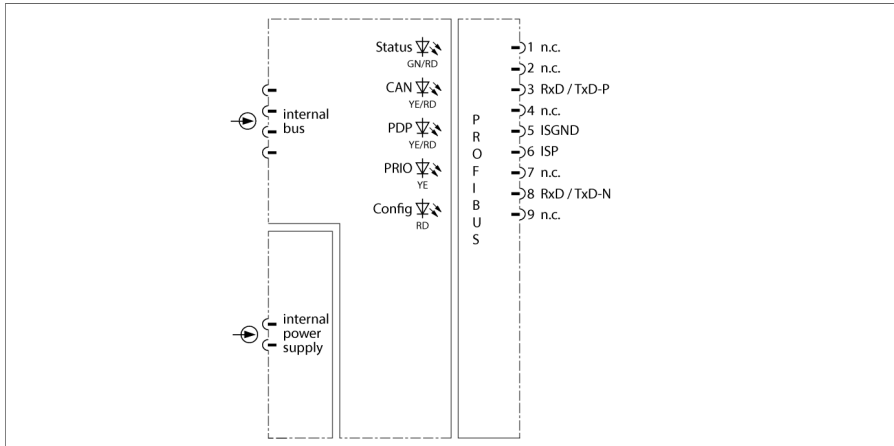# excom I/O System
PROFIBUS-DP Interface
GDP-IS/FW2.3

The GDP-IS gateway serves to connect the *excom*® system to PROFIBUS-DP networks. Connection to the PROFIBUS-DP is established via optical fibers or copper cables. When using optical fibers for data transfer an optocoupler pair must be installed between wired and optical PROFIBUS which also adapts the level to the IS layer. When using copper cables a segment coupler (RS485-IS coupler) must be installed to ensure explosion protection.

The gateway can be operated at a maximum transmission rate of 1500 kbps. The bus is connected to a standard miniature SUB-D slot on the module rack.

A GSD file containing all configuration files and parameter sets is available for system configuration. When connected to suitable host systems, you can change the system configuration during operation.

The gateway provides the entire range of PROFIBUS diagnostic functions including port-related diagnostics. In addition, manufacturer-specific error codes are generated. They include HART communication errors, power supply errors, planning errors as well as information on simulators, internal communication, redundancy toggle, etc.

Redundancy: The use of two gateways and two bus cables ensures error-free communication, in case one gateway or one bus line may fail. If one gateway fails, the other takes over smoothly, this is called line redundancy. System redundancy (two masters, each connected to a gateway) is also supported.

Recommended wiring components:

■ PROFIBUS-DP cable, type 451B
■ D9T-RS485IS connector
■ SC12Ex segment coupler
■ OC11Ex/… optocoupler

■ Intrinsically safe gateway for PROFIBUS-DPV1
■ Connection of the excom station to the PROFIBUS
■ Baud rate max. 1.5 Mbps
■ PROFIBUS interface acc. to PROFIBUS user organization (PNO) with RS485-IS layer

Dimensions
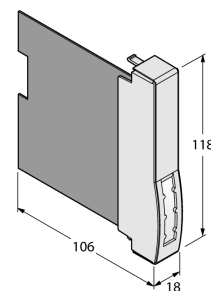
Type	GDP-IS/FW2.3
ID	6884275
Supply voltage	Via module rack, central power supply module
Power consumption	≤ 1 W
Galvanic isolation	Complete galvanic isolation EN 60079-11

Transmission rate	9.6 kbps up to 1.5 Mbps
Addressing range	1…125

Ex approval acc. to conformity certificate	IECEx PTB 13.0037
Ex approval acc. to conformity certificate	PTB 09 ATEX 2013
Device designation	⟨Ex⟩ II 2 G Ex ib IIC T4

Displays/Operating elements	
Operational readiness	1 × green/red
Int. communication (CAN)	1 × yellow/red
Ext. Communication (PDP)	1 × yellow/red
Redundancy readiness	1 × yellow/red
Error indication	1 x red

Housing material	Plastic
Connection mode	module, plugged on rack
Protection class	IP20
Ambient temperature	-20…+70 °C
Relative humidity	≤ 93 % at 40 °C acc. to IEC 60068-2-78
Vibration test	Acc. to IEC 60068-2-6
Shock test	Acc. to IEC 60068-2-27
EMC	Acc. to EN 61326-1
	Acc. to Namur NE21
MTTF	126 years acc. to SN 29500 (Ed. 99) 40 °C
Dimensions	18 x 118 x 106 mm

Comments	**External RS485 fieldbus system:**
	Protection type Ex ib IIC
	Highest value of each terminal pair: U_i = 4.2 V
	Highest value of the terminal pairs: $\Sigma\ I_i$ = 4.8 A
	Cables type A resp. B acc. to EN 60079-25 with the following assignments:
	L'/R' $\leq$ 15 µH/Ω
	C' $\leq$ 250 nF/km
	Ø stranded wire $\geq$ 0.2 mm
	Massed inductances and capacitances in the external fieldbus system are **not** permitted
Approvals	ATEX
	cFMus
	cFM
	IECEx
	CCC
	KOSHA
	EAC Ex
	DNV GL
	BV
	LR
	KR
	KCC
	UKCA
	CE

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