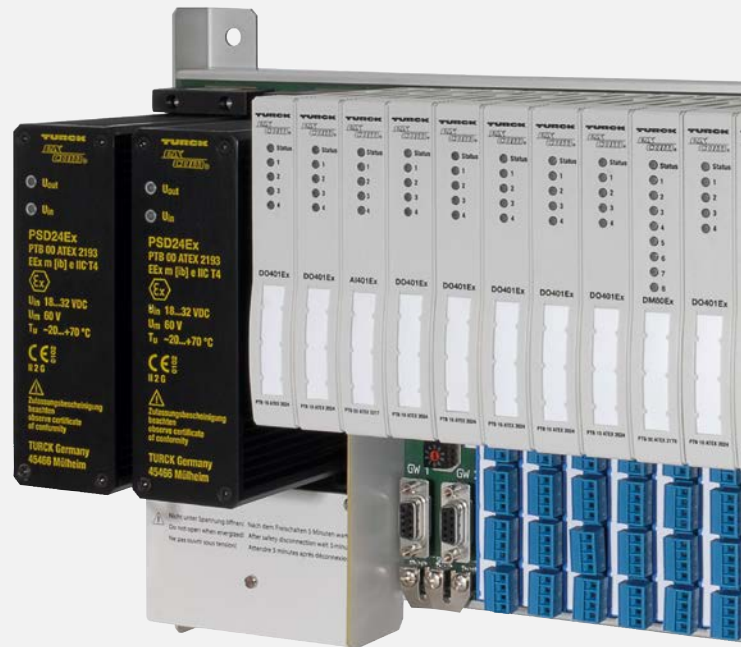# TURCK

excom®
I/O System

excom® – I/O System for Ex and Non-Ex Areas

Turck's excom® I/O family offers a universal I/O system that can be installed in zone 1 and in zone 2 or in the non-Ex area. The field circuits are approved for zone 0. You benefit not only in terms of components optimized for the particular zone, but also from the standard configuration and parameterization concept for the periphery and field instrumentation.

When used in conjunction with the MT08, MT16 and MT24 module racks, the excom® systems can be adapted perfectly to fit the particular requirements of the application at hand. The redundancy concept – each module rack can be run if needed with two power supply units and two gateways – gives you optimum availability guaranteed. The gateways act both as a master to the internal data bus and as a slave to the higher-level PROFIBUS-DP fieldbus.

System module benefit

- A single system for all areas (non-Ex, zone 1, zone 2)
- Application optimized system structure through modular concept
- High packing density through module racks for 8, 16 and 24 modules
- Up to 192 binary or 96 analogue signals via one bus address
- Engineering benefit

