

Field Communication Unit FCU 2165/2175

The Saab 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® and Whessoe® (Varec® and L&J® are coming possibilities).

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

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

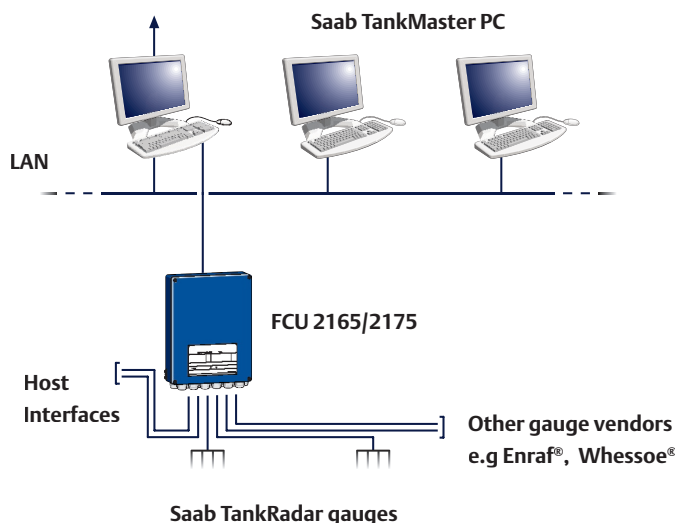
Each of the ports can be configured either as a master or a slave connection, providing ultimate configuration flexibility.



The FCU 2175



The FCU 2165



Features

- Integrates field devices from different vendors
- Can service requests from a wide range of hosts
- Scalable solution with up to 32 ports
- Port configuration flexibility
- Supports up to 256 gauges (160 with Saab TankMaster)

The FCU 2165/2175 provides seamless integration of different tank gauges into the TankMaster tank gauging and tank inventory software system.

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 make the FCU meet the needs of the small terminal operator to the largest refinery, also for the most demanding applications.

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

Configuration possibilities																																						
<p>As a master (field bus) port the FCU can talk to a wide range of different tank gauges such as:</p> <p>Saab TankRadar Enraf® Servo and Radar Whessoe® Servo and Level / Temperature Transmitter Motherwell®</p> <p>As a slave port the FCU can service requests from a wide range of hosts using various protocols:</p> <p>Saab TankMaster Modbus RTU Enraf® Entis</p> <p>A range of drivers are also available for DCS systems such as:</p> <p>Honeywell® TDC Foxboro® I/A ABB® Yokogawa®</p>	<p>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:</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">Saab Rosemount</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">Enraf®</td> </tr> <tr> <td>CIU 858¹⁾</td> <td>RS 232</td> <td>30</td> </tr> <tr> <td>CIU 880¹⁾</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 colspan="3">Microlect®, see note 1) below.</td> </tr> <tr> <td colspan="3">Whessoe®</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> </tbody> </table> <p style="text-align: right;"><i>1) The FCU 2165/2175 can replace an Enraf Microlect or CIU unit.</i></p>	Gauge Vendor Equipment	Electrical Interface	Max Gauges / Interface	Saab Rosemount			2900, 3900, Pro	TRL/2	8	FCU 2160	RS 232, RS 485 or TRL/2	32	Enraf®			CIU 858 ¹⁾	RS 232	30	CIU 880 ¹⁾	RS 232	50	GPU or GPP protocol gauges	BPM	10	Microlect®, see note 1) below.			Whessoe®			WM 550 protocol gauges	Current Loop	32	WM 500 protocol gauges	Current Loop	256 (via 16 Outstations)	
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Subject to change without prior notice



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