



- Low space requirements – 12 mm in width
- Long-life module thanks to maintenance-free electronic switching: ideal for frequent switching operations
- For installation in Zone1, especially in combination with remote I/O systems

WebCode **9174A**



The 9174 series compact electronic relay module allows Ex e loads to be switched by an intrinsically safe control system. This complements the action of intrinsically safe binary outputs, e.g. in a remote I/O system. The electronic switch prevents mechanical wear, extending the life of the relay, particularly where frequent switching operations are concerned.

## Technical Data

### Explosion Protection

Application range (zones)	1 2 21 22
Ex interface zone	1 2 21 22
IECEX gas certificate	IECEX BVS 17.0050X
ATEX gas certificate	BVS 17 ATEX E 057 X
IECEX dust certificate	IECEX BVS 17.0050X
ATEX dust certificate	BVS 17 ATEX E 057 X
Gas explosion protection IECEx	Ex eb mb [ib Gb] IIC T4 Gb
Gas explosion protection ATEX	⊕ II 2 G Ex eb mb [ib Gb] IIC T4 Gb
Dust explosion protection IECEx	[Ex ib Db] IIIC
Dust explosion protection ATEX	⊕ II (2) D [Ex ib Db] IIIC
Certificates	ATEX (BVS), IECEx (BVS)

### Safety Data

Max. voltage $U_i$	28 V
Max. current $I_i$	150 mA
Max. power $P_i$	780 mW
Internal capacitance $C_i$	1.2 nF
Internal inductance $L_i$	Negligible
Safety-related maximum voltage	253 V
Rated operational current back-up fuse	3.15 A
Breaking capacity of back-up fuse	> 1500 A at 250 V
Max. capacitance	4700 $\mu$ F

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**Electrical Data**

Signal types	Digital output
Number of channels	1
LFD relay	No

**Auxiliary Power**

Auxiliary power	Without
Auxiliary power max. power dissipation	1.42 W
Polarity reversal protection	Yes

**Galvanic Isolation**

Test voltage according to standard	IEC EN 60079-11
Galvanic isolation Ex i input to output	1.5 kV AC

**Input**

Input	Ex i
Input voltage for ON	14 – 28 V
Switching level calculated	$= U_{DO} - R_{DO} \times 15 \text{ mA} \geq 14 \text{ V}$
Input voltage for OFF	0 – 5 V
Control current	< 15 mA
Min. start-up current	0,002 A

**Output**

Output	Ex e, 31.2 V DC, 2 A
Output voltage max.	31,2 V DC
Output current max.	2 A
Voltage drop	< 0,5 V
Leakage current max.	250 µA
Duty factor	30 ... 70%
Ohmic load switching frequency	< 30 Hz
Switching state indication	Yellow LED "OUT"

**Maximum switching frequency based on the inductive load**

Inductive load [H]	Max. switching current		
	0.5 A	1 A	2 A
	Switching frequency [Hz]	Switching frequency [Hz]	Switching frequency [Hz]
15	0.067	–	–
10	0.100	–	–
5	0.200	–	–
3	0.333	0.083	–
2	0.500	0.125	–
1	1.000	0.250	–
0.5	2.000	0.500	–
0.4	2.500	0.625	0.125
0.2	5.000	1.250	0.250
0.1	5.000	2.500	0.500
0.05	5.000	5.000	1.000
0.02	5.000	5.000	2.500
0.01	5.000	5.000	5.000

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### Maximum switching frequency based on the capacitive load

Capacitive load	0 ... 220 nF	100 $\mu$ F	470 $\mu$ F	1000 $\mu$ F	2000 $\mu$ F	4700 $\mu$ F
Switching frequency	250 Hz	< 10 Hz	< 2 Hz	< 1 Hz	< 0.5 Hz	< 0.2 Hz

### Ambient Conditions

Ambient temperature	-20 °C ... +65 °C
Storage temperature	-40 °C ... +80 °C
Relative humidity max.	95%
Use at the height of	&lt; 2000 m
Electromagnetic compatibility	Tested to the following standards and regulations: EN 61326-1 Use in industrial environment: NAMUR NE 21

### Mechanical Data

Degree of protection (IP)	IP40
Grid dimension	12 mm
Weight	0.11 kg

### Mounting / Installation

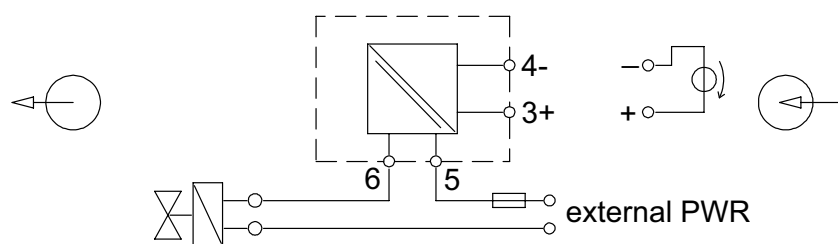
Mounting type	NS35/15, NS35/7.5 DIN rail
Mounting position	Vertical Horizontal
Connection type	Screw terminal
Conductor cross-section solid min.	0.2 mm <sup>2</sup>
Conductor cross-section solid max.	2.5 mm <sup>2</sup>
Conduct cross-section flexible max.	0.2 mm <sup>2</sup>
Conduct cross-section flexible max.	2.5 mm <sup>2</sup>

### Technical Drawings

Ex e

Hazardous area

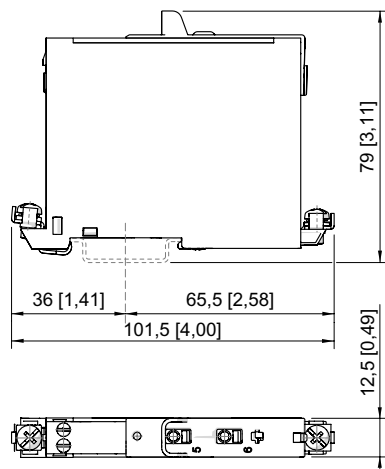
I.S.



Connection diagram

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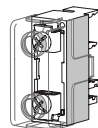
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



## Accessories and Spare Parts

### Small fuse Base Series 8560

Art. No.



Back-up fuse for the Ex e connection of the electronic relay modelo 9174/10-14-00.  
Rated operational current: 3.15 A  
Packaging unit: 5 pieces

149171

We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.