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GF Piping Systems

Increase your flexibility

Signet 0486 Profibus Concentrator



Communications made easy

PROFIBUS in a nutshell

...is the world's most successful fieldbus with 50.9 million devices installed by the end of 2014 with over 9 million of these in the process industries.

The reliable and simplified communication protocol for your industrial applications.

The Signet 0486 Profibus Concentrator allows for simplified connection of Signet sensors to a PROFIBUS network. The 0486 supports six sensor interfaces and a 4 to 20 mA current loop proportional valve interface. The 0486 supports PROFIBUS DP V1 and is available with either DB9 or M12 network connectors.

Ask us about other communications needs.
– PROFINET
– ETHERNET/IP

PI CERTIFIED
PROFIBUS • PROFINET

Integrates up to six sensors to one PROFIBUS address

PROFIBUS integration adapted to your needs.

Using the PROFIBUS protocol, devices from different manufacturers exchange information on the same communications bus without the need for special interface equipment.

Multiple channels in a single device

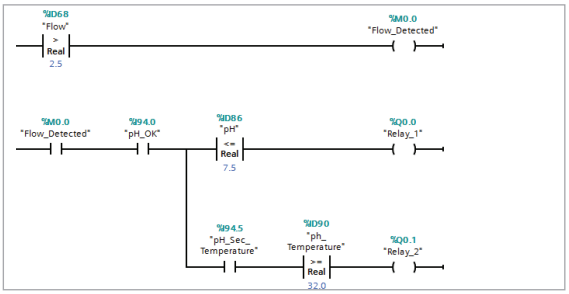
By using a single PROFIBUS cable, other wiring is reduced significantly, and overall installation costs are dramatically reduced.

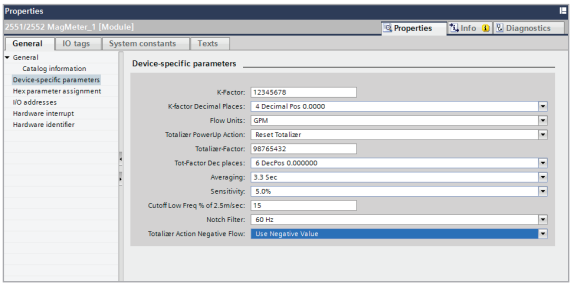
- Six Signet sensor interfaces (S^3L)
- Sensor interface supports all Signet (S^3L) sensors
- Four shared frequency inputs for flow measurements
  - 515, 525, 2536, 2540 and other frequency flow devices
- Two shared 4 to 20 mA current loop inputs for other instruments
- Sensor interfaces supports Signet 8059
  - Four dry-contact SPDT relays in a single device (maximum of 24 relays)
- Sensor interface supports Signet 8058 iGo devices
  - Single 4 to 20 mA inputs (maximum of six, 4 to 20 mA inputs)
- One dedicated current loop I/O for valve positioning control or other loop uses
  - 4 to 20 mA output
  - 4 to 20 mA input

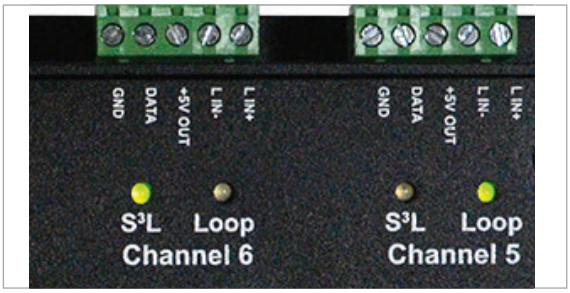


+Simplicity

- Easy assembly
- Proper and faster installation
- Less cabinet space needed
- Fast troubleshooting and easier maintenance
- Less engineering costs to integrate sensors and automation products into Fieldbus
- Reduces PROFIBUS integration cost per installation
- Full digital access to GF sensor analytics and diagnostics







LED	Description	S3L
	Off	Not Configured
	Green	Configured and Working
	Green Flash	Configured and Sensor Error
	Red	Configured and Wrong Device
	Red Flash	Configured and No Device

Programming

Setting-up process control has been dramatically improved using real engineering units and not bits or mA values. By using GF sensors and valves, control logic can be programmed in real process variables.

Improved GSD Instruction

The GSD is loaded into the PLC software programming environment, which allows the programmer to configure the Concentrator with sensors and devices specific for their application. All programming and configuration data is stored in the PLC/Automation software. Reducing configuration and set up errors while simplifying documentation and version management.

Installation and Maintenance

LED lights indicate the configuration of each channel and operation readiness simplifying field troubleshooting.

+GF+



The Profibus Concentrator offers automation professionals a new solution for process control.

+Features → Advantages → Benefits

Six Signet (S^3L) Channels and One Current Loop I/O Channel. • Four (S^3L) Channels support frequency input for low cost flow devices. • Two (S^3L) Channels support current loop inputs.	Conserves Profibus Addresses by combining connections and configuration in a single device. Mix and Match sensor technology, (S^3L), Frequency, and or current loop, to match your application.	Lowers cost of installation of multiple sensors and valves. Interface multiple types of sensors in a single device, (S^3L), frequency, and or current loop.
Access to measurement and diagnostic data stored in GF Signet sensors.	Access to multiple measurements from a single sensors. Status message ensure correct operation of the sensors.	Reduces the number of physical sensors required in many applications. Increases reliability of automation systems.
Control external devices with internal current loop I/O or compatible GF Signet external 4 channel Relay Module.	Control and sensing in a single unit on a single Profibus address. Fail safe operation sets outputs to safe value in case of communication failure.	Sense and control in single device. Protection from communication failures.
Fully programmed over Profibus network.	All configuration is created in your automation software package (PLC/PAC). Simplifies software development, documentation and configuration. Reduces errors.	Configuration is contained in your automation software package. Eliminates documentation of manual configuration and programing of multiple devices.
Simple LED indicators for on-site troubleshooting and verification.	Each channel's configuration and status is shown by LEDs to simplify installation and troubleshooting.	Eases troubleshooting and configuration of field units.
Sensor specific GSD features.	GSD sensor setup using engineering units and pull down menus reducing time, and errors in configuring the Profibus Concentrator for your specific applications.	Reduced errors Ease of programming and configuration.

