

Road tanker earthing device

UZA-M

NPP SENSOR Datasheet UZA 17.05



Application

Used for earthing of road tanker tank trailers and other mobile tanks in order to deflect static electricity charges during discharge and filling of combustible and flammable liquids and liquefied gases.

Used in explosive areas at filling racks of oil terminals and petrol stations.

Features

- Vandal-proof enclosure made of aluminum alloy;
- Commutation relay of the loading/unloading actuators if there is an earthing circuit.
- Self-test with status indication.
- Wide viewing angle of the indicator (180°).
- A large selection of cable shield mounting devices.
- Selection of the material and length of the earthing conductor.
- Ambient operational temperature range is from minus 50 to plus 60 °C.



Description

The device provides:

- electrostatic earthing of the tank trailers used for transportation of the liquid fuels;
- continuous monitoring of the availability and quality of the tanker earthing circuit. It helps to save the electrostatic charge at a safe level and avoid the explosion hazard caused by uncontrolled electrostatic charge.
- light signaling of earthing circuit availability;
- commutation of the loading / unloading actuators by the relay contacts if the earthing circuit is available.

The requirements for earthing during unloading and loading of the combustible and flammable liquids and for stopping of such operations in case of improper earthing are contained in the following documents:

- CENELEC LC/TR 50404: recommendations for the elimination of fire hazards caused by electrostatic charge;
- TRGS 727: elimination of the fire hazard caused by electrostatic charge;
- Fire safety regulations NPB 111-98* "Petrol stations. Fire safety requirements";
- A set of regulations SP 156.13130.2014 «AUTOMOBILES PETROL STATIONS. Fire safety requirements».

The connection is made through the cable entries in the bottom part of the instrument using a round cable of 5 to 18 mm diameter. The case houses the boards with clamp terminals to supply power and connect the load which is switched by relay contacts (pumps, valves).

The earthing circuit quality is monitored using a method that excludes oxidation with elevated humidity and contact breach between an earthed object and the earthing ticks.

The earthing device may be installed at objects in zones of 1 or 2 class in accordance with GOST 30852.9-2002 (IEC 60079-10:1995) with possible appearance of mixtures of combustible gases and vapors with air - category IIB in accordance with GOST 30852.11-2202 (IEC 60079-12:1978), including temperature group T4 in accordance with GOST 30852.0-2002 (IEC 60079-0:1998).

For optimal selection of the road tanker earthing devices kit (the kit of cable entry, the type and length of the earthing conductor) we suggest to use technical advice on the application.

