DNP3 message components parsed by the MultiTrode Translator)		RESPONSE (DNP3 message components reported by the MultiTrode Translator)	
Obj	**Var**	**Description**	**Func Codes (dec)**	**Qual Codes (hex)**	**Func Codes (dec)**	**Qual Codes (hex)**
32	0	Analog Change Event - All Variations	1	06,07,08		
32	1	32-Bit Analog Change Event without Time			129, 130	17, 28
32	2	16-Bit Analog Change Event without Time			129, 130	17, 28
32	3	32-Bit Analog Change Event with Time				
32	4	16-Bit Analog Change Event with Time				
32	5?	32-Bit Floating Point Analog Input				
32	8?	32-Bit Floating Point Analog Input without Flag				
33	0	Frozen Analog Event - All Variations				
33	1	32-Bit Frozen Analog Event without Time				
33	2	16-Bit Frozen Analog Event without Time				
33	3	32-Bit Frozen Analog Event with Time				
33	4	16-Bit Frozen Analog Event with Time				
34	1	16-bit Analog Change Deadband	1 2	06, 07,08 17, 28	129	17, 28 echo of request
40	0	Analog Output Status - All Variations	1	06		
40	1	32-Bit Analog Output Status				
40	2	16-Bit Analog Output Status			129, 130	00, 01
41	0	Analog Output Block - All Variations				
41	1	32-Bit Analog Output Block				
41	2	16-Bit Analog Output Block	3,4,5,6	17,28	129	Echo of request
50	0	Time and Date - All Variations				
50	1	Time and Date	2	07 where quantity = 1		
50	2	Time and Date with Interval				

OBJECT			REQUEST (DNP3 message components parsed by the MultiTrode Translator)		RESPONSE (DNP3 message components reported by the MultiTrode Translator)	
Obj	**Var**	**Description**	**Func Codes (dec)**	**Qual Codes (hex)**	**Func Codes (dec)**	**Qual Codes (hex)**
51	0	Time and Date CTO - All Variations				
51	1	Time and Date CTO			129, 130	07 where quantity =1
51	2	Unsynchronized Time and Date CTO			129, 130	07 where quantity =1
52	0	Time Delay - All Variations				
52	1	Time Delay Coarse			129	07 where quantity =1
52	2	Time Delay Fine			129	07 where quantity =1
60	0					
60	1	Class 0 Data	1	06		
60	2	Class 1 Data	1 20, 21	06,07,08 06		
60	3	Class 2 Data	1 20, 21	06,07,08 06		
60	4	Class 3 Data	1 20, 21	06,07,08 06		
70	1	File Identifier				
80	1	Internal Indications	2	00 index=7		
81	1	Storage Object				
82	1	Device Profile				
83	1	Private Registration Object				
83	2	Private Registration Object Descriptor				
90	1	Application Identifier				
100	1	Short Floating Point				
100	2	Long Floating Point				
100	3	Extended Floating Point				
101	1	Small Packed Binary-Coded Decimal				
101	2	Medium Packed Binary-Coded Decimal				
101	3	Large Packed Binary-Coded Decimal				
		No object (Cold Restart)	13			
		No object (Delay Measurement)	23			

8 Full list of all DNP3 objects

The full list of DNP3 Objects is on following pages.

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Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
00	01	01	02	01	1	This bit will be high if there is any fault on pump 1 and low otherwise	Status_quick[2]	7
01	01	01	02	01	1	This bit will be high if there is any fault on pump 1 that is unacknowledged (i.e. fault not present AND unacknowledged) and low otherwise	Status_quick[2]	6
02	01	01	02	01	1	This bit will be high if there is any fault on pump 2 and low otherwise	Status_quick[2]	5
03	01	01	02	01	1	This bit will be high if there is any fault on pump 2 that is unacknowledged (i.e. fault not present AND unacknowledged) and low otherwise	Status_quick[2]	4
04	01	01	02	01	1	This bit will be high if there is any fault on pump 3 and low otherwise	Status_quick[2]	3
05	01	01	02	01	1	This bit will be high if there is any fault on pump 3 that is unacknowledged (i.e. fault not present AND unacknowledged) and low otherwise	Status_quick[2]	2
06	01	01	02	01	1	This bit will be high if there is any fault on pump 4 and low otherwise	Status_quick[2]	1
07	01	01	02	01	1	This bit will be high if there is any fault on pump 4 that is unacknowledged (i.e. fault not present AND unacknowledged) and low otherwise	Status_quick[2]	0
08	01	01	02	01	1	This bit will be high if there is any fault on pump 5 and low otherwise	Status_quick[3]	7
09	01	01	02	01	1	This bit will be high if there is any fault on pump 5 that is unacknowledged (i.e. fault not present AND unacknowledged) and low otherwise	Status_quick[3]	6
10	01	01	02	01	1	This bit will be high if there is any fault on pump 6 and low otherwise	Status_quick[3]	5
11	01	01	02	01	1	This bit will be high if there is any fault on pump 6 that is unacknowledged (i.e. fault not present AND unacknowledged) and low otherwise	Status_quick[3]	4
12	01	01	02	01	1	This bit will be high if there is any fault on pump 7 and low otherwise	Status_quick[3]	3
13	01	01	02	01	1	This bit will be high if there is any fault on pump 7 that is unacknowledged (i.e. fault not present AND unacknowledged) and low otherwise	Status_quick[3]	2
14	01	01	02	01	1	This bit will be high if there is any fault on pump 8 and low otherwise	Status_quick[3]	1
15	01	01	02	01	1	This bit will be high if there is any fault on pump 8 that is unacknowledged (i.e. fault not present AND unacknowledged) and low otherwise	Status_quick[3]	0
16	01	01	02	01	1	This bit will be high if there is any fault on pump 9 and low otherwise	Status_quick[4]	7
17	01	01	02	01	1	This bit will be high if there is any fault on pump 9 that is unacknowledged (i.e. fault not present AND unacknowledged) and low otherwise	Status_quick[4]	6
18	01	01	02	01	1	This bit will be high if pump 1 is available and low otherwise	Status_quick[4]	5
19	01	01	02	01	1	This bit will be high if pump 2 is available and low otherwise	Status_quick[4]	4
20	01	01	02	01	1	This bit will be high if pump 3 is available and low otherwise	Status_quick[4]	3
21	01	01	02	01	1	This bit will be high if pump 4 is available and low otherwise	Status_quick[4]	2
22	01	01	02	01	1	This bit will be high if pump 5 is available and low otherwise	Status_quick[4]	1
23	01	01	02	01	1	This bit will be high if pump 6 is available and low otherwise	Status_quick[4]	0
24	01	01	02	01	1	This bit will be high if pump 7 is available and low otherwise	Status_quick[5]	7
25	01	01	02	01	1	This bit will be high if pump 8 is available and low otherwise	Status_quick[5]	6
26	01	01	02	01	1	This bit will be high if pump 9 is available and low otherwise	Status_quick[5]	5
27	01	01	02	01	1	This bit will be high if there is any fault on the Master MonitorPRO and low otherwise	Status_quick[5]	4
28	01	01	02	01	1	This bit will be high if there is any fault on Slave 1 MonitorPRO and low otherwise	Status_quick[5]	3
29	01	01	02	01	1	This bit will be high if there is any fault on Slave 2 MonitorPRO and low otherwise	Status_quick[5]	2
30	01	01	02	01	1	This bit will be high if there is any change to the fault status and low otherwise	Status_quick[5]	1
31	01	01	02	01	1	This bit will be high if there is any change to any of the digital inputs or outputs or analogue inputs and low otherwise	Status_quick[5]	0
32	01	01	02	01	1	This bit is high if pump 1 is running and low otherwise	Status_quick[6]	7
33	01	01	02	01	1	This bit is high if pump 1 is available and low otherwise	Status_quick[6]	6

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
34	01	01	02	01	1	If index 34=0 and index 35=0 then pump 1 is in auto mode. If index 34=0 and index 35=1 then pump 1 is off. If index 34=1 and index 35=0 then pump 1 is off. If index 34=1 and index 35=1 then pump 1 is in manual mod	Status_quick[6]	5
35	01	01	02	01	1	See above.	Status_quick[6]	4
36	01	01	02	01	1	This bit is high if pump 2 is running and low otherwise	Status_quick[6]	3
37	01	01	02	01	1	This bit is high if pump 2 is available and low otherwise	Status_quick[6]	2
38	01	01	02	01	1	If index 38=0 and index 39=0 then pump 2 is in auto mode. If index 38=0 and index 39=1 then pump 2 is off. If index 38=1 and index 39=0 then pump 2 is off. If index 38=1 and index 39=1 then pump 2 is in manual mod	Status_quick[6]	1
39	01	01	02	01	1	See above.	Status_quick[6]	0
40	01	01	02	01	1	This bit is high if pump 3 is running and low otherwise	Status_quick[7]	7
41	01	01	02	01	1	This bit is high if pump 3 is available and low otherwise	Status_quick[7]	6
42	01	01	02	01	1	If index 42=0 and index 43=0 then pump 3 is in auto mode. If index 42=0 and index 43=1 then pump 3 is off. If index 42=1 and index 43=0 then pump 3 is off. If index 42=1 and index 43=1 then pump 3 is in manual mod	Status_quick[7]	5
43	01	01	02	01	1	See above.	Status_quick[7]	4
44	01	01	02	01	1	This bit is high if pump 4 is running and low otherwise	Status_quick[7]	3
45	01	01	02	01	1	This bit is high if pump 4 is available and low otherwise	Status_quick[7]	2
46	01	01	02	01	1	If index 46=0 and index 47=0 then pump 4 is in auto mode. If index 46=0 and index 47=1 then pump 4 is off. If index 46=1 and index 47=0 then pump 4 is off. If index 46=1 and index 47=1 then pump 4 is in manual mod	Status_quick[7]	1
47	01	01	02	01	1	See above.	Status_quick[7]	0
48	01	01	02	01	1	This bit is high if pump 5 is running and low otherwise	Status_quick[8]	7
49	01	01	02	01	1	This bit is high if pump 5 is available and low otherwise	Status_quick[8]	6
50	01	01	02	01	1	If index 50=0 and index 51=0 then pump 5 is in auto mode. If index 50=0 and index 51=1 then pump 5 is off. If index 50=1 and index 51=0 then pump 5 is off. If index 50=1 and index 51=1 then pump 5 is in manual mod	Status_quick[8]	5
51	01	01	02	01	1	See above.	Status_quick[8]	4
52	01	01	02	01	1	This bit is high if pump 6 is running and low otherwise	Status_quick[8]	3
53	01	01	02	01	1	This bit is high if pump 6 is available and low otherwise	Status_quick[8]	2
54	01	01	02	01	1	If index 54=0 and index 55=0 then pump 6 is in auto mode. If index 54=0 and index 55=1 then pump 6 is off. If index 54=1 and index 55=0 then pump 6 is off. If index 54=1 and index 55=1 then pump 6 is in manual mod	Status_quick[8]	1
55	01	01	02	01	1	See above.	Status_quick[8]	0
56	01	01	02	01	1	This bit is high if pump 7 is running and low otherwise	Status_quick[9]	7
57	01	01	02	01	1	This bit is high if pump 7 is available and low otherwise	Status_quick[9]	6
58	01	01	02	01	1	If index 58=0 and index 59=0 then pump 7 is in auto mode. If index 58=0 and index 59=1 then pump 7 is off. If index 58=1 and index 59=0 then pump 7 is off. If index 58=1 and index 59=1 then pump 7 is in manual mod	Status_quick[9]	5
59	01	01	02	01	1	See above.	Status_quick[9]	4

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
60	01	01	02	01	1	This bit is high if pump 8 is running and low otherwise	Status_quick[9]	3
61	01	01	02	01	1	This bit is high if pump 8 is available and low otherwise	Status_quick[9]	2
62	01	01	02	01	1	If index 62=0 and index 63=0 then pump 8 is in auto mode. If index 62=0 and index 63=1 then pump 8 is off. If index 62=1 and index 63=0 then pump 8 is off. If index 62=1 and index 63=1 then pump 8 is in manual mod	Status_quick[9]	1
63	01	01	02	01	1	See above.	Status_quick[9]	0
64	01	01	02	01	1	This bit is high if pump 9 is running and low otherwise	Status_quick[10]	7
65	01	01	02	01	1	This bit is high if pump 9 is available and low otherwise	Status_quick[10]	6
66	01	01	02	01	1	If index 66=0 and index 67=0 then pump 9 is in auto mode. If index 66=0 and index 67=1 then pump 9 is off. If index 66=1 and index 67=0 then pump 9 is off. If index 66=1 and index 67=1 then pump 9 is in manual mod	Status_quick[10]	5
67	01	01	02	01	1	See above.	Status_quick[10]	4
68	01	01	02	01	1	Reserved	Status_quick[10]	3
69	01	01	02	01	1	Reserved	Status_quick[10]	2
70	01	01	02	01	1	Reserved	Status_quick[10]	1
71	01	01	02	01	1	Reserved	Status_quick[10]	0
72	01	01	02	01	1	Alarm 1	status_dig	7
73	01	01	02	01	1	Alarm 2	status_dig	6
74	01	01	02	01	1	Common Alarm	status_dig	5
75	01	01	02	01	1	Datalog Full Flag	status_dig	4
76	01	01	02	01	1	Spare	status_dig	3
77	01	01	02	01	1	Spare	status_dig	2
78	01	01	02	01	1	Spare	status_dig	1
79	01	01	02	01	1	Spare	status_dig	0
80	01	01	02	01	1	This bit will be high if a critical fault is PRESENT on pump 1 and low otherwise	status_xpc_pump_present[0]	7
81	01	01	02	01	1	This bit will be high if a non-critical fault is PRESENT on pump 1 and low otherwise	status_xpc_pump_present[0]	6
82	01	01	02	01	1	This bit will be high if a delay fail fault is PRESENT on pump 1 and low otherwise	status_xpc_pump_present[0]	5
83	01	01	02	01	1	This bit will be high if a seal fault is PRESENT on pump 1 and low otherwise	status_xpc_pump_present[0]	4
84	01	01	02	01	1	This bit will be high if a flygt seal fault is PRESENT on pump 1 and low otherwise	status_xpc_pump_present[0]	3
85	01	01	02	01	1	This bit will be high if a flygt thermistor fault is PRESENT on pump 1 and low otherwise	status_xpc_pump_present[0]	2
86	01	01	02	01	1	If the maximum starts per hour on pump 1 has been exceeded then this bit is high and low otherw	status_xpc_pump_present[0]	1
87	01	01	02	01	1	This bit will be high if a thermistor fault is PRESENT on pump 1 and low otherwise	status_xpc_pump_present[0]	0
88	01	01	02	01	1	This bit will be high if a critical fault is PRESENT on pump 2 and low otherwise	status_xpc_pump_present[1]	7
89	01	01	02	01	1	This bit will be high if a non-critical fault is PRESENT on pump 2 and low otherwise	status_xpc_pump_present[1]	6
90	01	01	02	01	1	This bit will be high if a delay fail fault is PRESENT on pump 2 and low otherwise	status_xpc_pump_present[1]	5
91	01	01	02	01	1	This bit will be high if a seal fault is PRESENT on pump 2 and low otherwise	status_xpc_pump_present[1]	4
92	01	01	02	01	1	This bit will be high if a flygt seal fault is PRESENT on pump 2 and low otherwise	status_xpc_pump_present[1]	3
93	01	01	02	01	1	This bit will be high if a flygt thermistor fault is PRESENT on pump 2 and low otherwise	status_xpc_pump_present[1]	2
94	01	01	02	01	1	If the maximum starts per hour on pump 2 has been exceeded then this bit is high and low otherw	status_xpc_pump_present[1]	1
95	01	01	02	01	1	This bit will be high if a thermistor fault is PRESENT on pump 2 and low otherwise	status_xpc_pump_present[1]	0
96	01	01	02	01	1	This bit will be high if a critical fault is PRESENT on pump 3 and low otherwise	status_xpc_pump_present[2]	7
97	01	01	02	01	1	This bit will be high if a non-critical fault is PRESENT on pump 3 and low otherwise	status_xpc_pump_present[2]	6
98	01	01	02	01	1	This bit will be high if a delay fail fault is PRESENT on pump 3 and low otherwise	status_xpc_pump_present[2]	5
99	01	01	02	01	1	This bit will be high if a seal fault is PRESENT on pump 3 and low otherwise	status_xpc_pump_present[2]	4

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
100	01	01	02	01	1	This bit will be high if a flygt seal fault is PRESENT on pump 3 and low otherwise	status_xpc_pump_present[2]	3
101	01	01	02	01	1	This bit will be high if a flygt thermistor fault is PRESENT on pump 3 and low otherwise	status_xpc_pump_present[2]	2
102	01	01	02	01	1	If the maximum starts per hour on pump 3 has been exceeded then this bit is high and low otherw	status_xpc_pump_present[2]	1
103	01	01	02	01	1	This bit will be high if a thermistor fault is PRESENT on pump 3 and low otherwise	status_xpc_pump_present[2]	0
104	01	01	02	01	1	This bit will be high if a critical fault is PRESENT on pump 4 and low otherwise	status_xpc_pump_present[3]	7
105	01	01	02	01	1	This bit will be high if a non-critical fault is PRESENT on pump 4 and low otherwise	status_xpc_pump_present[3]	6
106	01	01	02	01	1	This bit will be high if a delay fail fault is PRESENT on pump 4 and low otherwise	status_xpc_pump_present[3]	5
107	01	01	02	01	1	This bit will be high if a seal fault is PRESENT on pump 4 and low otherwise	status_xpc_pump_present[3]	4
108	01	01	02	01	1	This bit will be high if a flygt seal fault is PRESENT on pump 4 and low otherwise	status_xpc_pump_present[3]	3
109	01	01	02	01	1	This bit will be high if a flygt thermistor fault is PRESENT on pump 4 and low otherwise	status_xpc_pump_present[3]	2
110	01	01	02	01	1	If the maximum starts per hour on pump 4 has been exceeded then this bit is high and low otherw	status_xpc_pump_present[3]	1
111	01	01	02	01	1	This bit will be high if a thermistor fault is PRESENT on pump 4 and low otherwise	status_xpc_pump_present[3]	0
112	01	01	02	01	1	This bit will be high if a critical fault is PRESENT on pump 5 and low otherwise	status_xpc_pump_present[4]	7
113	01	01	02	01	1	This bit will be high if a non-critical fault is PRESENT on pump 5 and low otherwise	status_xpc_pump_present[4]	6
114	01	01	02	01	1	This bit will be high if a delay fail fault is PRESENT on pump 5 and low otherwise	status_xpc_pump_present[4]	5
115	01	01	02	01	1	This bit will be high if a seal fault is PRESENT on pump 5 and low otherwise	status_xpc_pump_present[4]	4
116	01	01	02	01	1	This bit will be high if a flygt seal fault is PRESENT on pump 5 and low otherwise	status_xpc_pump_present[4]	3
117	01	01	02	01	1	This bit will be high if a flygt thermistor fault is PRESENT on pump 5 and low otherwise	status_xpc_pump_present[4]	2
118	01	01	02	01	1	If the maximum starts per hour on pump 5 has been exceeded then this bit is high and low otherw	status_xpc_pump_present[4]	1
119	01	01	02	01	1	This bit will be high if a thermistor fault is PRESENT on pump 5 and low otherwise	status_xpc_pump_present[4]	0
120	01	01	02	01	1	This bit will be high if a critical fault is PRESENT on pump 6 and low otherwise	status_xpc_pump_present[5]	7
121	01	01	02	01	1	This bit will be high if a non-critical fault is PRESENT on pump 6 and low otherwise	status_xpc_pump_present[5]	6
122	01	01	02	01	1	This bit will be high if a delay fail fault is PRESENT on pump 6 and low otherwise	status_xpc_pump_present[5]	5
123	01	01	02	01	1	This bit will be high if a seal fault is PRESENT on pump 6 and low otherwise	status_xpc_pump_present[5]	4
124	01	01	02	01	1	This bit will be high if a flygt seal fault is PRESENT on pump 6 and low otherwise	status_xpc_pump_present[5]	3
125	01	01	02	01	1	This bit will be high if a flygt thermistor fault is PRESENT on pump 6 and low otherwise	status_xpc_pump_present[5]	2
126	01	01	02	01	1	If the maximum starts per hour on pump 6 has been exceeded then this bit is high and low otherw	status_xpc_pump_present[5]	1
127	01	01	02	01	1	This bit will be high if a thermistor fault is PRESENT on pump 6 and low otherwise	status_xpc_pump_present[5]	0
128	01	01	02	01	1	This bit will be high if a critical fault is PRESENT on pump 7 and low otherwise	status_xpc_pump_present[6]	7
129	01	01	02	01	1	This bit will be high if a non-critical fault is PRESENT on pump 7 and low otherwise	status_xpc_pump_present[6]	6
130	01	01	02	01	1	This bit will be high if a delay fail fault is PRESENT on pump 7 and low otherwise	status_xpc_pump_present[6]	5
131	01	01	02	01	1	This bit will be high if a seal fault is PRESENT on pump 7 and low otherwise	status_xpc_pump_present[6]	4
132	01	01	02	01	1	This bit will be high if a flygt seal fault is PRESENT on pump 7 and low otherwise	status_xpc_pump_present[6]	3
133	01	01	02	01	1	This bit will be high if a flygt thermistor fault is PRESENT on pump 7 and low otherwise	status_xpc_pump_present[6]	2
134	01	01	02	01	1	If the maximum starts per hour on pump 7 has been exceeded then this bit is high and low otherw	status_xpc_pump_present[6]	1
135	01	01	02	01	1	This bit will be high if a thermistor fault is PRESENT on pump 7 and low otherwise	status_xpc_pump_present[6]	0
136	01	01	02	01	1	This bit will be high if a critical fault is PRESENT on pump 8 and low otherwise	status_xpc_pump_present[7]	7
137	01	01	02	01	1	This bit will be high if a non-critical fault is PRESENT on pump 8 and low otherwise	status_xpc_pump_present[7]	6
138	01	01	02	01	1	This bit will be high if a delay fail fault is PRESENT on pump 8 and low otherwise	status_xpc_pump_present[7]	5
139	01	01	02	01	1	This bit will be high if a seal fault is PRESENT on pump 8 and low otherwise	status_xpc_pump_present[7]	4
140	01	01	02	01	1	This bit will be high if a flygt seal fault is PRESENT on pump 8 and low otherwise	status_xpc_pump_present[7]	3
141	01	01	02	01	1	This bit will be high if a flygt thermistor fault is PRESENT on pump 8 and low otherwise	status_xpc_pump_present[7]	2
142	01	01	02	01	1	If the maximum starts per hour on pump 8 has been exceeded then this bit is high and low otherw	status_xpc_pump_present[7]	1
143	01	01	02	01	1	This bit will be high if a thermistor fault is PRESENT on pump 8 and low otherwise	status_xpc_pump_present[7]	0
144	01	01	02	01	1	This bit will be high if a critical fault is PRESENT on pump 9 and low otherwise	status_xpc_pump_present[8]	7
145	01	01	02	01	1	This bit will be high if a non-critical fault is PRESENT on pump 9 and low otherwise	status_xpc_pump_present[8]	6

