



- 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

## MY R. STAHL 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 |   |   |    |    |    |
|-----------------|--------------|---|---|----|----|----|
| Zone            | 0            | 1 | 2 | 20 | 21 | 22 |
| Ex interface    | •            | • | • | •  | •  | •  |
| Installation in |              | • | • |    |    |    |

|                 | NEC® 500<br>CE Code Appendix J |   |          |   |           |   |
|-----------------|--------------------------------|---|----------|---|-----------|---|
|                 | Class I                        |   | Class II |   | Class III |   |
| Division        | 1                              | 2 | 1        | 2 | 1         | 2 |
| Ex interface    | •                              | • | •        | • | •         | • |
| Installation in | •                              | • |          |   |           |   |






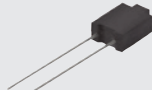
|                 | CE Code Section 18 |   |   |          |    |    |
|-----------------|--------------------|---|---|----------|----|----|
|                 | NEC® 505           |   |   | NEC® 506 |    |    |
|                 | Class I            |   |   |          |    |    |
| Zone            | 0                  | 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)<br>16 Ex i inputs/outputs | Yes                              | 9470/32-16-11 | 210447   | 275 g  |  |
| 16 Ex i inputs/outputs<br>(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 <sub>e</sub>         | 9.8 V   | 9.8 V  |  |
| Max. current I <sub>e</sub> (Ex ia) | 10.4 mA   | 10.4 mA  |  |

| Technical Data                 |  |   |
|--------------------------------|--|---|
| Variant                        | 9470/32-16-10  | 9470/32-16-11                               |
| <b>Safety Data</b>             |  |   |
| Max. power $P_o$ (Ex ia)       | 25.5 mW  | 25.5 mW                                     |
| <b>Auxiliary Power</b>         |  |   |
| 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                                       |
| <b>Input</b>                   |  |   |
| Signal input                   | EN 60947 input (NAMUR)   | EN 60947 input (NAMUR)                      |
| Supply voltage                 | 8.2 V  | 8.2 V                                       |
| Function                       | Up/down counter<br>Frequency with direction  | Up/down counter<br>Frequency with direction |
| <b>Output</b>                  |  |   |
| Output rated operation         | 6 V/2 mA   | 6 V/2 mA                                    |
| Notes                          | For the output characteristic, see the data sheet online at <a href="http://r-stahl.com">r-stahl.com</a> (MY R. STAHL 9470C) |   |
| <b>Ambient Conditions</b>      |  |   |
| Ambient temperature            | -40°C ... +75°C  | -40°C ... +75°C                             |
| <b>Mechanical Data</b>         |  |   |
| Width                          | 96.5 mm  | 96.5 mm                                     |
| Depth                          | 67 mm  | 67 mm                                       |
| Length                         | 128 mm   | 128 mm                                      |

| Accessories   |   |          |        |
|---|---|----------|--------|
| Figure  | Description   | Art. No. | Weight |
| <b>Pluggable terminal</b>   |   |          |        |
|  | 2.5 mm <sup>2</sup> with lock, 16-pin, screw connector, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits<br>Labelling: 1 to 16<br>Note: A second terminal is additionally required for I/O module Series 9470 and 9482<br>Labelling: 17 to 32                           | 162702   | 28 g   |
|  | 2.5 mm <sup>2</sup> with lock, 16-pin, screw connector, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits<br>Labelling: 17 to 32   | 162718   | 28 g   |
|  | 2.5 mm <sup>2</sup> 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<br>Labelling: 1 to 16<br>Note: A second terminal is additionally required for I/O module Series 9470 and 9482<br>Labelling: 17 to 32 | 162695   | 28 g   |
|  | 2.5 mm <sup>2</sup> 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<br>Labelling: 17 to 32   | 162716   | 28 g   |
| <b>Partition</b>  |   |          |        |
|  | 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   |
| <b>Resistor error message suppression</b>   |   |          |        |
|  | The resistors are used to suppress error messages for unused I/O channels<br>Resistance value: 5K6/0.5 W<br>Suitable for: AIM 9468; UMH 9469; DIOM 9470; DIOM 9471; DIOM 9472; DOM 9475<br>For intrinsically safe circuits (simple apparatus according to EN 60079-11)  | 244911   | -      |

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

