Field Communication Gateway ZA 375 for PROFIBUS-DP

Connects intrinsically safe Rackbus devices to PROFIBUS-DP networks





















Application

The ZA 375 gateway, together with the ZA 672 gateway, connects intelligent measuring points to programmable logic controllers, personal computers and process control systems which are operating within PROFIBUS-DP networks. The ZA 375 behaves as a slave within the PROFIBUS-DP environment.

19"-Rackbus card ZA 375

Features and Benefits

- PROFIBUS-DP standard The ZA 375 gateway corresponds to PROFIBUS standard EN 50 170, Part 2
- Transmission of 38 measured values e.g. level, pressure, temperature, flow and analysis measurements
- Auto-scan buffer provides fast cyclic access to process data
- Job channel allows acyclic access to transmitter operating parameters, e.g. for configuration
- Data format Values can be transmitted in various formats, e.g. Endress+Hauser, IEEE and Siemens MC5.



Measuring System



Measuring system with the Commutec transmitters, Gateway ZA 672, Gateway ZA 375, PC with operating program and PROFIBUS-DP master

Commutec Transmitters

Commutec transmitters are intelligent 19"-rack modules which can be connected together on the Rackbus. They provide intrinsically safe power to the sensors and condition the signals returned. Transmitters are available for level, pressure, flow and temperature measurement as well as water analysis.

Rackbus

Up to 38 measured values can be transmitted over the Rackbus to the ZA 375 and PROFIBUS-DP master.

Each transmitter has a unique address, which allows it to be interrogated by the master or a personal competer.

Modbus Gateway ZA 672

The ZA 672 gateway is the interface between the Rackbus and the ZA 375 gateway. It scans the transmitter measured values cyclically according to a freely configurable scan list and stores them in an auto-scan buffer.

It is also equipped with an RS-232C interface, which allows the configuration of the transmitters via a PC with the operating programm or Commuwin II.

PROFIBUS-DP Gateway ZA 375

The PROFIBUS-DP gateway ZA 375 is the interface between the ZA 672 gateway and the PROFIBUS-DP master. It automatically scans the measured values in the ZA 672 auto-scan buffer and stores them in an I/O buffer which can be accessed by the PROFIBUS-DP master. Individual parameters can also be read or written.

Electrical Connection

Gateway ZA 672

The multipoint connector at the rear of the gateway is used.



PROFIBUS-DP network

The front panel connector is used. A screened cable, grounded at both ends, is recommended



left: ZA 375 male connector right: 9-pin Sub-D female connector.

Electrical connection

Technical Data

Application	General information	Gateway for connecting intrinsically safe Rackbus devices to PROFIBUS-DP networks, corresponds to EN 50 170, Part 2	
	Instrument designation	Gateway ZA 375	
Function and System Design	Measuring system	Depending upon the number of measured values transmitted per measuring point, the measuring system comprises up to 38 Commutec transmitters on the Rackbus, a gateway ZA 672, a gateway ZA 375 as well as a personal computer or PLC	
	Bus cable PROFIBUS-DP	Twisted, screened pairs, screen grounded at both ends e.g. Belden 3079A, Siemens 6XV1830-5AH10	
Input	Input data (= output DP master)	5 data words for read/write jobs	
Output	Output data (= input DP master)	Up to 38 measured values with status data from the ZA 672 auto-scan buffer One parameter from an individual measuring point, when requested by master	
	Signal on alarm	Depending on error, setting of an error bit in the input status word of the ZA 375 telegram ERR LED lights	
Operating conditions Environment			
Operating conditions	Environment		
Operating conditions	Environment Ambient temperature	0°C+60°C	
Operating conditions	Environment Ambient temperature Limiting temperature range	0°C+60°C 0°C+70°C	
Operating conditions	Environment Ambient temperature Limiting temperature range Storage temperature	0°C+60°C 0°C+70°C - 20°C+80°C	
Operating conditions	Environment Ambient temperature Limiting temperature range Storage temperature Ingress protection	0°C+60°C 0°C+70°C - 20°C+80°C to DIN 40 050: front panel IP 20, plug-in card IP 00	
Operating conditions	Environment Ambient temperature Limiting temperature range Storage temperature Ingress protection Electromagnetic compatibility	0°C+60°C0°C+70°C- 20°C+80°Cto DIN 40 050: front panel IP 20, plug-in card IP 00Interference emission to EN 50 081-2 Interference immunity to EN 50 082-2 and industrial standard NAMUR with 10 V/m for assembly rack guide rail with ground clip	
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Operating conditions	Environment Ambient temperature Limiting temperature range Storage temperature Ingress protection Electromagnetic compatibility Design Front panel Connector at rear Connector front panel Dimensions	0°C+60°C0°C+70°C-20°C+80°Cto DIN 40 050: front panel IP 20, plug-in card IP 00Interference emission to EN 50 081-2 Interference immunity to EN 50 082-2 and industrial standard NAMUR with 10 V/m for assembly rack guide rail with ground clip19" Racksyst plug-in card, Type I Europa cardBlack plastic with blue field inlay, with grip and tagging fieldMale multipoint connector to DIN 41 612 Part 3, Type F (28 pin) Plug-in point installation kit 28/29-pin Sub-D female connector with PROFIBUS-DP protocol7 HP, 3 HU	
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User Interface	Display	LED display: operation and communication readiness of gateway as well as status display
	Communication interface	Input side: TTL fixed potential with Modbus protocol 9,600 Bit/s Output side: potential-free RS-485 with PROFIBUS-DP protocol max. 12 MBit/s
Power Supply	Supply voltage	18 20.1/
	Current consumption	max. 400 mA
Certificates and Approvals	CE mark	By attaching the CE Mark, the manufacturer confirms that the instrument fulfils all legal requirements of the relevant EU directives
Ordering information	see Product Structure	
Cumulamentame Decumentation		
Supplementary Documentation	PROFIBUS-DP	EN 50 170, Part 2, Beuth-Verlag Berlin
Product Structure	PROFIBUS-DP gateway ZA 375	Part No. 017008-0000
Supplementary Documentation	 Gateway ZA 375 Operating Instructions BA 165F/0 	Gateway ZA 672 Operating Instructions BA 054F/00/en

Gateway ZA 672 Technical Information TI 148F/00/en

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