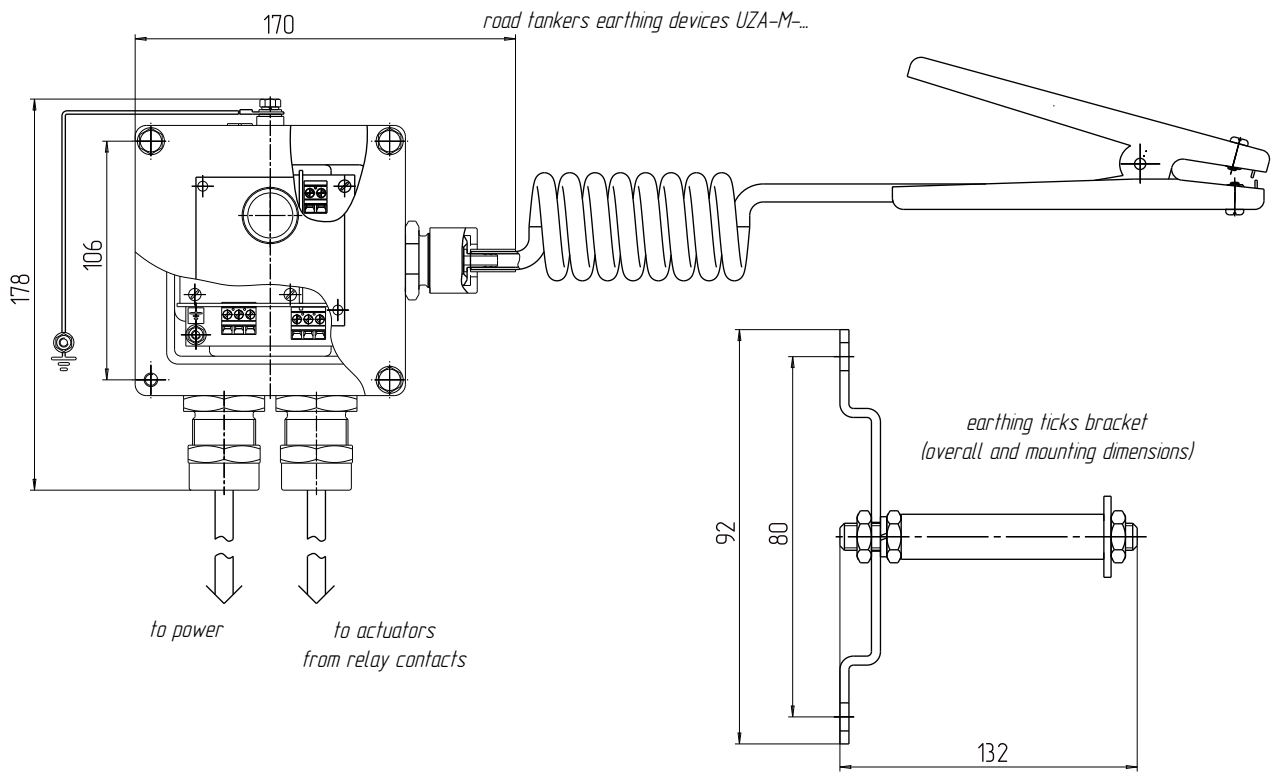
Certification

Ex-EAC	CU RU C-RU.MH04.B.00534
ISO 9001-2015	RU228579Q-U

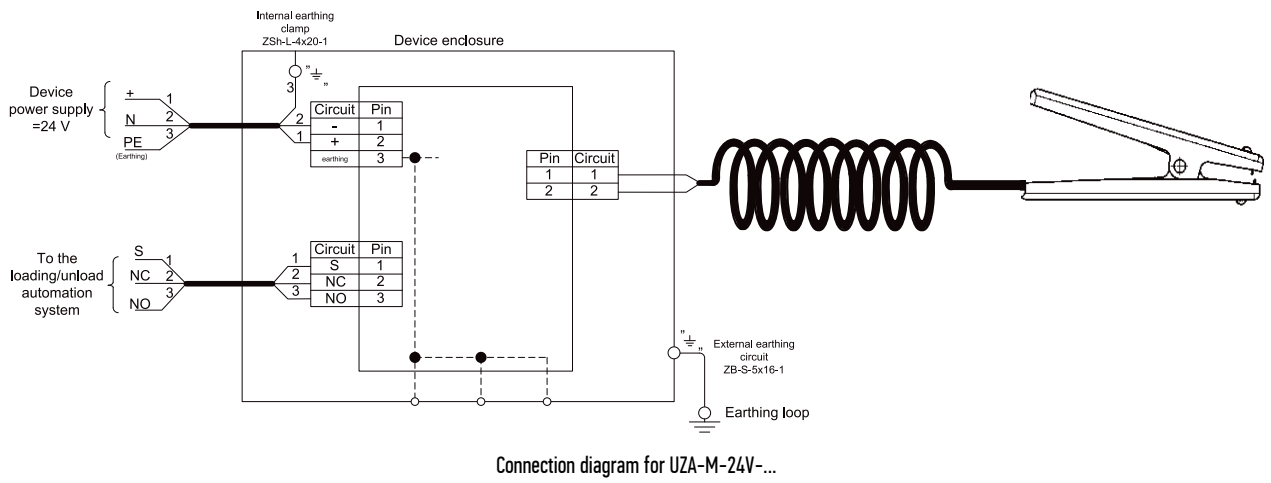
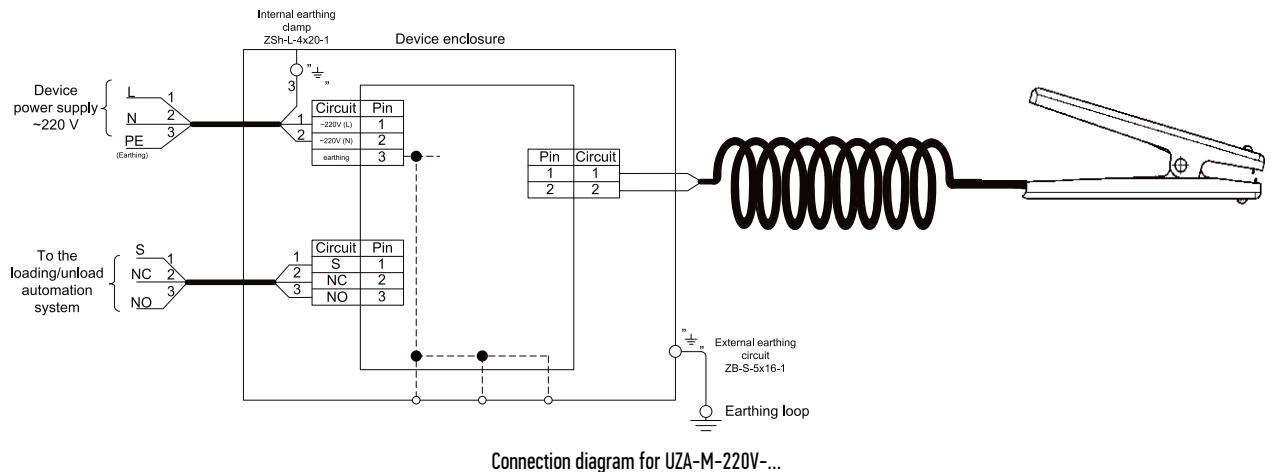
Main specifications