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
146	01	01	02	01	1	This bit will be high if a delay fail fault is PRESENT on pump 9 and low otherwise	status_xpc_pump_present[8]	5
147	01	01	02	01	1	This bit will be high if a seal fault is PRESENT on pump 9 and low otherwise	status_xpc_pump_present[8]	4
148	01	01	02	01	1	This bit will be high if a flygt seal fault is PRESENT on pump 9 and low otherwise	status_xpc_pump_present[8]	3
149	01	01	02	01	1	This bit will be high if a flygt thermistor fault is PRESENT on pump 9 and low otherwise	status_xpc_pump_present[8]	2
150	01	01	02	01	1	If the maximum starts per hour on pump 9 has been exceeded then this bit is high and low otherw	status_xpc_pump_present[8]	1
151	01	01	02	01	1	This bit will be high if a thermistor fault is PRESENT on pump 9 and low otherwise	status_xpc_pump_present[8]	0
152	01	01	02	01	1	This bit will be high if a critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 1 and low otherwise	status_xpc_pump_unackd[0]	7
153	01	01	02	01	1	This bit will be high if a non-critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 1 and low otherwise	status_xpc_pump_unackd[0]	6
154	01	01	02	01	1	This bit will be high if a delay fail fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beei acknowledged) on pump 1 and low otherwise	status_xpc_pump_unackd[0]	5
155	01	01	02	01	1	This bit will be high if a seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT been acknowledgec on pump 1 and low otherwise	status_xpc_pump_unackd[0]	4
156	01	01	02	01	1	This bit will be high if a flygt seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 1 and low otherwise	status_xpc_pump_unackd[0]	3
157	01	01	02	01	1	This bit will be high if a flygt thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 1 and low otherwise	status_xpc_pump_unackd[0]	2
158	01	01	02	01	1	Reservec	status_xpc_pump_unackd[0]	1
159	01	01	02	01	1	This bit will be high if a thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 1 and low otherwise	status_xpc_pump_unackd[0]	0
160	01	01	02	01	1	This bit will be high if a critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 2 and low otherwise	status_xpc_pump_unackd[1]	7
161	01	01	02	01	1	This bit will be high if a non-critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 2 and low otherwise	status_xpc_pump_unackd[1]	6
162	01	01	02	01	1	This bit will be high if a delay fail fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beei acknowledged) on pump 2 and low otherwise	status_xpc_pump_unackd[1]	5
163	01	01	02	01	1	This bit will be high if a seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT been acknowledgec on pump 2 and low otherwise	status_xpc_pump_unackd[1]	4
164	01	01	02	01	1	This bit will be high if a flygt seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 2 and low otherwise	status_xpc_pump_unackd[1]	3
165	01	01	02	01	1	This bit will be high if a flygt thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 2 and low otherwise	status_xpc_pump_unackd[1]	2
166	01	01	02	01	1	Reservec	status_xpc_pump_unackd[1]	1
167	01	01	02	01	1	This bit will be high if a thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 2 and low otherwise	status_xpc_pump_unackd[1]	0
168	01	01	02	01	1	This bit will be high if a critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 3 and low otherwise	status_xpc_pump_unackd[2]	7
169	01	01	02	01	1	This bit will be high if a non-critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 3 and low otherwise	status_xpc_pump_unackd[2]	6
170	01	01	02	01	1	This bit will be high if a delay fail fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beei acknowledged) on pump 3 and low otherwise	status_xpc_pump_unackd[2]	5
171	01	01	02	01	1	This bit will be high if a seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT been acknowledgec on pump 3 and low otherwise	status_xpc_pump_unackd[2]	4
172	01	01	02	01	1	This bit will be high if a flygt seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 3 and low otherwise	status_xpc_pump_unackd[2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
173	01	01	02	01	1	This bit will be high if a flygt thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 3 and low otherwise	status_xpc_pump_unackd[2]	2
174	01	01	02	01	1	Reservec	status_xpc_pump_unackd[2]	1
175	01	01	02	01	1	This bit will be high if a thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 3 and low otherwise	status_xpc_pump_unackd[2]	0
176	01	01	02	01	1	This bit will be high if a critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 4 and low otherwise	status_xpc_pump_unackd[3]	7
177	01	01	02	01	1	This bit will be high if a non-critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 4 and low otherwise	status_xpc_pump_unackd[3]	6
178	01	01	02	01	1	This bit will be high if a delay fail fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beei acknowledged) on pump 4 and low otherwise	status_xpc_pump_unackd[3]	5
179	01	01	02	01	1	This bit will be high if a seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT been acknowledgec on pump 4 and low otherwise	status_xpc_pump_unackd[3]	4
180	01	01	02	01	1	This bit will be high if a flygt seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 4 and low otherwise	status_xpc_pump_unackd[3]	3
181	01	01	02	01	1	This bit will be high if a flygt thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 4 and low otherwise	status_xpc_pump_unackd[3]	2
182	01	01	02	01	1	Reservec	status_xpc_pump_unackd[3]	1
183	01	01	02	01	1	This bit will be high if a thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 4 and low otherwise	status_xpc_pump_unackd[3]	0
184	01	01	02	01	1	This bit will be high if a critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 5 and low otherwise	status_xpc_pump_unackd[4]	7
185	01	01	02	01	1	This bit will be high if a non-critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 5 and low otherwise	status_xpc_pump_unackd[4]	6
186	01	01	02	01	1	This bit will be high if a delay fail fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beei acknowledged) on pump 5 and low otherwise	status_xpc_pump_unackd[4]	5
187	01	01	02	01	1	This bit will be high if a seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT been acknowledgec on pump 5 and low otherwise	status_xpc_pump_unackd[4]	4
188	01	01	02	01	1	This bit will be high if a flygt seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 5 and low otherwise	status_xpc_pump_unackd[4]	3
189	01	01	02	01	1	This bit will be high if a flygt thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 5 and low otherwise	status_xpc_pump_unackd[4]	2
190	01	01	02	01	1	Reservec	status_xpc_pump_unackd[4]	1
191	01	01	02	01	1	This bit will be high if a thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 5 and low otherwise	status_xpc_pump_unackd[4]	0
192	01	01	02	01	1	This bit will be high if a critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 6 and low otherwise	status_xpc_pump_unackd[5]	7
193	01	01	02	01	1	This bit will be high if a non-critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 6 and low otherwise	status_xpc_pump_unackd[5]	6
194	01	01	02	01	1	This bit will be high if a delay fail fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beei acknowledged) on pump 6 and low otherwise	status_xpc_pump_unackd[5]	5
195	01	01	02	01	1	This bit will be high if a seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT been acknowledgec on pump 6 and low otherwise	status_xpc_pump_unackd[5]	4
196	01	01	02	01	1	This bit will be high if a flygt seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 6 and low otherwise	status_xpc_pump_unackd[5]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
197	01	01	02	01	1	This bit will be high if a flygt thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 6 and low otherwise	status_xpc_pump_unackd[5]	2
198	01	01	02	01	1	Reservec	status_xpc_pump_unackd[5]	1
199	01	01	02	01	1	This bit will be high if a thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 6 and low otherwise	status_xpc_pump_unackd[5]	0
200	01	01	02	01	1	This bit will be high if a critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 7 and low otherwise	status_xpc_pump_unackd[6]	7
201	01	01	02	01	1	This bit will be high if a non-critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 7 and low otherwise	status_xpc_pump_unackd[6]	6
202	01	01	02	01	1	This bit will be high if a delay fail fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 7 and low otherwise	status_xpc_pump_unackd[6]	5
203	01	01	02	01	1	This bit will be high if a seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT been acknowledgec on pump 7 and low otherwise	status_xpc_pump_unackd[6]	4
204	01	01	02	01	1	This bit will be high if a flygt seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 7 and low otherwise	status_xpc_pump_unackd[6]	3
205	01	01	02	01	1	This bit will be high if a flygt thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 7 and low otherwise	status_xpc_pump_unackd[6]	2
206	01	01	02	01	1	Reservec	status_xpc_pump_unackd[6]	1
207	01	01	02	01	1	This bit will be high if a thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 7 and low otherwise	status_xpc_pump_unackd[6]	0
208	01	01	02	01	1	This bit will be high if a critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 8 and low otherwise	status_xpc_pump_unackd[7]	7
209	01	01	02	01	1	This bit will be high if a non-critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 8 and low otherwise	status_xpc_pump_unackd[7]	6
210	01	01	02	01	1	This bit will be high if a delay fail fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 8 and low otherwise	status_xpc_pump_unackd[7]	5
211	01	01	02	01	1	This bit will be high if a seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT been acknowledgec on pump 8 and low otherwise	status_xpc_pump_unackd[7]	4
212	01	01	02	01	1	This bit will be high if a flygt seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 8 and low otherwise	status_xpc_pump_unackd[7]	3
213	01	01	02	01	1	This bit will be high if a flygt thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 8 and low otherwise	status_xpc_pump_unackd[7]	2
214	01	01	02	01	1	Reservec	status_xpc_pump_unackd[7]	1
215	01	01	02	01	1	This bit will be high if a thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 8 and low otherwise	status_xpc_pump_unackd[7]	0
216	01	01	02	01	1	This bit will be high if a critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 9 and low otherwise	status_xpc_pump_unackd[8]	7
217	01	01	02	01	1	This bit will be high if a non-critical fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 9 and low otherwise	status_xpc_pump_unackd[8]	6
218	01	01	02	01	1	This bit will be high if a delay fail fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 9 and low otherwise	status_xpc_pump_unackd[8]	5
219	01	01	02	01	1	This bit will be high if a seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT been acknowledgec on pump 9 and low otherwise	status_xpc_pump_unackd[8]	4
220	01	01	02	01	1	This bit will be high if a flygt seal fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 9 and low otherwise	status_xpc_pump_unackd[8]	3

Binary Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable	Bit
221	01	01	02	01	1	This bit will be high if a flygt thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 9 and low otherwise	status_xpc_pump_unackd[8]	2
222	01	01	02	01	1	Reservec	status_xpc_pump_unackd[8]	1
223	01	01	02	01	1	This bit will be high if a thermistor fault is UNACKNOWLEDGED (Fault is NOT present but has NOT beer acknowledged) on pump 9 and low otherwise	status_xpc_pump_unackd[8]	0
224	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to any fault shown below being PRESEN and is low otherwise	status_rtu_pump_present[0][0]	7
225	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an under current fault being PRESEN and is low otherwise	status_rtu_pump_present[0][0]	6
226	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an over current fault being PRESENT ai is low otherwise	status_rtu_pump_present[0][0]	5
227	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a thermal alarm fault being PRESENT ai is low otherwise	status_rtu_pump_present[0][0]	4
228	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a phase fail fault being PRESENT and low otherwise	status_rtu_pump_present[0][0]	3
229	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a phase rotation alarm fault bei PRESENT and is low otherwise	status_rtu_pump_present[0][0]	2
230	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an earth fault being PRESENT and is lc otherwise	status_rtu_pump_present[0][0]	1
231	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an insulation test fault being PRESEN and is low otherwise	status_rtu_pump_present[0][0]	0
232	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a low flow fault being PRESENT and is l otherwise	status_rtu_pump_present[0][1]	7
233	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an analog input 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[0][1]	6
234	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an analog input 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[0][1]	5
235	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 6 fault being PRESENT ai is low otherwise	status_rtu_pump_present[0][1]	4
236	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 5 fault being PRESENT ai is low otherwise	status_rtu_pump_present[0][1]	3
237	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 4 fault being PRESENT ai is low otherwise	status_rtu_pump_present[0][1]	2
238	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 3 fault being PRESENT ai is low otherwise	status_rtu_pump_present[0][1]	1
239	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 2 fault being PRESENT ai is low otherwise	status_rtu_pump_present[0][1]	0
240	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 1 fault being PRESENT ai is low otherwise	status_rtu_pump_present[0][2]	7
241	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital output 3 fault being PRESEN and is low otherwise	status_rtu_pump_present[0][2]	6
242	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital output 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[0][2]	5
243	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital output 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[0][2]	4
244	01	01	02	01	1	Reservec	status_rtu_pump_present[0][2]	3

Binary Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable	Bit
245	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a SCADA lockout fault being PRESEN and is low otherwise	status_rtu_pump_present[0][2]	2
246	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a low flow warning fault being PRESEN and is low otherwise	status_rtu_pump_present[0][2]	1
247	01	01	02	01	1	Reservec	status_rtu_pump_present[0][2]	0
248	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to any fault shown below being PRESEN and is low otherwise	status_rtu_pump_present[1][0]	7
249	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an under current fault being PRESEN and is low otherwise	status_rtu_pump_present[1][0]	6
250	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an over current fault being PRESENT ai is low otherwise	status_rtu_pump_present[1][0]	5
251	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a thermal alarm fault being PRESENT ai is low otherwise	status_rtu_pump_present[1][0]	4
252	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a phase fail fault being PRESENT and low otherwise	status_rtu_pump_present[1][0]	3
253	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a phase rotation alarm fault bei PRESENT and is low otherwise	status_rtu_pump_present[1][0]	2
254	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an earth fault being PRESENT and is lo otherwise	status_rtu_pump_present[1][0]	1
255	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an insulation test fault being PRESEN and is low otherwise	status_rtu_pump_present[1][0]	0
256	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a low flow fault being PRESENT and is l otherwise	status_rtu_pump_present[1][1]	7
257	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an analog input 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[1][1]	6
258	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an analog input 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[1][1]	5
259	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 6 fault being PRESENT ai is low otherwise	status_rtu_pump_present[1][1]	4
260	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 5 fault being PRESENT ai is low otherwise	status_rtu_pump_present[1][1]	3
261	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 4 fault being PRESENT ai is low otherwise	status_rtu_pump_present[1][1]	2
262	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 3 fault being PRESENT ai is low otherwise	status_rtu_pump_present[1][1]	1
263	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 2 fault being PRESENT ai is low otherwise	status_rtu_pump_present[1][1]	0
264	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 1 fault being PRESENT ai is low otherwise	status_rtu_pump_present[1][2]	7
265	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital output 3 fault being PRESEN and is low otherwise	status_rtu_pump_present[1][2]	6
266	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital output 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[1][2]	5
267	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital output 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[1][2]	4
268	01	01	02	01	1	Reservec	status_rtu_pump_present[1][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
269	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a SCADA lockout fault being PRESEN and is low otherwise	status_rtu_pump_present[1][2]	2
270	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a low flow warning fault being PRESEN and is low otherwise	status_rtu_pump_present[1][2]	1
271	01	01	02	01	1	Reservec	status_rtu_pump_present[1][2]	0
272	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to any fault shown below being PRESEN and is low otherwise	status_rtu_pump_present[2][0]	7
273	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an under current fault being PRESEN and is low otherwise	status_rtu_pump_present[2][0]	6
274	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an over current fault being PRESENT ai is low otherwise	status_rtu_pump_present[2][0]	5
275	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a thermal alarm fault being PRESENT ai is low otherwise	status_rtu_pump_present[2][0]	4
276	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a phase fail fault being PRESENT and low otherwise	status_rtu_pump_present[2][0]	3
277	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a phase rotation alarm fault bei PRESENT and is low otherwise	status_rtu_pump_present[2][0]	2
278	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an earth fault being PRESENT and is lc otherwise	status_rtu_pump_present[2][0]	1
279	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an insulation test fault being PRESEN and is low otherwise	status_rtu_pump_present[2][0]	0
280	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a low flow fault being PRESENT and is l otherwise	status_rtu_pump_present[2][1]	7
281	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an analog input 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[2][1]	6
282	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an analog input 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[2][1]	5
283	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 6 fault being PRESENT ai is low otherwise	status_rtu_pump_present[2][1]	4
284	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 5 fault being PRESENT ai is low otherwise	status_rtu_pump_present[2][1]	3
285	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 4 fault being PRESENT ai is low otherwise	status_rtu_pump_present[2][1]	2
286	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 3 fault being PRESENT ai is low otherwise	status_rtu_pump_present[2][1]	1
287	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 2 fault being PRESENT ai is low otherwise	status_rtu_pump_present[2][1]	0
288	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 1 fault being PRESENT ai is low otherwise	status_rtu_pump_present[2][2]	7
289	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital output 3 fault being PRESEN and is low otherwise	status_rtu_pump_present[2][2]	6
290	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital output 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[2][2]	5
291	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital output 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[2][2]	4
292	01	01	02	01	1	Reservec	status_rtu_pump_present[2][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
293	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a SCADA lockout fault being PRESEN and is low otherwise	status_rtu_pump_present[2][2]	2
294	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a low flow warning fault being PRESEN and is low otherwise	status_rtu_pump_present[2][2]	1
295	01	01	02	01	1	Reservec	status_rtu_pump_present[2][2]	0
296	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to any fault shown below being PRESEN and is low otherwise	status_rtu_pump_present[3][0]	7
297	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an under current fault being PRESEN and is low otherwise	status_rtu_pump_present[3][0]	6
298	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an over current fault being PRESENT ai is low otherwise	status_rtu_pump_present[3][0]	5
299	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a thermal alarm fault being PRESENT ai is low otherwise	status_rtu_pump_present[3][0]	4
300	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a phase fail fault being PRESENT and low otherwise	status_rtu_pump_present[3][0]	3
301	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a phase rotation alarm fault bei PRESENT and is low otherwise	status_rtu_pump_present[3][0]	2
302	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an earth fault being PRESENT and is lc otherwise	status_rtu_pump_present[3][0]	1
303	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an insulation test fault being PRESEN and is low otherwise	status_rtu_pump_present[3][0]	0
304	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a low flow fault being PRESENT and is l otherwise	status_rtu_pump_present[3][1]	7
305	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an analog input 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[3][1]	6
306	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an analog input 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[3][1]	5
307	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 6 fault being PRESENT ai is low otherwise	status_rtu_pump_present[3][1]	4
308	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 5 fault being PRESENT ai is low otherwise	status_rtu_pump_present[3][1]	3
309	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 4 fault being PRESENT ai is low otherwise	status_rtu_pump_present[3][1]	2
310	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 3 fault being PRESENT ai is low otherwise	status_rtu_pump_present[3][1]	1
311	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 2 fault being PRESENT ai is low otherwise	status_rtu_pump_present[3][1]	0
312	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 1 fault being PRESENT ai is low otherwise	status_rtu_pump_present[3][2]	7
313	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital output 3 fault being PRESEN and is low otherwise	status_rtu_pump_present[3][2]	6
314	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital output 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[3][2]	5
315	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital output 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[3][2]	4
316	01	01	02	01	1	Reservec	status_rtu_pump_present[3][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
317	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a SCADA lockout fault being PRESEN and is low otherwise	status_rtu_pump_present[3][2]	2
318	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a low flow warning fault being PRESEN and is low otherwise	status_rtu_pump_present[3][2]	1
319	01	01	02	01	1	Reservec	status_rtu_pump_present[3][2]	0
320	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to any fault shown below being PRESEN and is low otherwise	status_rtu_pump_present[4][0]	7
321	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an under current fault being PRESEN and is low otherwise	status_rtu_pump_present[4][0]	6
322	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an over current fault being PRESENT ai is low otherwise	status_rtu_pump_present[4][0]	5
323	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a thermal alarm fault being PRESENT ai is low otherwise	status_rtu_pump_present[4][0]	4
324	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a phase fail fault being PRESENT and low otherwise	status_rtu_pump_present[4][0]	3
325	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a phase rotation alarm fault bei PRESENT and is low otherwise	status_rtu_pump_present[4][0]	2
326	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an earth fault being PRESENT and is lc otherwise	status_rtu_pump_present[4][0]	1
327	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an insulation test fault being PRESEN and is low otherwise	status_rtu_pump_present[4][0]	0
328	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a low flow fault being PRESENT and is lı otherwise	status_rtu_pump_present[4][1]	7
329	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an analog input 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[4][1]	6
330	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an analog input 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[4][1]	5
331	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 6 fault being PRESENT ai is low otherwise	status_rtu_pump_present[4][1]	4
332	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 5 fault being PRESENT ai is low otherwise	status_rtu_pump_present[4][1]	3
333	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 4 fault being PRESENT ai is low otherwise	status_rtu_pump_present[4][1]	2
334	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 3 fault being PRESENT ai is low otherwise	status_rtu_pump_present[4][1]	1
335	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 2 fault being PRESENT ai is low otherwise	status_rtu_pump_present[4][1]	0
336	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 1 fault being PRESENT ai is low otherwise	status_rtu_pump_present[4][2]	7
337	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital output 3 fault being PRESEN and is low otherwise	status_rtu_pump_present[4][2]	6
338	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital output 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[4][2]	5
339	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital output 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[4][2]	4
340	01	01	02	01	1	Reservec	status_rtu_pump_present[4][2]	3

