

# Command and signalling devices



12761E00

## Ground monitoring device series 8485

- Controlled electrostatic grounding of road tankers and rail cars during loading
- Continuous monitoring of the correct grounding
- The object recognition prevents potential operator errors (with road tanker)
- Robust design
- Water jet protected aluminium enclosure IP65
- Easy installation and operation
- Two potential-free change-over contacts per channel for signalization to process control systems or external signaling devices
- Insulated point of suspension for clamps
- Ambient temperature from - 50 °C to + 60 °C







STAHL

The ground monitoring device ensures the electrostatic grounding of road tankers and rail cars while loading flammable liquids and powder. The device monitors at the same time the condition of the electrostatic grounding. This guarantees that the electrostatic charge remains at a safe level and that no explosion hazard is given due to uncontrolled energy discharge.

The following recommendation require the grounding during loading and recommend to interrupt the loading in case of incorrect grounding:






- CENELEC LC/TR 50404 recommendation for avoiding ignition hazards due to electrostatic charge.

Zone	0	1	2	20	21	22
Ex interface		X	X			
Installation in		X	X			

Selection Table				
Version	Description	Order number	Weight	
			kg	
Single-channel grounding system	 <p>12635E00 Ground monitoring device</p>	Single channel device for zone 1, without cable	<b>8485/111-31</b>	12.900
	 <p>12638E00 Clamp with cable</p>	10 m OLFLEX with cable gland *); Ambient temperature: - 50 ... + 60 °C	<b>202500</b>	2.900
	 <p>12640E00 Clamp with spiral cable</p>	10 m OLFLEX with cable gland *); Ambient temperature: - 30 ... + 60 °C	<b>202502</b>	4.000
	 <p>12642E00 Self-retracting reel with clamp</p>	Self-retracting cable reel with 15 m of insulated cable and clamps for zone 1 Explosion protection:  II 2 G Ex ib IIC T6 Ambient temperature: - 20 ... + 60 °C	<b>8485/213-131</b>	25.700
	 <p>12643E00 Configuration set</p>	Configuration set consisting of infrared adapter with USB port and CD-ROM with configuration software	<b>202511</b>	0.500



## Selection Table

Version	Description	Order number	Weight
Dual-channel grounding system	 <p>12633E00 Ground monitoring device</p>	<b>8485/112-31</b>	13.600 kg
	 <p>12639E00 Clamp with cable</p>	<b>202501</b>	4.800
	 <p>12641E00 Clamp with spiral cable</p>	<b>202503</b>	7.000
	 <p>12694E00 Self-retracting reel with clamp</p>	<b>8485/213-132</b>	46.300
	 <p>12643E00 Configuration set</p>	<b>202511</b>	0.500

\*) Special cable length possible on request (max. 20 m). Price and date of delivery differ from the standard.

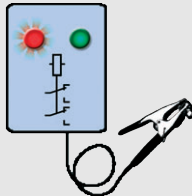
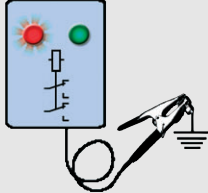
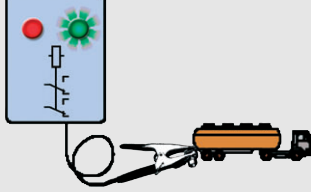
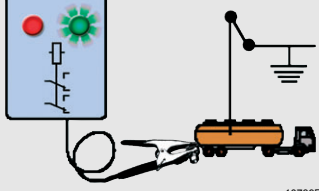
## Technical Data

Certificates	FTZU 09 ATEX 0059X
Other certificates	GOST R (Russia)
Explosion protection	⊕ II 2 G Ex d [ib] IIB T4
Installation	Zones 1 & 2
Ambient temperature	
Operating temperature	- 50 ... + 60 °C
Storage temperature	- 50 ... + 60 °C
Type of protection	IP65
Operating mode selection per channel	Road tanker and rail car recognition by means of DIP switch
Power supply	
Rated voltage	230 ± 10 V AC
Rated current	50 mA
Power input	10 VA

