

8485/121-42 Art. No. 263092



- Controlled electrostatic grounding of road tankers, rail cars and Big Bag during loading
- Continuous monitoring of correct grounding
- The object recognition prevents potential operator errors (with road tankers)
- Water jet protected stainless steel enclosure IP65
- Up to four potential-free change-over contacts per channel for signalling
- Insulated point of suspension for clamps
- Ambient temperature -55 ... +60 °C

WebCode 8485A



The ground monitoring device ensures the electrostatic grounding of road tankers, rail cars and Big Bag (Rev. C) while loading 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.

The following recommendation requires grounding during loading and recommends interrupting loading in case of incorrect grounding:

- CLC/TR 60079-32-1 recommendation for avoiding ignition hazards due to electrostatic charges.
- TRBS 727 rules for avoiding 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 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	⊕ II 2 G Ex db ib [ib] IIB T4 Gb
ATEX dust certificate	FTZU 09 ATEX 0059X
ATEX dust explosion protection	⊕ II 2 D Ex ib [ib] tb IIIC T130 °C Db
Certificates	ATEX (FTZU), IECEX (FTZU), India (PESO)

Safety Data

Max. voltage U, signalling contacts	50 V DC
Max. current I, signalling contact	200 mA

Electrical Data

Number of channels	1
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Electrical Data

Connections	Maximum diameter, single-wire - rigid 2.5 mm ² - flexible 2.5 mm ² - flexible, cable end sleeves with plastic cover 1.5 mm ² - flexible, cable end sleeves without plastic cover 2.5 mm ²
Operating mode selection	Road tanker, rail car and Big Bag recognition Selection via DIP switch
Parameterization	IrDA and Bluetooth
Frequency range	47 – 63 Hz

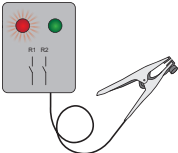
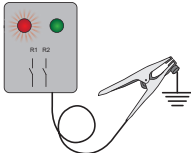
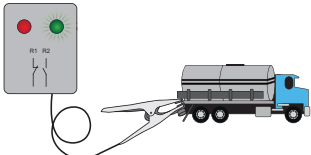
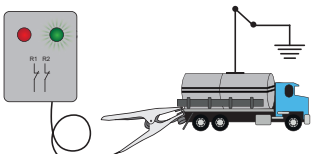
Auxiliary Power

Nominal voltage range AC	20 – 230 V
Nominal voltage range DC	20 – 300 V
Nominal current	50 mA
Power consumption	10 VA

Output

Limit contact	up to 4 changeover contact
Output min. load	10 V DC / 100 mA
Output max. load DC	230 V DC / 0.25 A, 40 V DC/3 A
Output max. load AC	230 V AC / 3 A

Operating principle:

LED indication	Grounding condition with road tanker	Reaction of the grounding monitoring device
	Clamp is not connected, device not used	Grounding fault • red indicating lamp ON • green indicating lamp OFF • Relays R1 and R2 are de-energised
	Clamp is directly connected to ground, for example via the loading platform	Grounding fault • red indicating lamp ON • green indicating lamp OFF • Relays R1 and R2 are de-energised
	Clamps connected to tank vehicle	Grounding ok • red indicating lamp OFF • green indicating lamp ON • Relay R1 is energised and relay R2 is de-energised
	Clamps connected to tank vehicle. Tank vehicle is grounded subsequently (e.g. via the loading arm).	Grounding ok • red indicating lamp OFF • green indicating lamp ON • Relays R1 and R2 are energised

If the resistance of grounding loop of tanker is <math><10 \Omega</math>, relay R2 is energised.

Ambient Conditions

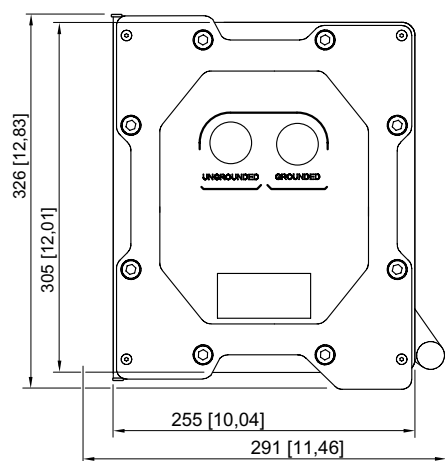
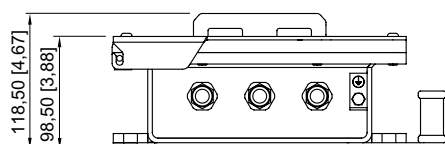
Ambient temperature	-55 °C ... +60 °C
Ambient temperature	-67 °F ... +140 °F
Storage temperature	-55 °C ... +60 °C
Storage temperature	-67 °F ... +140 °F

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Mechanical Data

Degree of protection (IP)	IP65
Enclosure version	Flameproof enclosure (Ex d)
Enclosure material	1.4404 stainless steel
Cable diameter range of cable glands	10 – 14 mm
Terminal range cable glands inches	0.39 – 0.56 in
Width	291 mm
Width inches	11.46 in
Height	326 mm
Height inches	12.83 in
Depth	118.5 mm
Mounting depth inches	4.66 in
Weight	17 kg
Weight	37.48 lb

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










Type 8485/121-42 Rev. C

Accessories and Spare Parts

Earth clamp with fast-action plug

	<p>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)</p>	<p>Art. No. 247675</p>
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Earth clamp with spiral cable		Art. No.
	10 m ÖLFLEX with cable gland for 8485/121-42 Rev. C Clamp made of stainless steel 1.4404 Ambient temperature: -30 ... +60 °C	263094
Earth clamp with cable		Art. No.
	10 m ÖLFLEX with cable gland for 8485/121-42 Rev. C Clamp made of stainless steel 1.4404 Ambient temperature: -40 ... +60 °C	263093
	10 m SIHF-J with cable gland for 8485/121-42 Rev. C Clamp made of stainless steel 1.4404 Ambient temperature: -55 ... +60 °C	263095
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	247660
	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	269915
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	247671
Configuration set		Art. No.
	Configuration set for Rev. C devices consisting of infrared adapter with USB port and USB stick with configuration software	263097

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