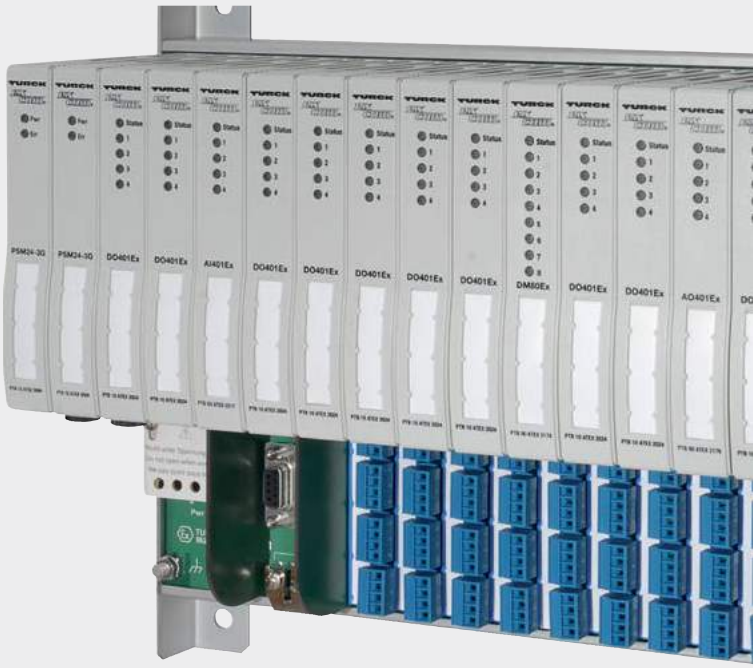
Your Global Automation Partner

TURCK

Excom®
I/O System



A Global Leader in Industrial Automation

Turck's sensors, connectivity, and fieldbus technology products are built to be the best. As one of the most **prominent** sensor manufacturers **in the world**, we even back our sensors with a **lifetime warranty**. Turck works by bringing **rugged engineering** solutions to your industrial automation applications.

85,000+ SOLUTIONS

50+ YEARS OF INNOVATION

2,000+ EXPERIENCED SALES REPRESENTATIVES

Pioneer in non-contact **sensing** technology

Developed innovative **connectivity** solutions in response to our customers' needs

Recognized the need for advanced **I/O solutions** in harsh duty environments

SUPPORT & DEDICATED SERVICE

EXTENSIVE WARRANTY

4,000+ APPLICATION EXPERTS

RESPOND and SOLVE over **1,200** inquiries per day

Strategically placed manufacturing facilities in the **USA** with **28** GLOBAL SUBSIDIARIES

GLOBAL BUT LOCAL...

60 representations worldwide

Content

I/O System Overview	4
I/O System for Ex and Non-Ex Areas	6
I/O System Installation	8
Control System Integration and Asset Management	10
Individual and Standard System Solutions	12

I/O System Overview

Turck's Excom® I/O system consists of several universal I/O racks that can be installed in Zone 2/22, Zone 1/21 (Class I Division 2), or in the Non-Ex area. Both Zone 2/22 and Zone 1/21 (Class I Division 2) I/O racks utilize the same intrinsically safe I/O module cards, therefore, making field circuits approved for Zone 0. To further simplify installations, the Non-Ex racks share the same physical profiles as both Zone 2/22 and Zone 1/21 (Class I Division 2) racks, while providing field circuits approved for the unclassified area.

Additionally, regardless of the rack installed, all excom I/O racks— hazardous and non-hazardous— utilize a single configuration and parameterization software. This means I/O modules and instruments can be validated prior to installation of the rack in the field.

Depending on the application density and installation area, three standard racks are available: 8 slots, 16 slots, or 24 slots. Both 8 slot and 16 slot racks are able to be installed in Zone 2/22 or Zone 1(Class I Division 2), whereas 24 slot racks are able to be installed in unclassified or Zone 2/22 areas.