Binary Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable	Bit
341	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a SCADA lockout fault being PRESEN and is low otherwise	status_rtu_pump_present[4][2]	2
342	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a low flow warning fault being PRESEN and is low otherwise	status_rtu_pump_present[4][2]	1
343	01	01	02	01	1	Reservec	status_rtu_pump_present[4][2]	0
344	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to any fault shown below being PRESEN and is low otherwise	status_rtu_pump_present[5][0]	7
345	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an under current fault being PRESEN and is low otherwise	status_rtu_pump_present[5][0]	6
346	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an over current fault being PRESENT ai is low otherwise	status_rtu_pump_present[5][0]	5
347	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a thermal alarm fault being PRESENT ai is low otherwise	status_rtu_pump_present[5][0]	4
348	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a phase fail fault being PRESENT and low otherwise	status_rtu_pump_present[5][0]	3
349	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a phase rotation alarm fault bei PRESENT and is low otherwise	status_rtu_pump_present[5][0]	2
350	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an earth fault being PRESENT and is lc otherwise	status_rtu_pump_present[5][0]	1
351	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an insulation test fault being PRESEN and is low otherwise	status_rtu_pump_present[5][0]	0
352	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a low flow fault being PRESENT and is l otherwise	status_rtu_pump_present[5][1]	7
353	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an analog input 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[5][1]	6
354	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an analog input 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[5][1]	5
355	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 6 fault being PRESENT ai is low otherwise	status_rtu_pump_present[5][1]	4
356	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 5 fault being PRESENT ai is low otherwise	status_rtu_pump_present[5][1]	3
357	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 4 fault being PRESENT ai is low otherwise	status_rtu_pump_present[5][1]	2
358	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 3 fault being PRESENT ai is low otherwise	status_rtu_pump_present[5][1]	1
359	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 2 fault being PRESENT ai is low otherwise	status_rtu_pump_present[5][1]	0
360	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 1 fault being PRESENT ai is low otherwise	status_rtu_pump_present[5][2]	7
361	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital output 3 fault being PRESEN and is low otherwise	status_rtu_pump_present[5][2]	6
362	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital output 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[5][2]	5
363	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital output 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[5][2]	4
364	01	01	02	01	1	Reservec	status_rtu_pump_present[5][2]	3

Binary Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable	Bit
365	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a SCADA lockout fault being PRESEN and is low otherwise	status_rtu_pump_present[5][2]	2
366	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a low flow warning fault being PRESEN and is low otherwise	status_rtu_pump_present[5][2]	1
367	01	01	02	01	1	Reservec	status_rtu_pump_present[5][2]	0
368	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to any fault shown below being PRESEN and is low otherwise	status_rtu_pump_present[6][0]	7
369	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an under current fault being PRESEN and is low otherwise	status_rtu_pump_present[6][0]	6
370	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an over current fault being PRESENT ai is low otherwise	status_rtu_pump_present[6][0]	5
371	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a thermal alarm fault being PRESENT ai is low otherwise	status_rtu_pump_present[6][0]	4
372	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a phase fail fault being PRESENT and low otherwise	status_rtu_pump_present[6][0]	3
373	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a phase rotation alarm fault bei PRESENT and is low otherwise	status_rtu_pump_present[6][0]	2
374	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an earth fault being PRESENT and is lc otherwise	status_rtu_pump_present[6][0]	1
375	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an insulation test fault being PRESEN and is low otherwise	status_rtu_pump_present[6][0]	0
376	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a low flow fault being PRESENT and is l otherwise	status_rtu_pump_present[6][1]	7
377	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an analog input 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[6][1]	6
378	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an analog input 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[6][1]	5
379	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 6 fault being PRESENT ai is low otherwise	status_rtu_pump_present[6][1]	4
380	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 5 fault being PRESENT ai is low otherwise	status_rtu_pump_present[6][1]	3
381	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 4 fault being PRESENT ai is low otherwise	status_rtu_pump_present[6][1]	2
382	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 3 fault being PRESENT ai is low otherwise	status_rtu_pump_present[6][1]	1
383	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 2 fault being PRESENT ai is low otherwise	status_rtu_pump_present[6][1]	0
384	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 1 fault being PRESENT ai is low otherwise	status_rtu_pump_present[6][2]	7
385	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital output 3 fault being PRESEN and is low otherwise	status_rtu_pump_present[6][2]	6
386	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital output 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[6][2]	5
387	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital output 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[6][2]	4
388	01	01	02	01	1	Reservec	status_rtu_pump_present[6][2]	3

Binary Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable	Bit
389	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a SCADA lockout fault being PRESEN and is low otherwise	status_rtu_pump_present[6][2]	2
390	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a low flow warning fault being PRESEN and is low otherwise	status_rtu_pump_present[6][2]	1
391	01	01	02	01	1	Reservec	status_rtu_pump_present[6][2]	0
392	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to any fault shown below being PRESEN and is low otherwise	status_rtu_pump_present[7][0]	7
393	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an under current fault being PRESEN and is low otherwise	status_rtu_pump_present[7][0]	6
394	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an over current fault being PRESENT ai is low otherwise	status_rtu_pump_present[7][0]	5
395	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a thermal alarm fault being PRESENT ai is low otherwise	status_rtu_pump_present[7][0]	4
396	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a phase fail fault being PRESENT and low otherwise	status_rtu_pump_present[7][0]	3
397	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a phase rotation alarm fault bei PRESENT and is low otherwise	status_rtu_pump_present[7][0]	2
398	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an earth fault being PRESENT and is lc otherwise	status_rtu_pump_present[7][0]	1
399	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an insulation test fault being PRESEN and is low otherwise	status_rtu_pump_present[7][0]	0
400	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a low flow fault being PRESENT and is l otherwise	status_rtu_pump_present[7][1]	7
401	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an analog input 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[7][1]	6
402	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an analog input 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[7][1]	5
403	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 6 fault being PRESENT ai is low otherwise	status_rtu_pump_present[7][1]	4
404	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 5 fault being PRESENT ai is low otherwise	status_rtu_pump_present[7][1]	3
405	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 4 fault being PRESENT ai is low otherwise	status_rtu_pump_present[7][1]	2
406	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 3 fault being PRESENT ai is low otherwise	status_rtu_pump_present[7][1]	1
407	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 2 fault being PRESENT ai is low otherwise	status_rtu_pump_present[7][1]	0
408	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 1 fault being PRESENT ai is low otherwise	status_rtu_pump_present[7][2]	7
409	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital output 3 fault being PRESEN and is low otherwise	status_rtu_pump_present[7][2]	6
410	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital output 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[7][2]	5
411	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital output 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[7][2]	4
412	01	01	02	01	1	Reservec	status_rtu_pump_present[7][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
413	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a SCADA lockout fault being PRESEN and is low otherwise	status_rtu_pump_present[7][2]	2
414	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a low flow warning fault being PRESEN and is low otherwise	status_rtu_pump_present[7][2]	1
415	01	01	02	01	1	Reservec	status_rtu_pump_present[7][2]	0
416	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to any fault shown below being PRESEN and is low otherwise	status_rtu_pump_present[8][0]	7
417	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an under current fault being PRESEN and is low otherwise	status_rtu_pump_present[8][0]	6
418	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an over current fault being PRESENT ai is low otherwise	status_rtu_pump_present[8][0]	5
419	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a thermal alarm fault being PRESENT ai is low otherwise	status_rtu_pump_present[8][0]	4
420	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a phase fail fault being PRESENT and low otherwise	status_rtu_pump_present[8][0]	3
421	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a phase rotation alarm fault bei PRESENT and is low otherwise	status_rtu_pump_present[8][0]	2
422	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an earth fault being PRESENT and is lc otherwise	status_rtu_pump_present[8][0]	1
423	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an insulation test fault being PRESEN and is low otherwise	status_rtu_pump_present[8][0]	0
424	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a low flow fault being PRESENT and is l otherwise	status_rtu_pump_present[8][1]	7
425	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an analog input 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[8][1]	6
426	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an analog input 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[8][1]	5
427	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 6 fault being PRESENT ai is low otherwise	status_rtu_pump_present[8][1]	4
428	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 5 fault being PRESENT ai is low otherwise	status_rtu_pump_present[8][1]	3
429	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 4 fault being PRESENT ai is low otherwise	status_rtu_pump_present[8][1]	2
430	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 3 fault being PRESENT ai is low otherwise	status_rtu_pump_present[8][1]	1
431	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 2 fault being PRESENT ai is low otherwise	status_rtu_pump_present[8][1]	0
432	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 1 fault being PRESENT ai is low otherwise	status_rtu_pump_present[8][2]	7
433	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital output 3 fault being PRESEN and is low otherwise	status_rtu_pump_present[8][2]	6
434	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital output 2 fault being PRESEN and is low otherwise	status_rtu_pump_present[8][2]	5
435	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital output 1 fault being PRESEN and is low otherwise	status_rtu_pump_present[8][2]	4
436	01	01	02	01	1	Reservec	status_rtu_pump_present[8][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
437	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a SCADA lockout fault being PRESEN and is low otherwise	status_rtu_pump_present[8][2]	2
438	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a low flow warning fault being PRESEN and is low otherwise	status_rtu_pump_present[8][2]	1
439	01	01	02	01	1	Reservec	status_rtu_pump_present[8][2]	0
440	01	01	02	01	1	Reservec	status_rtu_pump_unackd[0][0]	7
441	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an under current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][0]	6
442	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an over current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][0]	5
443	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a thermal alarm fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][0]	4
444	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a phase fail fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][0]	3
445	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a phase rotation alarm fault which has been UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][0]	2
446	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an earth fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][0]	1
447	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an insulation test fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][0]	0
448	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a low flow fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][1]	7
449	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an analog input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][1]	6
450	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to an analog input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][1]	5
451	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 6 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][1]	4
452	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 5 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][1]	3
453	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 4 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][1]	2
454	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][1]	1
455	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][1]	0
456	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][2]	7
457	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital output 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][2]	6
458	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital output 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][2]	5
459	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a digital output 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][2]	4
460	01	01	02	01	1	Reservec	status_rtu_pump_unackd[0][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
461	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a SCADA lockout fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][2]	2
462	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 1 due to a low flow warning fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[0][2]	1
463	01	01	02	01	1	Reservec	status_rtu_pump_unackd[0][2]	0
464	01	01	02	01	1	Reservec	status_rtu_pump_unackd[1][0]	7
465	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an under current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][0]	6
466	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an over current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][0]	5
467	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a thermal alarm fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][0]	4
468	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a phase fail fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][0]	3
469	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a phase rotation alarm fault which has been UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][0]	2
470	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an earth fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][0]	1
471	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an insulation test fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][0]	0
472	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a low flow fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][1]	7
473	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an analog input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][1]	6
474	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to an analog input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][1]	5
475	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 6 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][1]	4
476	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 5 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][1]	3
477	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 4 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][1]	2
478	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][1]	1
479	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][1]	0
480	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][2]	7
481	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital output 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][2]	6
482	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital output 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][2]	5
483	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a digital output 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][2]	4
484	01	01	02	01	1	Reservec	status_rtu_pump_unackd[1][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
485	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a SCADA lockout fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][2]	2
486	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 2 due to a low flow warning fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[1][2]	1
487	01	01	02	01	1	Reservec	status_rtu_pump_unackd[1][2]	0
488	01	01	02	01	1	Reservec	status_rtu_pump_unackd[2][0]	7
489	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an under current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][0]	6
490	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an over current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][0]	5
491	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a thermal alarm fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][0]	4
492	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a phase fail fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][0]	3
493	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a phase rotation alarm fault which has been UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][0]	2
494	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an earth fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][0]	1
495	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an insulation test fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][0]	0
496	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a low flow fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][1]	7
497	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an analog input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][1]	6
498	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to an analog input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][1]	5
499	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 6 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][1]	4
500	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 5 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][1]	3
501	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 4 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][1]	2
502	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][1]	1
503	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][1]	0
504	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][2]	7
505	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital output 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][2]	6
506	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital output 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][2]	5
507	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a digital output 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][2]	4
508	01	01	02	01	1	Reservec	status_rtu_pump_unackd[2][2]	3

Binary Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable	Bit
509	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a SCADA lockout fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][2]	2
510	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 3 due to a low flow warning fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[2][2]	1
511	01	01	02	01	1	Reservec	status_rtu_pump_unackd[2][2]	0
512	01	01	02	01	1	Reservec	status_rtu_pump_unackd[3][0]	7
513	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an under current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][0]	6
514	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an over current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][0]	5
515	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a thermal alarm fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][0]	4
516	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a phase fail fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][0]	3
517	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a phase rotation alarm fault which has been UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][0]	2
518	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an earth fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][0]	1
519	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an insulation test fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][0]	0
520	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a low flow fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][1]	7
521	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an analog input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][1]	6
522	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to an analog input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][1]	5
523	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 6 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][1]	4
524	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 5 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][1]	3
525	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 4 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][1]	2
526	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][1]	1
527	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][1]	0
528	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][2]	7
529	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital output 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][2]	6
530	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital output 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][2]	5
531	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a digital output 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][2]	4
532	01	01	02	01	1	Reservec	status_rtu_pump_unackd[3][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
533	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a SCADA lockout fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][2]	2
534	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 4 due to a low flow warning fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[3][2]	1
535	01	01	02	01	1	Reservec	status_rtu_pump_unackd[3][2]	0
536	01	01	02	01	1	Reservec	status_rtu_pump_unackd[4][0]	7
537	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an under current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][0]	6
538	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an over current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][0]	5
539	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a thermal alarm fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][0]	4
540	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a phase fail fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][0]	3
541	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a phase rotation alarm fault which has been UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][0]	2
542	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an earth fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][0]	1
543	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an insulation test fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][0]	0
544	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a low flow fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][1]	7
545	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an analog input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][1]	6
546	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to an analog input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][1]	5
547	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 6 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][1]	4
548	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 5 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][1]	3
549	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 4 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][1]	2
550	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][1]	1
551	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][1]	0
552	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][2]	7
553	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital output 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][2]	6
554	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital output 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][2]	5
555	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a digital output 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][2]	4
556	01	01	02	01	1	Reservec	status_rtu_pump_unackd[4][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
557	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a SCADA lockout fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][2]	2
558	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 5 due to a low flow warning fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[4][2]	1
559	01	01	02	01	1	Reservec	status_rtu_pump_unackd[4][2]	0
560	01	01	02	01	1	Reservec	status_rtu_pump_unackd[5][0]	7
561	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an under current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][0]	6
562	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an over current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][0]	5
563	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a thermal alarm fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][0]	4
564	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a phase fail fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][0]	3
565	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a phase rotation alarm fault which has been UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][0]	2
566	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an earth fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][0]	1
567	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an insulation test fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][0]	0
568	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a low flow fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][1]	7
569	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an analog input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][1]	6
570	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to an analog input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][1]	5
571	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 6 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][1]	4
572	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 5 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][1]	3
573	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 4 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][1]	2
574	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][1]	1
575	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][1]	0
576	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][2]	7
577	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital output 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][2]	6
578	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital output 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][2]	5
579	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a digital output 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][2]	4
580	01	01	02	01	1	Reservec	status_rtu_pump_unackd[5][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
581	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a SCADA lockout fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][2]	2
582	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 6 due to a low flow warning fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[5][2]	1
583	01	01	02	01	1	Reservec	status_rtu_pump_unackd[5][2]	0
584	01	01	02	01	1	Reservec	status_rtu_pump_unackd[6][0]	7
585	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an under current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][0]	6
586	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an over current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][0]	5
587	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a thermal alarm fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][0]	4
588	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a phase fail fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][0]	3
589	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a phase rotation alarm fault which has been UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][0]	2
590	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an earth fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][0]	1
591	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an insulation test fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][0]	0
592	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a low flow fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][1]	7
593	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an analog input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][1]	6
594	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to an analog input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][1]	5
595	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 6 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][1]	4
596	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 5 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][1]	3
597	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 4 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][1]	2
598	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][1]	1
599	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][1]	0
600	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][2]	7
601	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital output 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][2]	6
602	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital output 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][2]	5
603	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a digital output 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][2]	4
604	01	01	02	01	1	Reservec	status_rtu_pump_unackd[6][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
605	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a SCADA lockout fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][2]	2
606	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 7 due to a low flow warning fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[6][2]	1
607	01	01	02	01	1	Reservec	status_rtu_pump_unackd[6][2]	0
608	01	01	02	01	1	Reservec	status_rtu_pump_unackd[7][0]	7
609	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an under current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][0]	6
610	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an over current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][0]	5
611	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a thermal alarm fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][0]	4
612	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a phase fail fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][0]	3
613	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a phase rotation alarm fault which has been UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][0]	2
614	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an earth fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][0]	1
615	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an insulation test fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][0]	0
616	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a low flow fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][1]	7
617	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an analog input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][1]	6
618	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to an analog input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][1]	5
619	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 6 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][1]	4
620	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 5 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][1]	3
621	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 4 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][1]	2
622	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][1]	1
623	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][1]	0
624	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][2]	7
625	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital output 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][2]	6
626	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital output 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][2]	5
627	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a digital output 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][2]	4
628	01	01	02	01	1	Reservec	status_rtu_pump_unackd[7][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
629	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a SCADA lockout fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][2]	2
630	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 8 due to a low flow warning fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[7][2]	1
631	01	01	02	01	1	Reservec	status_rtu_pump_unackd[7][2]	0
632	01	01	02	01	1	Reservec	status_rtu_pump_unackd[8][0]	7
633	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an under current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][0]	6
634	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an over current fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][0]	5
635	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a thermal alarm fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][0]	4
636	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a phase fail fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][0]	3
637	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a phase rotation alarm fault which has been UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][0]	2
638	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an earth fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][0]	1
639	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an insulation test fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][0]	0
640	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a low flow fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][1]	7
641	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an analog input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][1]	6
642	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to an analog input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][1]	5
643	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 6 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][1]	4
644	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 5 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][1]	3
645	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 4 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][1]	2
646	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][1]	1
647	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][1]	0
648	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital input 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][2]	7
649	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital output 3 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][2]	6
650	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital output 2 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][2]	5
651	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a digital output 1 fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][2]	4
652	01	01	02	01	1	Reservec	status_rtu_pump_unackd[8][2]	3

