Rosemount 2160 Field Communication Unit

- Collects, stores and sends tank gauging data

- Transmits data using TRL2 bus, RS232 or RS485

- Provides six communication ports that can be individually configured as group bus ports or fieldbus ports

- Includes redundant option for higher safety

- Supports connection also to previous generation tank gauges

- Enables write protection

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Field Communication Unit

The Rosemount 2160 Field Communication Unit is a data concentrator that continuously polls data from Rosemount tank gauging field devices via the 2410 Tank Hub. The 2160 also supports connection of older Rosemount tank gauging instruments such as TankRadar Pro and TankRadar Rex gauges.

The 2160 stores data in a buffer memory. Whenever a request is received from a host, the field communication unit can immediately send data from the updated buffer memory.

Rosemount 2160 acts as a slave on the group bus and as a master on the fieldbus. The unit has six communication ports. These ports can be individually configured as either group bus ports or as fieldbus ports according to one of the alternatives below:

Alternative	Number of fieldbus ports	Number of group bus ports
1 (standard)	4	2
2	3	3
3	2	4

An interface board can be connected for each communication port. These boards can be ordered either for TRL2 bus or RS485 communication. Two group bus ports can also be configured as RS232.

Each radar level gauge / Rosemount 2410 Tank Hub has an individual address on the fieldbus.

Group buses

2160 Field Communication Unit

Fieldbuses
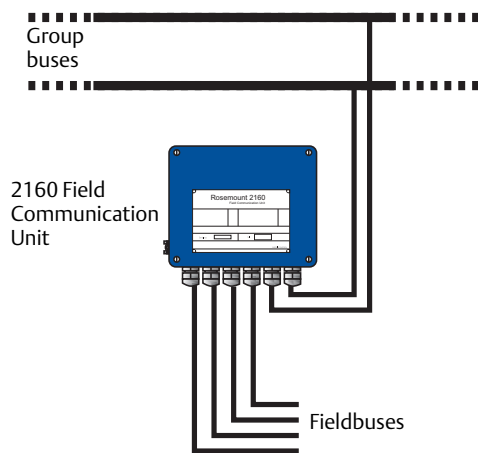
Redundant field communication units

By designing a tank gauging system with two identical (redundant) devices for critical operations, it is possible to get higher built-in reliability.

Two field communication units can be connected in parallel. One of the units will be configured as the primary, and it will be in an active state. The other will be in a backup state.

2180 Field Bus Modems

2160 Field Communications Units

2410 Tank Hubs
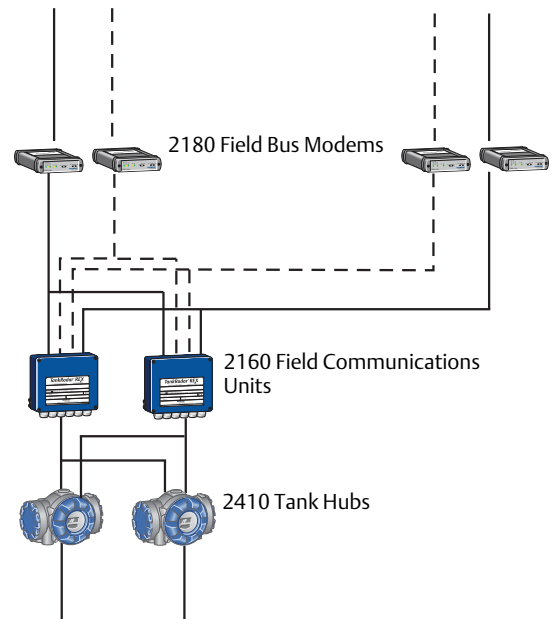
The units are software monitored and the backup unit is automatically triggered and activated in case of a primary unit failure. A message is sent to TankMaster (or a DCS system) that the primary unit has failed and that the backup unit has taken over the communication.