System installation

- Same physical form and fit for unclassified, Zone 2/22, and Zone 1/21 (Class I Division 2) installation
- Available in three configurations: 8 slot, 16 slot, or 24 slot
- Up to 192 discrete or 96 analog signals
- LED's for displaying communication, configuration, diagnostics, and status
- Unclassified I/O or Intrinsically Safe I/O
- Standard Profibus DP protocol
- Screw or cage clamp terminals (not included with the rack)

System availability & functionality

- Supports line and system redundancy for all supported distributed control systems
- Power and communication redundancy for unclassified, Zone 2/22, and Zone 1 (Class I Division 2) racks (except MT08-2G)
- Hot-swappable modules in the hazardous area (including power, communication, discrete I/O, and analog I/O)
- Supports HCIR (Hot Configuration In Run) for all supported distributed control systems
- Supports HART protocol

Standard configuration and parameterization

- Online/offline configuration and parameterization of all I/O modules
- DTM-based commissioning of I/O modules and field instruments without a PLC
- Supports configuration of HART device parameters

DCS integration

- Allen Bradley/Rockwell
- ABB
- Emerson
- Honeywell
- Siemens
- Yokogawa
- Schneider Electric

I/O System for Ex and Non-Ex Areas

Non Ex area installation with non-intrinsically safe circuits

MT08-N

MT16-N

MT24-N

Zone 2 installation with intrinsically safe circuits

MT08-3G

MT16-3G

MT24-3G

ATEX

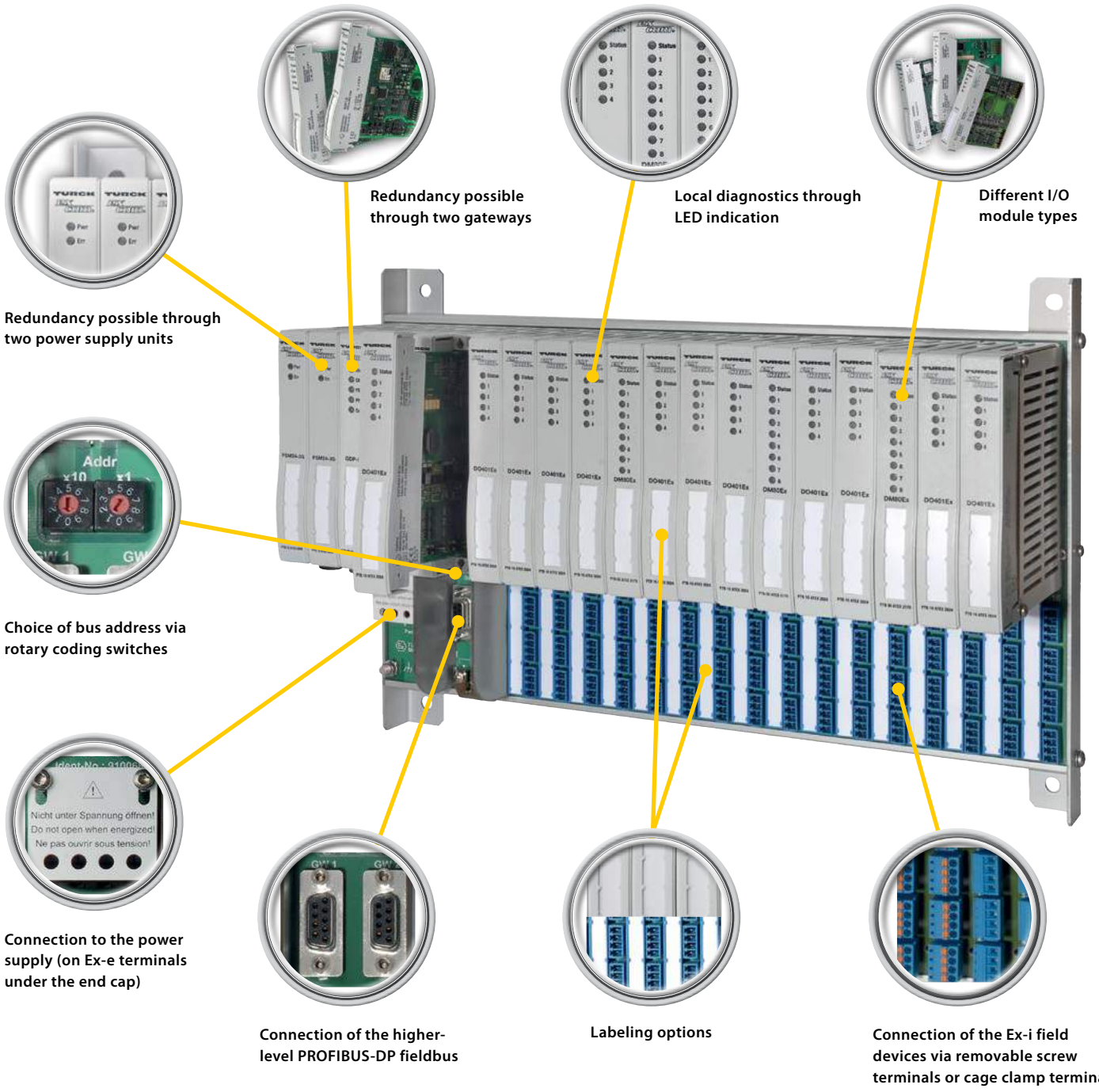
Zone 1 (Class I, Division 2) installation with intrinsically safe circuits

