

# 16-channel Discrete Input

## Switch/proximity detector

### 8220-DI-IS

- 16 single-ended input channels
- Intrinsically safe field circuits
- Simple apparatus, dry contacts or IS proximity detectors
- Open and short-circuit field wiring detection

### MODULE SPECIFICATION

See also System Specification

### INPUTS

#### Number of channels

- 16

#### OFF current

- <1.2 mA

#### ON current

- >2.1 mA

#### Switching hysteresis

- 200 µA (nom.)

#### Applicable specifications

- NAMUR, DIN19234

#### Voltage applied to sensor

- 7.0 to 9.0 V from 1 kΩ ±10%

#### Output (wetting) current

- @ 100Ω line impedance
- >6 mA

#### Line fault detection

- Short circuit
- <100 Ω
- Open circuit
- >90 kΩ

#### Maximum input frequency in pulse counting mode

- 20 Hz

#### Minimum pulse width detected

- 45 ms

### CONFIGURABLE PARAMETERS

#### Selectable input filter

- Fast, slow or user defined

(User defined permits 0 to 512 ms values in 3ms steps)

#### Latch inputs

- Enable / Disable

#### Latch polarity

- Latch on high / latch on low

#### Pulse counting

- Enable / Disable

#### Line fault detection

- Enable / Disable

### RESPONSE TIME

#### Field event to availability on Railbus

- 6 ms (max.)

### SAFETY

#### Field wiring protection

- [EEx ia] IIC

#### Safety Description (each channel)

- $U_{oc} = 10.5 \text{ V dc}$ ,  $I_{sc} = 14 \text{ mA}$ ,  $P_o = 0.04 \text{ W}$

#### FM Entity parameters

- $V_{oc} \leq 10.5 \text{ V dc}$ ,  $I_{sc} \leq 14 \text{ mA}$
- $C_o \leq 2.67 \mu\text{F}$ ,  $L_o \leq 176 \text{ mH}$

#### Isolation

- Any channel to Railbus – 60 V ac  
(channels arranged in two groups of eight, with returns commoned within each group)

### POWER SUPPLIES

#### IS Railbus (12V) current

- (16-channel mode) – 350 mA (max.)
- (8-channel mode) – 285 mA (max.)

### MECHANICAL

#### Module Key Code

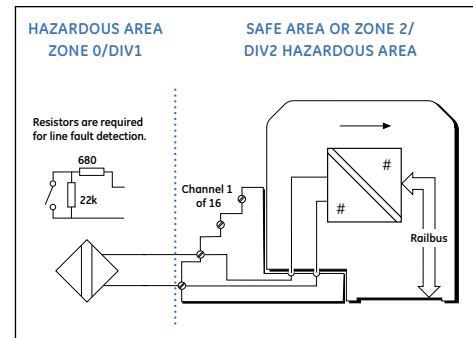
- B1

#### Module width

- 42 mm

#### Weight

- 170 g



### FIELD TERMINALS

Field Wiring Type	Recommended Field Terminal
Intrinsically safe, 16-channel	8623-FT-IS
Intrinsically safe, 8-channel loop disconnect	8624-FT-IS