**Technical Data**

Output	Two potential-free change-over contacts per channel	
Signaling contact	10 V DC / 100 mA	
Min. electric load	230 V DC / 0.25 A	
Max. electric load DC	40 V DC / 3 A	
Max. electric load AC	230 V AC / 3 A	
Mechanical data	Flameproof enclosure (Ex d)	
Enclosure version	Aluminium	
Material	Galvanised steel, contact point: copper	
Enclosure	8485/111-31      10.2 kg	
Grounding pliers	8485/112-31      10.9 kg	
Weight	Cable diameter range 6 ... 12 mm	
Cable entries	Maximum diameter, single-wire	
Connection	- rigid	2.5 mm <sup>2</sup>
	- flexible	2.5 mm <sup>2</sup>
	- flexible, end covering sleeve with plastic cover	1.5 mm <sup>2</sup>
	- flexible, end covering sleeve without plastic cover	2.5 mm <sup>2</sup>

LED display

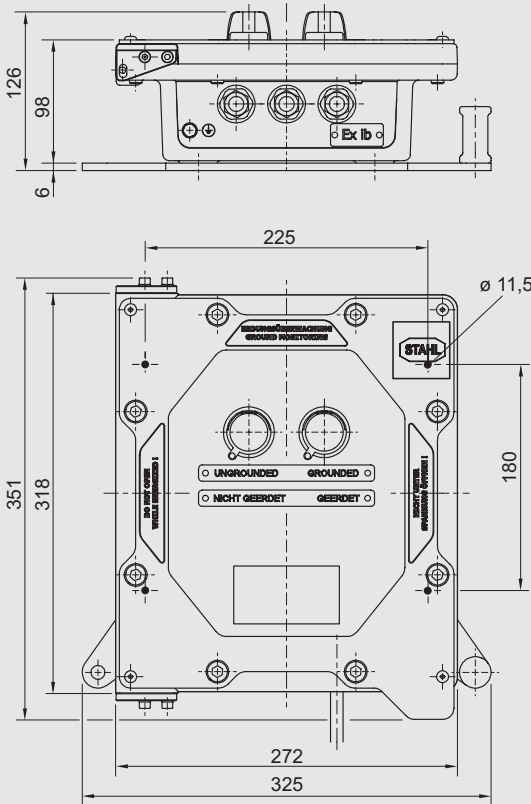
LED display	Grounding condition with road tanker	Reaction of the ground monitoring device
 <p>10736E00</p>	Clamps are not connected, device is in idle mode	Grounding faulty <ul style="list-style-type: none"> <li>• Red indicating lamp ON</li> <li>• Green indicating lamp OFF</li> <li>• Signaling contacts OPEN</li> </ul>
 <p>10737E00</p>	Clamps are directly grounded, e.g. by means of loading platform	Grounding faulty <ul style="list-style-type: none"> <li>• Red indicating lamp ON</li> <li>• Green indicating lamp OFF</li> <li>• Signaling contacts OPEN</li> </ul>
 <p>10738E00</p>	Clamps connected to tank vehicle	Grounding ok <ul style="list-style-type: none"> <li>• Red indicating lamp OFF</li> <li>• Green indicating lamp ON</li> <li>• Signaling contacts CLOSED</li> </ul>
 <p>10739E00</p>	Clamps connected to tank vehicle. Tank vehicle is grounded subsequently (e.g. by means of the loading arm).	Grounding ok <ul style="list-style-type: none"> <li>• Red indicating lamp OFF</li> <li>• Green indicating lamp ON</li> <li>• Signaling contacts CLOSED</li> </ul>