MT08-2G (non-redundant)

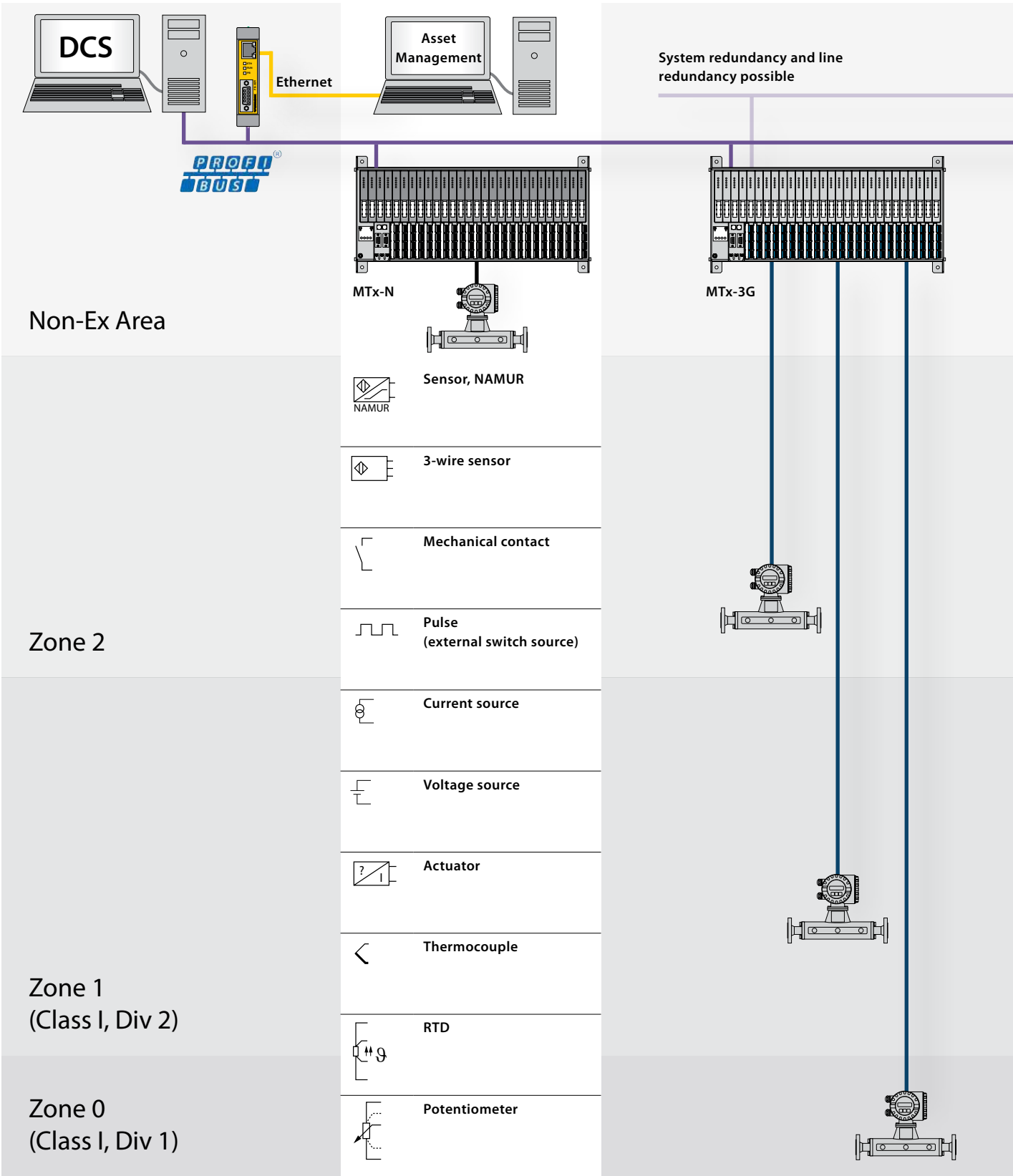
MT16-2G

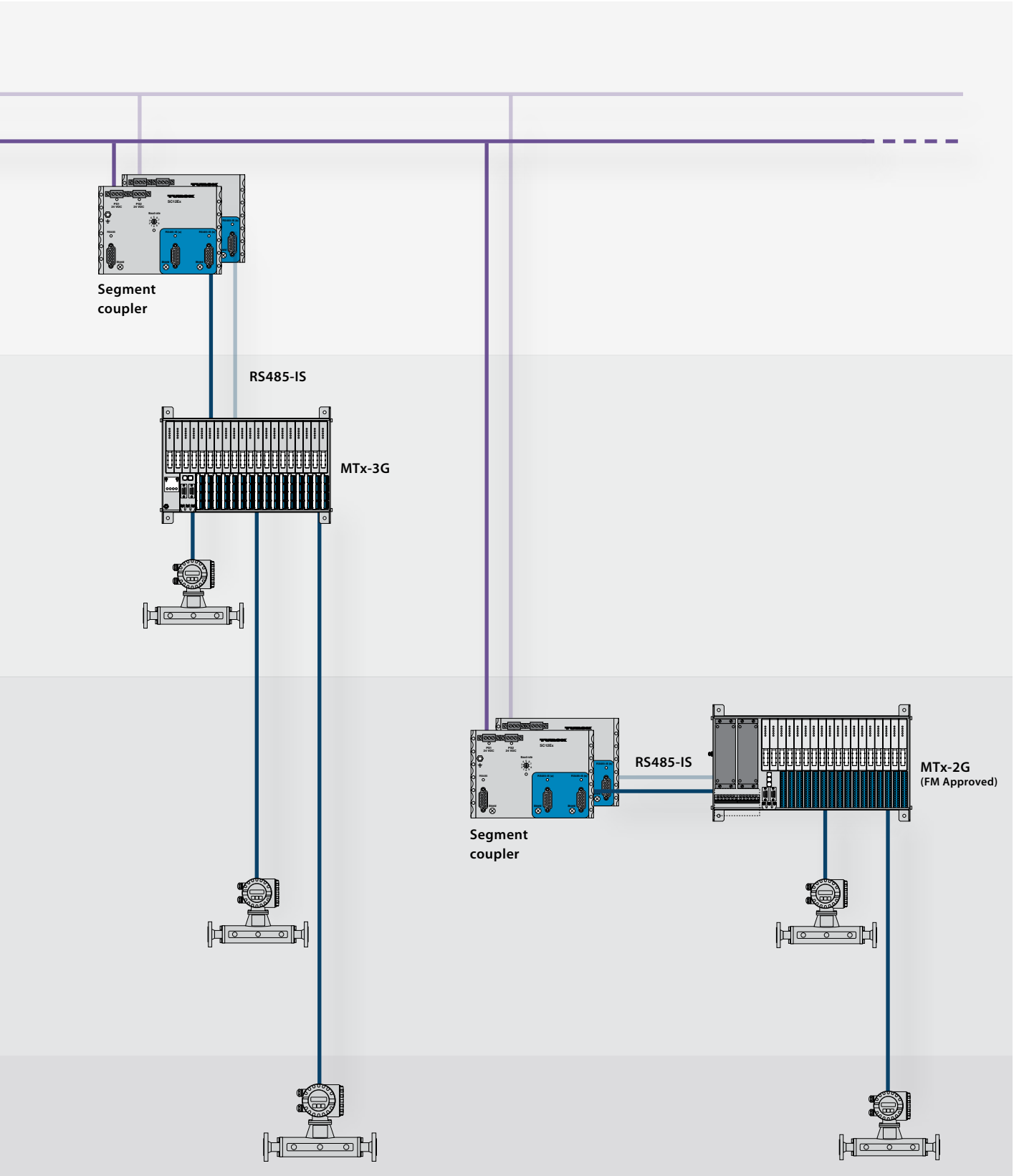
MT16-2G/MSA

ATEX, IECEX, and FM Approved


Redundancy possible through two power supply units
Redundancy possible through two gateways
Local diagnostics through LED indication
Different I/O module types
Addr
x10
x1
Choice of bus address via rotary coding switches
Nicht unter Spannung öffnen!
Do not open when energized!
Ne pas ouvrir sous tension!
Connection to the power supply (on Ex-e terminals under the end cap)
Connection of the higher-level PROFIBUS-DP fieldbus
Labeling options
Connection of the Ex-i field devices via removable screw terminals or cage clamp terminals

I/O System Installation




Segment coupler
RS485-IS
MTx-3G
Segment coupler
RS485-IS
MTx-2G
(FM Approved)

Control System Integration and Asset Management

The Excom remote I/O system is designed to support the high level demands of the process industry. By utilizing a standard Profibus DP protocol, the Excom remote I/O system integrates easily into the leading PLC and DCS manufacturers such as: ABB, Emerson, Honeywell, Schneider Electric/Ivensysy, Siemens, and Yokogawa. The chart below provides an overview of each Profibus DP host system with their respective features including: redundancy, control via function blocks, HCIR (Hot-Configuration-In-Run), and Asset Management.