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
653	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a SCADA lockout fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][2]	2
654	01	01	02	01	1	This bit will be high if the Master MonitorPRO has a faulted pump 9 due to a low flow warning fault which has be UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged) and is low otherwise	status_rtu_pump_unackd[8][2]	1
655	01	01	02	01	1	Reservec	status_rtu_pump_unackd[8][2]	0
656	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[0]	7
657	01	01	02	01	1	Alarm present on MonitorPRO. This alarm is activated by the master MonitorPRO and indicates battery power h failed	status_rtu_cntrlr_present[0]	6
658	01	01	02	01	1	Alarm present on MonitorPRO. This alarm is activated by the master MonitorPRO and indicates communications h failed between the master MonitorPRO and the other slave units	status_rtu_cntrlr_present[0]	5
659	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[0]	4
660	01	01	02	01	1	Alarm present on MonitorPRO. This alarm is activated by the master MonitorPRO and indicates an under voltage h been detected by the master MonitorPRO	status_rtu_cntrlr_present[0]	3
661	01	01	02	01	1	Alarm present on MonitorPRO. This alarm is activated by the master MonitorPRO and indicates an over voltage h been detected by the master MonitorPRO	status_rtu_cntrlr_present[0]	2
662	01	01	02	01	1	Level 2 alarm present on MonitorPRO	status_rtu_cntrlr_present[0]	1
663	01	01	02	01	1	Level 1 alarm present on MonitorPRO	status_rtu_cntrlr_present[0]	0
664	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[1]	7
665	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[1]	6
666	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[1]	5
667	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[1]	4
668	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[1]	3
669	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[1]	2
670	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[1]	1
671	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[1]	0
672	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[2]	7
673	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[2]	6
674	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[2]	5
675	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[2]	4
676	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[2]	3
677	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[2]	2
678	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[2]	1
679	01	01	02	01	1	Reserved	status_rtu_cntrlr_present[2]	0
680	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[0]	7
681	01	01	02	01	1	Alarm UNACKNOWLEDGED on MonitorPRO. This alarm is activated by the master MonitorPRO and indicate battery power fault is clear but has not been acknowledged	status_rtu_cntrlr_unackd[0]	6
682	01	01	02	01	1	Alarm UNACKNOWLEDGED on MonitorPRO. This alarm is activated by the master MonitorPRO and indicate communications has been restored but has not been acknowledged	status_rtu_cntrlr_unackd[0]	5
683	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[0]	4
684	01	01	02	01	1	Alarm UNACKNOWLEDGED on MonitorPRO. This alarm is activated by the master MonitorPRO and indicates th under voltage fault is clear but has not been acknowledged	status_rtu_cntrlr_unackd[0]	3
685	01	01	02	01	1	Alarm UNACKNOWLEDGED on MonitorPRO. This alarm is activated by the master MonitorPRO and indicates th over voltage fault is clear but has not been acknowledged	status_rtu_cntrlr_unackd[0]	2
686	01	01	02	01	1	Level 2 alarm on MonitorPRO is UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged)	status_rtu_cntrlr_unackd[0]	1

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
687	01	01	02	01	1	Level 1 alarm on MonitorPRO is UNACKNOWLEDGED (fault is NOT present but has NOT been acknowledged)	status_rtu_cntrlr_unackd[0]	0
688	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[1]	7
689	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[1]	6
690	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[1]	5
691	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[1]	4
692	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[1]	3
693	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[1]	2
694	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[1]	1
695	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[1]	0
696	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[2]	7
697	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[2]	6
698	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[2]	5
699	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[2]	4
700	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[2]	3
701	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[2]	2
702	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[2]	1
703	01	01	02	01	1	Reserved	status_rtu_cntrlr_unackd[2]	0
704	01	01	02	01	1	This bit is high if digital input 6 from master MonitorPRO is active and low otherwise	status_dig[0][0]	7
705	01	01	02	01	1	This bit is high if digital input 5 from master MonitorPRO is active and low otherwise	status_dig[0][0]	6
706	01	01	02	01	1	This bit is high if digital input 4 from master MonitorPRO is active and low otherwise	status_dig[0][0]	5
707	01	01	02	01	1	This bit is high if digital input 3 from master MonitorPRO is active and low otherwise	status_dig[0][0]	4
708	01	01	02	01	1	This bit is high if digital input 2 from master MonitorPRO is active and low otherwise	status_dig[0][0]	3
709	01	01	02	01	1	This bit is high if digital input 1 from master MonitorPRO is active and low otherwise	status_dig[0][0]	2
710	01	01	02	01	1	This bit is high if digital output 3 from master MonitorPRO is active and low otherwise	status_dig[0][0]	1
711	01	01	02	01	1	This bit is high if digital output 2 from master MonitorPRO is active and low otherwise	status_dig[0][0]	0
712	01	01	02	01	1	This bit is high if digital output 1 from master MonitorPRO is active and low otherwise	status_dig[0][1]	7
713	01	01	02	01	1	Reserved	status_dig[0][1]	6
714	01	01	02	01	1	Reserved	status_dig[0][1]	5
715	01	01	02	01	1	Reserved	status_dig[0][1]	4
716	01	01	02	01	1	Reserved	status_dig[0][1]	3
717	01	01	02	01	1	Reserved	status_dig[0][1]	2
718	01	01	02	01	1	Reserved	status_dig[0][1]	1
719	01	01	02	01	1	Reserved	status_dig[0][1]	0
720	01	01	02	01	1	Reserved	status_dig[0][2]	7
721	01	01	02	01	1	Reserved	status_dig[0][2]	6
722	01	01	02	01	1	Reserved	status_dig[0][2]	5
723	01	01	02	01	1	Reserved	status_dig[0][2]	4
724	01	01	02	01	1	Reserved	status_dig[0][2]	3
725	01	01	02	01	1	Reserved	status_dig[0][2]	2
726	01	01	02	01	1	Reserved	status_dig[0][2]	1
727	01	01	02	01	1	Reserved	status_dig[0][2]	0
728	01	01	02	01	1	Reserved	status_dig[1][0]	7
729	01	01	02	01	1	Reserved	status_dig[1][0]	6
730	01	01	02	01	1	Reserved	status_dig[1][0]	5
731	01	01	02	01	1	Reserved	status_dig[1][0]	4

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
732	01	01	02	01	1	Reserved	status_dig[1][0]	3
733	01	01	02	01	1	Reserved	status_dig[1][0]	2
734	01	01	02	01	1	Reserved	status_dig[1][0]	1
735	01	01	02	01	1	Reserved	status_dig[1][0]	0
736	01	01	02	01	1	Reserved	status_dig[1][1]	7
737	01	01	02	01	1	Reserved	status_dig[1][1]	6
738	01	01	02	01	1	Reserved	status_dig[1][1]	5
739	01	01	02	01	1	Reserved	status_dig[1][1]	4
740	01	01	02	01	1	Reserved	status_dig[1][1]	3
741	01	01	02	01	1	Reserved	status_dig[1][1]	2
742	01	01	02	01	1	Reserved	status_dig[1][1]	1
743	01	01	02	01	1	Reserved	status_dig[1][1]	0
744	01	01	02	01	1	Reserved	status_dig[1][2]	7
745	01	01	02	01	1	Reserved	status_dig[1][2]	6
746	01	01	02	01	1	Reserved	status_dig[1][2]	5
747	01	01	02	01	1	Reserved	status_dig[1][2]	4
748	01	01	02	01	1	Reserved	status_dig[1][2]	3
749	01	01	02	01	1	Reserved	status_dig[1][2]	2
750	01	01	02	01	1	Reserved	status_dig[1][2]	1
751	01	01	02	01	1	Reserved	status_dig[1][2]	0
752	01	01	02	01	1	Reserved	status_dig[2][0]	7
753	01	01	02	01	1	Reserved	status_dig[2][0]	6
754	01	01	02	01	1	Reserved	status_dig[2][0]	5
755	01	01	02	01	1	Reserved	status_dig[2][0]	4
756	01	01	02	01	1	Reserved	status_dig[2][0]	3
757	01	01	02	01	1	Reserved	status_dig[2][0]	2
758	01	01	02	01	1	Reserved	status_dig[2][0]	1
759	01	01	02	01	1	Reserved	status_dig[2][0]	0
760	01	01	02	01	1	Reserved	status_dig[2][1]	7
761	01	01	02	01	1	Reserved	status_dig[2][1]	6
762	01	01	02	01	1	Reserved	status_dig[2][1]	5
763	01	01	02	01	1	Reserved	status_dig[2][1]	4
764	01	01	02	01	1	Reserved	status_dig[2][1]	3
765	01	01	02	01	1	Reserved	status_dig[2][1]	2
766	01	01	02	01	1	Reserved	status_dig[2][1]	1
767	01	01	02	01	1	Reserved	status_dig[2][1]	0
768	01	01	02	01	1	Reserved	status_dig[2][2]	7
769	01	01	02	01	1	Reserved	status_dig[2][2]	6
770	01	01	02	01	1	Reserved	status_dig[2][2]	5
771	01	01	02	01	1	Reserved	status_dig[2][2]	4
772	01	01	02	01	1	Reserved	status_dig[2][2]	3
773	01	01	02	01	1	Reserved	status_dig[2][2]	2
774	01	01	02	01	1	Reserved	status_dig[2][2]	1
775	01	01	02	01	1	Reserved	status_dig[2][2]	0
776	01	01	02	01	1	Reserved	status_unackd_pump_counters[0]	7
777	01	01	02	01	1	Reserved	status_unackd_pump_counters[0]	6

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
778	01	01	02	01	1	Reserved	status_unackd_pump_counters[0]	5
779	01	01	02	01	1	Reserved	status_unackd_pump_counters[0]	4
780	01	01	02	01	1	Reserved	status_unackd_pump_counters[0]	3
781	01	01	02	01	1	Reserved	status_unackd_pump_counters[0]	2
782	01	01	02	01	1	Reserved	status_unackd_pump_counters[0]	1
783	01	01	02	01	1	Reserved	status_unackd_pump_counters[0]	0
784	01	01	02	01	1	Reserved	status_unackd_pump_counters[1]	7
785	01	01	02	01	1	Reserved	status_unackd_pump_counters[1]	6
786	01	01	02	01	1	Reserved	status_unackd_pump_counters[1]	5
787	01	01	02	01	1	Reserved	status_unackd_pump_counters[1]	4
788	01	01	02	01	1	Reserved	status_unackd_pump_counters[1]	3
789	01	01	02	01	1	Reserved	status_unackd_pump_counters[1]	2
790	01	01	02	01	1	Reserved	status_unackd_pump_counters[1]	1
791	01	01	02	01	1	Reserved	status_unackd_pump_counters[1]	0
792	01	01	02	01	1	Reserved	status_unackd_pump_counters[2]	7
793	01	01	02	01	1	Reserved	status_unackd_pump_counters[2]	6
794	01	01	02	01	1	Reserved	status_unackd_pump_counters[2]	5
795	01	01	02	01	1	Reserved	status_unackd_pump_counters[2]	4
796	01	01	02	01	1	Reserved	status_unackd_pump_counters[2]	3
797	01	01	02	01	1	Reserved	status_unackd_pump_counters[2]	2
798	01	01	02	01	1	Reserved	status_unackd_pump_counters[2]	1
799	01	01	02	01	1	Reserved	status_unackd_pump_counters[2]	0
800	01	01	02	01	1	Reserved	status_unackd_pump_counters[3]	7
801	01	01	02	01	1	Reserved	status_unackd_pump_counters[3]	6
802	01	01	02	01	1	Reserved	status_unackd_pump_counters[3]	5
803	01	01	02	01	1	Reserved	status_unackd_pump_counters[3]	4
804	01	01	02	01	1	Reserved	status_unackd_pump_counters[3]	3
805	01	01	02	01	1	Reserved	status_unackd_pump_counters[3]	2
806	01	01	02	01	1	Reserved	status_unackd_pump_counters[3]	1
807	01	01	02	01	1	Reserved	status_unackd_pump_counters[3]	0
808	01	01	02	01	1	Reserved	status_unackd_pump_counters[4]	7
809	01	01	02	01	1	Reserved	status_unackd_pump_counters[4]	6
810	01	01	02	01	1	Reserved	status_unackd_pump_counters[4]	5
811	01	01	02	01	1	Reserved	status_unackd_pump_counters[4]	4
812	01	01	02	01	1	Reserved	status_unackd_pump_counters[4]	3
813	01	01	02	01	1	Reserved	status_unackd_pump_counters[4]	2
814	01	01	02	01	1	Reserved	status_unackd_pump_counters[4]	1
815	01	01	02	01	1	Reserved	status_unackd_pump_counters[4]	0
816	01	01	02	01	1	Reserved	status_unackd_pump_counters[5]	7
817	01	01	02	01	1	Reserved	status_unackd_pump_counters[5]	6
818	01	01	02	01	1	Reserved	status_unackd_pump_counters[5]	5
819	01	01	02	01	1	Reserved	status_unackd_pump_counters[5]	4
820	01	01	02	01	1	Reserved	status_unackd_pump_counters[5]	3
821	01	01	02	01	1	Reserved	status_unackd_pump_counters[5]	2
822	01	01	02	01	1	Reserved	status_unackd_pump_counters[5]	1
823	01	01	02	01	1	Reserved	status_unackd_pump_counters[5]	0

Binary Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable	Bit
824	01	01	02	01	1	Reserved	status_unackd_pump_counters[6]	7
825	01	01	02	01	1	Reserved	status_unackd_pump_counters[6]	6
826	01	01	02	01	1	Reserved	status_unackd_pump_counters[6]	5
827	01	01	02	01	1	Reserved	status_unackd_pump_counters[6]	4
828	01	01	02	01	1	Reserved	status_unackd_pump_counters[6]	3
829	01	01	02	01	1	Reserved	status_unackd_pump_counters[6]	2
830	01	01	02	01	1	Reserved	status_unackd_pump_counters[6]	1
831	01	01	02	01	1	Reserved	status_unackd_pump_counters[6]	0
832	01	01	02	01	1	Reserved	status_unackd_pump_counters[7]	7
833	01	01	02	01	1	Reserved	status_unackd_pump_counters[7]	6
834	01	01	02	01	1	Reserved	status_unackd_pump_counters[7]	5
835	01	01	02	01	1	Reserved	status_unackd_pump_counters[7]	4
836	01	01	02	01	1	Reserved	status_unackd_pump_counters[7]	3
837	01	01	02	01	1	Reserved	status_unackd_pump_counters[7]	2
838	01	01	02	01	1	Reserved	status_unackd_pump_counters[7]	1
839	01	01	02	01	1	Reserved	status_unackd_pump_counters[7]	0
840	01	01	02	01	1	Reserved	status_unackd_pump_counters[8]	7
841	01	01	02	01	1	Reserved	status_unackd_pump_counters[8]	6
842	01	01	02	01	1	Reserved	status_unackd_pump_counters[8]	5
843	01	01	02	01	1	Reserved	status_unackd_pump_counters[8]	4
844	01	01	02	01	1	Reserved	status_unackd_pump_counters[8]	3
845	01	01	02	01	1	Reserved	status_unackd_pump_counters[8]	2
846	01	01	02	01	1	Reserved	status_unackd_pump_counters[8]	1
847	01	01	02	01	1	Reserved	status_unackd_pump_counters[8]	0
848	01	01	02	01	1	Reserved	status_unackd_rtu_counter	7
849	01	01	02	01	1	Reserved	status_unackd_rtu_counter	6
850	01	01	02	01	1	Reserved	status_unackd_rtu_counter	5
851	01	01	02	01	1	Reserved	status_unackd_rtu_counter	4
852	01	01	02	01	1	Reserved	status_unackd_rtu_counter	3
853	01	01	02	01	1	Reserved	status_unackd_rtu_counter	2
854	01	01	02	01	1	Reserved	status_unackd_rtu_counter	1
855	01	01	02	01	1	Reserved	status_unackd_rtu_counter	0
856	01	01	02	01	1	Reserved	status_rtu_comms_fail[0]	7
857	01	01	02	01	1	Reserved	status_rtu_comms_fail[0]	6
858	01	01	02	01	1	Reserved	status_rtu_comms_fail[0]	5
859	01	01	02	01	1	Reserved	status_rtu_comms_fail[0]	4
860	01	01	02	01	1	Reserved	status_rtu_comms_fail[0]	3
861	01	01	02	01	1	Reserved	status_rtu_comms_fail[0]	2
862	01	01	02	01	1	Reserved	status_rtu_comms_fail[0]	1
863	01	01	02	01	1	Reserved	status_rtu_comms_fail[0]	0
864	01	01	02	01	1	Reserved	status_rtu_comms_fail[1]	0
865	01	01	02	01	1	Reserved	status_rtu_comms_fail[2]	0
866	01	01	02	01	1	Overflow fault present from master MonitorPRO	Status_rtu_cntrlr_present2[0]	1
867	01	01	02	01	1	Reserved	Status_rtu_cntrlr_present2[0]	0
868	01	01	02	01	1	Reserved	Status_rtu_cntrlr_present2[1]	1
869	01	01	02	01	1	Reserved	Status_rtu_cntrlr_present2[1]	0

