

# Field Communication Unit FCU 2165 & 2175

**BENEFITS**

- One user interface for different gauge types
- No need for one PC per Gauging System - all linked to one TankMaster PC
- Integrates field devices from different vendors
- Can communicate with a wide range of hosts
- Flexible configuration, scalable solutions with up to 32 ports
- Redundant options for higher safety
- Enables step-by-step upgrades of old gauges



FCU 2175

**The Rosemount Field Communication Unit, FCU 2165/2175 provides seamless integration of tank gauges from different vendors**

The FCU is a data concentrator that continuously polls data from field devices such as radar and servo tank gauges, data acquisition units, I/O Modules, other FCU:s, Enraf® CIU:s etc and stores data in a buffer memory.

With the FCU it is possible to connect to devices from vendors such as Enraf®, Whessoe®, Varec® and GPE®.

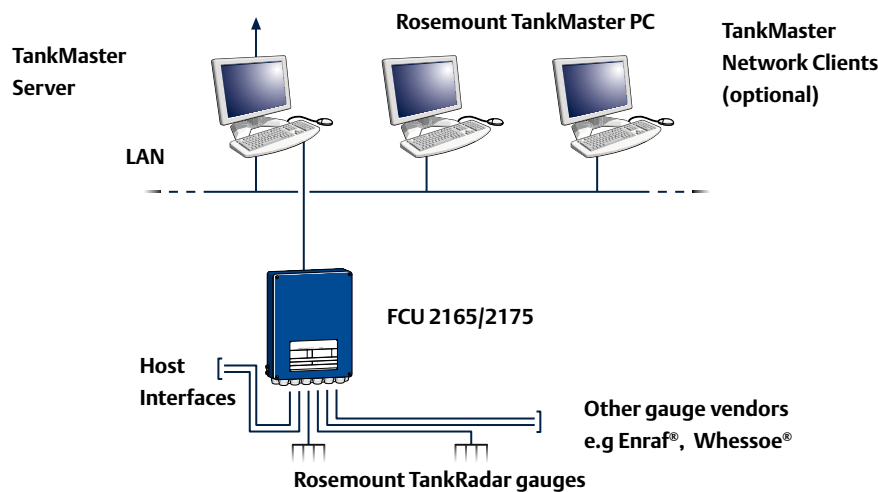
Whenever a request for data is received from a host, the FCU can immediately send data from the updated buffer memory.

The FCU can communicate with a wide range of host/DCS systems such as Rosemount TankMaster®, Enraf® Entis, Yokogawa®, ABB®, Honeywell®, Foxboro® among others (it is possible to connect any system using a Modbus protocol).

Each of the ports can be configured either as a master or a slave connection, providing ultimate configuration flexibility.



FCU 2165



The FCU 2165 has 10 ports of which maximum 6 can be used as field bus ports. The FCU 2175 can be ordered with 8, 16, 24 or 32 ports. Port configuration flexibility along with the scalable solution makes the FCU meet the needs of both small terminal operators and large refineries.

For applications requiring more capacity or when devices are distributed over a large area, multiple FCU:s can be used. Two FCU:s can also be connected in parallel with one unit operational and the other as a redundant backup. The backup unit is automatically activated in case of a primary unit failure (hot standby).

The number of devices per port varies between different manufacturers and there may also be physical limitations imposed by the quality and length of field cables and distribution of devices. Maximum 256 devices can be supported by one FCU 2165/2175.

Specification	
<b>Explosion protection</b>	None
<b>Ambient operating temperature</b>	-20° C to +70° C (-4° F to +158° F)
<b>Power supply</b>	115 or 230 VAC, +10% to -15%, 50-60 Hz
<b>Power consumption (max)</b>	25 W (FCU 2165) 60 W (FCU 2175)
<b>Ingress protection</b>	IP 65 (FCU 2165) IP 21 (FCU 2175)
<b>Field bus / Host ports</b>	TRL/2 Bus, Enraf BPM, Whessoe Current Loop, RS 232, RS 422, RS 485 (additional will follow)
<b>Baud rates</b>	Programmable up to 38400
<b>Total number of gauges per fieldbus port</b>	Dependent on vendor, consult factory
<b>Number of tanks / gauges per FCU</b>	Up to 256 (host dependant, 160 for Saab TankMaster)
<b>Dimensions</b>	FCU 2165: 111x313x404 mm or 4.37x12.32x15.91 in. FCU 2175: 19 in. (3U rack)

Enraf, Varec, L&J, Whessoe, GPE, Motherwell, Honeywell, Foxboro, ABB and Yokogawa are registered trademarks of their respective owners.