	Redundancy	Function Blocks	HCIR	Asset Management
ABB	Freelance Symphony Melody	Template	✓	FDT-based
Emerson	Delta V	Template	✓	AMS
Honeywell	Experrion C200 C300	DSB	✓	FDM
Schneider Electric/ Ivensysy	Foxboro EVO	Template	✓	FDT-based
Siemens	S7 Series	For PC57	✓	PDM
Yokogawa	Centum CS Centum VP	Tokuchu/ PTO-Standard	✓	PRM

DTM for Excom®

The modular Excom® DTM enables you to manage the many different functions of the I/O system. The individual components are arranged in the "Rack", "Module," "Channel" and "Connected device" levels in an FDT frame. Using this hierarchy, the user can click on the individual assets directly via a browser.

Startup

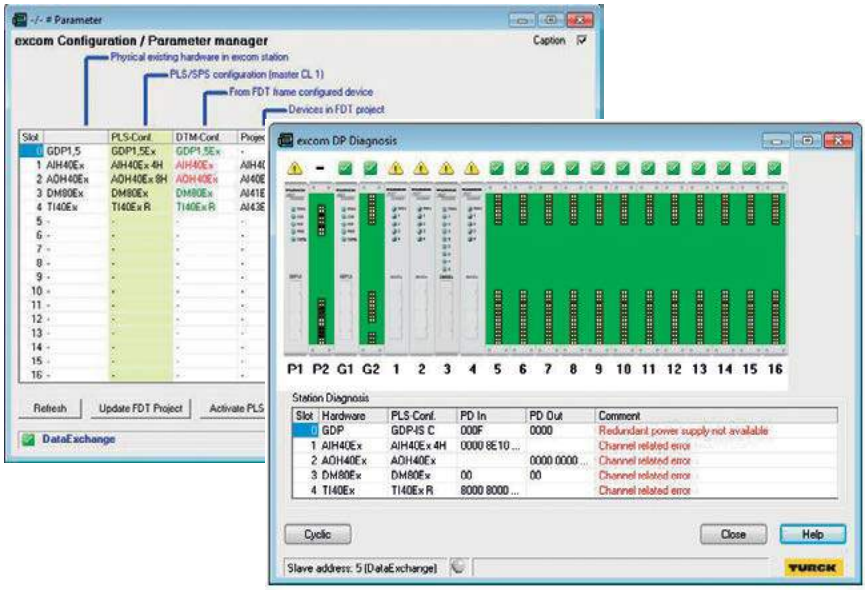
The Excom® DTM makes it possible to easily commission the I/O modules and the field instrumentation via the Profibus network even without a higher-level Class 1 master of the distributed control system. The integrated system scan function enables fast and fault-free commissioning.

Parameterization

The module-specific settings for each I/O module are mapped for each channel. The entry of incorrect parameters is prevented by a plausibility check which is carried out immediately for the entry concerned.

Simulation

The simulation view of the DTM simplifies the commissioning of Excom® together with the I/O modules. For example, input data can be overwritten in order to simulate key values for field instrumentation. Actuators can be energized using the simulation state via the output data.



