

**NSS1-IP****Single axis tilt switching system with 2 switching contacts**

- Measuring range  $\pm 3^\circ$  up to  $\pm 60^\circ$  or 0 ...  $90^\circ$
- Switching accuracy max. 0,5% of measuring range
- Supply voltage 18 ... 30 VDC
- Output: 2 potential-free switching contacts (max. 30VDC/0,5A)

**Description**

The single axis industrial tilt switching system NSS1-IP is the combination of a non-contact inclination sensor AccuStar®-EA and sensor adapted electronics. The measuring system is designed for precise tilt monitoring in one axis and intended for side assembly. Available tilt measuring & monitoring ranges are  $\pm 3^\circ$  to  $\pm 60^\circ$  or 0 ...  $10^\circ$  to 0 ...  $90^\circ$ . By using the build-in potentiometers, which can be seen after removing the case cover, the switching setpoints can be adjusted as needed over the whole measuring range. The relays have potential-free switching contacts (max. 30 VDC / 0.5 A).

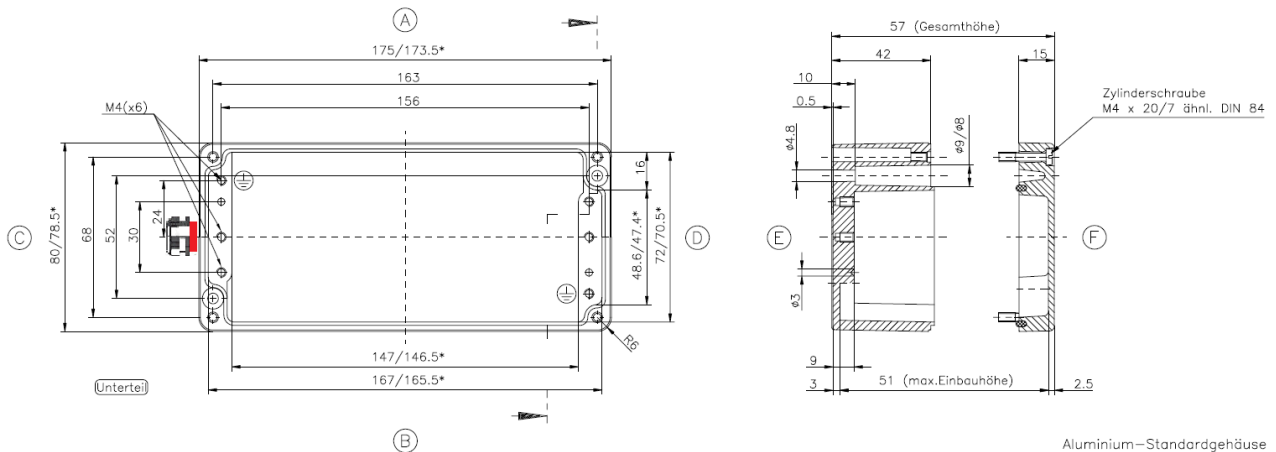
The tilt measuring system is built into a robust EMC-safe die-cast aluminium enclosure (IP66), which is well suited for applications in rough and industrial environments.

**Specifications**

|                                     |   |
|-------------------------------------|---|
| Number of measuring axis:           | 1   |
| Supply voltage:                     | 18 ... 30 VDC, electronics protected against voltage reversal   |
| Power consumption:                  | ca. 4 W   |
| Test signal:                        | 2 ... 10 V, not short-circuit proof   |
| Frequency range (-3dB):             | 0,5 Hz  |
| Preferred measuring range:          | $\pm 3^\circ, \pm 5^\circ, \pm 10^\circ, \pm 15^\circ, \pm 20^\circ, \pm 30^\circ, \pm 45^\circ, \pm 60^\circ$<br>0 ... $10^\circ, 0 \dots 30^\circ, 0 \dots 45^\circ, 0 \dots 60^\circ, 0 \dots 90^\circ$<br>other measuring ranges on request |
| Cross-sensitivity:                  | < 1% up to $\pm 60^\circ$   |
| Number of relay switching contacts: | 2   |
| Max. power rating of relay:         | 30 VDC / 0,5 A  |
| Switching accuracy at 23 °C:        | max. 0,5% of measuring range  |
| Electrical connection:              | M16 x 1,5 EMC cable glands on internal spring-cage terminal blocks  |
| Enclosure:                          | EMC-safe aluminium die-cast enclosure   |
| Protection class:                   | IP66  |
| Dimensions (W x H x D):             | 175 x 80 x 57 mm (without EMC cable glands)   |
| Weight:                             | 1.000 g   |
| Temperature, storage:               | -20 ... +60 °C  |
| Temperature, operating:             | -20 ... +60 °C  |

For further specifications see datasheet AccuStar®-EA

## ■ Dimensions of enclosure



## ■ Terminal wiring

Electrical connections are made via the EMC cable glands to the internal spring-cage terminal blocks. The maximal connection cross section is 2,5 mm<sup>2</sup>. Although this system is designed with a high degree of immunity to electromagnetic interferences (EMI), proper installation and wiring methods must be followed to ensure compatibility in each application.

| Terminal | Description                    | Terminal | Description                    |
|----------|--------------------------------|----------|--------------------------------|
| 1        | +Supply voltage 18 ... 30 VDC  | 6        | Setpoint 1 N/C contact -X-axis |
| 2        | Ground supply voltage          | 7        | Setpoint 1 COM contact -X-axis |
| 3        | Setpoint 1 N/C contact +X-axis | 8        | Setpoint 1 N/O contact -X-axis |
| 4        | Setpoint 1 COM contact +X-axis | 9        | Ground test signal             |
| 5        | Setpoint 1 N/O contact +X-axis | 10       | Test signal X-axis             |

Valid range: 3-4 closed, LED on; limit value exceeded: 4-5 closed, LED off  
Valid range: 6-7 closed, LED on; limit value exceeded: 7-8 closed, LED off

## ■ Ordering information

|                        |   |
|------------------------|---|
| <b>NSS1-IP-24E-...</b> | Single axis tilt switching system with 2 switching contacts                                 |
| <b>...-xx-...</b>      | Measuring range (see note below)  |
| <b>...-2G</b>          | 2 adjustable switching setpoints with potential-free switching contacts (max. 30VDC / 0,5A) |

**Note:** When placing an order, please fill in placeholder „xx“ with the wanted tilt measuring range.

### Example:

Measuring range  $\pm 45^\circ$  → NSS1-IP-24E-B45-2G  
Measuring range 0 ... 10° → NSS1-IP-24E-010-2G

## ■ Customized Requirements

Technical modifications according to customer requirements are available on request. Moreover, we deliver customized special solutions for a lot of measuring tasks in the section pressure, force, position and tilt measuring using our measuring transducers. Do not hesitate to contact us.

We reserve the right to do technical changes without prior notice.

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