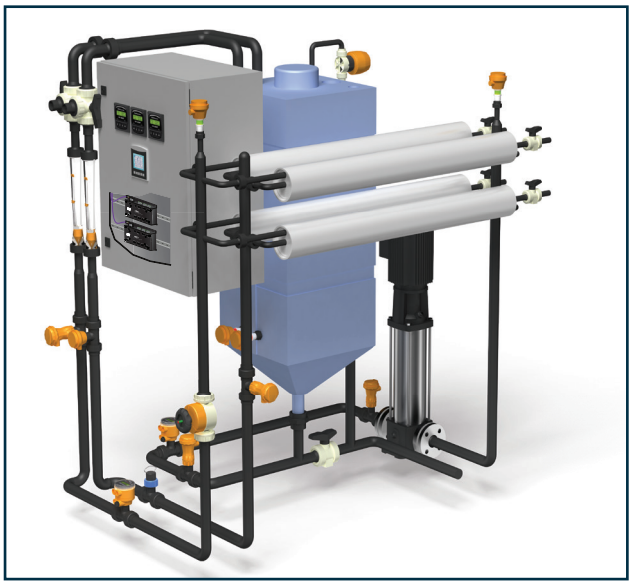
Common Process Applications

Tying the different measurement sensors and valves back to the primary control system can be greatly simplified through the use of the GF Profibus Concentrator, reducing costs, maintenance and engineering time. Examples are highlighted below.

Reverse Osmosis

Reverse osmosis is a physical process for purification of water. Some key challenges users may face, are maintaining unit performance to design parameters and maximizing service life. Typical instrumentation include chlorine measurement to protect the membrane, pH, Flow and conductivity to monitor the process.

- Detect Chlorine in influent
- Monitor and control pH
- Monitor flow
- Monitor influent, product and reject conductivities

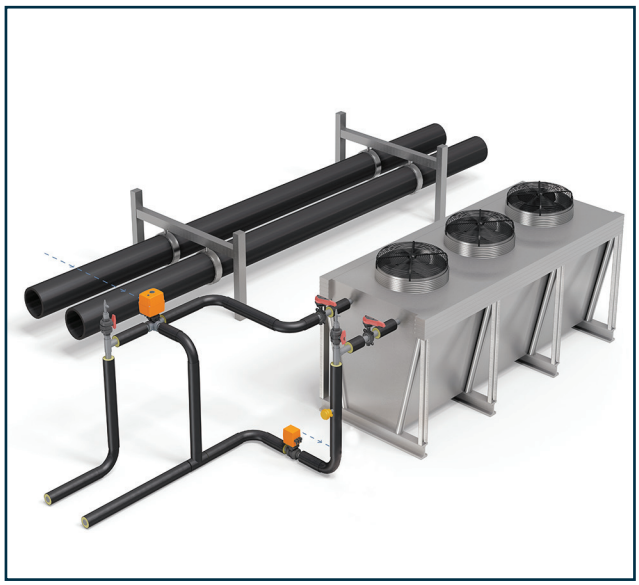


RO (Influent: Flow, Conductivity, pH, ORP. Product: Flow, Conductivity, pH. Reject: Flow, Conductivity)	Number of Transmitters	Number of Readings and Statuses	# of Wires or Cables to Automation System
Single Channel Transmitter	9	18	18
Multichannel (4) Transmitter	3	18	18
Profibus Concentrator	2	73	1

Cooling Towers

Cooling towers and heat recovery systems are a key element for the energy balance of all cooling systems. Typical instrumentation for this process operation includes pH, conductivity, and with additional flow and valve control to monitor unit performance.

- Monitor and control system conductivity levels
- Monitor make up and bleed off volumes
- Monitor and control pH levels
- Monitor and control biocide levels



Cooling Tower (pH, ORP, Conductivity, Make Up Flow, Blow Down Flow)	Number of Transmitters	Number of Readings and Statuses	# of Wires or Cables to Automation System
Single Channel Transmitter	5	12	10
Multi-Channel (4) Transmitter	2	12	10
Profibus Concentrator	1	39	1

Fume/Gas Scrubbing

Exhaust gases must be cleaned before being released into the atmosphere. As the contaminated gas flows into the washer, the harmful substances are washed out on spraying levels so that the clean gas rises and can be emitted. Typical instrumentation include, pH, flow, level and pressure.

- Monitor and control of wet scrubber pH
- Monitor pump flow rates
- Monitor sump liquid levels
- Monitor pump pressure
- Measure blow down



Fume Scrubber (Recirculation: Pump Flow, Pump Pressure. Sump: pH, Liquid Level, Conductivity. Blow Down Flow and Total)	Number of Transmitters	Number of Readings and Statuses	# of Wires or Cables to Automation System
Single Channel Transmitter	6	12	12
Multichannel (4) Transmitter	2	12	12
Profibus Concentrator	1	43	1

Solution of applications

– Automation Upgrades

– Filter and RO Skids

– Neutralization Systems

– Cooling Tower Automation

– Water and Wastewater Treatment

– Boiler Feed Water and Condensate Monitoring

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