Accessories and Spare Parts			
Designation	Illustration	Order number	Weight kg
Key-operated switch	 <p>12801E00</p> <p>Key-operated switch series 8040 2 switching positions Key removable in 0 + I For use in zones 1, 2, 21, 22</p> <p>For manual by-pass of the signaling contact by authorized staff</p>	<b>130902</b>	0.450
Flashlight/ permanent light	 <p>12802E00</p> <p>Flashlight and permanent light series 6161 230 V AC, red For use in zones 1, 2, 21, 22</p> <p>Additional signalization of the grounding condition</p>	<b>120655</b>	1.370
Horn	 <p>00446E00</p> <p>Horn series 8491/1 with horn and connecting cable 230 V AC For use in zones 1 and 2</p> <p>Additional signalization of the grounding condition</p>	<b>145280</b>	1.450
Flat horn	 <p>10614E00</p> <p>Flat horn 8491/2 with terminal compartment and cable gland 230 V AC For use in zones 1,2,21,22</p> <p>Additional signalization of the grounding condition</p>	<b>145285</b>	1.500

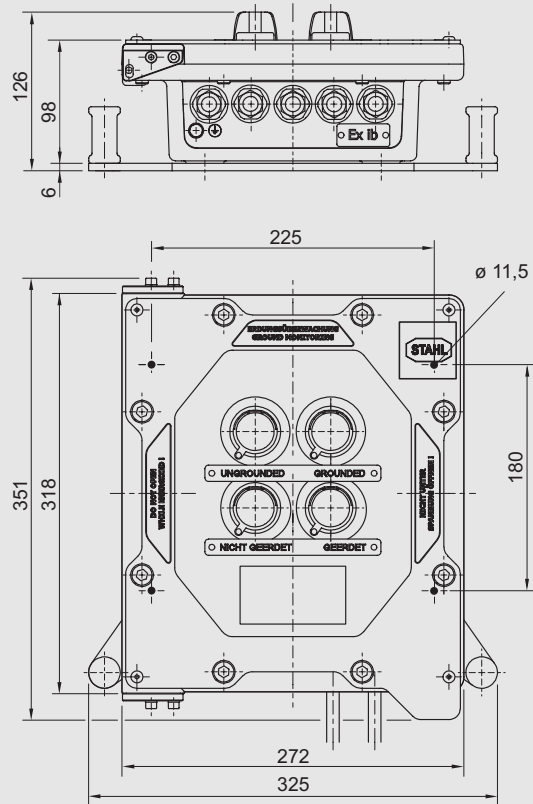
Further signaling and monitoring equipment can be found in the main catalogue

Dimensional drawings (all dimensions in mm) - subject to alterations



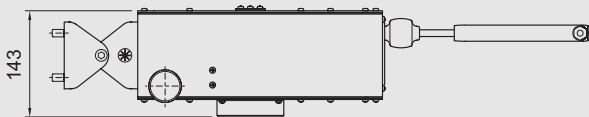
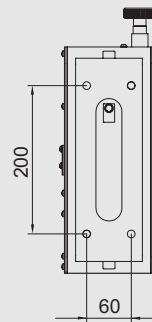
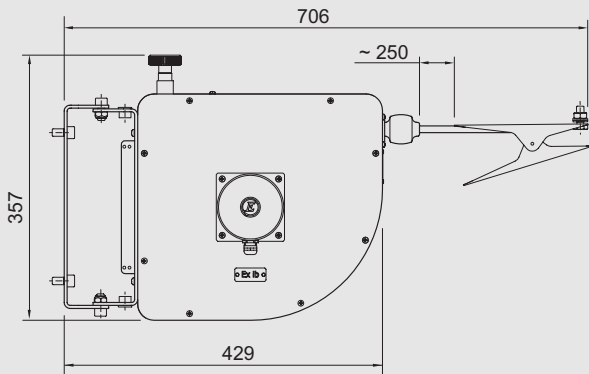
12758E00

Single channel ground monitoring device 8485/111-31



12759E00

Dual channel ground monitoring device 8485/112-31



12760E00

Self-retracting reel 8485/213-131 and 8485/213-132

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.

