

8146/5075 Art. No. 136216



- Continuous monitoring of correct grounding
- Robust design
- Plastic enclosure (IP66)
- One potential-free change-over contact for signalling to the distributed control system or external signalling devices
- Insulated suspension point
- For use up to SIL 2 (IEC 61508)

MY R. STAHL 8146H



The grounding monitoring device ensures that tank containers, barrels, road tankers, rail vehicles and IBCs are electrostatically grounded while combustible liquids and powders are being loaded. The device simultaneously monitors electrostatic grounding. This guarantees that an electrostatic charge remains at a safe level and that there is no explosion hazard caused by the uncontrolled discharge of this energy.

Technical Data

Explosion Protection

Application range (zones)	1, 2, 21, 22
Ex interface zone	1, 2, 21
IECEX gas certificate	IECEX PTB 06.0090
IECEX gas certificate	IECEX PTB 06.0090
IECEX gas explosion protection	Ex db eb [ia Ga] IIC T4 Gb
IECEX dust certificate	IECEX PTB 06.0090
IECEX dust explosion protection	Ex tb [ia Da] IIIC T80 °C Db
ATEX gas certificate	PTB 01 ATEX 1024
ATEX gas certificate	PTB 01 ATEX 1024
ATEX gas explosion protection	Ex II 2(1) G Ex db eb [ia Ga] IIC T4 Gb
ATEX dust certificate	PTB 01 ATEX 1024
ATEX dust explosion protection	Ex II 2 (1) D Ex tb [ia Da] IIIC T80 °C Db
Certificates	ATEX (PTB), Brazil (ULB), China (NEPSI), IECEX (PTB), India (PESO), SIL (exida)
Declaration of conformity	ATEX (EUK), China (CCC)

Safety Data

Max. voltage U_o	9.6 V
Max. current I_o	10 mA
Max. power P_o	24 mW
Max. permissible external capacity C_o for IIC	3.6 μ F
Max. permissible external inductance L_o for IIC	350 mH
Internal capacitance	2.42 nF
Internal inductance	Negligible
Safety-related max. voltage	253 V

Grounding monitoring devices and systems

Grounding monitoring device



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Functional Safety

SIL	2			
Test report	Exida STAHL 11/07-089 R022			
Safe state	Relay de-energised/no release			
Safe failure fraction (SFF)	73%			
PFD _{AVG} at T _[Proof]	T _[Proof]	1 year	2 years	5 years
	PFD _{AVG}	4.14 x 10 ⁻⁴	7.9 x 10 ⁻⁴	1.92 x 10 ⁻³

Electrical Data

Number of channels	1
Frequency range	48 – 62Hz

Auxiliary Power

Nominal voltage range AC	96 – 253 V
Nominal current	27 mA
Power consumption	3 W

Output

Limit contact	Change-over contact
Min. output load condition	12 V / 100 µA
Max. output DC load condition	250 V / 2 A
Max. output AC load condition	250 V / 4 A
Output switching capacity	50 W / 1000 VA

Ambient Conditions

Ambient temperature	-20 °C ... 55 °C
Ambient temperature	-4°F ... +131°F
Storage temperature	-40 °C ... 80 °C
Storage temperature	-40°F ... +176°F
Use at the height of	< 2000 m
Max. operating altitude	2000 m

Mechanical Data

Degree of protection (IP)	IP66
Enclosure material	Glass fibre reinforced polyester resin
Silicone-free	No
Terminal range of cable glands	4 – 13 mm
Cable connection terminal area, inches	0.15 – 0.51 in
Width	374 mm
Width, inches	14.72 in
Height	230 mm
Height in inches	9.06 in
Depth	190 mm
Mounting depth in inches	7.48 in
Weight	5.8 kg
Weight	12.79 lb

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Connection

Single-wire connection

- rigid
- flexible
- flexible with core end sleeves with plastic sleeve
- flexible with core end sleeves without plastic sleeve

