

8146/5075 Art. No. 136216



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

WebCode **8146H**



The grounding monitoring device ensures that tank containers, drums, road tankers, rail cars and IBCs are correctly electrostatically grounded during the loading of flammable liquids and powder. The device provides a conductive connection to the ground and monitors in parallel the quality of the electrostatic grounding.

This guarantees that the electrostatic charge remains at a safe level and that no explosion hazard is generated by uncontrolled energy discharge.

Technical Data

Explosion Protection

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

Safety Data

Maximum voltage U_o	9.6 V
Maximum current I_o	10 mA
Maximum power P_o	24 mW
Max. permissible external capacitance C_o for IIC	3.6 μ F
Max. permissible external inductance L_o for IIC	350 mH
Internal capacitance C_i	2.42 nF

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Safety Data

Internal inductance L_i	Negligible
Safety-related maximum voltage	253 V

Functional Safety

SIL	2			
Test report	Exida STAHL 11/07-089 R022			
Safe state	relay released / 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 – 62 Hz

Auxiliary Power

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

Output

Limit contact	changeover contact
Output min. load	12 V / 100 µA
Output max. load DC	250 V / 2 A
Output max. load AC	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

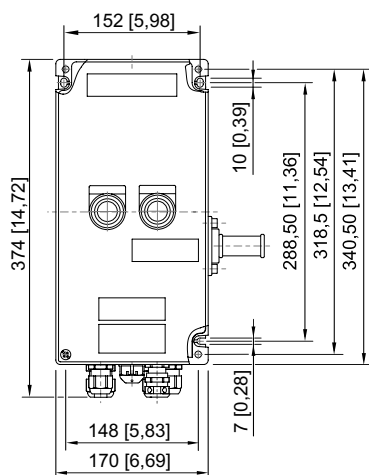
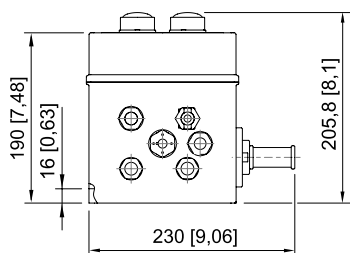
Mechanical Data

Degree of protection (IP)	IP66		
Enclosure material	Glass fibre reinforced polyester resin		
Cable diameter range of cable glands	4 – 13 mm		
Terminal range cable glands inches	0.15 – 0.51 in		
Width	374 mm		
Width inches	14.72 in		
Height	230 mm		
Height inches	9.06 in		
Depth	190 mm		
Mounting depth inches	7.48 in		
Weight	5.8 kg		
Weight	12.79 lb		
Connection		grey & green-yellow	blue
	Single-wire connection		

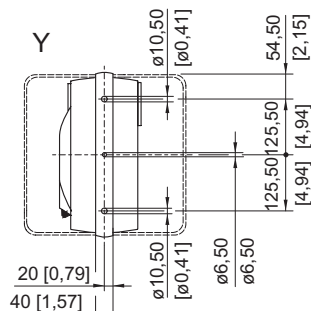
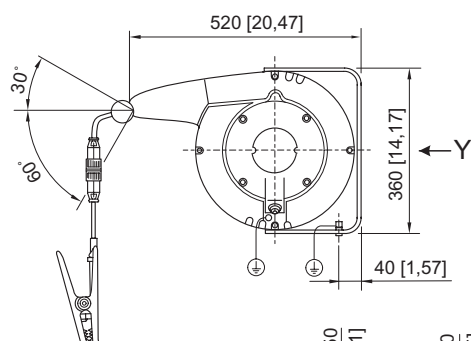
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- rigid	0.2 ... 6 mm ²	0.2 ... 4 mm ²
- flexible	0.2 ... 4 mm ²	0.2 ... 2.5 mm ²
- flexible with core end sleeves with plastic sleeve	0.25 ... 2.5 mm ²	0.25 ... 1.5 mm ²
- flexible with core end sleeves without plastic sleeve	0.25 ... 4 mm ²	0.25... 2.5 mm ²

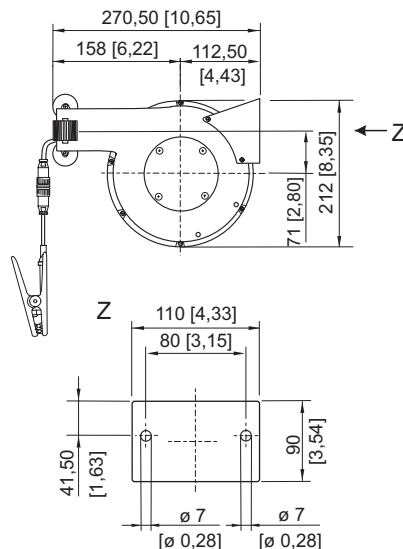
Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



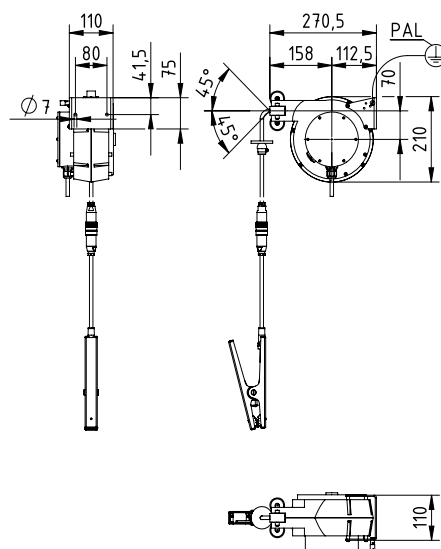
Type 8146/5075, 8146/5-V73



Grounding clamp with automatic cable winder
Art. no. 247671



Grounding clamp with automatic cable winder
Art. no. 247660



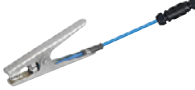
Grounding clamp with automatic cable winder
Art. no. 269915

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Accessories

Grounding clamp with cable		Art. No.
	10 m oil and petrol resistant cable with robust ergonomic grounding clamp of stainless steel and fast-action plug Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -40 ... +70 °C Certificates: ATEX, IECEx	247673
Grounding clamp with spiral cable		Art. No.
	10 m oil and petrol resistant spiral cable with robust ergonomic grounding clamp of stainless steel and fast-action plug Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -40 ... +70 °C Certificates: ATEX, IECEx	247674
	5 m oil and petrol resistant spiral cable with robust ergonomic grounding clamp of stainless steel and fast-action plug Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -40 ... +70 °C Certificates: ATEX, IECEx	247672
Earth clamp with automatic cable winder		Art. No.
	Automatic winder with 20 m of oil and petrol resistant cable with robust ergonomic grounding clamp of 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 ... +70 °C Certificates: ATEX, IECEx	247671
	Automatic winder with 12 m of oil and petrol resistant cable with robust ergonomic grounding clamp of 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 ... +70 °C Certificates: ATEX, IECEx	269915
Earth clamp with automatic cable winder		Art. No.
	Automatic winder with 9 m of oil and petrol resistant cable with robust ergonomic grounding clamp of stainless steel, and fast-action plug, plastic enclosure Installation in Zone 1, IIC, T6; Zone 21, IIIC, 135 °C Temperature range: -40 ... +70 °C Certificates: ATEX, IECEx	247660

Spare Parts

Earth clamp with fast-action plug		Art. No.
	Robust ergonomic grounding clamp with 150 mm of cable and fast-action plug Spare part for automatic retractors (247660, 269915 and 247671), regular cables (247673) and spiral cables (247674 and 247672)	247675

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.