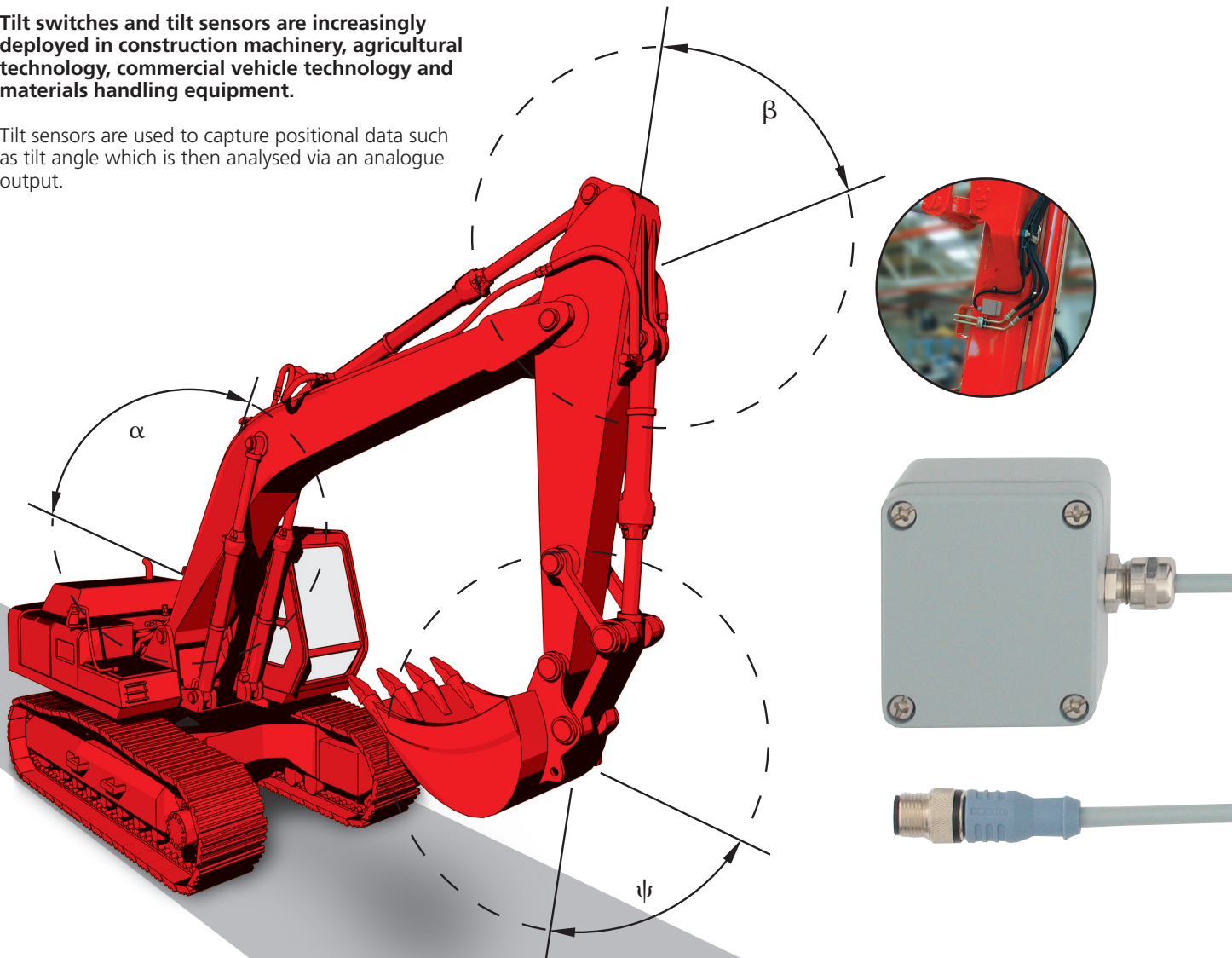


Tilt Sensors

With 4 ... 20 mA current output for a measuring range of $\pm 10^\circ$, $\pm 20^\circ$, $\pm 45^\circ$ and $\pm 80^\circ$

Tilt switches and tilt sensors are increasingly deployed in construction machinery, agricultural technology, commercial vehicle technology and materials handling equipment.