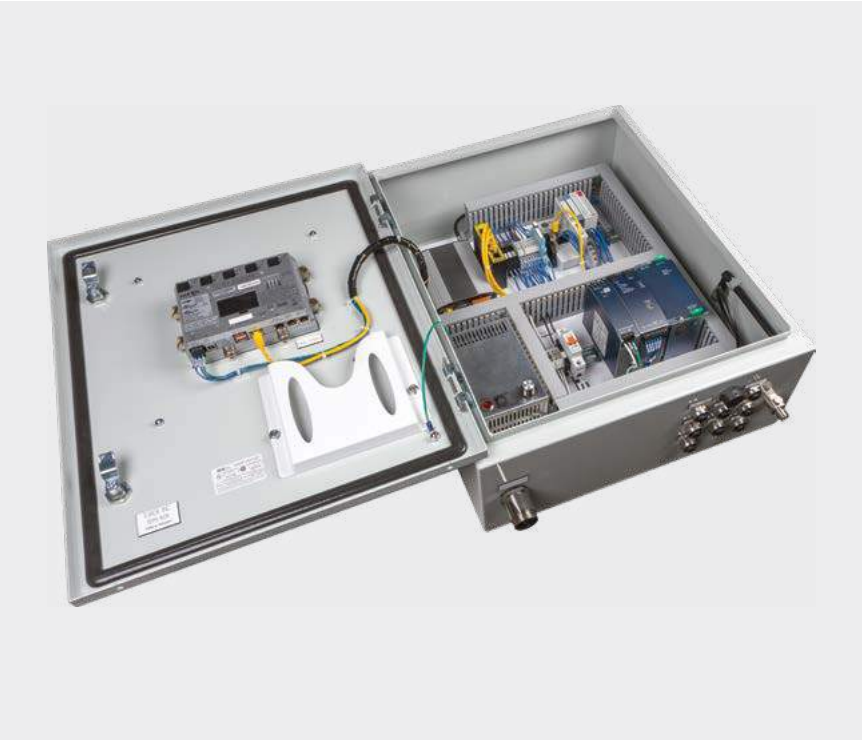
Diagnosis and identification

Two additional functions of the DTM are the "Diagnosis" and "Identification" dialog windows. The channel faults of the I/O modules are displayed in the Diagnosis view. Any faults that have occurred are indicated in plain text with the channel number. The corresponding terminals are shown in red. The Identification view supplies the data required to manage the system such as data type, order number, batch code, version states and other device information.

Individual and Standard System Solutions

All panels are not created equal

Turck Engineered Packaged Systems (TEPS) is not your typical panel shop. We are experts at our own products, so why not trust your panel needs to those who know the products the best? This experience, coupled with a devoted manufacturing area, makes our processes fast and flexible, and helps create a seamless partnership to develop your ideal panel. We even have a separate area for storing crates and lumber to keep our manufacturing space free of sawdust. This allows us to make panels for cleanroom and clean type environments.



A partner for success

Turck has a reputation for building reliable global partnerships, and TEPS is no exception. Our TEPS engineers work with customers in a variety of ways and adapt to whatever best fits their needs. TEPS creates panels populated with Turck product, as well as product from other manufacturers. As each panel is specified by the customer it is given a unique identifier and bill of materials. The customer can either dictate this or choose to rely on the panel experts at Turck to create and provide a complete design.

Quality with flexibility

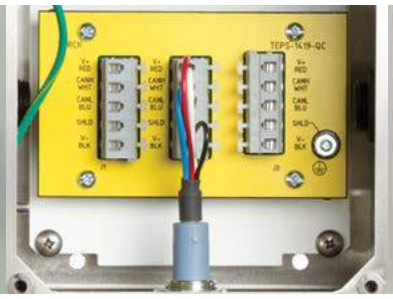
Turck's industry experience allows TEPS to provide customers with a complete packaged solution by integrating a combination of Turck and other manufacturer's products. TEPS is fully certified, allowing the group to design and incorporate Turck interface modules, barriers, and hazardous area distributed I/O products into fully certified intrinsically safe control panels. Turck is also able to integrate Excom products.

Certifications

UL 508A	UL508A is the standard for industrial control panels.
UL 698A	UL698A is the standard for industrial control panels relating to hazardous (classified) locations.
UL 1203	UL1203 is the standard for explosion-proof and dust-ignition-proof electrical equipment for use in hazardous (classified) locations.

Enclosure options

- Polycarbonate
- Glass-reinforced plastic (GRP)
- Powder coated mild steel
- 304 and 316 stainless steel
- NEMA 1, 4, 4x, and 12 protection options
- Customizable enclosure sizes available



Turck Inc. sells its products through Authorized Distributors. These distributors provide our customers with technical support, service and local stock. Turck distributors are located nationwide – including all major metropolitan marketing areas.

For Application Assistance or for the location of your nearest Turck distributor, call:

1-800-544-7769

Specifications in this manual are subject to change without notice. Turck also reserves the right to make modifications and makes no guarantee of the accuracy of the information contained herein.

Literature and Media questions or concerns?
Contact Turck USA Marketing – tusa.marketing@turck.com

TURCK

28 subsidiaries and over
60 representations worldwide!

www.turck.com

Printed in USA

©2018 by Turck Inc. All rights reserved. No part of the
publication may be reproduced without written permission.

B4105 A 02/18