grey and green-yellow

blue

0.2 to 6 mm²

0.2 to 4 mm²

0.2 to 4 mm²

0.2 to 2.5 mm²

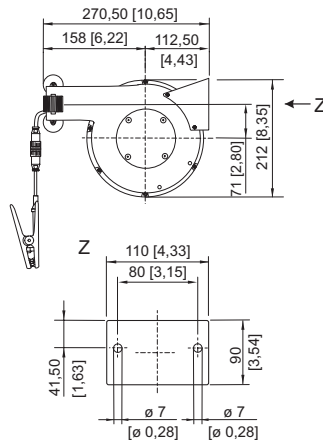
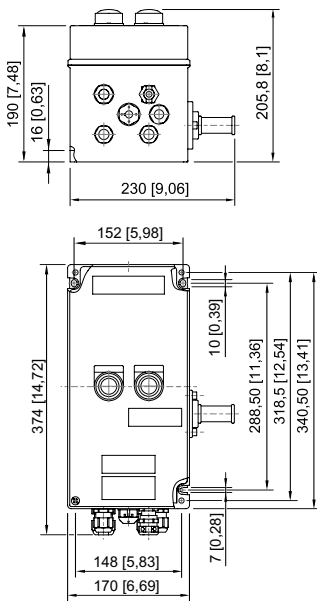
0.25 to 2.5 mm²

0.25 to 1.5 mm²

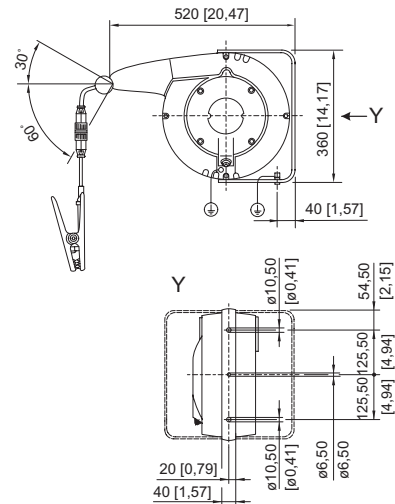
0.25 to 4 mm²

0.25 to 2.5 mm²

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

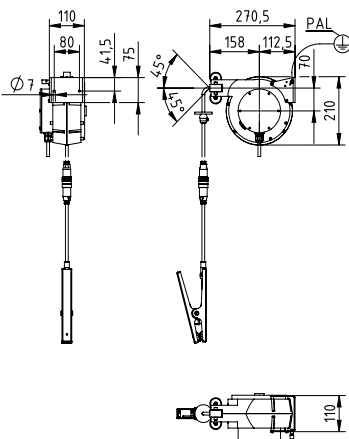


Grounding clamp with automatic retractor for cable
Item no. 247660



Grounding clamp with automatic retractor for cable
Item no. 247671

Type 8146/5075, 8146/5-V73



Grounding clamp with automatic retractor for cable
Item no. 269915

Accessories

Grounding clamp with cable

Art. No.

8146/5075 Art. No. 136216

	<p>10 m oil- and petrol-resistant cable with robust, ergonomic grounding clamp made from stainless steel, and fast-action plug Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -40 °C to +70 °C Certificates: ATEX, IECEx</p>	247673
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Grounding clamp with spiral cable

Art. No.

	<p>10 m oil- and petrol-resistant spiral cable with robust, ergonomic grounding clamp made from stainless steel, and fast-action plug Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -40 °C to +70 °C Certificates: ATEX, IECEx</p>	247674
	<p>5 m oil- and petrol-resistant spiral cable with robust, ergonomic grounding clamp made from stainless steel, and fast-action plug Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -40 °C to +70 °C Certificates: ATEX, IECEx</p>	247672

Grounding clamp with automatic retractor for cable

Art. No.

	<p>Self retracting reel with 20 m oil- and petrol-resistant cable with robust, ergonomic grounding clamp made from stainless steel, and fast-action plug, aluminium enclosure, protected cable duct with stopper Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -40 °C to +70 °C Degree of protection (IP): IP43 Certificates: ATEX, IECEx</p>	247671
	<p>Self retracting reel with 12 m oil- and petrol-resistant cable with robust, ergonomic grounding clamp made from stainless steel, and fast-action plug, aluminium enclosure, protected cable duct with stopper Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -40 °C to +70 °C Degree of protection (IP): IP42 Certificates: ATEX, IECEx</p>	269915
	<p>Self retracting reel with 9 m oil- and petrol-resistant cable with robust, ergonomic grounding clamp made from stainless steel, and fast-action plug, plastic enclosure Roofing must be provided when installing the unit outside. Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -20 °C to +70 °C Degree of protection (IP): IP42 Certificates: ATEX, IECEx</p>	247660

Spare Parts

Grounding clamp with fast-action plug

Art. No.

	<p>Robust, ergonomic grounding clamp with 150 mm cable and fast-action plug Spare part for self retracting reels (247660, 269915 and 247671), cable and spiral cable</p>	247675
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