



- Sixteen channels can be used in pairs as inputs or outputs
- Intrinsically safe Ex ia IIC inputs/outputs with line fault monitoring
- Module in Zone 2, Cl. I, II, Div. 2 can be hot swapped

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WebCode 9470D



The 9470/33 series digital input/output module for Zone 2, Cl. I, II, Div. 2 has 16 channels, which can be used in pairs for Ex i operation as inputs for contacts and NAMUR proximity sensors (EN 60947-5-6) or as outputs for indicator lamps and low-power solenoid valves. Eight inputs can be used for frequencies of up to 20 kHz, and four can be used for detecting the direction of rotation.

All inputs/outputs are short-circuit proof and galvanically separated from the system.

	NEC® 500 CEC Appendix J					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Ex interface	•	•	•	•	•	•
Installation in		•		•		•

	CEC Section 18					
	NEC® 505			NEC® 506		
	Class I					
Zone	0	1	2	20	21	22
Ex interface			•	•	•	•
Installation in			•			•

	IECEX / ATEX					
	Zone 0		Zone 1		Zone 2	
Zone	0	1	2	20	21	22
Ex interface	•	•	•	•	•	•
Installation in			•		•	•

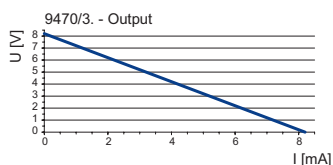
Selection Table				
Installation	in Zone 2, Zone 21, Zone 22, Cl. I, II, Div. 2 and in safe areas			
Number of channels	Product Type		Art. No.	Weight lb
16 Ex i inputs/outputs (adjustable parameters in pairs)	9470/33-16-10		210448	0.61
Please order 2 terminals separately - see accessories and spare parts				

Technical Data	
Explosion Protection	
Certificate FMus	FM17US0332X
Certificate cFM	FM16CA0134X
Marking FMus	NI, Class I,II,III, Div. 2, Groups A,B,C,D,E,F,G; AIS, Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 2, AEx nA ia [ia] IIC; T4 at Ta = 75 °C; See Doc. 9470 6 031 002 1
Marking cFM	NI, Class I,II,III, Div. 2, Groups A,B,C,D,E,F,G; AIS, Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 2, Ex nA ia [ia] IIC; T4 at Ta = 75 °C; See Doc. 9470 6 031 002 1
IECEX gas explosion protection	Ex nA ia [ia Ga] IIC T4 Gc
IECEX dust explosion protection	[Ex ia Da] IIIC
Certificates	ATEX (DEK), Brazil (ULB), Canada (FM), EAC (STV), IECEX (DEK), India (PESO), Korea (KTL), USA (FM)
Ship approval	DNVGL, RINA

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Technical Data	
Safety Data	
Max. voltage U_0/V_{oc}	9.8 V
Max. current I_0 (Ex ia)	10.4 mA
Max. power P_0 (Ex ia)	25.5 mW
Auxiliary Power	
Current consumption	120 mA
Max. power consumption	2.5 W
Max. power dissipation outputs	2.5 W
Input	
Signal input	EN 60947 input (NAMUR)
Supply voltage	8.2 V
Function	Frequency with direction Up/down counter
Output	
Output rated operation	6 V / 2 mA
Notes	Output characteristic, see data sheet on the Internet r-stahl.com (WebCode 9470D)
Ambient Conditions	
Ambient temperature °F	-40°F ... +167°F
Ambient temperature °C	-40°C ... +75°C

Technical Drawings – Subject to Alterations



Output characteristic

Accessories				
Figure	Description	Product Type	Art. No.	Weight lb
Pluggable terminal				
	2.5 mm ² with lock, 16-pole, screw connector, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits Labelling: 1 ... 16 Attention: An additional terminal is necessary for I/O module Series 9470 and 9482. Labelling: 17 ... 32	–	162702 ▲	0.06
	2.5 mm ² with lock, 16-pole, screw connector, blue for connecting the field signals to I/O modules, for intrinsically safe field circuits Labelling: 17 ... 32	–	162718 ▲	0.06
	2.5 mm ² with lock, 16-pole, spring clamp connection, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits, incl. test jacks Labelling: 1 ... 16 Attention: An additional terminal is necessary for I/O module Series 9470 and 9482. Labelling: 17 ... 32	–	162695	0.06
	2.5 mm ² with lock, 16-pole, spring clamp connection, blue for connecting the field signals to I/O modules, for intrinsically safe field circuits, incl. test jacks Labelling: 17 ... 32	–	162716	0.06
Indicator lamp				
	Single electrical equipment for intrinsically safe circuits according to EN 60079-11	8010/C1661	228026	0.08

Accessories				
Figure	Description	Product Type	Art. No.	Weight lb
Labelling strips				
	"FB Addr ... Mod No ..." for pluggable terminal, 26 pieces on the sheet	-	162788	-
DIN A4 sheet				
	For the label plate on I/O modules, 6 labels per sheet Print IS Wizard, packaging unit = 20 sheets	-	162832	-
Partition				
	For mounting between intrinsically safe and non-intrinsically safe connections of the I/O modules, in order to adhere to the required 50 mm distance	-	220101	0.02
Warning sign				
	"Clean modules only with a damp cloth."	-	162796	-
Resistor error message suppression				
	The resistors are used to suppress error messages for unused I/O channels Resistance value: 5K6 / 0.5 W Suitable for: AIM 9468; DIOM 9470; DIOM 9471; DIOM 9472; DOM 9475 For intrinsically safe circuits (simple apparatus according to EN 60079-11)	-	244911	-

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations