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
870	01	01	02	01	1	Reserved	Status_rtu_cntrlr_present2[2]	1
871	01	01	02	01	1	Reserved	Status_rtu_cntrlr_present2[2]	0
872	01	01	02	01	1	Reserved	Status_rtu_cntrlr_unackd2[0]	1
873	01	01	02	01	1	Reserved	Status_rtu_cntrlr_unackd2[0]	0
874	01	01	02	01	1	Reserved	Status_rtu_cntrlr_unackd2[1]	1
875	01	01	02	01	1	Reserved	Status_rtu_cntrlr_unackd2[1]	0
876	01	01	02	01	1	Reserved	Status_rtu_cntrlr_unackd2[2]	1
877	01	01	02	01	1	Reserved	Status_rtu_cntrlr_unackd2[2]	0
878	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 10 (bottom probe)	MTxPCCtrlStatus[0][2]	7
879	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 9	MTxPCCtrlStatus[0][2]	6
880	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 8	MTxPCCtrlStatus[0][2]	5
881	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 7	MTxPCCtrlStatus[0][2]	4
882	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 6	MTxPCCtrlStatus[0][2]	3
883	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 5	MTxPCCtrlStatus[0][2]	2
884	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 4	MTxPCCtrlStatus[0][2]	1
885	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 3	MTxPCCtrlStatus[0][2]	0
886	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 2	MTxPCCtrlStatus[0][3]	1
887	01	01	02	01	1	Status from master pump controller: Status of sensor probe input 1 (top probe)	MTxPCCtrlStatus[0][3]	0
888	01	01	02	01	1	Status from master pump controller: Status of digital output 1	MTxPCCtrlStatus[0][7]	0
889	01	01	02	01	1	Status from master pump controller: Status of digital output 2	MTxPCCtrlStatus[0][7]	1
890	01	01	02	01	1	Status from master pump controller: Status of digital output 3	MTxPCCtrlStatus[0][7]	2
891	01	01	02	01	1	Status from master pump controller: Status of digital output 4	MTxPCCtrlStatus[0][7]	3
892	01	01	02	01	1	Status from master pump controller: Status of digital output 5	MTxPCCtrlStatus[0][7]	4
893	01	01	02	01	1	Status from master pump controller: Alarm 1 PRESENT	MTxPCCtrlStatus[0][8]	0
894	01	01	02	01	1	Status from master pump controller: Alarm 1 UNACKNOWLEDGED	MTxPCCtrlStatus[0][8]	1
895	01	01	02	01	1	Status from master pump controller: Alarm 1 Muted	MTxPCCtrlStatus[0][8]	2
896	01	01	02	01	1	Status from master pump controller: Alarm 2 PRESENT	MTxPCCtrlStatus[0][8]	3
897	01	01	02	01	1	Status from master pump controller: Alarm 2 UNACKNOWLEDGED	MTxPCCtrlStatus[0][8]	4
898	01	01	02	01	1	Status from master pump controller: Alarm 2 Muted	MTxPCCtrlStatus[0][8]	5
899	01	01	02	01	1	Status from master pump controller: Leak level status	MTxPCCtrlStatus[0][9]	4
900	01	01	02	01	1	Status from master pump controller: Special input status	MTxPCCtrlStatus[0][9]	5
901	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 10 (bottom probe)	MTxPCCtrlStatus[1][2]	7
902	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 9	MTxPCCtrlStatus[1][2]	6
903	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 8	MTxPCCtrlStatus[1][2]	5
904	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 7	MTxPCCtrlStatus[1][2]	4
905	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 6	MTxPCCtrlStatus[1][2]	3
906	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 5	MTxPCCtrlStatus[1][2]	2
907	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 4	MTxPCCtrlStatus[1][2]	1
908	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 3	MTxPCCtrlStatus[1][2]	0
909	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 2	MTxPCCtrlStatus[1][3]	1
910	01	01	02	01	1	Status from slave 1 controller: Status of sensor probe input 1 (top probe)	MTxPCCtrlStatus[1][3]	0
911	01	01	02	01	1	Status from slave 1 controller: Status of digital output 1	MTxPCCtrlStatus[1][7]	0
912	01	01	02	01	1	Status from slave 1 controller: Status of digital output 2	MTxPCCtrlStatus[1][7]	1
913	01	01	02	01	1	Status from slave 1 controller: Status of digital output 3	MTxPCCtrlStatus[1][7]	2
914	01	01	02	01	1	Status from slave 1 controller: Status of digital output 4	MTxPCCtrlStatus[1][7]	3
915	01	01	02	01	1	Status from slave 1 controller: Status of digital output 5	MTxPCCtrlStatus[1][7]	4

Binary Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable	Bit
916	01	01	02	01	1	Status from slave 1 controller: Alarm 1 PRESENT	MTxPCCtrlStatus[1][8]	0
917	01	01	02	01	1	Status from slave 1 controller: Alarm 1 UNACKNOWLEDGED	MTxPCCtrlStatus[1][8]	1
918	01	01	02	01	1	Status from slave 1 controller: Alarm 1 Muted	MTxPCCtrlStatus[1][8]	2
919	01	01	02	01	1	Status from slave 1 controller: Alarm 2 PRESENT	MTxPCCtrlStatus[1][8]	3
920	01	01	02	01	1	Status from slave 1 controller: Alarm 2 UNACKNOWLEDGED	MTxPCCtrlStatus[1][8]	4
921	01	01	02	01	1	Status from slave 1 controller: Alarm 2 Muted	MTxPCCtrlStatus[1][8]	5
922	01	01	02	01	1	Status from slave 1 controller: Leak level status	MTxPCCtrlStatus[1][9]	4
923	01	01	02	01	1	Status from slave 1 controller: Special input status	MTxPCCtrlStatus[1][9]	5
924	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 10 (bottom probe)	MTxPCCtrlStatus[2][2]	7
925	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 9	MTxPCCtrlStatus[2][2]	6
926	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 8	MTxPCCtrlStatus[2][2]	5
927	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 7	MTxPCCtrlStatus[2][2]	4
928	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 6	MTxPCCtrlStatus[2][2]	3
929	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 5	MTxPCCtrlStatus[2][2]	2
930	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 4	MTxPCCtrlStatus[2][2]	1
931	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 3	MTxPCCtrlStatus[2][2]	0
932	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 2	MTxPCCtrlStatus[2][3]	1
933	01	01	02	01	1	Status from slave 2 controller: Status of sensor probe input 1 (top probe)	MTxPCCtrlStatus[2][3]	0
934	01	01	02	01	1	Status from slave 2 controller: Status of digital output 1	MTxPCCtrlStatus[2][7]	0
935	01	01	02	01	1	Status from slave 2 controller: Status of digital output 2	MTxPCCtrlStatus[2][7]	1
936	01	01	02	01	1	Status from slave 2 controller: Status of digital output 3	MTxPCCtrlStatus[2][7]	2
937	01	01	02	01	1	Status from slave 2 controller: Status of digital output 4	MTxPCCtrlStatus[2][7]	3
938	01	01	02	01	1	Status from slave 2 controller: Status of digital output 5	MTxPCCtrlStatus[2][7]	4
939	01	01	02	01	1	Status from slave 2 controller: Alarm 1 PRESENT	MTxPCCtrlStatus[2][8]	0
940	01	01	02	01	1	Status from slave 2 controller: Alarm 1 UNACKNOWLEDGED	MTxPCCtrlStatus[2][8]	1
941	01	01	02	01	1	Status from slave 2 controller: Alarm 1 Muted	MTxPCCtrlStatus[2][8]	2
942	01	01	02	01	1	Status from slave 2 controller: Alarm 2 PRESENT	MTxPCCtrlStatus[2][8]	3
943	01	01	02	01	1	Status from slave 2 controller: Alarm 2 UNACKNOWLEDGED	MTxPCCtrlStatus[2][8]	4
944	01	01	02	01	1	Status from slave 2 controller: Alarm 2 Muted	MTxPCCtrlStatus[2][8]	5
945	01	01	02	01	1	Status from slave 2 controller: Leak level status	MTxPCCtrlStatus[2][9]	4
946	01	01	02	01	1	Status from slave 2 controller: Special input status	MTxPCCtrlStatus[2][9]	5
947	01	01	02	01	1	This input represents the local digital input 1 of the Procon V	N/A	
948	01	01	02	01	1	This input represents the local digital input 2 of the Procon V	N/A	
949	01	01	02	01	1	This input represents the local digital input 3 of the Procon V	N/A	
950	01	01	02	01	1	This input represents the local digital input 4 of the Procon V	N/A	
951	01	01	02	01	1	This input represents the local digital input 5 of the Procon V	N/A	
952	01	01	02	01	1	This input represents the local digital input 6 of the Procon V	N/A	
953	01	01	02	01	1	Reserved	N/A	
954	01	01	02	01	1	Reserved	N/A	
955	01	01	02	01	1	This bit is high if communication is lost between the Procon V and the master MonitorPRO and low otherwise	N/A	
956	01	01	02	01	1	This bit is high if the information is older than a selectable amount of time and low otherwise. The selectable period of time for stale data, is configurable under the Procon V configuration menu.	N/A	
957	01	01	02	01	1	Master Telemetry Input AC	Status_mit_ekim[21]	0
958	01	01	02	01	1	Master Telemetry Input AN	Status_mit_ekim[21]	1
959	01	01	02	01	1	Master Telemetry Input AD	Status_mit_ekim[21]	2

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
960	01	01	02	01	1	Master Telemetry Input AS	Status_mit_ekim[21]	3
961	01	01	02	01	1	Master Telemetry Input BC	Status_mit_ekim[21]	4
962	01	01	02	01	1	Master Telemetry Input BN	Status_mit_ekim[21]	5
963	01	01	02	01	1	Master Telemetry Input BD	Status_mit_ekim[21]	6
964	01	01	02	01	1	Master Telemetry Input BS	Status_mit_ekim[21]	7
965	01	01	02	01	1	Master Telemetry Input CC	Status_mit_ekim[22]	0
966	01	01	02	01	1	Master Telemetry Input CN	Status_mit_ekim[22]	1
967	01	01	02	01	1	Master Telemetry Input CD	Status_mit_ekim[22]	2
968	01	01	02	01	1	Master Telemetry Input CS	Status_mit_ekim[22]	3
969	01	01	02	01	1	Master Telemetry Input PL	Status_mit_ekim[22]	4
970	01	01	02	01	1	Master Telemetry Input PF	Status_mit_ekim[22]	5
971	01	01	02	01	1	Master Telemetry Input PS	Status_mit_ekim[22]	6
972	01	01	02	01	1	Master Telemetry Input KL	Status_mit_ekim[22]	7
973	01	01	02	01	1	Slave 1 Telemetry Input AC	Status_mit_ekim[23]	0
974	01	01	02	01	1	Slave 1 Telemetry Input AN	Status_mit_ekim[23]	1
975	01	01	02	01	1	Slave 1 Telemetry Input AD	Status_mit_ekim[23]	2
976	01	01	02	01	1	Slave 1 Telemetry Input AS	Status_mit_ekim[23]	3
977	01	01	02	01	1	Slave 1 Telemetry Input BC	Status_mit_ekim[23]	4
978	01	01	02	01	1	Slave 1 Telemetry Input BN	Status_mit_ekim[23]	5
979	01	01	02	01	1	Slave 1 Telemetry Input BD	Status_mit_ekim[23]	6
980	01	01	02	01	1	Slave 1 Telemetry Input BS	Status_mit_ekim[23]	7
981	01	01	02	01	1	Slave 1 Telemetry Input CC	Status_mit_ekim[24]	0
982	01	01	02	01	1	Slave 1 Telemetry Input CN	Status_mit_ekim[24]	1
983	01	01	02	01	1	Slave 1 Telemetry Input CD	Status_mit_ekim[24]	2
984	01	01	02	01	1	Slave 1 Telemetry Input CS	Status_mit_ekim[24]	3
985	01	01	02	01	1	Slave 1 Telemetry Input PL	Status_mit_ekim[24]	4
986	01	01	02	01	1	Slave 1 Telemetry Input PF	Status_mit_ekim[24]	5
987	01	01	02	01	1	Slave 1 Telemetry Input PS	Status_mit_ekim[24]	6
988	01	01	02	01	1	Slave 1 Telemetry Input KL	Status_mit_ekim[24]	7
989	01	01	02	01	1	Slave 2 Telemetry Input AC	Status_mit_ekim[25]	0
990	01	01	02	01	1	Slave 2 Telemetry Input AN	Status_mit_ekim[25]	1
991	01	01	02	01	1	Slave 2 Telemetry Input AD	Status_mit_ekim[25]	2
992	01	01	02	01	1	Slave 2 Telemetry Input AS	Status_mit_ekim[25]	3
993	01	01	02	01	1	Slave 2 Telemetry Input BC	Status_mit_ekim[25]	4
994	01	01	02	01	1	Slave 2 Telemetry Input BN	Status_mit_ekim[25]	5
995	01	01	02	01	1	Slave 2 Telemetry Input BD	Status_mit_ekim[25]	6
996	01	01	02	01	1	Slave 2 Telemetry Input BS	Status_mit_ekim[25]	7
997	01	01	02	01	1	Slave 2 Telemetry Input CC	Status_mit_ekim[26]	0
998	01	01	02	01	1	Slave 2 Telemetry Input CN	Status_mit_ekim[26]	1
999	01	01	02	01	1	Slave 2 Telemetry Input CD	Status_mit_ekim[26]	2
1000	01	01	02	01	1	Slave 2 Telemetry Input CS	Status_mit_ekim[26]	3
1001	01	01	02	01	1	Slave 2 Telemetry Input PL	Status_mit_ekim[26]	4
1002	01	01	02	01	1	Slave 2 Telemetry Input PF	Status_mit_ekim[26]	5
1003	01	01	02	01	1	Slave 2 Telemetry Input PS	Status_mit_ekim[26]	6
1004	01	01	02	01	1	Slave 2 Telemetry Input KL	Status_mit_ekim[26]	7
1005	01	01	02	01	1	Spare	Status_mit_ekim[27]	0

Binary Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable	Bit
1006	01	01	02	01	1	Spare	Status_mit_ekim[27]	1
1007	01	01	02	01	1	Spare	Status_mit_ekim[27]	2
1008	01	01	02	01	1	Spare	Status_mit_ekim[27]	3
1009	01	01	02	01	1	Spare	Status_mit_ekim[27]	4
1010	01	01	02	01	1	Spare	Status_mit_ekim[27]	5
1011	01	01	02	01	1	Spare	Status_mit_ekim[27]	6
1012	01	01	02	01	1	Spare	Status_mit_ekim[27]	7

Binary Outputs

Note: [A], [B] and [C] represent the three slave group/unit numbers from the Procon V configuration menu.

Index	Default Status Obj	Default Status Var	Default CROB Obj	Default CROB Var	Description	Multitrode command for control operation On (1)	Off (0)
0	10	2	12	1	This control relates to the master MonitorPRO. When read, this control reflects the status of Binary Input 712 (Obj 01, Index 712). Turning the control on will energise relay 1. Turning the control off will de-energise relay 1.	0x3C 0x00 0x3C	0x3C 0x11 0x3C
1	10	2	12	1	This control relates to the master MonitorPRO. When read, this control reflects the status of Binary Input 711 (Obj 01, Index 711). Turning the control on will energise relay 2. Turning the control off will de-energise relay 2.	0x3C 0x02 0x3C	0x3C 0x22 0x3C
2	10	2	12	1	This control relates to the master MonitorPRO. When read, this control reflects the status of Binary Input 710 (Obj 01, Index 710). Turning the control on will energise relay 3. Turning the control off will de-energise relay 3.	0x3C 0x03 0x3C	0x3C 0x33 0x3C
3	10	2	12	1	This control relates to the master pump controller. When read, this control reflects the status of Binary Input 888 (Obj 01, Index 888). Turning the control on will energise relay 1. Turning the control off will de-energise relay 1.	0x80 [A] 0x00 0x00 0x80	0x80 [A] 0x00 0x00 0x80
4	10	2	12	1	This control relates to the master pump controller. When read, this control reflects the status of Binary Input 889 (Obj 01, Index 889). Turning the control on will energise relay 2. Turning the control off will de-energise relay 2.	0x80 [A] 0x02 0x00 0x80	0x80 [A] 0x02 0x02 0x80
5	10	2	12	1	This control relates to the master pump controller. When read, this control reflects the status of Binary Input 890 (Obj 01, Index 890). Turning the control on will energise relay 3. Turning the control off will de-energise relay 3.	0x80 [A] 0x04 0x00 0x80	0x80 [A] 0x04 0x04 0x80
6	10	2	12	1	This control relates to the master pump controller. When read, this control reflects the status of Binary Input 891 (Obj 01, Index 891). Turning the control on will energise relay 4. Turning the control off will de-energise relay 4.	0x80 [A] 0x08 0x00 0x80	0x80 [A] 0x08 0x08 0x80
7	10	2	12	1	This control relates to the master pump controller. When read, this control reflects the status of Binary Input 892 (Obj 01, Index 892). Turning the control on will energise relay 5. Turning the control off will de-energise relay 5.	0x80 [A] 0x10 0x00 0x80	0x80 [A] 0x10 0x10 0x80
8	10	2	12	1	Reserved	0x80 [B] 0x00 0x00 0x80	0x80 [B] 0x00 0x00 0x80
9	10	2	12	1	Reserved	0x80 [B] 0x02 0x00 0x80	0x80 [B] 0x02 0x02 0x80
10	10	2	12	1	Reserved	0x80 [B] 0x04 0x00 0x80	0x80 [B] 0x04 0x04 0x80
11	10	2	12	1	Reserved	0x80 [B] 0x08 0x00 0x80	0x80 [B] 0x08 0x08 0x80
12	10	2	12	1	Reserved	0x80 [B] 0x10 0x00 0x80	0x80 [B] 0x10 0x10 0x80
13	10	2	12	1	Reserved	0x80 [C] 0x00 0x00 0x80	0x80 [C] 0x00 0x00 0x80
14	10	2	12	1	Reserved	0x80 [C] 0x02 0x00 0x80	0x80 [C] 0x02 0x02 0x80
15	10	2	12	1	Reserved	0x80 [C] 0x04 0x00 0x80	0x80 [C] 0x04 0x04 0x80
16	10	2	12	1	Reserved	0x80 [C] 0x08 0x00 0x80	0x80 [C] 0x08 0x08 0x80

Binary Outputs

Note: [A], [B] and [C] represent the three slave group/unit numbers from the Procon V configuration menu.

Index	Default Status Obj	Default Status Var	Default CROB Obj	Default CROB Var	Description	Multitrode command for control operation On (1)	Off (0)
17	10	2	12	1	Reserved	0x80 [C] 0x10 0x00 0x80	0x80 [C] 0x10 0x10 0x80
18	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will fault pump 1 of group 1. Turning the control off will remove the pump fault condition but not reset the indication on the unit. ie. The fault will be unacknowleged (to reset the indication see binary output 45 below).	0x83 [A] 0x00 0x00 0x83	0x83 [A] 0x00 0x01 0x83
19	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will fault pump 2 of group 1. Turning the control off will remove the pump fault condition but not reset the indication on the unit. ie. The fault will be unacknowleged (to reset the indication see binary output 46 below).	0x83 [A] 0x01 0x00 0x83	0x83 [A] 0x01 0x01 0x83
20	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will fault pump 3 of group 1. Turning the control off will remove the pump fault condition but not reset the indication on the unit. ie. The fault will be unacknowleged (to reset the indication see binary output 47 below).	0x83 [A] 0x02 0x00 0x83	0x83 [A] 0x02 0x01 0x83
21	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will fault pump 4 of group 1. Turning the control off will remove the pump fault condition but not reset the indication on the unit. ie. The fault will be unacknowleged (to reset the indication see binary output 48 below).	0x83 [A] 0x03 0x00 0x83	0x83 [A] 0x03 0x01 0x83
22	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will fault pump 5 of group 1. Turning the control off will remove the pump fault condition but not reset the indication on the unit. ie. The fault will be unacknowleged (to reset the indication see binary output 49 below).	0x83 [A] 0x04 0x00 0x83	0x83 [A] 0x04 0x01 0x83
23	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will fault pump 6 of group 1. Turning the control off will remove the pump fault condition but not reset the indication on the unit. ie. The fault will be unacknowleged (to reset the indication see binary output 50 below).	0x83 [A] 0x05 0x00 0x83	0x83 [A] 0x05 0x01 0x83
24	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will fault pump 7 of group 1. Turning the control off will remove the pump fault condition but not reset the indication on the unit. ie. The fault will be unacknowleged (to reset the indication see binary output 51 below).	0x83 [A] 0x06 0x00 0x83	0x83 [A] 0x06 0x01 0x83
25	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will fault pump 8 of group 1. Turning the control off will remove the pump fault condition but not reset the indication on the unit. ie. The fault will be unacknowleged (to reset the indication see binary output 52 below).	0x83 [A] 0x07 0x00 0x83	0x83 [A] 0x07 0x01 0x83
26	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will fault pump 9 of group 1. Turning the control off will remove the pump fault condition but not reset the indication on the unit. ie. The fault will be unacknowleged (to reset the indication see binary output 53 below).	0x83 [A] 0x08 0x00 0x83	0x83 [A] 0x08 0x01 0x83
27	10	2	12	1	Reserved	0x83 [B] 0x00 0x00 0x83	0x83 [B] 0x00 0x01 0x83
28	10	2	12	1	Reserved	0x83 [B] 0x01 0x00 0x83	0x83 [B] 0x01 0x01 0x83
29	10	2	12	1	Reserved	0x83 [B] 0x02 0x00 0x83	0x83 [B] 0x02 0x01 0x83
30	10	2	12	1	Reserved	0x83 [B] 0x03 0x00 0x83	0x83 [B] 0x03 0x01 0x83

Binary Outputs

Note: [A], [B] and [C] represent the three slave group/unit numbers from the Procon V configuration menu.

