



- 16 channels can be used in pairs as inputs or outputs
- Intrinsically safe Ex ia IIC inputs/outputs with line fault monitoring and an LED fault and status display for each channel
- Module in Zone 1 can be replaced without having to disconnect the power supply (i.e. hot-swapped)

A4

WebCode 9470C



The 9470/32 digital input/output module for Zone 1 has 16 channels which can be used in pairs for Ex i operation as inputs for contacts and NAMUR proximity switches (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.

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

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






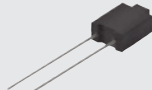
	CE Code Section 18					
	NEC® 505 Class I			NEC® 506		
Zone	0	1	2	20	21	22
Ex interface	•	•	•			
Installation in		•	•			

Selection Table					
Installation	In Zone 1, Zone 2 and safe areas				
Number of channels	Channel status LEDs	Product Type	Art. No.	Weight	
(adjustable parameters in pairs) 16 Ex i inputs/outputs	Yes	9470/32-16-11	210447	275 g	
16 Ex i inputs/outputs (adjustable parameters in pairs)	No	9470/32-16-10	296152	275 g	

Please order two terminals separately – see accessories and spare parts

Technical Data		
Variant	9470/32-16-10	9470/32-16-11
Explosion Protection		
IECEX gas explosion protection	Ex ia [ia Ga] IIC T4 Gb	Ex ia [ia Ga] IIC T4 Gb
IECEX dust explosion protection	[Ex ia Da] IIIC	[Ex ia Da] IIIC
ATEX gas explosion protection	⊕ II 2 (1) G Ex ia [ia Ga] IIC T4 Gb	⊕ II 2 (1) G Ex ia [ia Ga] IIC T4 Gb
ATEX dust explosion protection	⊕ II (1) D [Ex ia Da] IIIC	⊕ II (1) D [Ex ia Da] IIIC
Certificates	ATEX (DEK), Brazil (ULB), Canada (FM), China (NEPSI), IECEx (DEK), India (PESO), USA (FM)	ATEX (DEK), Brazil (ULB), Canada (FM), China (NEPSI), IECEx (DEK), India (PESO), Korea (KTL), USA (FM)
Ship approval	ABS, BVIS, EU RO MR (DNV), KR, LR	ABS, BVIS, EU RO MR (DNV), KR, LR
Declaration of Conformity	ATEX (EUK), China (CCC)	ATEX (EUK), China (CCC)
Safety Data		
Max. voltage U _e	9.8 V	9.8 V
Max. current I _e (Ex ia)	10.4 mA	10.4 mA

Technical Data		
Variant	9470/32-16-10	9470/32-16-11
Safety Data		
Max. power P _s (Ex ia)	25.5 mW	25.5 mW
Auxiliary Power		
Current consumption	120 mA	120 mA
Max. power consumption	2.5 W	2.5 W
Max. power dissipation outputs	2.5 W	2.5 W
Input		
Signal input	EN 60947 input (NAMUR)	EN 60947 input (NAMUR)
Supply voltage	8.2 V	8.2 V
Function	Up/down counter Frequency with direction	Up/down counter Frequency with direction
Output		
Output rated operation	6 V/2 mA	6 V/2 mA
Notes	For the output characteristic, see the data sheet online at r-stahl.com (WebCode 9470C)	
Ambient Conditions		
Ambient temperature	-40°C ... +75°C	-40°C ... +75°C
Mechanical Data		
Width	96.5 mm	96.5 mm
Depth	67 mm	67 mm
Length	128 mm	128 mm

Accessories			
Figure	Description	Art. No.	Weight
Pluggable terminal			
	2.5 mm ² with lock, 16-pin, screw connector, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits Labelling: 1 to 16 Note: A second terminal is additionally required for I/O module Series 9470 and 9482 Labelling: 17 to 32	162702	28 g
	2.5 mm ² with lock, 16-pin, screw connector, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits Labelling: 17 to 32	162718	28 g
	2.5 mm ² with lock, 16-pin, spring clamp connection, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits, incl. test jacks Labelling: 1 to 16 Note: A second terminal is additionally required for I/O module Series 9470 and 9482 Labelling: 17 to 32	162695	28 g
	2.5 mm ² with lock, 16-pin, spring clamp connection, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits, incl. test jacks Labelling: 17 to 32	162716	28 g
Partition			
	For mounting between intrinsically safe and non-intrinsically safe connections between I/O modules to maintain a tight string length of 50 mm	220101	10 g
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; UMH 9469; DIOM 9470; DIOM 9471; DIOM 9472; DOM 9475 For intrinsically safe circuits (simple apparatus according to EN 60079-11)	244911	-

Accessories			
Figure	Description	Art. No.	Weight
Warning label			
	"Clean modules only with a damp cloth."	162796	1 g
Indicator lamp			
	Simple apparatus for intrinsically safe circuits according to EN 60079-11	228026	35 g
DIN A4 sheet			
	For label plate on I/O modules; 6 plates per sheet; IS Wizard printout; packaging unit = 20 sheets	162832	1 g
Labelling strips			
	"FB Addr ... Mod No ..." for pluggable terminal, 26 pieces on the sheet	162788	1 g
Vibration bracket set			
	When installed in environments with extreme vibration (> 0.7 g and max. 4 g), the 9490 vibration brackets may be used as an additional measure and provide mechanical stability for the individual modules. For mounting: All I/O modules, except 9477/12 and 9478 Number of brackets in a set: 8 Screws (item no. 275516) must be ordered separately.	271920	-
Set of screws			
	Set of M5 x 14 screws (self-tapping) for 9490 vibration brackets Number of screws in a set: 25	275516	-
Spare Parts			
Figure	Description	Art. No.	Weight
LED indicator lamp for front installation			
	for SA front installation	274899	34 g