Standard configuration and parameterization for all areas

- Online configuration and setting of all parameters during operation (configuration in run)
- DTM-based commissioning of the periphery and field instrumentation without control technology
- HART® transparency from the process control system to the field device
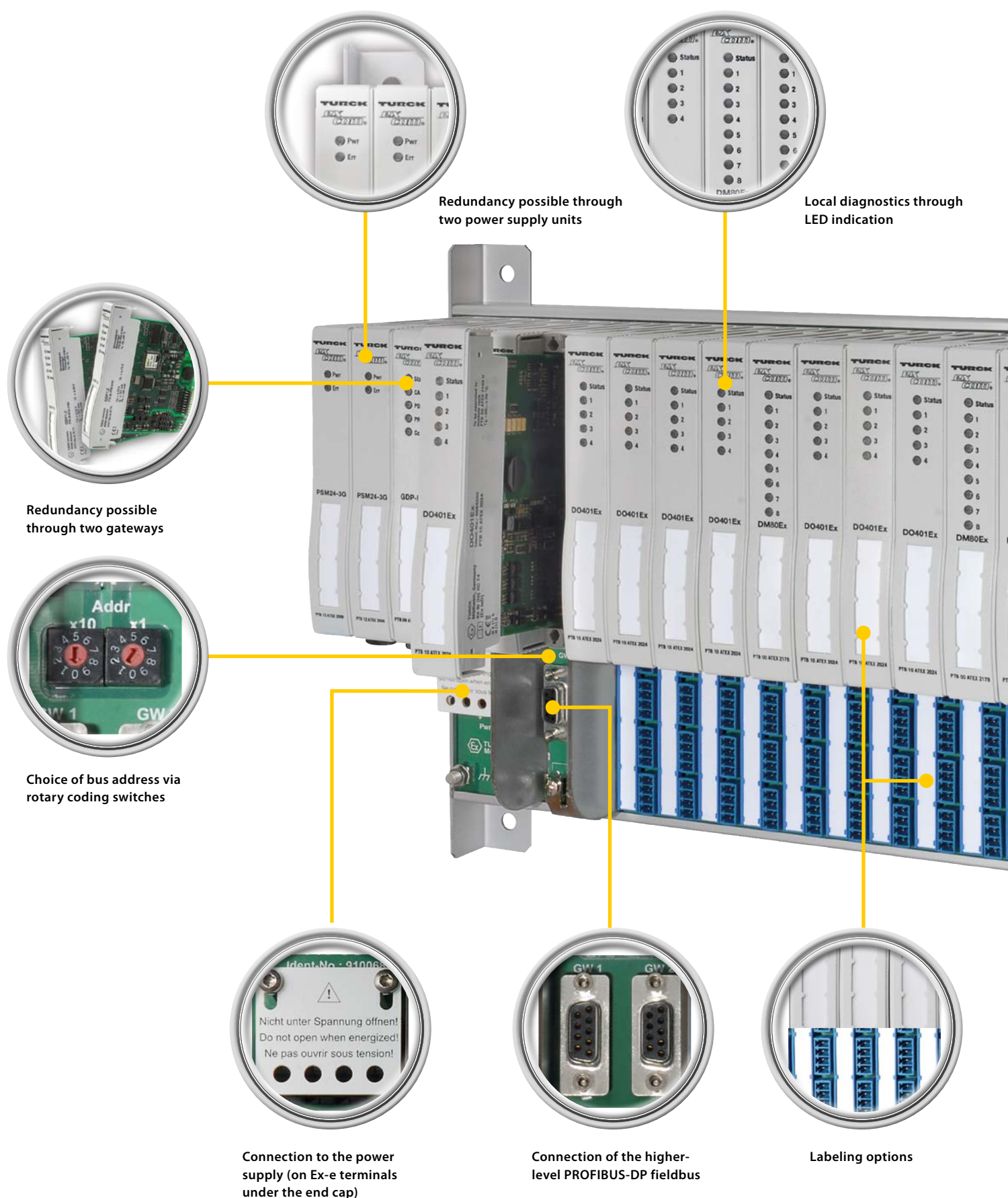
Availability benefit

- High availability through extensive redundancy concepts for PNO, line and system redundancy for all distributed control systems
- Full redundancy for power supplies and gateways
- Exchange and expansion of all components by inserting and removing all modules during operation

DCS integration benefit

- Simple connection to all standard process control systems of
- ABB
- Emerson
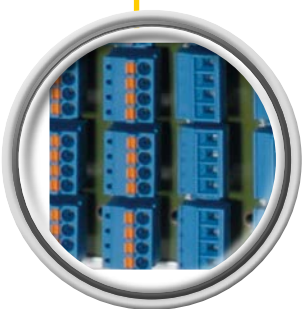- Honeywell
- Siemens
- Yokogawa
- …

excom® – System Configuration

Redundancy possible through
two power supply units

Local diagnostics through
LED indication

Redundancy possible
through two gateways

Choice of bus address via
rotary coding switches

Connection to the power
supply (on Ex-e terminals
under the end cap)

Connection of the higher-
level PROFIBUS-DP fieldbus

Labeling options

Different I/O module types

**Connection of the Ex-i field devices
via removable screw terminals or
cage clamp terminals**

Application range: non-intrinsically safe applications

MT08

MT16

MT24

**Application range: intrinsically safe circuits and installation in the
non-Ex area and in zone 2**

MT08

MT16

MT24

Application range: intrinsically safe circuits and installation in zone 1
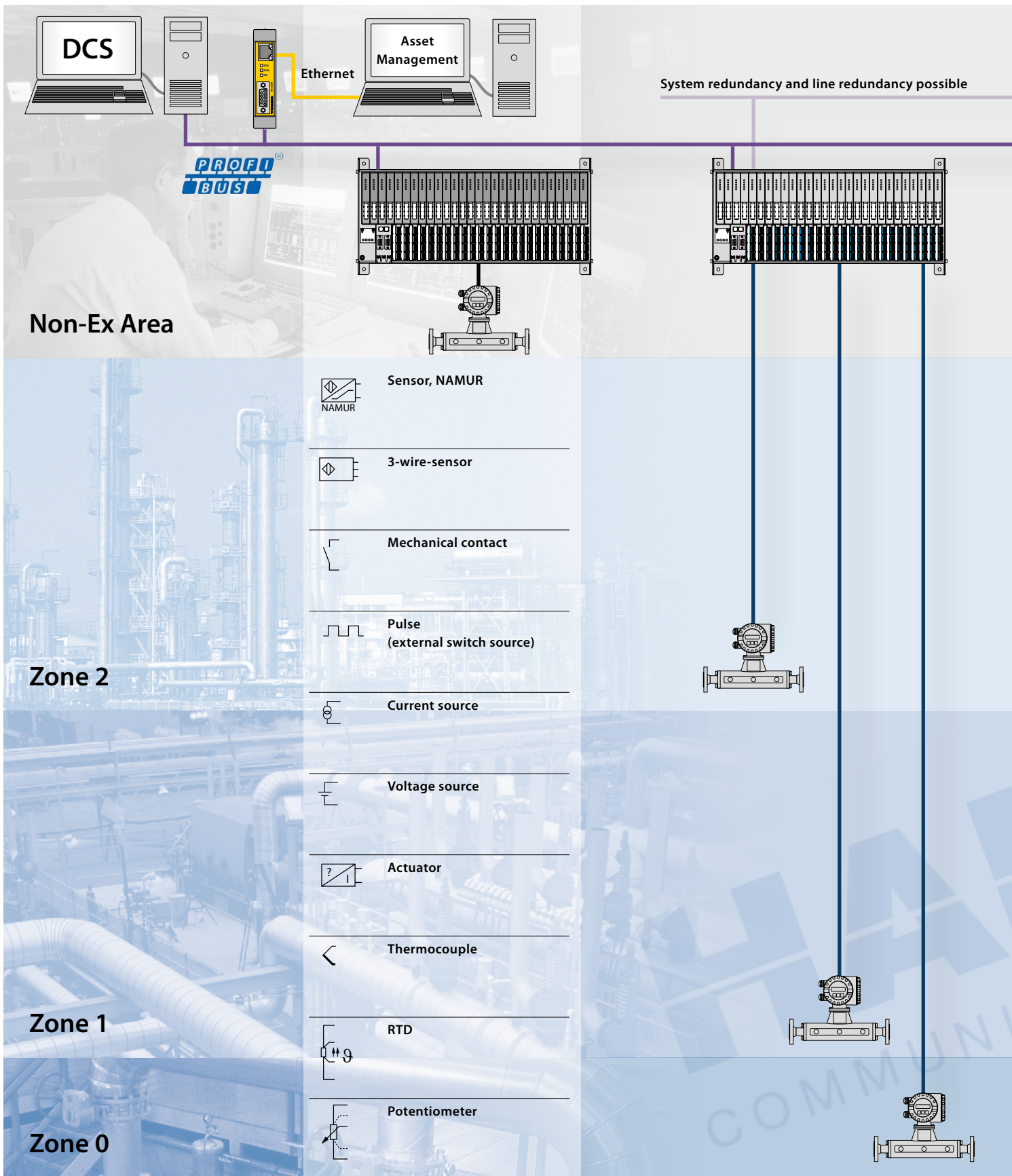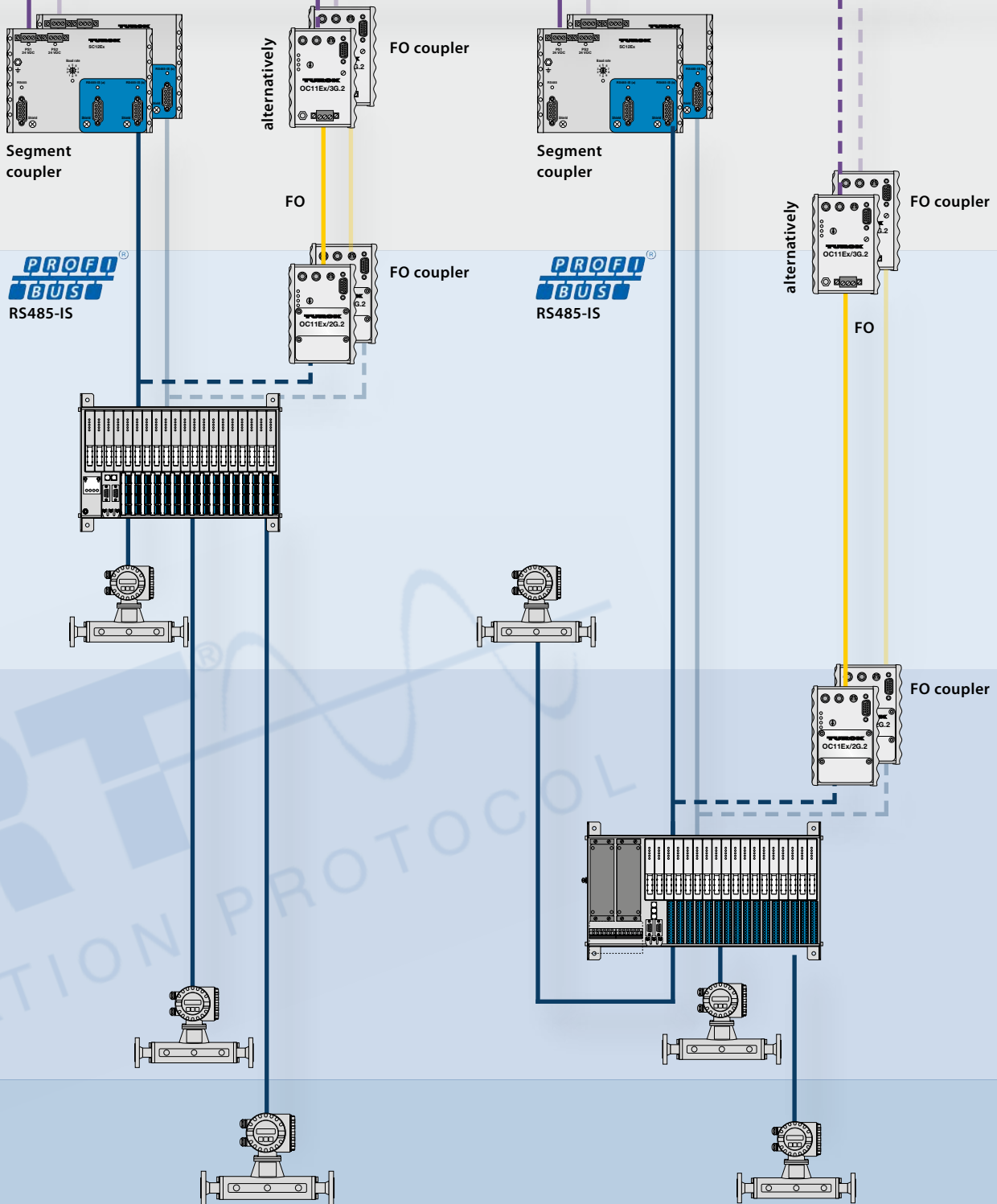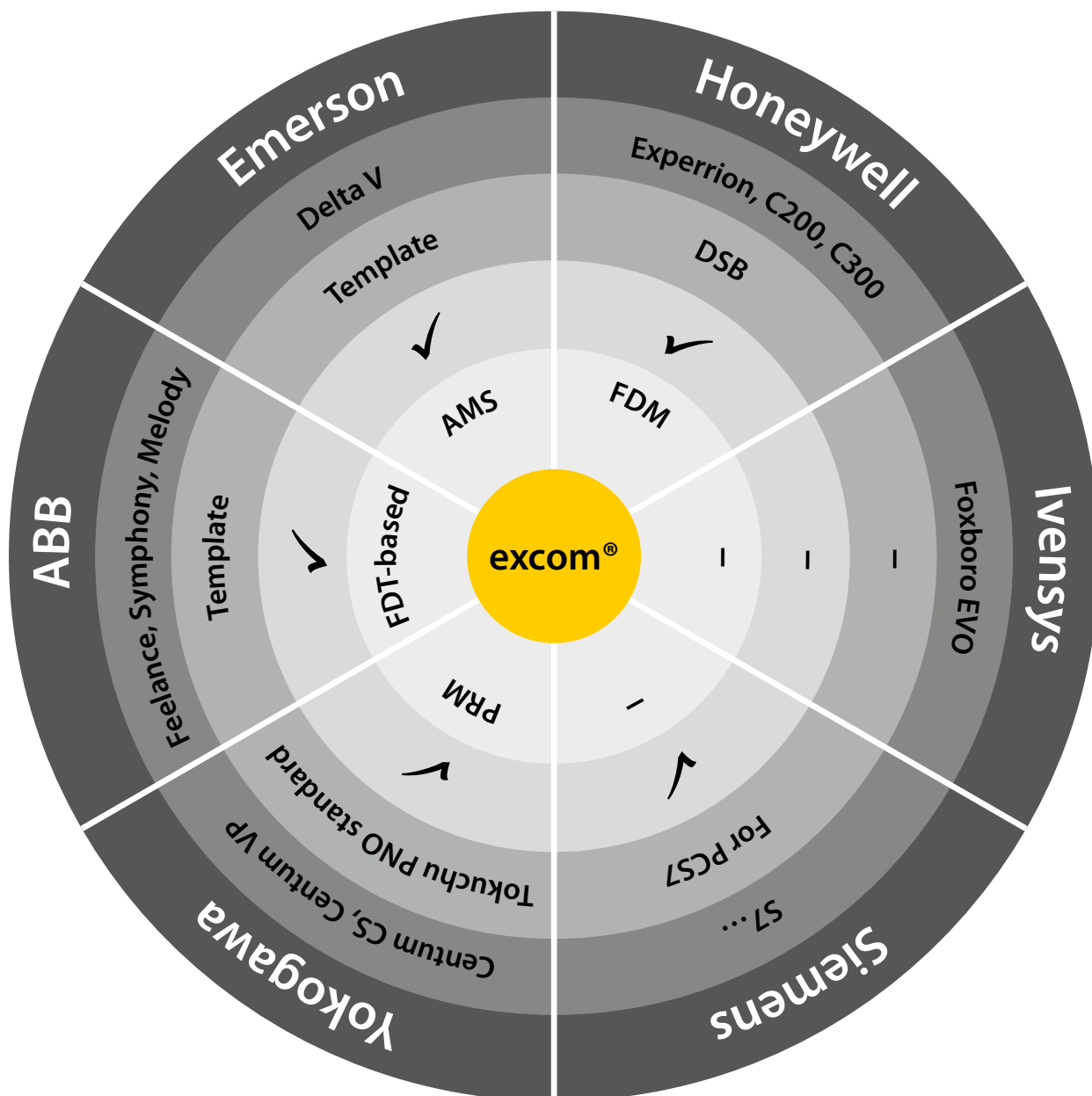

MT08

MT16

excom® – Installation Overview

DCS

Asset Management

Ethernet

System redundancy and line redundancy possible

PROFI BUS®

Non-Ex Area

Zone 2

	Sensor, NAMUR
NAMUR	
	3-wire-sensor
	Mechanical contact
	Pulse (external switch source)
	Current source
	Voltage source
	Actuator
	Thermocouple

Zone 1

	RTD

Zone 0

	Potentiometer

Segment coupler

Segment coupler

FO coupler
OC11Ex/3G.2

FO coupler
OC11Ex/3G.2

FO coupler

FO coupler
OC11Ex/2G.2

FO coupler
OC11Ex/2G.2

alternatively

alternatively

PROFI BUS®
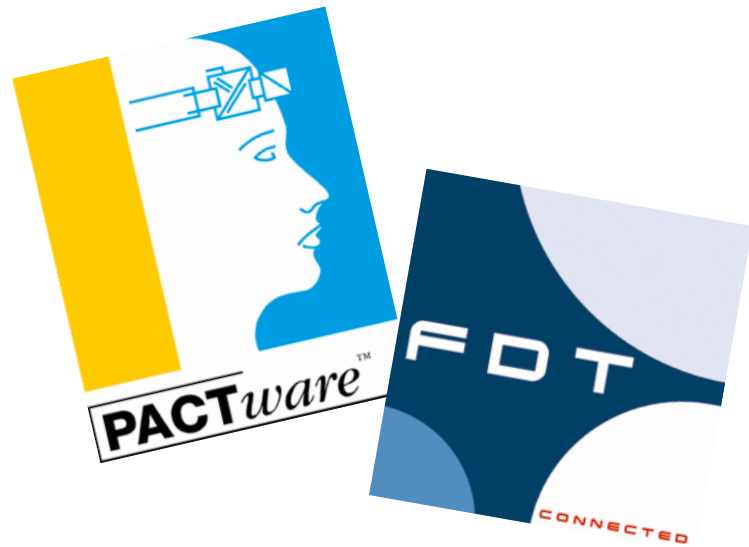**RS485-IS**

PROFI BUS®
RS485-IS

FO

FO

excom® – Control System Integration and Asset Management

- Redundancy
- Function blocks
- HCIR
- Asset Management

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.
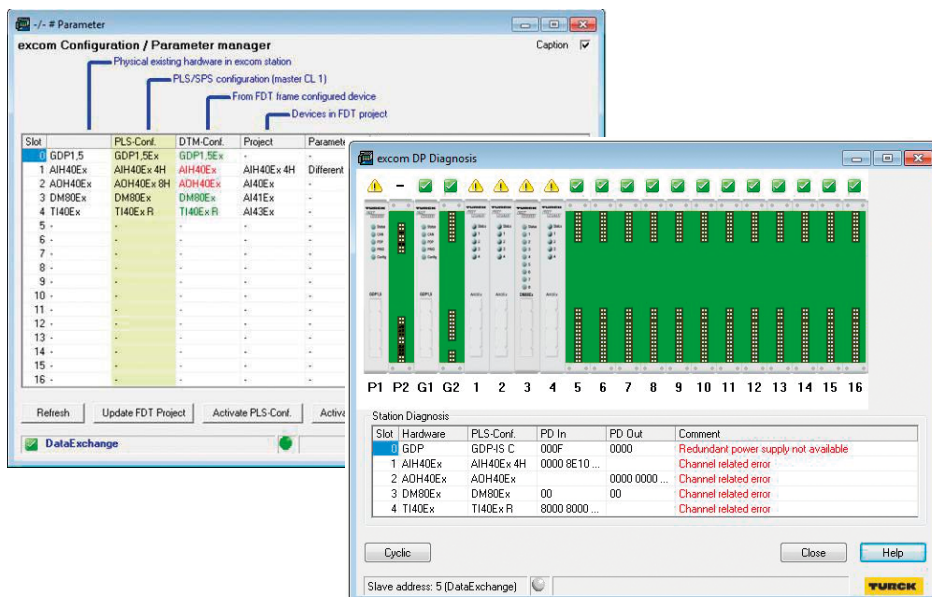
Startup

The excom® DTM makes it possible to easily commission the periphery 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 excom® 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 periphery. Input data can be over-written, in order, for example, to simulate key values for field instrumentation. Actuators can be switched to the simulation state via the output data.
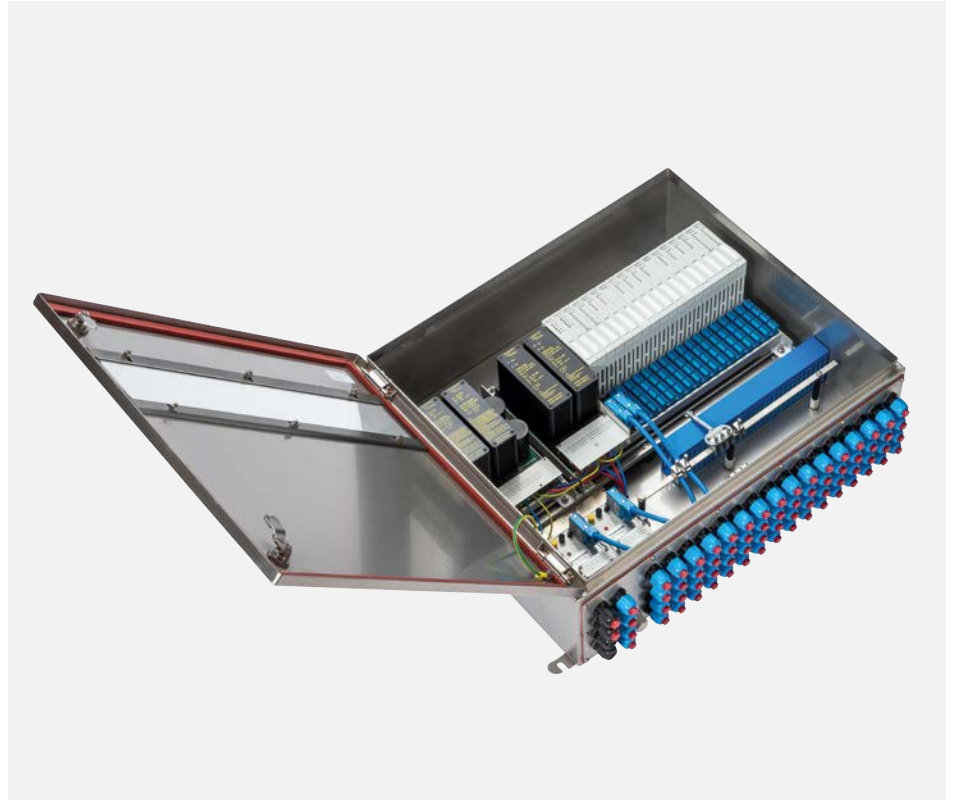
Diagnosis and identification

Another two useful functions of the DTM are the "Diagnosis" and "Identification" dialog windows. The channel faults of the periphery 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.

excom® – Individual and Standard System Solutions

System solution benefit

Turck can also supply on request fully pre-assembled excom® switch cabinets, either as standard variants or with additional fitted components to your specifications. This has two clear advantages:

- You will receive system approval for the entire cabinet.
- You will receive proof of intrinsic safety for the complete system.

Turck Mechatec

Turck Mechatec offers complete electrical system solutions to customer specifications for all areas of industrial automation. The Turck subsidiary can also assemble excom® control cabinets – either in a standard configuration or individually to customer specifications.

As a service provider, Turck Mechatec places great importance on customer service, with fast and efficient task completion as the prime objective. Turck Mechatec has already implemented a wide range of solutions for several customers in all major industrial sectors. The products and systems have been tried and tested in a several different projects and application conditions.

MT16 standard solution

for Zones 1 and 2
- 128 digital I/O
- 64 analog I/O
- 65 cm housing width
- customer-specific components fitted

MT16 compact solution

for Zone 2
- 128 digital I/O
- 64 analog I/O
- 46 cm housing width
- maximum channel density

MT24 standard solution

for Zone 2
- 196 digital I/O
- 96 analog I/O
- 80 cm housing width
- customer-specific components fitted

TURCK

Daughter company and exclusive
distributor for Belgium & Luxemburg

TURCK MULTIPROX N.V.
Lion d'Orweg 12
B-9300 Aalst
T +32 (0)53 766 566
F +32 (0)53 78 39 77
mail@multiprox.be
www.multiprox.be

28 subsidiaries and over
60 representations worldwide!

www.turck.com