Index	Default Status Obj	Default Status Var	Default CROB Obj	Default CROB Var	Description	Multitrode command for control operation On (1)	Off (0)
31	10	2	12	1	Reserved	0x83 [B] 0x04 0x00 0x83	0x83 [B] 0x04 0x01 0x83
32	10	2	12	1	Reserved	0x83 [B] 0x05 0x00 0x83	0x83 [B] 0x05 0x01 0x83
33	10	2	12	1	Reserved	0x83 [B] 0x06 0x00 0x83	0x83 [B] 0x06 0x01 0x83
34	10	2	12	1	Reserved	0x83 [B] 0x07 0x00 0x83	0x83 [B] 0x07 0x01 0x83
35	10	2	12	1	Reserved	0x83 [B] 0x08 0x00 0x83	0x83 [B] 0x08 0x01 0x83
36	10	2	12	1	Reserved	0x83 [C] 0x00 0x00 0x83	0x83 [C] 0x00 0x01 0x83
37	10	2	12	1	Reserved	0x83 [C] 0x01 0x00 0x83	0x83 [C] 0x01 0x01 0x83
38	10	2	12	1	Reserved	0x83 [C] 0x02 0x00 0x83	0x83 [C] 0x02 0x01 0x83
39	10	2	12	1	Reserved	0x83 [C] 0x03 0x00 0x83	0x83 [C] 0x03 0x01 0x83
40	10	2	12	1	Reserved	0x83 [C] 0x04 0x00 0x83	0x83 [C] 0x04 0x01 0x83
41	10	2	12	1	Reserved	0x83 [C] 0x05 0x00 0x83	0x83 [C] 0x05 0x01 0x83
42	10	2	12	1	Reserved	0x83 [C] 0x06 0x00 0x83	0x83 [C] 0x06 0x01 0x83
43	10	2	12	1	Reserved	0x83 [C] 0x07 0x00 0x83	0x83 [C] 0x07 0x01 0x83
44	10	2	12	1	Reserved	0x83 [C] 0x08 0x00 0x83	0x83 [C] 0x08 0x01 0x83
45	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will acknowledge pump 1 fault. Turning the control off has no action.	No Action	0x85 [A] 0x00 0x85
46	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will acknowledge pump 2 fault. Turning the control off has no action.	No Action	0x85 [A] 0x01 0x85
47	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will acknowledge pump 3 fault. Turning the control off has no action.	No Action	0x85 [A] 0x02 0x85
48	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will acknowledge pump 4 fault. Turning the control off has no action.	No Action	0x85 [A] 0x03 0x85
49	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will acknowledge pump 5 fault. Turning the control off has no action.	No Action	0x85 [A] 0x04 0x85
50	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will acknowledge pump 6 fault. Turning the control off has no action.	No Action	0x85 [A] 0x05 0x85
51	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will acknowledge pump 7 fault. Turning the control off has no action.	No Action	0x85 [A] 0x06 0x85
52	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will acknowledge pump 8 fault. Turning the control off has no action.	No Action	0x85 [A] 0x07 0x85
53	10	2	12	1	This control relates to the first group of pumps only. When read, the last control attempt is returned (0 = off, 1 = on). Turning the control on will acknowledge pump 9 fault. Turning the control off has no action.	No Action	0x85 [A] 0x08 0x85
54	10	2	12	1	Reserved	No Action	0x85 [B] 0x00 0x85

Binary Outputs

Note: [A], [B] and [C] represent the three slave group/unit numbers from the Procon V configuration menu.

Index	Default Status Obj	Var	Default CROB Obj	Var	Description	Multitrode command for control operation On (1)	Off (0)
55	10	2	12	1	Reserved	No Action	0x85 [B] 0x01 0x85
56	10	2	12	1	Reserved	No Action	0x85 [B] 0x02 0x85
57	10	2	12	1	Reserved	No Action	0x85 [B] 0x03 0x85
58	10	2	12	1	Reserved	No Action	0x85 [B] 0x04 0x85
59	10	2	12	1	Reserved	No Action	0x85 [B] 0x05 0x85
60	10	2	12	1	Reserved	No Action	0x85 [B] 0x06 0x85
61	10	2	12	1	Reserved	No Action	0x85 [B] 0x07 0x85
62	10	2	12	1	Reserved	No Action	0x85 [B] 0x08 0x85
63	10	2	12	1	Reserved	No Action	0x85 [C] 0x00 0x85
64	10	2	12	1	Reserved	No Action	0x85 [C] 0x01 0x85
65	10	2	12	1	Reserved	No Action	0x85 [C] 0x02 0x85
66	10	2	12	1	Reserved	No Action	0x85 [C] 0x03 0x85
67	10	2	12	1	Reserved	No Action	0x85 [C] 0x04 0x85
68	10	2	12	1	Reserved	No Action	0x85 [C] 0x05 0x85
69	10	2	12	1	Reserved	No Action	0x85 [C] 0x06 0x85
70	10	2	12	1	Reserved	No Action	0x85 [C] 0x07 0x85
71	10	2	12	1	Reserved	No Action	0x85 [C] 0x08 0x85
72	10	2	12	1	Turning the control on will cause pump 1 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x00 0x01 0x86
73	10	2	12	1	Turning the control on will cause pump 1 to switch to AUTO mode and the AUTO mode LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x00 0x00 0x86
74	10	2	12	1	Turning the control on will cause pump 1 to switch to MANUAL mode and the MANUAL/HAND LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x00 0x03 0x86
75	10	2	12	1	Turning the control on will cause pump 2 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x01 0x01 0x86
76	10	2	12	1	Turning the control on will cause pump 2 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x01 0x00 0x86
77	10	2	12	1	Turning the control on will cause pump 2 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x01 0x03 0x86
78	10	2	12	1	Turning the control on will cause pump 3 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x02 0x01 0x86
79	10	2	12	1	Turning the control on will cause pump 3 to switch to AUTO mode and the AUTO mode LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x02 0x00 0x86
80	10	2	12	1	Turning the control on will cause pump 3 to switch to MANUAL mode and the MANUAL/HAND LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x02 0x03 0x86
81	10	2	12	1	Turning the control on will cause pump 4 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x03 0x01 0x86

Binary Outputs

Note: [A], [B] and [C] represent the three slave group/unit numbers from the Procon V configuration menu.

Index	Default Status Obj	Var	Default CROB Obj	Var	Description	Multitrode command for control operation On (1)	Off (0)
82	10	2	12	1	Turning the control on will cause pump 4 to switch to AUTO mode and the AUTO mode LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x03 0x00 0x86
83	10	2	12	1	Turning the control on will cause pump 4 to switch to MANUAL mode and the MANUAL/HAND LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x03 0x03 0x86
84	10	2	12	1	Turning the control on will cause pump 5 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x04 0x01 0x86
85	10	2	12	1	Turning the control on will cause pump 5 to switch to AUTO mode and the AUTO mode LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x04 0x00 0x86
86	10	2	12	1	Turning the control on will cause pump 5 to switch to MANUAL mode and the MANUAL/HAND LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x04 0x03 0x86
87	10	2	12	1	Turning the control on will cause pump 6 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x05 0x01 0x86
88	10	2	12	1	Turning the control on will cause pump 6 to switch to AUTO mode and the AUTO mode LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x05 0x00 0x86
89	10	2	12	1	Turning the control on will cause pump 6 to switch to MANUAL mode and the MANUAL/HAND LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x05 0x03 0x86
90	10	2	12	1	Turning the control on will cause pump 7 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x06 0x01 0x86
91	10	2	12	1	Turning the control on will cause pump 7 to switch to AUTO mode and the AUTO mode LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x06 0x00 0x86
92	10	2	12	1	Turning the control on will cause pump 7 to switch to MANUAL mode and the MANUAL/HAND LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x06 0x03 0x86
93	10	2	12	1	Turning the control on will cause pump 8 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x07 0x01 0x86
94	10	2	12	1	Turning the control on will cause pump 8 to switch to AUTO mode and the AUTO mode LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x07 0x00 0x86
95	10	2	12	1	Turning the control on will cause pump 8 to switch to MANUAL mode and the MANUAL/HAND LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x07 0x03 0x86
96	10	2	12	1	Turning the control on will cause pump 9 to switch OFF and the OFF LED will flash on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x08 0x01 0x86

Binary Outputs

Note: [A], [B] and [C] represent the three slave group/unit numbers from the Procon V configuration menu.

Index	Default Status Obj	Default Status Var	Default CROB Obj	Default CROB Var	Description	Multitrode command for control operation On (1)	Off (0)
97	10	2	12	1	Turning the control on will cause pump 9 to switch to AUTO mode and the AUTO mode LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x08 0x00 0x86
98	10	2	12	1	Turning the control on will cause pump 9 to switch to MANUAL mode and the MANUAL/HAND LED will illuminate on the unit. Turning the control off has no action. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x86 [A] 0x08 0x03 0x86
99	10	2	12	1	Reserved	No action	0x86 [B] 0x00 0x01 0x86
100	10	2	12	1	Reserved	No action	0x86 [B] 0x00 0x00 0x86
101	10	2	12	1	Reserved	No action	0x86 [B] 0x00 0x03 0x86
102	10	2	12	1	Reserved	No action	0x86 [B] 0x01 0x01 0x86
103	10	2	12	1	Reserved	No action	0x86 [B] 0x01 0x00 0x86
104	10	2	12	1	Reserved	No action	0x86 [B] 0x01 0x03 0x86
105	10	2	12	1	Reserved	No action	0x86 [B] 0x02 0x01 0x86
106	10	2	12	1	Reserved	No action	0x86 [B] 0x02 0x00 0x86
107	10	2	12	1	Reserved	No action	0x86 [B] 0x02 0x03 0x86
108	10	2	12	1	Reserved	No action	0x86 [B] 0x03 0x01 0x86
109	10	2	12	1	Reserved	No action	0x86 [B] 0x03 0x00 0x86
110	10	2	12	1	Reserved	No action	0x86 [B] 0x03 0x03 0x86
111	10	2	12	1	Reserved	No action	0x86 [B] 0x04 0x01 0x86
112	10	2	12	1	Reserved	No action	0x86 [B] 0x04 0x00 0x86
113	10	2	12	1	Reserved	No action	0x86 [B] 0x04 0x03 0x86
114	10	2	12	1	Reserved	No action	0x86 [B] 0x05 0x01 0x86
115	10	2	12	1	Reserved	No action	0x86 [B] 0x05 0x00 0x86
116	10	2	12	1	Reserved	No action	0x86 [B] 0x05 0x03 0x86
117	10	2	12	1	Reserved	No action	0x86 [B] 0x06 0x01 0x86
118	10	2	12	1	Reserved	No action	0x86 [B] 0x06 0x00 0x86
119	10	2	12	1	Reserved	No action	0x86 [B] 0x06 0x03 0x86
120	10	2	12	1	Reserved	No action	0x86 [B] 0x07 0x01 0x86
121	10	2	12	1	Reserved	No action	0x86 [B] 0x07 0x00 0x86
122	10	2	12	1	Reserved	No action	0x86 [B] 0x07 0x03 0x86
123	10	2	12	1	Reserved	No action	0x86 [B] 0x08 0x01 0x86
124	10	2	12	1	Reserved	No action	0x86 [B] 0x08 0x00 0x86
125	10	2	12	1	Reserved	No action	0x86 [B] 0x08 0x03 0x86
126	10	2	12	1	Reserved	No action	0x86 [C] 0x00 0x01 0x86
127	10	2	12	1	Reserved	No action	0x86 [C] 0x00 0x00 0x86
128	10	2	12	1	Reserved	No action	0x86 [C] 0x00 0x03 0x86
129	10	2	12	1	Reserved	No action	0x86 [C] 0x01 0x01 0x86
130	10	2	12	1	Reserved	No action	0x86 [C] 0x01 0x00 0x86
131	10	2	12	1	Reserved	No action	0x86 [C] 0x01 0x03 0x86
132	10	2	12	1	Reserved	No action	0x86 [C] 0x02 0x01 0x86
133	10	2	12	1	Reserved	No action	0x86 [C] 0x02 0x00 0x86
134	10	2	12	1	Reserved	No action	0x86 [C] 0x02 0x03 0x86

Binary Outputs

Note: [A], [B] and [C] represent the three slave group/unit numbers from the Procon V configuration menu.

Index	Default Status Obj	Default Status Var	Default CROB Obj	Default CROB Var	Description	Multitrode command for control operation On (1)	Off (0)
135	10	2	12	1	Reserved	No action	0x86 [C] 0x03 0x01 0x86
136	10	2	12	1	Reserved	No action	0x86 [C] 0x03 0x00 0x86
137	10	2	12	1	Reserved	No action	0x86 [C] 0x03 0x03 0x86
138	10	2	12	1	Reserved	No action	0x86 [C] 0x04 0x01 0x86
139	10	2	12	1	Reserved	No action	0x86 [C] 0x04 0x00 0x86
140	10	2	12	1	Reserved	No action	0x86 [C] 0x04 0x03 0x86
141	10	2	12	1	Reserved	No action	0x86 [C] 0x05 0x01 0x86
142	10	2	12	1	Reserved	No action	0x86 [C] 0x05 0x00 0x86
143	10	2	12	1	Reserved	No action	0x86 [C] 0x05 0x03 0x86
144	10	2	12	1	Reserved	No action	0x86 [C] 0x06 0x01 0x86
145	10	2	12	1	Reserved	No action	0x86 [C] 0x06 0x00 0x86
146	10	2	12	1	Reserved	No action	0x86 [C] 0x06 0x03 0x86
147	10	2	12	1	Reserved	No action	0x86 [C] 0x07 0x01 0x86
148	10	2	12	1	Reserved	No action	0x86 [C] 0x07 0x00 0x86
149	10	2	12	1	Reserved	No action	0x86 [C] 0x07 0x03 0x86
150	10	2	12	1	Reserved	No action	0x86 [C] 0x08 0x01 0x86
151	10	2	12	1	Reserved	No action	0x86 [C] 0x08 0x00 0x86
152	10	2	12	1	Reserved	No action	0x86 [C] 0x08 0x03 0x86
153	10	2	12	1	Turning the control on will cause group 1 units to be placed into PEAK LEVEL mode. Turning the control off w return the group back to normal control. When read, the last control attempt is returned (0 = off, 1 = on).	0x87 [A] 0x00 0x87	0x87 [A] 0x00 0x87
154	10	2	12	1	Reserved	0x87 [B] 0x00 0x87	0x87 [A] 0x00 0x87
155	10	2	12	1	Reserved	0x87 [C] 0x00 0x87	0x87 [A] 0x00 0x87
156	10	2	12	1	Turning the control on will cause all pumps in group 1 to be switched OFF (set in HOLD OUT mode) and the available LED will flash. Turning the control off will remove the HOLD OUT condition and return all pumps to normal operation. When read, the last control attempt is returned (0 = off, 1 = on).	0x88 [A] 0x00 0x88	0x88 [A] 0x00 0x88
157	10	2	12	1	Reserved	0x88 [B] 0x00 0x88	0x88 [A] 0x00 0x88
158	10	2	12	1	Reserved	0x88 [C] 0x00 0x88	0x88 [A] 0x00 0x88
159	10	2	12	1	Turning the control on will cause one pump in group 1 to start. The pump to start will be the "next to start" pur in the set sequence. For the pump to start, the deactivation level has to be covered and the pumps will stop once the deactivation level has been cleared. Turning the control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x89 [A] 0x00 0x89
160	10	2	12	1	Turning the control on will cause two pumps in group 1 to start. The pumps to start will be the "next to start" pumps in the set sequence. For the pumps to start, the deactivation level has to be covered and the pumps will stop once the deactivation level has been cleared. Turning the control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x89 [A] 0x02 0x89
161	10	2	12	1	Turning the control on will cause three pumps in group 1 to start. The pumps to start will be the "next to start" pumps in the set sequence. For the pumps to start, the deactivation level has to be covered and the pumps will stop once the deactivation level has been cleared. Turning the control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x89 [A] 0x03 0x89

Binary Outputs

Note: [A], [B] and [C] represent the three slave group/unit numbers from the Procon V configuration menu.

Index	Default Status Obj	Var	Default CROB Obj	Var	Description	Multitrode command for control operation On (1)	Off (0)
162	10	2	12	1	Turning the control on will cause four pumps in group 1 to start. The pumps to start will be the "next to start" pumps in the set sequence. For the pumps to start, the deactivation level has to be covered and the pumps will stop once the deactivation level has been cleared. Turning the control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x89 [A] 0x04 0x89
163	10	2	12	1	Turning the control on will cause five pumps in group 1 to start. The pumps to start will be the "next to start" pumps in the set sequence. For the pumps to start, the deactivation level has to be covered and the pumps will stop once the deactivation level has been cleared. Turning the control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x89 [A] 0x05 0x89
164	10	2	12	1	Turning the control on will cause six pumps in group 1 to start. The pumps to start will be the "next to start" pumps in the set sequence. For the pumps to start, the deactivation level has to be covered and the pumps will stop once the deactivation level has been cleared. Turning the control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x89 [A] 0x06 0x89
165	10	2	12	1	Turning the control on will cause seven pumps in group 1 to start. The pumps to start will be the "next to start" pumps in the set sequence. For the pumps to start, the deactivation level has to be covered and the pumps will stop once the deactivation level has been cleared. Turning the control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x89 [A] 0x07 0x89
166	10	2	12	1	Turning the control on will cause eight pumps in group 1 to start. The pumps to start will be the "next to start" pumps in the set sequence. For the pumps to start, the deactivation level has to be covered and the pumps will stop once the deactivation level has been cleared. Turning the control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x89 [A] 0x08 0x89
167	10	2	12	1	Turning the control on will cause nine pumps in group 1 to start. The pumps to start will be the "next to start" pumps in the set sequence. For the pumps to start, the deactivation level has to be covered and the pumps will stop once the deactivation level has been cleared. Turning the control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	No action	0x89 [A] 0x09 0x89
168	10	2	12	1	Reserved	No action	0x89 [B] 0x00 0x89
169	10	2	12	1	Reserved	No action	0x89 [B] 0x02 0x89
170	10	2	12	1	Reserved	No action	0x89 [B] 0x03 0x89
171	10	2	12	1	Reserved	No action	0x89 [B] 0x04 0x89
172	10	2	12	1	Reserved	No action	0x89 [B] 0x05 0x89
173	10	2	12	1	Reserved	No action	0x89 [B] 0x06 0x89
174	10	2	12	1	Reserved	No action	0x89 [B] 0x07 0x89
175	10	2	12	1	Reserved	No action	0x89 [B] 0x08 0x89
176	10	2	12	1	Reserved	No action	0x89 [B] 0x09 0x89
177	10	2	12	1	Reserved	No action	0x89 [C] 0x00 0x89
178	10	2	12	1	Reserved	No action	0x89 [C] 0x02 0x89
179	10	2	12	1	Reserved	No action	0x89 [C] 0x03 0x89
180	10	2	12	1	Reserved	No action	0x89 [C] 0x04 0x89
181	10	2	12	1	Reserved	No action	0x89 [C] 0x05 0x89
182	10	2	12	1	Reserved	No action	0x89 [C] 0x06 0x89
183	10	2	12	1	Reserved	No action	0x89 [C] 0x07 0x89
184	10	2	12	1	Reserved	No action	0x89 [C] 0x08 0x89
185	10	2	12	1	Reserved	No action	0x89 [C] 0x09 0x89

Binary Outputs

Note: [A], [B] and [C] represent the three slave group/unit numbers from the Procon V configuration menu.

