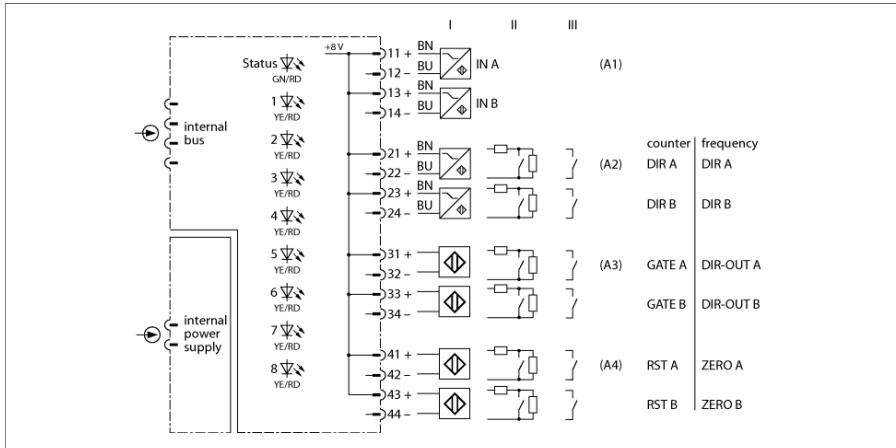


excom I/O System

Frequency Meter, 2-channel

DF20EX



The input module DF20EX is equipped with 8 channels according to NAMUR which are split into two blocks. There is one frequency input per block and three control inputs/outputs.

The module features protection class Ex ib IIC and can be mounted in zone 1 in combination with excom. When connecting the field devices, observe that all inputs/outputs are at a common potential. The explosion protection category of inputs/outputs is Ex ia IIC.

The module can be used as a counter or frequency input module: It is thus suited for pulse counting of binary input signals or frequency measurements of binary pulse sequences of NAMUR sensors.

The counting direction can either be set externally via a control input or internally by setting a parameter. The maximum frequency of one block is 4 kHz; with 2 blocks the frequency is reduced to 2 kHz.

Input and output mode can be adjusted via the PROFIBUS-DP master. Each channel is equipped with parametrizable wire-break/short-circuit monitoring.

- Frequency module for the connection of intrinsically safe sensors (according to NAMUR)

Dimensions

Type	DF20EX
ID	6884061
Supply voltage	Via module rack, central power supply module
Power consumption	≤ 1 W
Galvanic isolation	to int. bus and supply circuit
Number of channels	2
Input circuits	acc. to EN 60947-5-6 (NAMUR) Intrinsically safe acc. to EN 60079-11
No-load voltage	8 VDC
Short-circuit current	4 mA
Switching threshold on/off	type 1.8 / type 1.4 mA
Switching frequency	≤ 4000 Hz
Short-circuit	< 367 Ω
Wire-break	< 0.2 mA
Measuring accuracy (including linearity, hysteresis and repeatability)	≤ 0.1 % of full scale
Ex approval acc. to conformity certificate	IECEX PTB 13.0041
Ex approval acc. to conformity certificate	PTB 00 ATEX 2178
Device designation	Ⓢ II 2 (1) G Ex ib [ia Ga] IIC T4 Gb
Device marking	Ⓢ II (1) D [Ex ia Da] IIIC
Displays/Operating elements	
Operational readiness	1 × green/red
State/ Fault	8 × yellow/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	101 years acc. to SN 29500 (Ed. 99) 40 °C
Dimensions	18 x 118 x 106 mm



Approvals	ATEX cFMus cFM IECEX CCC INMETRO KOSHA EAC Ex DNV GL BV LR KR CMI KCC UKCA CE
-----------	--

Accessories

Type code	Ident no.		Dimension drawing
excom-RMD1-BU	100020744	The resistor module prevents wire-break detection and short-circuit detection in digital input modules. For analog input modules, overflow and underflow messages are also suppressed.	