PowerCommand iWatch™ 100 Remote Network Monitoring

Power Generation

Description

The PowerCommand® iWatch™ provides a convenient means for remotely monitoring generator sets and transfer switches. The Microsoft® Internet Explorer® 6.0 or higher browser provides the only software needed on the remote personal computer (PC) monitoring system.

The use of a browser rather than dedicated software for remote monitoring eliminates the need for dedicated monitoring software on the monitoring PC, and allows any authorized user on the customer's network to monitor the equipment. Many users can monitor the generator or transfer equipment simultaneously. Access to the monitored site and the PowerCommand iWatch 100 can be password protected for different levels of users.
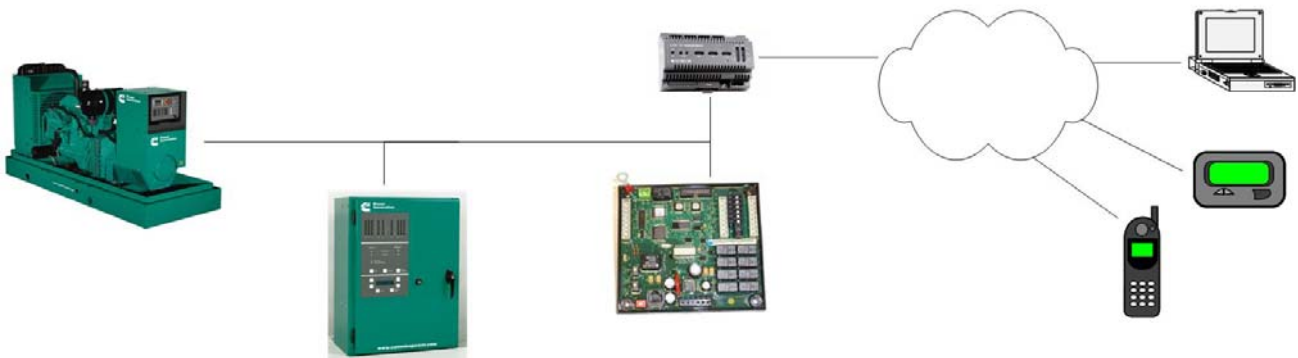
PowerCommand iWatch 100 users can monitor generator set data including engine data, alternator data and control system status. They can start or stop the generator set. The user can also monitor connected transfer switches for status (source availability, source data and source connected) as well as load level (when the transfer switch is provided with that feature). The user will also be able to access a LonWorks® DIM module for expanded I/O.

Features

- Easy access to generator set and transfer switch data. Allows access to information over any personal computer without the problems associated with loading software and keeping it up to date.
- Cost savings. Better monitoring of a remote power system can result in lower costs. Multiple users can access a remote power system without added software cost.
- Easy to use and understand graphical interface. Data is presented to user in a pictorial format that is easy to understand. The graphical displays provide comprehensive data without complexity.
- Sends emails on alarm conditions. Allows generator set and transfer switches to send email messages on alarm conditions using an SMTP server.

  Note: SMS paging of the alarms can only be accomplished through an SMTP email server that supports email to SMS paging. Most providers carry this feature. Please check with your pager service provider to verify support of this feature.

- Configurable for user access codes. Allows for configurable user names and passwords.
- Certifications. UL Listed, CE and FCC compliant.
- Warranty and service. Backed by the standard PowerCommand network and accessory/parts warranty and worldwide distributor service network.

System description

The PowerCommand iWatch 100 system is composed of several major groups of equipment and software. The generator sets, transfer switches and other equipment monitored at a site are interconnected with a Cummins PowerCommand LonWorks network and/or with Cummins PowerCommand products that can communicate via RS485 ModBus. The network is connected to the PowerCommand iWatch 100 module, which is connected to a TCP/IP ethernet connection. Optionally, the PowerCommand iWatch 100 hardware module may also be connected to a telephone service line so that the control may dial out alarms to an internet service provider and then send email messages; or the control may be accessed through the modem for browsing.

The standard system consists of 4 generator sets and up to 4 transfer switches. PowerCommand iWatch 100 can be customized by CPG for monitoring and control of up to 15 devices.

PowerCommand LonWorks Network

PowerCommand generator sets and transfer switches can be provided with network interface modules to allow direct monitoring and control by an Echelon LonWorks network.