Index	Default Status Obj	Default Status Var	Default CROB Obj	Default CROB Var	Description	Multitrode command for control operation On (1)	Off (0)
186	10	2	12	1	Clear latched input 1. Turning this control on will force the Procon V Digital Input 1 (Object 01, Index 947) to tl state of the associated physical input. Turning this control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	N/A	N/A
187	10	2	12	1	Clear latched input 2. Turning this control on will force the Procon V Digital Input 2 (Object 01, Index 948) to tl state of the associated physical input. Turning this control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	N/A	N/A
188	10	2	12	1	Clear latched input 3. Turning this control on will force the Procon V Digital Input 3 (Object 01, Index 949) to tl state of the associated physical input. Turning this control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	N/A	N/A
189	10	2	12	1	Clear latched input 4. Turning this control on will force the Procon V Digital Input 4 (Object 01, Index 950) to tl state of the associated physical input. Turning this control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	N/A	N/A
190	10	2	12	1	Clear latched input 5. Turning this control on will force the Procon V Digital Input 5 (Object 01, Index 951) to tl state of the associated physical input. Turning this control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	N/A	N/A
191	10	2	12	1	Clear latched input 6. Turning this control on will force the Procon V Digital Input 6 (Object 01, Index 952) to tl state of the associated physical input. Turning this control off has no effect. When read, the last control attempt is returned (0 = off, 1 = on).	N/A	N/A
192	10	2	12	1	Reserved		
193	10	2	12	1	Reserved		
194	10	2	12	1	Procon Reset. Turning this on will force the Procon V protocol converter to restart.	N/A	N/A

Binary Counters

Index	Default Static		Default Event			Default Frozen Static		Description	Roll Over
	Obj	Var	Obj	Var	Class	Obj	Var		
0	20	01	22	01	1	20	09	Procon V local input 1 accumulator.	4,294,967,295
1	20	01	22	01	1	20	09	Procon V local input 2 accumulator.	4,294,967,295
2	20	01	22	01	1	20	09	Procon V local input 3 accumulator.	4,294,967,295
3	20	01	22	01	1	20	09	Procon V local input 4 accumulator.	4,294,967,295
4	20	01	22	01	1	20	09	Procon V local input 5 accumulator.	4,294,967,295
5	20	01	22	01	1	20	09	Procon V local input 6 accumulator.	4,294,967,295
6	20	01	22	01	1	20	09	Reserved	4,294,967,295
7	20	01	22	01	1	20	09	Reserved	4,294,967,295

Analog Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable
0	30	04	32	2	2	Reservevd	Memory: 0x0002
1	30	04	32	2	2	Current liquid level as an ASCII value between 0 and 200 (00hex to C8hex).	status_quick[0]
2	30	04	32	2	2	Current value of master MonitorPRO's analog input 1. This value is scaled to be between 0 and 200 (00 hex to C8 hex). The value is limited to 20 mA ie. 200 (C8 hex).	status_ana[0][0]
3	30	04	32	2	2	Current value of master MonitorPRO's analog input 2. This value is scaled to be between 0 and 200 (00 hex to C8 hex). The value is limited to 20 mA ie. 200 (C8 hex).	status_ana[0][1]
4	30	04	32	2	2	Current value of master MonitorPRO's incoming DC supply voltage. This value is scaled to be between 0 and 200 (00 hex to C8 hex). The value is limited to 20 mA ie. 200 (C8 hex).	status_ana[0][2]
5	30	04	32	2	2	Current value of master MonitorPRO's incoming DC supply voltage. This value is scaled to be between 0 and 200 (00 hex to C8 hex). When the MonitorPRO's analog outputis configured to transmit the "current level" then zero level will be 4mA and this point will show 40 (28 hex) while 100% level would be 20mA and show 100 (C8 hex).	status_ana[0][3]
6	30	04	32	2	2	Reserved	status_ana[0][4]
7	30	04	32	2	2	Current RAW value of master MonitorPRO's analog input 1. This value is NOT scaled to be between 0 and 65535 (0000 hex to FFFF hex). The value is limited to 21.1 mA ie. (FF00 hex) where 330 counts = 0.1 mA.	status_ana[0][5]
8	30	04	32	2	2	Current RAW value of master MonitorPRO's analog input 2. This value is NOT scaled to be between 0 and 65535 (0000 hex to FFFF hex). The value is limited to 21.1 mA ie. (FF00 hex) where 330 counts = 0.1 mA.	status_ana[0][6]
9	30	04	32	2	2	Current value of slave 1 MonitorPRO's analog input 1. This value is scaled to be between 0 and 200 (00 hex to C8 hex). The va is limited to 20 mA ie. 200 (C8 hex).	status_ana[1][0]
10	30	04	32	2	2	Current value of slave 1 MonitorPRO's analog input 2. This value is scaled to be between 0 and 200 (00 hex to C8 hex). The va is limited to 20 mA ie. 200 (C8 hex).	status_ana[1][1]
11	30	04	32	2	2	Current value of slave 1 MonitorPRO's incoming DC supply voltage. This value is scaled to be between 0 and 200 (00 hex to C8 hex). The value is limited to 20 mA ie. 200 (C8 hex).	status_ana[1][2]
12	30	04	32	2	2	Current value of slave 1 MonitorPRO's incoming DC supply voltage. This value is scaled to be between 0 and 200 (00 hex to C8 hex). When the MonitorPRO's analog outputis configured to transmit the "current level" then zero level will be 4mA and this point will show 40 (28 hex) while 100% level would be 20mA and show 100 (C8 hex).	status_ana[1][3]
13	30	04	32	2	2	Reserved	status_ana[1][4]
14	30	04	32	2	2	Current RAW value of slave 1 MonitorPRO's analog input 1. This value is NOT scaled to be between 0 and 65535 (0000 hex to FFFF hex). The value is limited to 21.1 mA ie. (FF00 hex) where 330 counts = 0.1 mA.	status_ana[1][5]
15	30	04	32	2	2	Current RAW value of slave 1 MonitorPRO's analog input 2. This value is NOT scaled to be between 0 and 65535 (0000 hex to FFFF hex). The value is limited to 21.1 mA ie. (FF00 hex) where 330 counts = 0.1 mA.	status_ana[1][6]
16	30	04	32	2	2	Current value of slave 2 MonitorPRO's analog input 1. This value is scaled to be between 0 and 200 (00 hex to C8 hex). The va is limited to 20 mA ie. 200 (C8 hex).	status_ana[2][0]
17	30	04	32	2	2	Current value of slave 2 MonitorPRO's analog input 2. This value is scaled to be between 0 and 200 (00 hex to C8 hex). The va is limited to 20 mA ie. 200 (C8 hex).	status_ana[2][1]
18	30	04	32	2	2	Current value of slave 2 MonitorPRO's incoming DC supply voltage. This value is scaled to be between 0 and 200 (00 hex to C8 hex). The value is limited to 20 mA ie. 200 (C8 hex).	status_ana[2][2]
19	30	04	32	2	2	Current value of slave 2 MonitorPRO's incoming DC supply voltage. This value is scaled to be between 0 and 200 (00 hex to C8 hex). When the MonitorPRO's analog outputis configured to transmit the "current level" then zero level will be 4mA and this point will show 40 (28 hex) while 100% level would be 20mA and show 100 (C8 hex).	status_ana[2][3]
20	30	04	32	2	2	Reserved	status_ana[2][4]
21	30	04	32	2	2	Current RAW value of slave 2 MonitorPRO's analog input 1. This value is NOT scaled to be between 0 and 65535 (0000 hex to FFFF hex). The value is limited to 21.1 mA ie. (FF00 hex) where 330 counts = 0.1 mA.	status_ana[2][5]

Analog Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable
22	30	04	32	2	2	Current RAW value of slave 2 MonitorPRO's analog input 2. This value is NOT scaled to be between 0 and 65535 (0000 hex to FFFF hex). The value is limited to 21.1 mA ie. (FF00 hex) where 330 counts = 0.1 mA.	status_ana[2][6]
23	30	04	32	2	2	Present value of current on red [L1] phase of pump 1. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[0][0]
24	30	04	32	2	2	Present value of current on white [L2] phase of pump 1. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[0][1]
25	30	04	32	2	2	Present value of current on blue [L3] phase of pump 1. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[0][2]
26	30	04	32	2	2	Average value of current on all 3 phases of pump 1. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[0][3]
27	30	04	32	2	2	Total flow volume of pump 1. Scaling is 1000 liters per bit count (eg. 000A hex = 10kL, 000B hex = 11kL).	Status_numeric[0][4]
28	30	04	32	2	2	Last flow volume of pump 1. Scaling is 1 liter per bit count (eg. 000A hex = 10L, 000B hex = 11L).	Status_numeric[0][5]
29	30	04	32	2	2	Reserved	Status_numeric[0][6]
30	30	04	32	2	2	Hours last run of pump 1. Scaling is 0.1 liter per bit count (eg. 000A hex = 1min, 000B hex = 1.1min).	Status_numeric[0][7]
31	30	04	32	2	2	Starts per hour of pump 1. Scaling is 1 start per 10 bit counts (eg. 000A hex = 1start/hour, 000B hex = not possible).	Status_numeric[0][8]
32	30	04	32	2	2	Last flow rate of pump 1. Scaling is seconds per litre (eg. 000A hex = 10 L/s, 000B hex = 11L/s).	Status_numeric[0][9]
33	30	04	32	2	2	Insulation resistance of pump 1. Scaling is 0.1 Mohm per bit count (eg. 000A hex = 1 Mohm, 000B hex = 1.1 Mohm).	Status_numeric[0][10]
34	30	04	32	2	2	Phase voltage of pump 1. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[0][11]
35	30	04	32	2	2	Average phase voltage of pump 1. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[0][12]
36	30	04	32	2	2	Present value of current on red [L1] phase of pump 1. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[1][0]
37	30	04	32	2	2	Present value of current on white [L2] phase of pump 1. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[1][1]
38	30	04	32	2	2	Present value of current on blue [L3] phase of pump 2. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[1][2]
39	30	04	32	2	2	Average value of current on all 3 phases of pump 2. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[1][3]
40	30	04	32	2	2	Total flow volume of pump 2. Scaling is 1000 liters per bit count (eg. 000A hex = 10kL, 000B hex = 11kL).	Status_numeric[1][4]
41	30	04	32	2	2	Last flow volume of pump 2. Scaling is 1 liter per bit count (eg. 000A hex = 10L, 000B hex = 11L).	Status_numeric[1][5]
42	30	04	32	2	2	Reserved	Status_numeric[1][6]
43	30	04	32	2	2	Hours last run of pump 2. Scaling is 0.1 liter per bit count (eg. 000A hex = 1min, 000B hex = 1.1min).	Status_numeric[1][7]
44	30	04	32	2	2	Starts per hour of pump 2. Scaling is 1 start per 10 bit counts (eg. 000A hex = 1start/hour, 000B hex = not possible).	Status_numeric[1][8]
45	30	04	32	2	2	Last flow rate of pump 2. Scaling is seconds per litre (eg. 000A hex = 10 L/s, 000B hex = 11L/s).	Status_numeric[1][9]
46	30	04	32	2	2	Insulation resistance of pump 2. Scaling is 0.1 Mohm per bit count (eg. 000A hex = 1 Mohm, 000B hex = 1.1 Mohm).	Status_numeric[1][10]
47	30	04	32	2	2	Phase voltage of pump 2. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[1][11]
48	30	04	32	2	2	Average phase voltage of pump 2. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[1][12]
49	30	04	32	2	2	Present value of current on red [L1] phase of pump 3. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[2][0]
50	30	04	32	2	2	Present value of current on white [L2] phase of pump 3. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[2][1]
51	30	04	32	2	2	Present value of current on blue [L3] phase of pump 3. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[2][2]

Analog Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable
52	30	04	32	2	2	Average value of current on all 3 phases of pump 3. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[2][3]
53	30	04	32	2	2	Total flow volume of pump 3. Scaling is 1000 liters per bit count (eg. 000A hex = 10kL, 000B hex = 11kL).	Status_numeric[2][4]
54	30	04	32	2	2	Last flow volume of pump 3. Scaling is 1 liter per bit count (eg. 000A hex = 10L, 000B hex = 11L).	Status_numeric[2][5]
55	30	04	32	2	2	Reserved	Status_numeric[2][6]
56	30	04	32	2	2	Hours last run of pump 3. Scaling is 0.1 liter per bit count (eg. 000A hex = 1min, 000B hex = 1.1min).	Status_numeric[2][7]
57	30	04	32	2	2	Starts per hour of pump 3. Scaling is 1 start per 10 bit counts (eg. 000A hex = 1start/hour, 000B hex = not possible).	Status_numeric[2][8]
58	30	04	32	2	2	Last flow rate of pump 3. Scaling is seconds per litre (eg. 000A hex = 10 L/s, 000B hex = 11L/s).	Status_numeric[2][9]
59	30	04	32	2	2	Insulation resistance of pump 3. Scaling is 0.1 Mohm per bit count (eg. 000A hex = 1 Mohm, 000B hex = 1.1 Mohm).	Status_numeric[2][10]
60	30	04	32	2	2	Phase voltage of pump 3. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[2][11]
61	30	04	32	2	2	Average phase voltage of pump 3. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[2][12]
62	30	04	32	2	2	Present value of current on red [L1] phase of pump 4. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[3][0]
63	30	04	32	2	2	Present value of current on white [L2] phase of pump 4. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[3][1]
64	30	04	32	2	2	Present value of current on blue [L3] phase of pump 4. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[3][2]
65	30	04	32	2	2	Average value of current on all 3 phases of pump 4. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[3][3]
66	30	04	32	2	2	Total flow volume of pump 4. Scaling is 1000 liters per bit count (eg. 000A hex = 10kL, 000B hex = 11kL).	Status_numeric[3][4]
67	30	04	32	2	2	Last flow volume of pump 4. Scaling is 1 liter per bit count (eg. 000A hex = 10L, 000B hex = 11L).	Status_numeric[3][5]
68	30	04	32	2	2	Reserved	Status_numeric[3][6]
69	30	04	32	2	2	Hours last run of pump 4. Scaling is 0.1 liter per bit count (eg. 000A hex = 1min, 000B hex = 1.1min).	Status_numeric[3][7]
70	30	04	32	2	2	Starts per hour of pump 4. Scaling is 1 start per 10 bit counts (eg. 000A hex = 1start/hour, 000B hex = not possible).	Status_numeric[3][8]
71	30	04	32	2	2	Last flow rate of pump 4. Scaling is seconds per litre (eg. 000A hex = 10 L/s, 000B hex = 11L/s).	Status_numeric[3][9]
72	30	04	32	2	2	Insulation resistance of pump 4. Scaling is 0.1 Mohm per bit count (eg. 000A hex = 1 Mohm, 000B hex = 1.1 Mohm).	Status_numeric[3][10]
73	30	04	32	2	2	Phase voltage of pump 4. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[3][11]
74	30	04	32	2	2	Average phase voltage of pump 4. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[3][12]
75	30	04	32	2	2	Present value of current on red [L1] phase of pump 5. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[4][0]
76	30	04	32	2	2	Present value of current on white [L2] phase of pump 5. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[4][1]
77	30	04	32	2	2	Present value of current on blue [L3] phase of pump 5. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[4][2]
78	30	04	32	2	2	Average value of current on all 3 phases of pump 5. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[4][3]
79	30	04	32	2	2	Total flow volume of pump 5. Scaling is 1000 liters per bit count (eg. 000A hex = 10kL, 000B hex = 11kL).	Status_numeric[4][4]
80	30	04	32	2	2	Last flow volume of pump 5. Scaling is 1 liter per bit count (eg. 000A hex = 10L, 000B hex = 11L).	Status_numeric[4][5]
81	30	04	32	2	2	Reserved	Status_numeric[4][6]
82	30	04	32	2	2	Hours last run of pump 5. Scaling is 0.1 liter per bit count (eg. 000A hex = 1min, 000B hex = 1.1min).	Status_numeric[4][7]
83	30	04	32	2	2	Starts per hour of pump 5. Scaling is 1 start per 10 bit counts (eg. 000A hex = 1start/hour, 000B hex = not possible).	Status_numeric[4][8]
84	30	04	32	2	2	Last flow rate of pump 5. Scaling is seconds per litre (eg. 000A hex = 10 L/s, 000B hex = 11L/s).	Status_numeric[4][9]

Analog Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable
85	30	04	32	2	2	Insulation resistance of pump 5. Scaling is 0.1 Mohm per bit count (eg. 000A hex = 1 Mohm, 000B hex = 1.1 Mohm).	Status_numeric[4][10]
86	30	04	32	2	2	Phase voltage of pump 5. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[4][11]
87	30	04	32	2	2	Average phase voltage of pump 5. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[4][12]
88	30	04	32	2	2	Present value of current on red [L1] phase of pump 6. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[5][0]
89	30	04	32	2	2	Present value of current on white [L2] phase of pump 6. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[5][1]
90	30	04	32	2	2	Present value of current on blue [L3] phase of pump 6. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[5][2]
91	30	04	32	2	2	Average value of current on all 3 phases of pump 6. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[5][3]
92	30	04	32	2	2	Total flow volume of pump 6. Scaling is 1000 liters per bit count (eg. 000A hex = 10kL, 000B hex = 11kL).	Status_numeric[5][4]
93	30	04	32	2	2	Last flow volume of pump 6. Scaling is 1 liter per bit count (eg. 000A hex = 10L, 000B hex = 11L).	Status_numeric[5][5]
94	30	04	32	2	2	Reserved	Status_numeric[5][6]
95	30	04	32	2	2	Hours last run of pump 6. Scaling is 0.1 liter per bit count (eg. 000A hex = 1min, 000B hex = 1.1min).	Status_numeric[5][7]
96	30	04	32	2	2	Starts per hour of pump 6. Scaling is 1 start per 10 bit counts (eg. 000A hex = 1start/hour, 000B hex = not possible).	Status_numeric[5][8]
97	30	04	32	2	2	Last flow rate of pump 6. Scaling is seconds per litre (eg. 000A hex = 10 L/s, 000B hex = 11L/s).	Status_numeric[5][9]
98	30	04	32	2	2	Insulation resistance of pump 6. Scaling is 0.1 Mohm per bit count (eg. 000A hex = 1 Mohm, 000B hex = 1.1 Mohm).	Status_numeric[5][10]
99	30	04	32	2	2	Phase voltage of pump 6. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[5][11]
100	30	04	32	2	2	Average phase voltage of pump 6. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[5][12]
101	30	04	32	2	2	Present value of current on red [L1] phase of pump 7. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[6][0]
102	30	04	32	2	2	Present value of current on white [L2] phase of pump 7. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[6][1]
103	30	04	32	2	2	Present value of current on blue [L3] phase of pump 7. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[6][2]
104	30	04	32	2	2	Average value of current on all 3 phases of pump 7. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[6][3]
105	30	04	32	2	2	Total flow volume of pump 7. Scaling is 1000 liters per bit count (eg. 000A hex = 10kL, 000B hex = 11kL).	Status_numeric[6][4]
106	30	04	32	2	2	Last flow volume of pump 7. Scaling is 1 liter per bit count (eg. 000A hex = 10L, 000B hex = 11L).	Status_numeric[6][5]
107	30	04	32	2	2	Reserved	Status_numeric[6][6]
108	30	04	32	2	2	Hours last run of pump 7. Scaling is 0.1 liter per bit count (eg. 000A hex = 1min, 000B hex = 1.1min).	Status_numeric[6][7]
109	30	04	32	2	2	Starts per hour of pump 7. Scaling is 1 start per 10 bit counts (eg. 000A hex = 1start/hour, 000B hex = not possible).	Status_numeric[6][8]
110	30	04	32	2	2	Last flow rate of pump 7. Scaling is seconds per litre (eg. 000A hex = 10 L/s, 000B hex = 11L/s).	Status_numeric[6][9]
111	30	04	32	2	2	Insulation resistance of pump 7. Scaling is 0.1 Mohm per bit count (eg. 000A hex = 1 Mohm, 000B hex = 1.1 Mohm).	Status_numeric[6][10]
112	30	04	32	2	2	Phase voltage of pump 7. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[6][11]
113	30	04	32	2	2	Average phase voltage of pump 7. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[6][12]
114	30	04	32	2	2	Present value of current on red [L1] phase of pump 8. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[7][0]
115	30	04	32	2	2	Present value of current on white [L2] phase of pump 8. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[7][1]

