

8485/311-42 Art. No. 294010



- Continuous monitoring of correct grounding
- Object recognition prevents potential operator errors (for road tanker)
- Aluminium enclosure with IP65 degree of protection (protected against water jets)
- Up to four potential-free change-over contacts for signalling
- Ambient temperature -55 °C to +60 °C
- Auxiliary power: 24 V DC – 230 V AC
- Parameterisation when the enclosure is closed

MY R. STAHL 8485A



The grounding monitoring device ensures that road tankers, rail vehicles and big bags 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.

The following recommendations and directives require grounding during loading and recommend disconnecting the load if the grounding is defective:

- CLC/TR 60079-32-1 Explosive atmospheres – Part 32-1: Electrostatic hazards, guidance.
- TRBS 727 Avoidance of ignition hazards as a result of electrostatic charges.

### Technical Data

#### Explosion Protection

Application range (zones)	1, 2, 21, 22
Ex interface zone	1, 2, 21, 22
IECEX gas certificate	IECEX FTZU 15.0031X
IECEX gas explosion protection	Ex db ib [ib] IIB+H2 T4 Gb
IECEX dust certificate	IECEX FTZU 15.0031X
IECEX dust explosion protection	Ex ib [ib] tb IIIC T130 °C Db
ATEX gas certificate	FTZU 09 ATEX 0059X
ATEX gas explosion protection	Ex II 2 G Ex db ib [ib] IIB+H2 T4 Gb
ATEX dust certificate	FTZU 09 ATEX 0059X
ATEX dust explosion protection	Ex II 2 D Ex ib [ib] tb IIIC T130 °C Db
Certificates	ATEX (FTZU), China (CQM), IECEX (FTZU)
Declaration of conformity	ATEX (EUK), China (CCC)

#### Safety Data

Max. voltage $U_o$	15.75 V
Max. current $I_o$	45 mA
Max. permissible external capacity $C_o$ for IIB	2.88 $\mu$ F
Max. permissible external inductance $L_o$ for IIB	0.6 mH
Max. voltage $U_i$ limit contacts	50 V DC
Max. current $I_i$ limit contacts	200 mA

#### Electrical Data

Number of channels	1
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### Electrical Data

Frequency	47 ... 63 Hz
Connections	Single-wire connecting capacity - rigid 2.5 mm <sup>2</sup> - flexible 2.5 mm <sup>2</sup> - flexible with core end sleeves with plastic sleeve 1.5 mm <sup>2</sup> - flexible with core end sleeves without plastic sleeve 2.5 mm <sup>2</sup>
Operating mode selection	Road tanker, rail vehicle, FIBC (big bag), automatic grounding Selection via DIP switch
Parameterisation	IrDA and Bluetooth

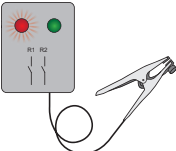
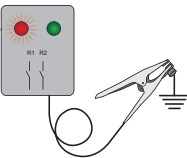
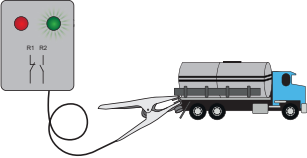
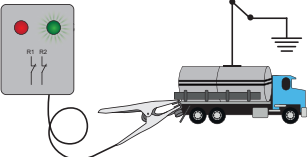
### Auxiliary Power

Auxiliary power	24/230 V
Nominal voltage AC	20 ... 230 V
Nominal voltage DC	20 ... 230 V
Nominal current	50 mA
Power consumption	10 VA

### Output

Limit contact	Up to 4 change-over contacts
Min. output load condition	10 V DC/100 mA
Max. output DC load condition	230 V DC / 0.25 A, 40 V DC / 3 A
Max. output AC load condition	230 V AC / 3 A

### Operating principle:

LED display	State of grounding	Reaction of the grounding monitoring device
	Clamp is not connected, device not in use	Grounding defective • Red indicator lamp ON • Green indicator lamp OFF • Relays R1 and R2 are de-energised
	Connect clamp directly to ground, for example via the loading platform	Grounding defective • Red indicator lamp ON • Green indicator lamp OFF • Relays R1 and R2 are de-energised
	Clamp connected to road tanker	Grounding OK • Red indicator lamp OFF • Green indicator lamp ON • Relay R1 is energised and relay R2 is de-energised
	Clamp connected to road tanker. Road tanker is grounded subsequently (e.g. via the filling arm)	Grounding OK • Red indicator lamp OFF • Green indicator lamp ON • Relays R1 and R2 are energised

If the resistance of the grounding loop of the tanker is < 10 Ω, relay R2 is energised.

### Ambient Conditions

Ambient temperature	-55 °C ... 60 °C
Ambient temperature	-67 °F ... 140 °F
Storage temperature	-55 °C ... 60 °C

# Grounding monitoring devices and systems

## Grounding monitoring device Single-channel



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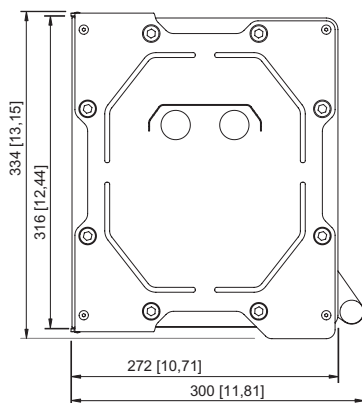
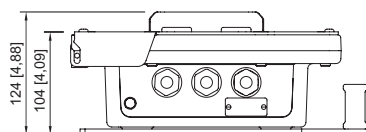
### Ambient Conditions

Storage temperature	-67 °F ... 140 °F
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### Mechanical Data

Degree of protection (IP)	IP65
Enclosure version	Flameproof enclosure (Ex d)
Enclosure material	Aluminium
Silicone-free	No
Clamping range	6.5 ... 11.2 mm (of cable glands)
Clamping range inch	0.26 ... 0.44 in (of cable glands)
Width	300 mm
Width, inches	11.81 in
Height	334 mm
Height in inches	13.15 in
Depth	124 mm
Depth in inches	4.88 in
Weight	12.1 kg
Weight	26.68 lb



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



Type 8485/311-42


### Accessories

#### Grounding clamp with cable




		Art. No.
	10 m SiHF-J cable for 8485/311-42 Clamp made from stainless steel 1.4404 (offshore) Ambient temperature: -55 °C to +60 °C	306763
	10 m ÖLFLEX cable for 8485/311-42 Clamp made from stainless steel 1.4301 Ambient temperature: -40 °C to +60 °C	306710

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### Grounding clamp with spiral cable

	Art. No.
 <p>10 m ÖLFLEX cable for 8485/311-42 Clamp made from stainless steel 1.4301 Ambient temperature: -30 °C to +60 °C</p>	306761
<p>10 m ÖLFLEX cable for 8485/311-42 Clamp made from stainless steel 1.4404 (offshore) Ambient temperature: -30 °C to +60 °C</p>	306762


### Grounding clamp with automatic retractor for cable

	Art. No.
 <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.</p> <p>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
 <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

### Protective roof

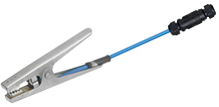
	Art. No.
 <p>Protective roof 8298/05-111 for additional protection against the elements, such as rain and sunlight. Material: Stainless steel 1.4404</p>	226972

### Configuration set

	Art. No.
 <p>Configuration set consisting of infrared adapter with USB port and USB stick with configuration software</p>	263097

## 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

# Grounding monitoring devices and systems

## Grounding monitoring device Single-channel



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