Typical information displays

Main menu
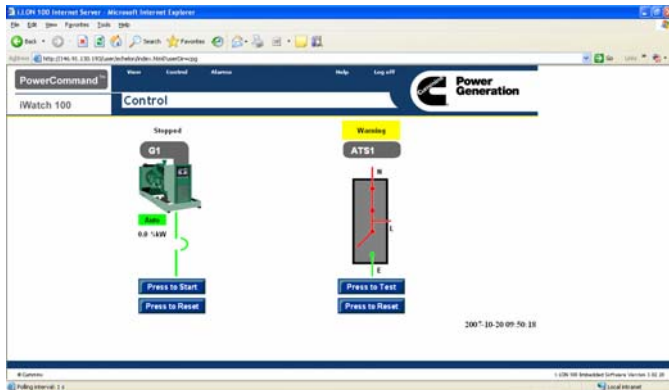
The main menu screen displays the equipment monitored by the PowerCommand iWatch 100. It also displays the basic status of the generator set in the network. The user may click on a genset or ATS for more detailed information.

Generator set data display

The generator set data display screen provides basic generator and engine data.

The generator set AC data panel provides information on the current AC voltage, current, frequency, power factor, kW, kVA and kVAR output of the generator set monitored.

The engine data panel provides detailed information on the state of the engine including speed, oil pressure, coolant temperature, oil temperature, battery voltage and number of starts. Units of measurement are configurable for either US Standard or Metric values.

Remote annunciator display

This display emulates operation of generator set annunciators, providing status condition on one screen for the major components in the system and full set of NFPA 110 alarms. Note that this screen is available regardless of whether there is an annunciator in the system.
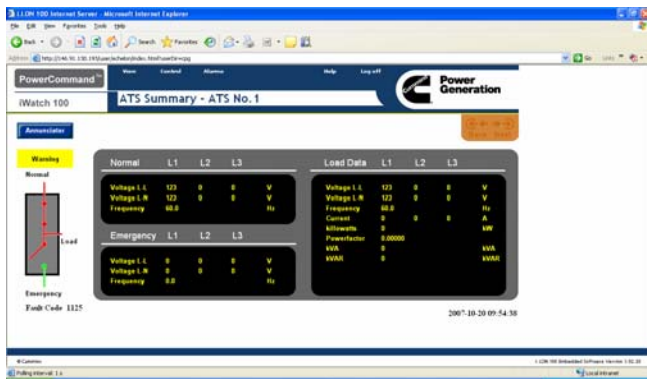
Power Generation

Transfer switch data display

This screen graphically shows transfer switch position. The display also provides tabular data covering the individual phase voltage and frequency for each source.

On the load side the individual phase voltage, individual phase load current, power factor, frequency, kW, kVA and kW hours is also displayed if the load monitoring option is included with the transfer switch.

Remote ATS annunciator display

This display emulates operation of ATS annunciators, providing status condition on one screen for the major components in the system the NFPA110 alarms. Note that this screen is available regardless of whether there is an annunciator in the system.

Digital input/output page
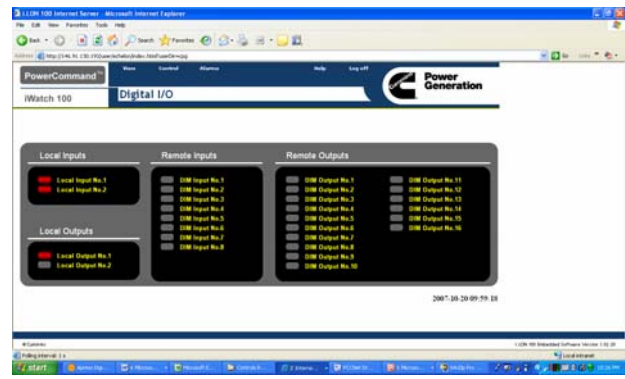
This page allows the end user to view status of a DIM module and to view status of two digital inputs and two digital outputs on the iWatch 100 module.

Relay outputs page
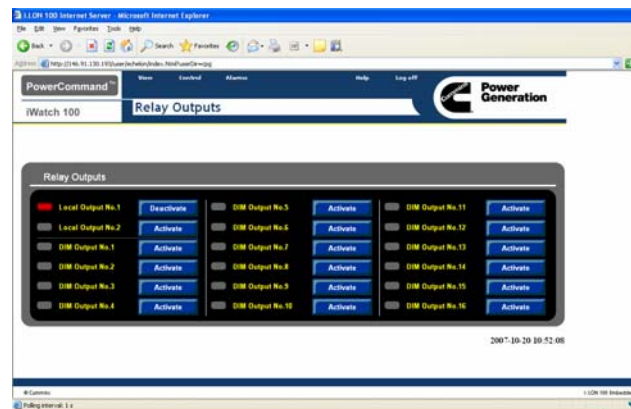
This page allows the end user to control the relays on a DIM module and the relays on the iWatch 100 module.

