



EN Operating instructions.pages 1 bis 2
Original

1. About this document

This operating instructions manual provides all the information required for the mounting, set-up and commissioning to ensure the safe operation and disassembly of the switchgear. The operating instructions must be available in a legible condition and a complete version in the vicinity of the device.

All operations described in this operating instructions manual must be carried out by trained specialist personnel, authorised by the plant operator only. The machine builder must carefully select the harmonised standards to be complied with as well as other technical specifications for the selection, mounting and integration of the components.

The user must observe the country-specific installation standards as well as all prevailing safety regulations and accident prevention rules.

The Schmersal range of products is not intended for private consumers.

2. Product description

Belt alignment switches are suitable for use on material handling equipment. It is actuated, when the conveyor belt becomes misaligned.

The belt alignment switches feature the two switch statuses: prewarning and deactivation.


2.1 Ordering code
This operating instructions manual applies to the following types:


T. 454-22Z-H

Accessory stainless steel lever
LEV-U14-B30-150-RVA Ø 30 mm, running surface 150 mm
LEV-U14-B50-150-RVA Ø 50 mm, running surface 150 mm

2.2 Technical data	
Standards:	EN 60947-5-1
Housing material:	Grey cast iron, galvanised and painted with 2-component paint
Degree of protection:	IP66, IP67
Switching system:	Slow action
Connection / cable section:	Screw terminals, 0.75 ... 2.5 mm²
Cable cross-section:	Ø 6 ... 12 mm
Ambient temperature:	-40 °C ... +70 °C
Degree of contamination:	3
Mechanical life:	1 million operations


Electrical data	
Rated impulse withstand voltage U_{imp} :	6 kV
Rated insulation voltage U_i :	500 V
Thermal test current I_{the} :	10 A
Utilisation category:	AC-15: 230 V / 4 A DC-13: 24 V / 1 A
Max. fuse rating:	6 A gG D-fuse
Required rated short-circuit current:	1,000 A

 Further technical information can be found in the Schmersal catalogues or in the online catalogue on the Internet: products.schmersal.com.

 The currently valid declaration of conformity can be downloaded from the internet at products.schmersal.com.

3. Mounting and electrical connection


3.1 General mounting instructions



Assembly and the electrical connection may only be carried out by authorised personnel in a de-energised state.

Two mounting holes are available.

To ensure a proper functioning, the switch must be installed so that the required switch travel is obtained.
The use of a protective ground wire is imperative.



Please observe the remarks of the standard EN 60204-1.

Settle length x of the conductor: 6 mm



3.2 Contacts

The belt alignment switches have two switch inserts. The right switch insert serves as a prewarning (NC contact at 10°), the left to deactivate (NC contact at 25°).



Appropriate cable glands with a suitable degree of protection are to be used. After wiring, dust and soiling must be removed from the wiring compartment.

To protect the device against condensation caused by large temperature fluctuations, we recommend the use of a pressure compensation element for continued safe operation.

Any inlet openings not used are to be sealed with a sealing screw with a suitable degree of protection. The constructor must provide for the necessary strain relief.

Accessories cable entry (Brass, nickel-plated, M20 x 1.5)	Tightening torque	Ordering code
Cable gland	8 Nm	103006011
Cable gland with pressure compensation element	3 Nm	103007570
Locking screw	4 Nm	103006009

Once wired, fit the housing cover and tighten the screws evenly (tightening torque 1 Nm).

4. Set-up and maintenance

The function of the component must be tested.

The following conditions must be previously checked and met:
1. Check the switch enclosure for damage
2. Check for free movement of the actuating element
3. Check the integrity of the cable entry and connections

We recommend carrying out a visual inspection and functional test at regular intervals.

Damaged or defective components must be replaced.


5. Disassembly and disposal

The switchgear may only be removed when de-energised, professionally and in accordance with national rules and regulations.

5.1 Disassembly

The switch must be disassembled in a de-energised condition only.

5.2 Disposal



The switchgear must be disposed of in an appropriate manner in accordance with the national prescriptions and legislations.

6. Declaration of conformity


We hereby certify that the hereafter described components both in their basic design and construction conform to the applicable European Directives.

Relevant Directives:

 2014/35/EU
2011/65/EU

Applied standards:

EN 60947-5-1:2017 + AC:2020



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