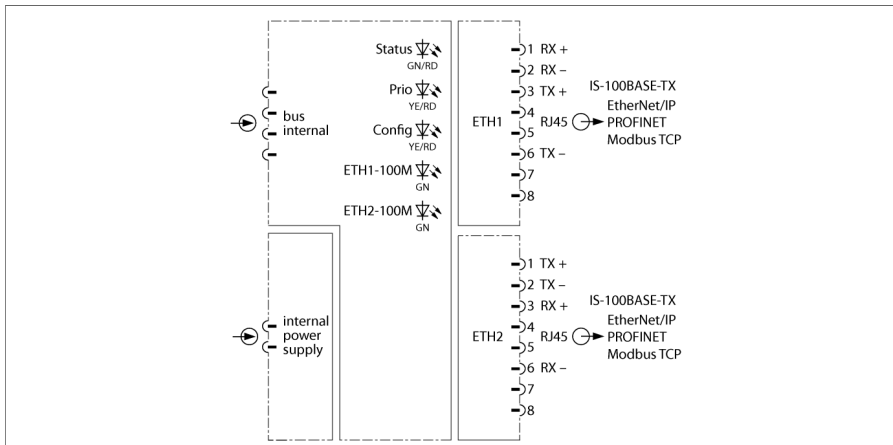# excom I/O System
Multiprotocol Gateway for Ethernet
GEN-2G

The gateway is used to connect the excom system to a higher-level Ethernet fieldbus and supports the PROFINET, EtherNet/IP and Modbus TCP protocols. The connection to the intrinsically safe Ethernet fieldbus is established via a standard RJ45 male connector with an Ethernet cable of at least CAT5e. The conversion from 100BASE-TX to IS-100BASE-TX (intrinsically safe Ethernet) is carried out via two FOCEN… media converters. The media converters enable transmission via fiber optic cables over distances of 2500 m within the explosion protection category of inherently safe optical radiation, "op is." The built-in 2-port switch can be used for networking additional excom stations or as a means of accessing a separate asset management network. In a ring network, the two ports support DLR and MRP.

The gateway supports 100 Mbps, half/full duplex and autocrossing. When autocrossing is switched off, the pin assignment, as indicated above, must be observed.

Depending on the higher-level fieldbus, the configuration and parameterization are carried out via the control system or controller, a corresponding FDT configuration tool or the integrated web server. Depending on the integration into suitable host systems, the configuration can be changed during operation.

The gateway provides the entire range of diagnostic functions, including channel-related diagnostics, in accordance with the Ethernet protocols. 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.
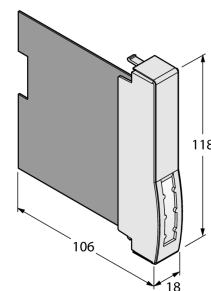
IIoT functionalities

The IIoT function is used for condition monitoring. The device monitors ambient temperature, relative air humidity and the distance to the control cabinet door. The information can be retrieved acyclically or viewed in the web server.

- Gateway for Ethernet fieldbus communication
- Connection of the excom station to the intrinsically safe Ethernet fieldbus
- Support for Ethernet protocols Modbus TCP, EtherNet/IP and PROFINET
- Integrated 2-port switch, 100 Mbps
- Two RJ45 connectors for fieldbus connection
- Mounting in zones 1 and 2 and in non-Ex areas

Dimensions

Type	GEN-2G
ID	100000127
Supply voltage	Via module rack, central power supply module
Power consumption	≤ 1.5 W
Power dissipation	≤ 1.5 W
Galvanic isolation	Complete galvanic isolation

Connection technology Ethernet	2 × RJ45 female connector, intrinsically safe
Protocol detection	automatic
Transmission rate	100 Mbps, half/full duplex, autocrossing
Web server	PGM-DHCP, 192.168.1.254 (fallback)

Ex approval acc. to conformity certificate	IECEx BVS 22.0044X
Ex approval acc. to conformity certificate	BVS 22 ATEX E 048 X
Device designation	⟨Ex⟩ II 2(1) G Ex ib [ia Ga] IIC T4 Gb
Device marking	⟨Ex⟩ II (1) D [Ex ia Da] IIIC

Displays/Operating elements	
Operational readiness	1 × green/red
Redundancy readiness	1 × yellow
Configuration	1 × yellow/red
Baud rate detection	2 × green

Ethernet/IP	
Addressing	acc. to EtherNet/IP specification
Device Level Ring (DLR)	supported
Class 1 connections (CIP)	24
Input Assembly Instance	107
Output Assembly Instance	104
Configuration Assembly Instance	106

PROFINET	
Addressing	DCP
Conformance class	B (RT)
MinCycleTime	1 ms
Diagnostics	acc. to PROFINET alarm handling
Topology detection	supported
Automatic addressing	supported
Media Redundancy Protocol (MRP)	supported

Modbus TCP	
Addressing	Static IP, BOOTP, DHCP
Supported function codes	FC1, FC2, FC3, FC4, FC5, FC6, FC15, FC16, FC23
Number of TCP connections	8
Input Data Size	max. 1024 register
Input register start address	0 (0x0000 hex)
Output Data Size	max. 1024 register
Output register start address	2048 (0x0800 hex)

Housing material	Plastic
Connection mode	module, plugged on rack
Protection class	IP20
Ambient temperature	-40…+70 °C
Storage temperature	-40…+85 °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	64 years acc. to SN 29500 (Ed. 99) 40 °C
Dimensions	18 x 118 x 106 mm

Approvals	ATEX
	IECEx

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Hans Turck GmbH & Co.KG ● D-45472 Mülheim an der Ruhr ● Witzlebenstraße 7 ● Tel. 0208 4952-0 ● Fax 0208 4952-264 ● more@turck.com ● www.turck.com3 / 3