Monitoring equipment requirements

The PC monitoring the iWatch 100 system must be provided with Microsoft Internet Explorer version 6.0 or later. Any equipment suitable for use with that application is acceptable.

Environment

The iWatch 100 hardware equipment is DIN rail mountable. The equipment is designed for operation in ambient temperatures from 0 °C to +50 °C (32 °F to 122 °F). Required power is 100 to 240 VAC, 50/60 Hz.

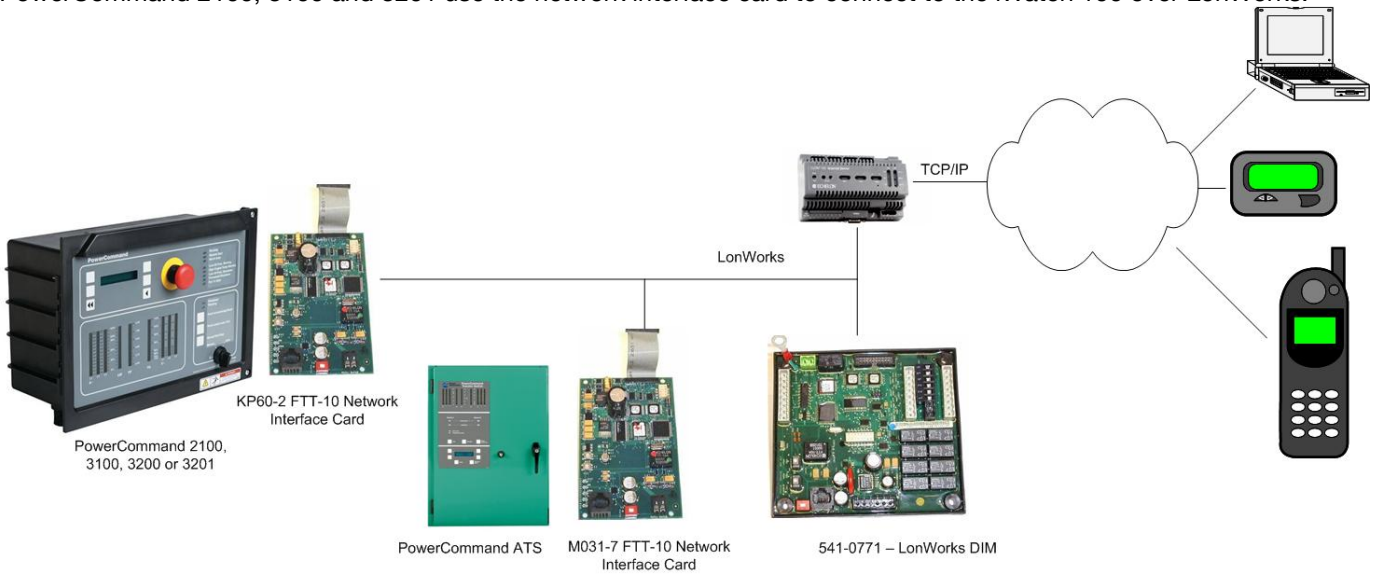**Our energy working for you.™**
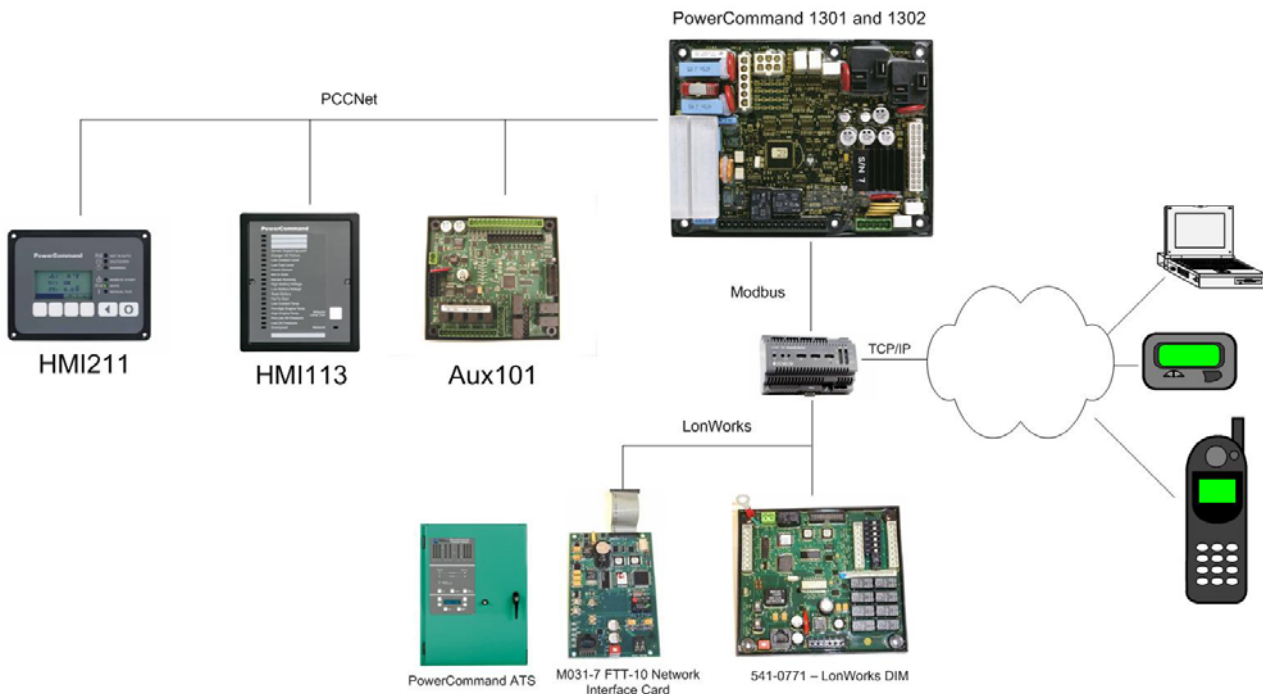
www.cumminspower.com