Analog Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable
116	30	04	32	2	2	Present value of current on blue [L3] phase of pump 8. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[7][2]
117	30	04	32	2	2	Average value of current on all 3 phases of pump 8. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[7][3]
118	30	04	32	2	2	Total flow volume of pump 8. Scaling is 1000 liters per bit count (eg. 000A hex = 10kL, 000B hex = 11kL).	Status_numeric[7][4]
119	30	04	32	2	2	Last flow volume of pump 8. Scaling is 1 liter per bit count (eg. 000A hex = 10L, 000B hex = 11L).	Status_numeric[7][5]
120	30	04	32	2	2	Reserved	Status_numeric[7][6]
121	30	04	32	2	2	Hours last run of pump 8. Scaling is 0.1 liter per bit count (eg. 000A hex = 1min, 000B hex = 1.1min).	Status_numeric[7][7]
122	30	04	32	2	2	Starts per hour of pump 8. Scaling is 1 start per 10 bit counts (eg. 000A hex = 1start/hour, 000B hex = not possible).	Status_numeric[7][8]
123	30	04	32	2	2	Last flow rate of pump 8. Scaling is seconds per litre (eg. 000A hex = 10 L/s, 000B hex = 11L/s).	Status_numeric[7][9]
124	30	04	32	2	2	Insulation resistance of pump 8. Scaling is 0.1 Mohm per bit count (eg. 000A hex = 1 Mohm, 000B hex = 1.1 Mohm).	Status_numeric[7][10]
125	30	04	32	2	2	Phase voltage of pump 8. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[7][11]
126	30	04	32	2	2	Average phase voltage of pump 8. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[7][12]
127	30	04	32	2	2	Present value of current on red [L1] phase of pump 9. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[8][0]
128	30	04	32	2	2	Present value of current on white [L2] phase of pump 9. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[8][1]
129	30	04	32	2	2	Present value of current on blue [L3] phase of pump 9. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[8][2]
130	30	04	32	2	2	Average value of current on all 3 phases of pump 9. Scaling is 0.1A per bit count (eg. 000A hex = 1.0A, 000B hex = 1.1A).	Status_numeric[8][3]
131	30	04	32	2	2	Total flow volume of pump 9. Scaling is 1000 liters per bit count (eg. 000A hex = 10kL, 000B hex = 11kL).	Status_numeric[8][4]
132	30	04	32	2	2	Last flow volume of pump 9. Scaling is 1 liter per bit count (eg. 000A hex = 10L, 000B hex = 11L).	Status_numeric[8][5]
133	30	04	32	2	2	Reserved	Status_numeric[8][6]
134	30	04	32	2	2	Hours last run of pump 9. Scaling is 0.1 liter per bit count (eg. 000A hex = 1min, 000B hex = 1.1min).	Status_numeric[8][7]
135	30	04	32	2	2	Starts per hour of pump 9. Scaling is 1 start per 10 bit counts (eg. 000A hex = 1start/hour, 000B hex = not possible).	Status_numeric[8][8]
136	30	04	32	2	2	Last flow rate of pump 9. Scaling is seconds per litre (eg. 000A hex = 10 L/s, 000B hex = 11L/s).	Status_numeric[8][9]
137	30	04	32	2	2	Insulation resistance of pump 9. Scaling is 0.1 Mohm per bit count (eg. 000A hex = 1 Mohm, 000B hex = 1.1 Mohm).	Status_numeric[8][10]
138	30	04	32	2	2	Phase voltage of pump 9. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[8][11]
139	30	04	32	2	2	Average phase voltage of pump 9. Scaling is 0.1 volts per bit count (eg. 000A hex = 1 VAC, 000B hex = 1.1 VAC).	Status_numeric[8][12]
140	30	03	32	1	2	Cumulative total from digital input 1 of the master MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[0][0]
141	30	03	32	1	2	Cumulative total from digital input 2 of the master MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[0][1]
142	30	03	32	1	2	Cumulative total from digital input 3 of the master MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[0][2]
143	30	03	32	1	2	Cumulative total from digital input 4 of the master MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[0][3]
144	30	03	32	1	2	Cumulative total from digital input 5 of the master MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[0][4]
145	30	03	32	1	2	Cumulative total from digital input 6 of the master MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[0][5]
146	30	03	32	1	2	Cumulative total from digital input 1 of the slave 1 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[1][0]
147	30	03	32	1	2	Cumulative total from digital input 2 of the slave 1 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[1][1]
148	30	03	32	1	2	Cumulative total from digital input 3 of the slave 1 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[1][2]
149	30	03	32	1	2	Cumulative total from digital input 4 of the slave 1 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[1][3]
150	30	03	32	1	2	Cumulative total from digital input 5 of the slave 1 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[1][4]
151	30	03	32	1	2	Cumulative total from digital input 6 of the slave 1 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[1][5]

Analog Inputs

Index	Default Static Obj	Var	Default Event Obj	Var	Class	Description	Multitrode Cross-Reference Variable
152	30	03	32	1	2	Cumulative total from digital input 1 of the slave 2 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[2][0]
153	30	03	32	1	2	Cumulative total from digital input 2 of the slave 2 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[2][1]
154	30	03	32	1	2	Cumulative total from digital input 3 of the slave 2 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[2][2]
155	30	03	32	1	2	Cumulative total from digital input 4 of the slave 2 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[2][3]
156	30	03	32	1	2	Cumulative total from digital input 5 of the slave 2 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[2][4]
157	30	03	32	1	2	Cumulative total from digital input 6 of the slave 2 MonitorPRO. This accumulator needs to be enabled for this feature.	status_pulsed[2][5]
158	30	03	32	1	2	Cumulative number of faults on pump 1	status_fault_accumulator[0]
159	30	03	32	1	2	Cumulative number of faults on pump 2	status_fault_accumulator[1]
160	30	03	32	1	2	Cumulative number of faults on pump 3	status_fault_accumulator[2]
161	30	03	32	1	2	Cumulative number of faults on pump 4	status_fault_accumulator[3]
162	30	03	32	1	2	Cumulative number of faults on pump 5	status_fault_accumulator[4]
163	30	03	32	1	2	Cumulative number of faults on pump 6	status_fault_accumulator[5]
164	30	03	32	1	2	Cumulative number of faults on pump 7	status_fault_accumulator[6]
165	30	03	32	1	2	Cumulative number of faults on pump 8	status_fault_accumulator[7]
166	30	03	32	1	2	Cumulative number of faults on pump 9	status_fault_accumulator[8]
167	30	03	32	1	2	Cumulative number of hours run on pump 1. Scaling is 0.1 hours per count (ie 000A hex = 1 hour, 000B hex = 1.1 hours).	status_hrs_run[0]
168	30	03	32	1	2	Cumulative number of hours run on pump 2. Scaling is 0.1 hours per count (ie 000A hex = 1 hour, 000B hex = 1.1 hours).	status_hrs_run[1]
169	30	03	32	1	2	Cumulative number of hours run on pump 3. Scaling is 0.1 hours per count (ie 000A hex = 1 hour, 000B hex = 1.1 hours).	status_hrs_run[2]
170	30	03	32	1	2	Cumulative number of hours run on pump 4. Scaling is 0.1 hours per count (ie 000A hex = 1 hour, 000B hex = 1.1 hours).	status_hrs_run[3]
171	30	03	32	1	2	Cumulative number of hours run on pump 5. Scaling is 0.1 hours per count (ie 000A hex = 1 hour, 000B hex = 1.1 hours).	status_hrs_run[4]
172	30	03	32	1	2	Cumulative number of hours run on pump 6. Scaling is 0.1 hours per count (ie 000A hex = 1 hour, 000B hex = 1.1 hours).	status_hrs_run[5]
173	30	03	32	1	2	Cumulative number of hours run on pump 7. Scaling is 0.1 hours per count (ie 000A hex = 1 hour, 000B hex = 1.1 hours).	status_hrs_run[6]
174	30	03	32	1	2	Cumulative number of hours run on pump 8. Scaling is 0.1 hours per count (ie 000A hex = 1 hour, 000B hex = 1.1 hours).	status_hrs_run[7]
175	30	03	32	1	2	Cumulative number of hours run on pump 9. Scaling is 0.1 hours per count (ie 000A hex = 1 hour, 000B hex = 1.1 hours).	status_hrs_run[8]
176	30	03	32	1	2	Last flow volume on pump 1. Scaling is 1 litre per count (ie 000A hex = 10 L, 000B hex = 11 L).	statusLastVolume[0]
177	30	03	32	1	2	Last flow volume on pump 2. Scaling is 1 litre per count (ie 000A hex = 10 L, 000B hex = 11 L).	statusLastVolume[1]
178	30	03	32	1	2	Last flow volume on pump 3. Scaling is 1 litre per count (ie 000A hex = 10 L, 000B hex = 11 L).	statusLastVolume[2]
179	30	03	32	1	2	Last flow volume on pump 4. Scaling is 1 litre per count (ie 000A hex = 10 L, 000B hex = 11 L).	statusLastVolume[3]
180	30	03	32	1	2	Last flow volume on pump 5. Scaling is 1 litre per count (ie 000A hex = 10 L, 000B hex = 11 L).	statusLastVolume[4]
181	30	03	32	1	2	Last flow volume on pump 6. Scaling is 1 litre per count (ie 000A hex = 10 L, 000B hex = 11 L).	statusLastVolume[5]
182	30	03	32	1	2	Last flow volume on pump 7. Scaling is 1 litre per count (ie 000A hex = 10 L, 000B hex = 11 L).	statusLastVolume[6]
183	30	03	32	1	2	Last flow volume on pump 8. Scaling is 1 litre per count (ie 000A hex = 10 L, 000B hex = 11 L).	statusLastVolume[7]
184	30	03	32	1	2	Last flow volume on pump 9. Scaling is 1 litre per count (ie 000A hex = 10 L, 000B hex = 11 L).	statusLastVolume[8]

Analog Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable
185	30	03	32	1	2	Total volume pumped for the station.	statusStationTotalFlow
186	30	04	32	2	2	Station inflow rate. Scaling is in litres per second.	statusStationFlowRates[0]
187	30	04	32	2	2	Station outflow rate. Scaling is in litres per second.	statusStationFlowRates[1]
188	30	03	32	1	2	Cumulative starts for pump 1	status_starts_pump[0]
189	30	03	32	1	2	Cumulative starts for pump 2	status_starts_pump[1]
190	30	03	32	1	2	Cumulative starts for pump 3	status_starts_pump[2]
191	30	03	32	1	2	Cumulative starts for pump 4	status_starts_pump[3]
192	30	03	32	1	2	Cumulative starts for pump 5	status_starts_pump[4]
193	30	03	32	1	2	Cumulative starts for pump 6	status_starts_pump[5]
194	30	03	32	1	2	Cumulative starts for pump 7	status_starts_pump[6]
195	30	03	32	1	2	Cumulative starts for pump 8	status_starts_pump[7]
196	30	03	32	1	2	Cumulative starts for pump 9	status_starts_pump[8]
197	30	04	32	2	2	Day of last over flow	StatusDateLastOflow[0]
198	30	04	32	2	2	Month of last over flow	StatusDateLastOflow[1]
199	30	04	32	2	2	Year of last over flow	StatusDateLastOflow[2]
200	30	04	32	2	2	Hour of last over flow	StatusTimeLastOflow[0]
201	30	04	32	2	2	Minute of last over flow	StatusTimeLastOflow[1]
202	30	04	32	2	2	Second of last over flow	StatusTimeLastOflow[2]
203	30	03	32	1	2	Duration of last overflow. Scaling is in 0.1 minutes per count (eg. 000A hex = 1 min, 000B hex = 1.1 min).	StatusDurationLastOflow
204	30	03	32	1	2	Total number of overflows	StatusTotalNumberOflows
205	30	04	32	2	2	Number of days of over flow	StatusTotalOflowTime[0]
206	30	04	32	2	2	Number of hours of over flow	StatusTotalOflowTime[1]
207	30	04	32	2	2	Number of minutes of over flow	StatusTotalOflowTime[2]
208	30	04	32	2	2	Number of seconds of over flow	StatusTotalOflowTime[3]
209	30	03	32	1	2	Last overflow volume. Scaling is 1 litre per count.	StatusLastOflowVolume
210	30	03	32	1	2	Total overflow volume. Scaling is 1000 litres per count.	StatusTotalOflowVolume
211	30	04	32	2	2	Current level value being used by the master pump controller. Scaling is as an ASCII value between 0 and 200.	MTxPCCtrlStatus[0][0]
212	30	04	32	2	2	Current probe level value being used by the master pump controller. Scaling is as an ASCII value between 0 and 200.	MTxPCCtrlStatus[0][1]
213	30	04	32	2	2	Current value of analog input 1 of the master pump controller. Scaling is as an ASCII value between 0 and 200.	MTxPCCtrlStatus[0][4]
214	30	04	32	2	2	Current value of analog input 2 of the master pump controller. Scaling is as an ASCII value between 0 and 200.	MTxPCCtrlStatus[0][5]
215	30	04	32	2	2	Current value of analog output 1 of the master pump controller. Scaling is as an ASCII value between 0 and 200.	MTxPCCtrlStatus[0][6]
216	30	04	32	2	2	Current I/P device chosen. Level input device: 01 hex = standard multitrode probe, 02 hex = analog sensor only, 03 hex = analog sensor with probe sensor override, 04 hex = via telemetry.	MTxPCCtrlStatus[0][9] bits 0-3
217	30	04	32	2	2	Key lock input: 00 hex = off, 01 hex = partial, 02 hex = full.	MTxPCCtrlStatus[0][9] bits 6-7
218	30	04	32	2	2	Reserved	MTxPCCtrlStatus[1][0]
219	30	04	32	2	2	Reserved	MTxPCCtrlStatus[1][1]
220	30	04	32	2	2	Reserved	MTxPCCtrlStatus[1][4]
221	30	04	32	2	2	Reserved	MTxPCCtrlStatus[1][5]
222	30	04	32	2	2	Reserved	MTxPCCtrlStatus[1][6]
223	30	04	32	2	2	Reserved	MTxPCCtrlStatus[1][9] bits 0-3
224	30	04	32	2	2	Reserved	MTxPCCtrlStatus[1][9] bits 6-7
225	30	04	32	2	2	Reserved	MTxPCCtrlStatus[2][0]

Analog Inputs

Index	Default Static Obj	Default Static Var	Default Event Obj	Default Event Var	Default Event Class	Description	Multitrode Cross-Reference Variable
226	30	04	32	2	2	Reserved	MTxPCCtrlStatus[2][1]
227	30	04	32	2	2	Reserved	MTxPCCtrlStatus[2][4]
228	30	04	32	2	2	Reserved	MTxPCCtrlStatus[2][5]
229	30	04	32	2	2	Reserved	MTxPCCtrlStatus[2][6]
230	30	04	32	2	2	Reserved	MTxPCCtrlStatus[2][9] bits 0-3
231	30	04	32	2	2	Reserved	MTxPCCtrlStatus[2][9] bits 6-7
232	30	04	32	2	2	Voltage on the red [L1] phase. Scaling is 0.1 volts per count (eg. 000A hex = 1 VAC, 000B = 1.1 VAC)	status_rtu_phasevolts[0][0]
233	30	04	32	2	2	Voltage on the white [L2] phase. Scaling is 0.1 volts per count (eg. 000A hex = 1 VAC, 000B = 1.1 VAC)	status_rtu_phasevolts[0][1]
234	30	04	32	2	2	Voltage on the blue [L3] phase. Scaling is 0.1 volts per count (eg. 000A hex = 1 VAC, 000B = 1.1 VAC)	status_rtu_phasevolts[0][2]
235	30	04	32	2	2	Reserved	status_rtu_phasevolts[1][0]
236	30	04	32	2	2	Reserved	status_rtu_phasevolts[1][1]
237	30	04	32	2	2	Reserved	status_rtu_phasevolts[1][2]
238	30	04	32	2	2	Reserved	status_rtu_phasevolts[2][0]
239	30	04	32	2	2	Reserved	status_rtu_phasevolts[2][1]
240	30	04	32	2	2	Reserved	status_rtu_phasevolts[2][2]
241	30	04	32	2	2	Scaled value of Procon V analog input 1. Range and calibration is set via the Procon V configuration menu.	N/A (From Procon V hardware)
242	30	04	32	2	2	Scaled value of Procon V analog input 2. Range and calibration is set via the Procon V configuration menu.	N/A (From Procon V hardware)
243	30	04	32	2	2	Reserved	N/A (From Procon V hardware)
244	30	04	32	2	2	Reserved	N/A (From Procon V hardware)
245	30	04	32	2	2	Reserved	N/A (From Procon V hardware)
246	30	04	32	2	2	Reserved	N/A (From Procon V hardware)
247	30	04	32	2	2	Reserved	N/A (From Procon V hardware)
248	30	04	32	2	2	Reserved	N/A (From Procon V hardware)
249	30	04	32	2	2	Reserved	N/A (Number of commands in the internal command queue awaiting execution)
250	30	04	32	2	2	Reserved	N/A (Number of RTUs specified in last Assembled Status Response)
251	30	04	32	2	2	Reserved	N/A (Number of pumps specified in last Assembled Status Response)
252	30	04	32	2	2	GucpWorkingOrder[0][0]	Status_mit_ekim[0]
253	30	04	32	2	2	GucpWorkingOrder[0][1]	Status_mit_ekim[1]
254	30	04	32	2	2	GucpWorkingOrder[0][2]	Status_mit_ekim[2]
255	30	04	32	2	2	GucpWorkingOrder[0][3]	Status_mit_ekim[3]
256	30	04	32	2	2	GucpWorkingOrder[0][4]	Status_mit_ekim[4]
257	30	04	32	2	2	GucpWorkingOrder[0][5]	Status_mit_ekim[5]
258	30	04	32	2	2	GucpWorkingOrder[0][6]	Status_mit_ekim[6]
259	30	04	32	2	2	GucpWorkingOrder[0][7]	Status_mit_ekim[7]
260	30	04	32	2	2	GucpWorkingOrder[0][8]	Status_mit_ekim[8]
261	30	04	32	2	2	GucpWorkingOrder[1][0]	Status_mit_ekim[9]

Analog Inputs

Index	Default Static		Default Event			Description	Multitrode Cross-Reference Variable
	Obj	Var	Obj	Var	Class		
262	30	04	32	2	2	GucpWorkingOrder[1][1]	Status_mit_ekim[10]
263	30	04	32	2	2	GucpWorkingOrder[1][2]	Status_mit_ekim[11]
264	30	04	32	2	2	GucpWorkingOrder[1][3]	Status_mit_ekim[12]
265	30	04	32	2	2	GucpWorkingOrder[1][4]	Status_mit_ekim[13]
266	30	04	32	2	2	GucpWorkingOrder[1][5]	Status_mit_ekim[14]
267	30	04	32	2	2	GucpWorkingOrder[1][6]	Status_mit_ekim[15]
268	30	04	32	2	2	GucpWorkingOrder[1][7]	Status_mit_ekim[16]
269	30	04	32	2	2	GucpWorkingOrder[1][8]	Status_mit_ekim[17]
270	30	04	32	2	2	GucpWorkingGroup[0]	Status_mit_ekim[18]
271	30	04	32	2	2	GucpWorkingGroup[1]	Status_mit_ekim[19]
272	30	04	32	2	2	GucNTS	Status_mit_ekim[20]

Analog Outputs

Index	Default Status		Default Output Block		Description	Multitrode Command
	Obj	Var	Obj	Var		
0	40	2	41	2	Analog output of the Master MonitorPRO.	0x81 [A] [VALUE] 0x81
1	40	2	41	2	Reserved	0x81 [B] [VALUE] 0x81
2	40	2	41	2	Reserved	0x81 [C] [VALUE] 0x81
3	40	2	41	2	Current level of the master level input device. The level can only be modified if the master level input device has been configured to allow "communications level" to be used (ie. EDS 5 set to 7).	0x82 [A] [VALUE] 0x82
4	40	2	41	2	Reserved	0x82 [B] [VALUE] 0x82
5	40	2	41	2	Reserved	0x82 [C] [VALUE] 0x82
6	40	2	41	2	When written to with any value, all level alarms will be reset on all units with-in the group. When read this byte will return the last written value.	0x84 [A] [VALUE] 0x84
7	40	2	41	2	Reserved	0x84 [B] [VALUE] 0x84
8	40	2	41	2	Reserved	0x84 [C] [VALUE] 0x84
9	40	2	41	2	Remote Reservoir Level. Lower 16 bits are an unsigned analog, upper 16 bits are digital states. When written to, an "IRRM Status Command" is sent to the MonitorPRO.	0x84 [B] [VALUE] 0x84