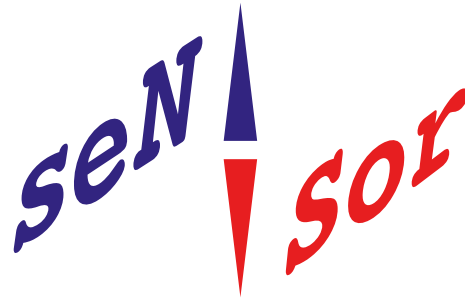
Material of the case parts	aluminium alloy with anticorrosive coating
Power supply voltage / consumed power	from 198 to 242 V (AC) / 2 W (UZA-M-220V) from 12 to 32 V (DC) / 2 W (UZA-M-24V)
Class of protection against electric shock according with GOST 12.2.007.0	I
The maximal allowed resistanse between the contacts of the earthing ticks, Ohm, not more than	75
Time between definition of the resistance and switching of the relay, sec, not more than	2
Parameters of the intrinsically safe circuit	U _o = 7.2 V; I _o = 0.076 A; P _o = 0.14 W; L _o = 1.5 mH; C _o = 0.3 μF
The type of the power output	switchable contact (electromagnetic relay)
The parameters of the relay exit: - switchable voltage - switchable current - switchable power	not more than 250 V (eff., U _m = 250 V) I _{max} : 5 A (eff.) P _{max} : 100 V•A
The effective length of the earthing spiral cable (in a stretched state), m, al least	6; 12; 15
The effective lengh of the silicone cable, m, not more than	50
The electrical strength of the insulation between the power circuits and the circuits combined in a group (device earthing and connected object earthing circuit), V	1500
The electrical strength of the insulation between the relay circuits and the circuits combined in a group (device earthing and connected object earthing circuit), V	1500
Overall dimensions W x H x D, mm	173 x 170 x 83
Overall dimension W x H x D, including ticks bracket, mm	185 x 170 x 83
Operational temperatures range in accordance with GOST 15150-69	UHL1*, but within temperatures range from -50 to +60 °C and with upper limit of relative humidity up to 98 % at plus 35 °C
Resistance to sinusoidal vibration effect	N1 in accordance with GOST R 52931-2008
Viewing angle of the indicator LED, angle, not less than	180 (both in vertical and horizontal planes)
Ingress Protection Rating in accordance with GOST 14254	IP66
Marking of explosion protection	1ExdIIIBT4
Ambient temperature, °C	from -50 to +60
Mass, kg, not more than	3.4
Full service life, years	5

General view, overall dimensions



Connection diagram





CONTACT INFORMATION

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