Power Generation

Genset controls

- The iWatch 100 connects to PowerCommand 2100, 3100 and 3201 controls over LonWorks
- The iWatch 100 connects to PowerCommand 1.x, 2.x and 3.x over ModBus
- The iWatch 100 connects to the OTPC transfer switch controls and the Lon DIM module (for expanded I/O) over LonWorks.

PowerCommand 2100, 3100 and 3201 use the network interface card to connect to the iWatch 100 over LonWorks.
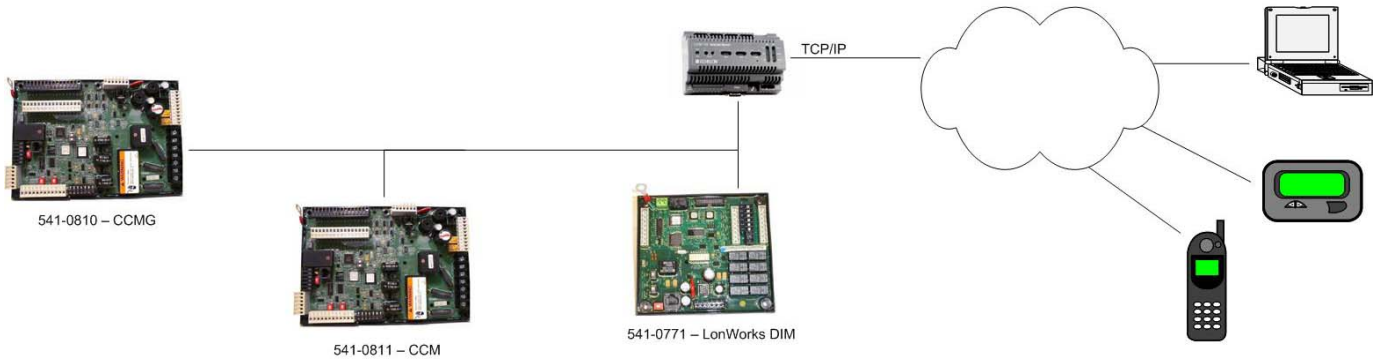

PowerCommand 1.x, 2.x and 3.x controls connect directly to the iWatch 100 over Modbus

Our energy working for you.™

Power Generation

Use CCMs to connect non-PowerCommand controls to the iWatch 100 (541-0810 for gensets 541-0811 for transfer switches).

