

Properties:

- ✓ 1-dimensional tilt switch
- ✓ High resistance to vibrations, low resolution, and accuracy.
- ✓ Plastic housing with metal socket
- ✓ Suitable for industrial use
 - Protection class: IP67 (cable connection)



Areas of application:

- ✓ Lifting platforms and access equipment
- ✓ Agricultural and forestry machinery
- ✓ Commercial vehicles, tail lifts
- ✓ Crane and lifting technology

Function: The tilt switch HNSC-A-UNs-DC monitors tilt deviations from the horizontal (X-axis). If a tilt deviation occurs on one side of the X-axis that is greater than 10° (see sketch "Installation Dimensions"), the switch will open (normally open). The tilt switch will only return to its original operating state once the tilt deviation has been eliminated. The hysteresis is approximately 8°.

Mechanical data:

Housing material: Plastic
 Size: 50 x 50 x 15 mm
 Mounting: Metal socket for screw M4, with toothed washer
 Tightening torque: 2,5 Nm.

Installation: The tilt switch is mounted on the object to be monitored via a central hole. The specified characteristics of the tilt switch refer to a horizontal installation (see installation dimensions). The measuring fluid of the internal mechatronic tilt element connects both measuring electrodes (switch closed). If the position changes by more than 10°, the tilt switch will open.

With appropriate mounting, any switching angles between -90° and +90° can be achieved. Information on installation for a different switching angle can be found in the section "Setting the switching angle."

Measuring range:

Measuring range: -90°...+90° inclination
 Switching angle φ_{ps} : max. 10° tilt deviation from the horizontal

Accuracy:

Accuracy: +/- 2°
 Hysteresis: 8° +/- 1°
 Measuring principle: Mechatronic inclination element

Electrical data:

Operating voltage: 9-30 VDC
 Output current: 500 mA

Output/ Interface:

Switch type: NC contact

Connections:

Connection: cable 3-wire
 1 / BN: Supply voltage +
 2 / BK: Out
 3 / GY: Supply voltage -

Environmental conditions:

Temperature range: -20 °C to 70 °C
 Protection class: DIN IP67

Functional safety:

MTTFd: 6137 years
 Service life: 10 years/
 500.000 switching cycles

The MTTFd/service life values do not constitute binding quality and/or service life commitments; they are merely empirical values without binding character.

Power

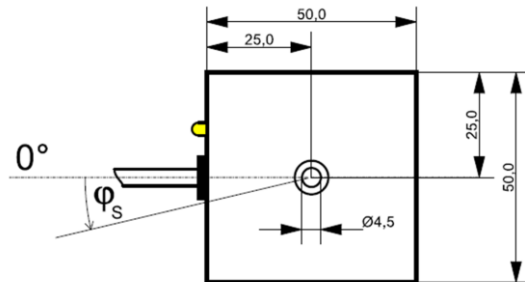
These values do not extend the limitation period for claims for defects or otherwise affect them in any way.

EMC:

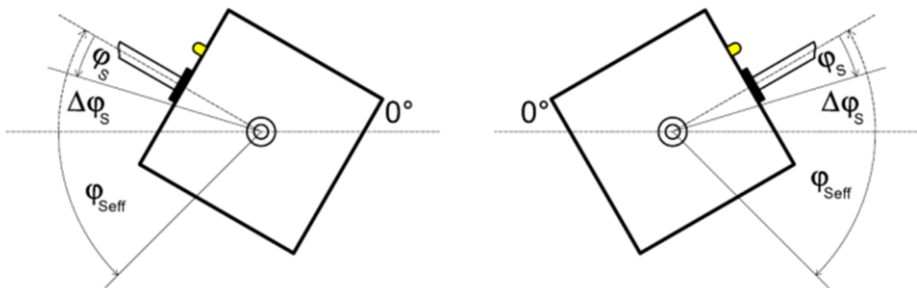
EU Directives: 2014/30/EU EMC Directive,
 2011/65/EU RoHS Directive

Applied standards: EN 61000-6-3:2007 + A1:2011/ AC:2012 (Emissions for residential, commercial, and light industrial areas), EN 61000-6-2:2005 + AC:2005-09 (Immunity for industrial areas)

Installation dimensions



Setting the switching angle



By tilting the installation of the switch by the angle $\Delta\phi_s$ to the horizontal, any effective switching angle ϕ_{seff} can be set.

Effective switching angle: $\phi_{seff} = \phi_s + \Delta\phi_s$

Connection diagram