Configuration possibilities																																																									
<p><b>As a master (field bus) port the FCU can talk to a wide range of different tank gauges such as:</b></p> <ul style="list-style-type: none"> <li>Rosemount TankRadar</li> <li>Enraf® Servo and Radar</li> <li>Whessoe® Servo and Level / Temperature Transmitter</li> <li>Motherwell®</li> <li>Varec®</li> <li>GPE®</li> <li>Scientific Instruments® LTD 6290</li> </ul> <p><b>As a slave port the FCU can service requests from a wide range of hosts using various protocols:</b></p> <ul style="list-style-type: none"> <li>Rosemount TankMaster</li> <li>Modbus RTU</li> <li>Enraf® Entis</li> <li>Enraf® Ensite (for configuration of Enraf transmitters)</li> <li>LMS -LNG Management System</li> </ul> <p><b>A range of drivers are also available for DCS systems such as:</b></p> <ul style="list-style-type: none"> <li>Honeywell® TDC</li> <li>Foxboro® I/A</li> <li>ABB®</li> <li>Yokogawa®</li> </ul>	<p><b>The number of gauges on each field port is limited by the gauge vendor protocol and/or the electrical interface capability. Typically these are as follows:</b></p> <table border="1"> <thead> <tr> <th>Gauge Vendor Equipment</th> <th>Electrical Interface</th> <th>Max Gauges / Interface</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Rosemount Tank Gauging</b></td> </tr> <tr> <td>2900, 3900, Pro</td> <td>TRL/2</td> <td>8</td> </tr> <tr> <td>FCU 2160</td> <td>RS 232, RS 485 or TRL/2</td> <td>32</td> </tr> <tr> <td colspan="3"><b>Enraf®</b></td> </tr> <tr> <td>CIU 858<sup>1)</sup></td> <td>RS 232</td> <td>30</td> </tr> <tr> <td>CIU 880<sup>1)</sup></td> <td>RS 232</td> <td>50</td> </tr> <tr> <td>GPU or GPP protocol gauges</td> <td>BPM</td> <td>10</td> </tr> <tr> <td>Microlect® , see note 1) below.</td> <td></td> <td></td> </tr> <tr> <td colspan="3"><b>Whessoe®</b></td> </tr> <tr> <td>WM 550 protocol gauges</td> <td>Current Loop</td> <td>32</td> </tr> <tr> <td>WM 500 protocol gauges</td> <td>Current Loop</td> <td>256 (via 16 Outstations)</td> </tr> <tr> <td colspan="3"><b>GPE®</b></td> </tr> <tr> <td>GPE 31422</td> <td>Current Loop</td> <td>32</td> </tr> <tr> <td>GPE 31423</td> <td>Current Loop</td> <td>32</td> </tr> <tr> <td colspan="3"><b>Varec®</b></td> </tr> <tr> <td>1800</td> <td>Mark/Space</td> <td>25</td> </tr> <tr> <td>1900</td> <td>Mark/Space</td> <td>25</td> </tr> </tbody> </table>	Gauge Vendor Equipment	Electrical Interface	Max Gauges / Interface	<b>Rosemount Tank Gauging</b>			2900, 3900, Pro	TRL/2	8	FCU 2160	RS 232, RS 485 or TRL/2	32	<b>Enraf®</b>			CIU 858 <sup>1)</sup>	RS 232	30	CIU 880 <sup>1)</sup>	RS 232	50	GPU or GPP protocol gauges	BPM	10	Microlect® , see note 1) below.			<b>Whessoe®</b>			WM 550 protocol gauges	Current Loop	32	WM 500 protocol gauges	Current Loop	256 (via 16 Outstations)	<b>GPE®</b>			GPE 31422	Current Loop	32	GPE 31423	Current Loop	32	<b>Varec®</b>			1800	Mark/Space	25	1900	Mark/Space	25		
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Technical details are subject to change without prior notice. For more technical details, see the Rex Technical Description.



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