541-0810 – CCMG

541-0811 – CCM

541-0771 – LonWorks DIM

TCP/IP

iWatch security concerns

Customers may choose not to expose the iWatch 100 outside of the firewall.
- This increases security by keeping all control function inside the firewall.
- Remote users can still connect via VPN.
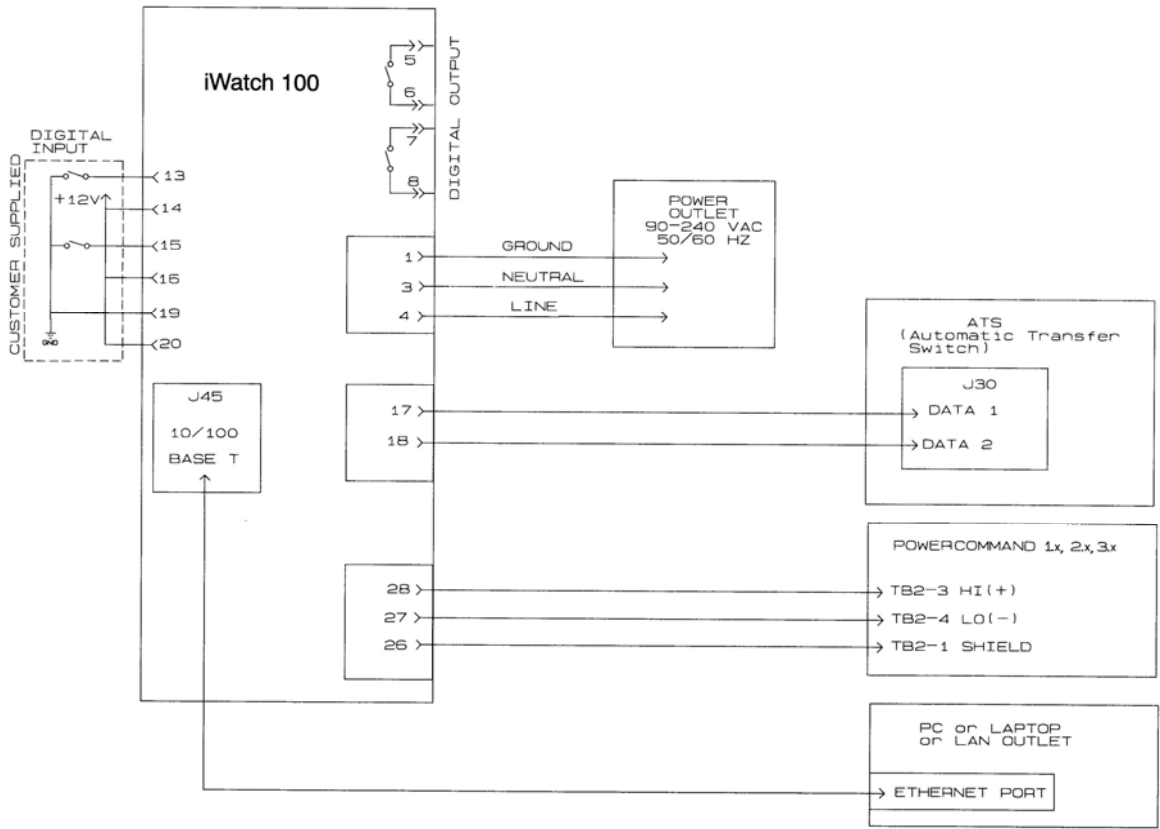- E-mails and pages can still be delivered through the firewall.