In addition, buddy mode functionality enables use of redundant fieldbus ports.

Contents

Ordering information

Rosemount 2160 Field Communication Unit

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Table 1. Rosemount 2160 Field Communication Unit ordering information

Model	Product Description - Pos 1
60	Field Communication Unit
Power Supply - Pos 2	
1	115 VAC
2	230 VAC
Port 1 - Pos 3	
G1	Group bus, TRL2 bus
G3	Group bus, RS485 bus
G5	Group bus, RS232 bus
Port 2 - Pos 4	
G1	Group bus, TRL2 bus
G3	Group bus, RS485 bus
G5	Group bus, RS232 bus
Port 3 - Pos 5	
F1	Fieldbus, TRL2 bus
Port 4 - Pos 6	
F1	Fieldbus, TRL2 bus
Port 5 - Pos 7	
F1	Fieldbus, TRL2 bus
G1	Group bus, TRL2 bus
G3	Group bus, RS485 bus

Table 1. Rosemount 2160 Field Communication Unit ordering information

Port 6 - Pos 8	
F1	Fieldbus, TRL2 bus
G1	Group bus, TRL2 bus
G3	Group bus, RS485 bus
Communication Protocol - Pos 9	
S	TankMaster
M	Modbus RTU to other host (required for communication with host)
Extended Function - Pos 10	
0	None
R	Redundancy function (requires a second FCU with redundancy)
B	Buddy mode (maximum 16 devices)
Special - Pos 11	
0	None
Accessory - Pos 12	
0	None
W	Sun shelter kit
Sign - Pos 13	
S	Standard sign
X	Other specified in order
Typical Model Number: 2160 2 G1 G5 F1 F1 F1 F1 S R 0 W S	

Specifications

Table 2. Rosemount 2160 Field Communication Unit specifications

General	
Product	Rosemount 2160 Field Communication Unit
Hazardous location certifications	None
CE-mark	Complies with applicable EU directives (EMC, ATEX and LVD)
Configuration / Communication	
Number of tanks per field communication unit	Max 32
Communication	Fieldbus ports: TRL2 bus, and RS485 Recommended number of tank hubs per fieldbus port: Maximum 8 if TRL2, and 32 if RS485 Group bus ports: TRL2 bus, RS232 or RS485 Group bus baud rate: Programmable up to 19 200 Baud Host communication protocol: Modbus RTU
Electric	
Power supply	115 or 230 VAC, +10% to -15%, 50-60 Hz, max. 10 W
Mechanical	
Cable entry (connection/glands)	Seven M20 x 1.5 entries for cable glands and conduits (plastic glands included in the delivery)
Weight	4.5 kg (9.9 lbs)
Installation	Wall-mounted with four screws
Environment	
Ambient operating temperature	-40 to 70 °C (-40 to 158 °F)
Ingress protection	IP 65
Write protect switch	Yes

Dimensional drawings

Figure 1. Rosemount 2160 Field Communication Unit dimensions
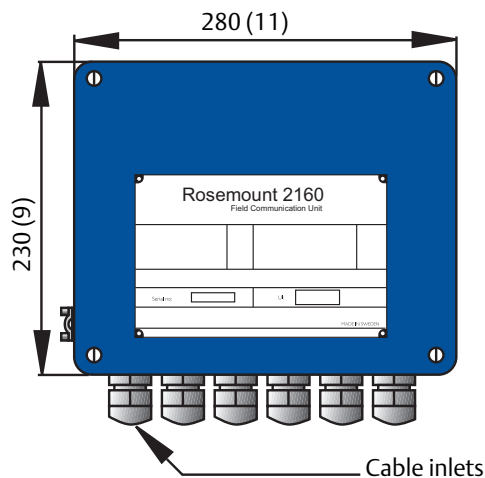
Dimensions are in mm (inches)

280 (11)

230 (9)

Rosemount 2160
Field Communication Unit

Cable inlets

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