VPN Connection

Corporate WAN

Firewall

Our energy working for you.™

Power Generation

Wiring diagram: iWatch 100 with PowerCommand 1.x, 2.x and 3.x control

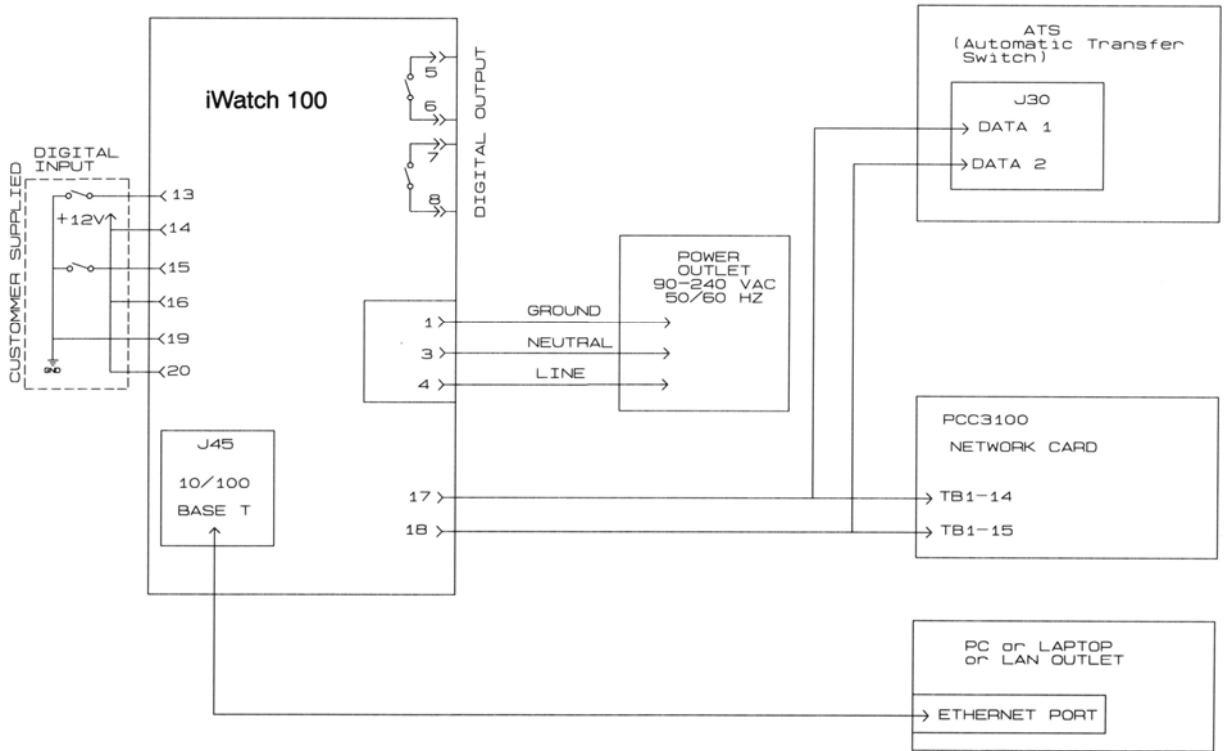# Wiring diagram: iWatch 100 with PowerCommand 2100 control
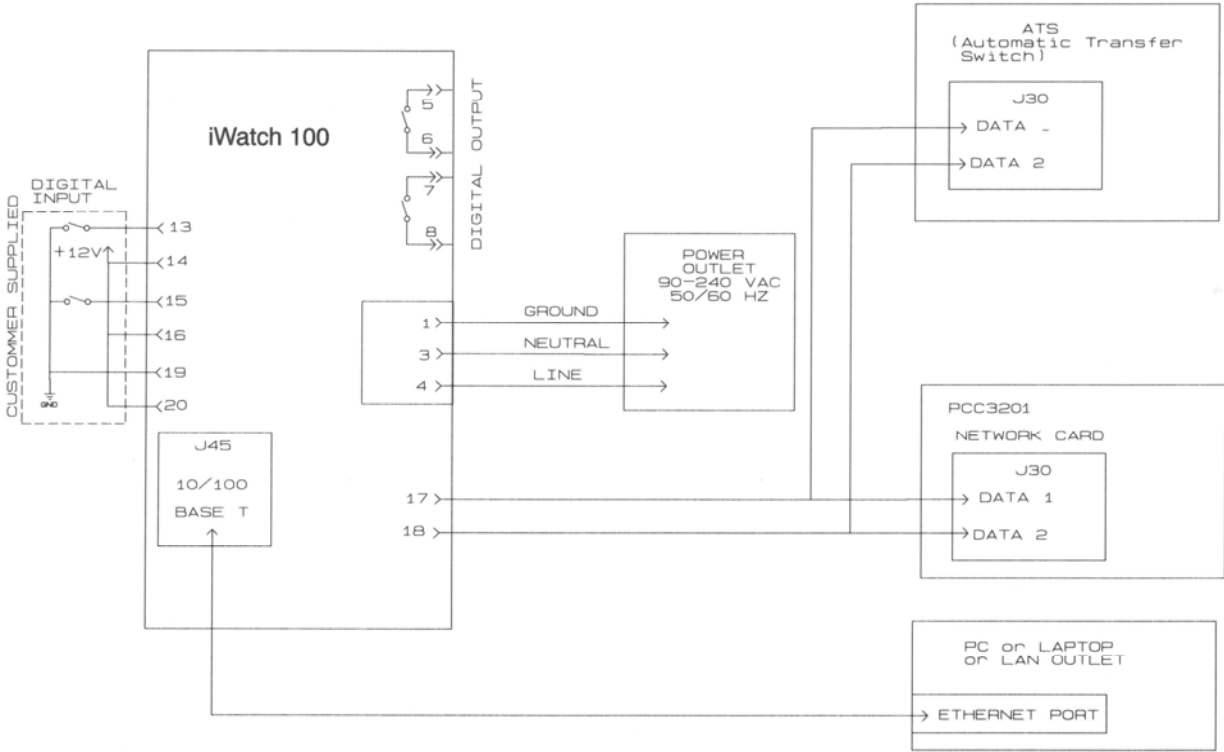

Our energy working for you.™

Power Generation

Wiring diagram: iWatch 100 with PowerCommand 3100 control

Wiring diagram: iWatch 100 with PowerCommand 3201 control

Our energy working for you.™

Power Generation

Dimensions

Additional hardware needed

For installation and communication the following additional hardware may be required:
- DB9 female to female null cable
- Ethernet cable (RJ-45 connectors)
- Power cord (dependent on input voltage)
- Telephone cord (modem models)

Ordering information

Part number	Description
0541-1302-01	PowerCommand iWatch 100 with modem
0541-1302-02	PowerCommand iWatch 100 without modem

See your distributor for more information.

Cummins Power Generation

Americas
1400 73rd Avenue N.E.
Minneapolis, MN 55432 USA
Phone: 763 574 5000
Fax: 763 574 5298

Europe, CIS, Middle East and Africa
Manston Park Columbus Ave.
Manston Ramsgate
Kent CT 12 5BF   United Kingdom
Phone 44 1843 255000
Fax 44 1843 255902

Asia Pacific
10 Toh Guan Road #07-01
TT International Tradepark
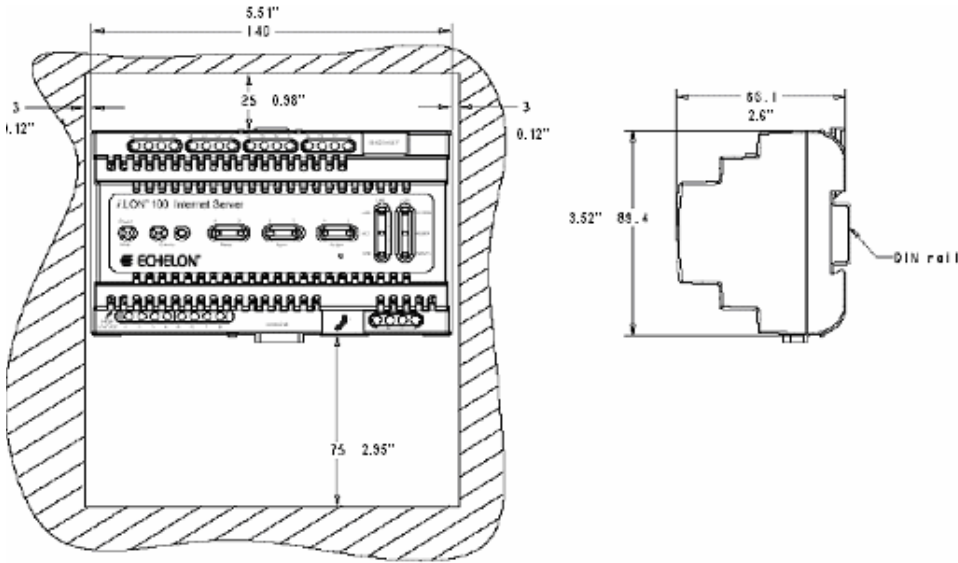Singapore 608838
Phone 65 6417 2388
Fax 65 6417 2399

Our energy working for you.™

www.cumminspower.com

©2007 | Cummins Power Generation Inc. | All rights reserved | Specifications subject to change without notice | Cummins Power Generation and Cummins are registered trademarks of Cummins Inc. PowerCommand, iWatch and "Our energy working for you." are trademarks of Cummins Power Generation. Other company, product, or service names may be trademarks or service marks of others.
S-1518c (11/07)

Power Generation