Tilt sensors are used to capture positional data such as tilt angle which is then analysed via an analogue output.



Fully electronic tilt sensors from Bernstein are the first choice when it comes to replacing existing mercury switches with electronic solutions and thereby offsetting the disadvantages of those switching contacts already in use. These issues include sensitivity to vibrations, inaccurate angle capture, high inertia and heavy metal load.

Your contact at Bernstein AG:

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Requirements for outdoor use:

- Extended temperature range -40°C to $+80^\circ\text{C}$ (worldwide use)
- Weathering resistance
- Resistant to oils, dust, etc.

Features:

- Rugged metal housing 58 x 64 x 32 mm
- EMC-compatible switching design
- Other measuring ranges upon request
- Fully electronic design eliminates machine vibration for functional reliability

Electrical data

Working range	S	$\pm 80^\circ$ (other working ranges upon request))
Mounting		vertical, cable down
Current output	I	4 ... 20 mA
Voltage output	U	Voltage output upon request
Repeat accuracy	R	$\leq 0,3\%$ full scale
Working resistance	R _L	0 ... 250 Ω
Measurement error		$\pm 5\%$ full scale
Filter time	t	500 ms
Operational voltage range	U _B	10-53 VDC; including ripple
No-load supply current	I ₀	≤ 10 mA
False polarity protection		yes

Electromagnetic compatibility (EMC)

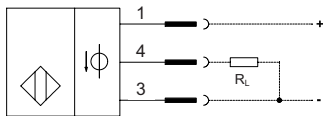
Electromagnetic field test	IEC 61000-4-3	10 V/m
Electrostatic discharge test	IEC 61000-4-2	4 kV
Electrical fast transient immunity test (Burst)	IEC 61000-4-4	2 kV, coupling clamp
Impulse voltage withstand ability (Surge)	IEC 61000-4-5	1000 V, 1,2/50 μ s at R _i = 42 Ohm
Radiated disturbance field strength	EN 55011	≤ 40 dB (μ V/m)

Mechanical data

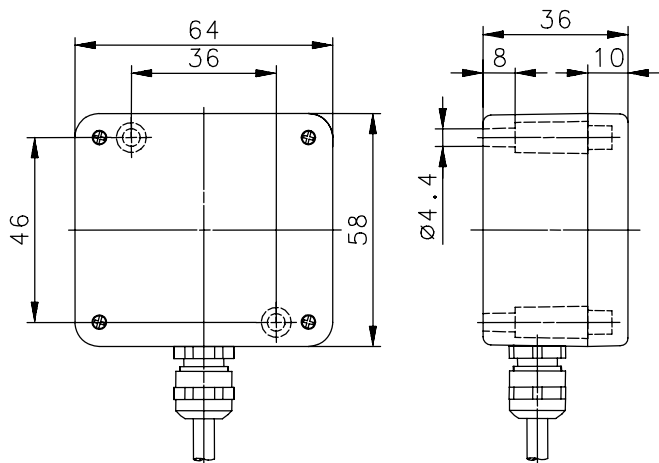
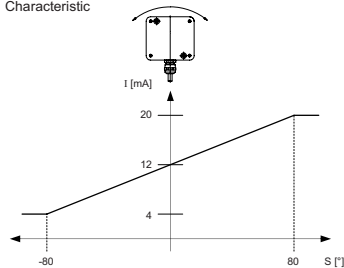
Enclosure	58 x 64 x 36 mm Aluminium, coated
Ambient air temperature	-40 °C ... +80 °C (cable fixedmounted ; U _B = 24 V)
Type of protection	IP67 (NEMA 4)
Termination type	Cable 3 x 0,34 mm ² x 0,2 m $\pm 5\%$; with plug connector M12x1
Shock	10-55 Hz; a = 1 mm
Vibration	30 g; t _{stoss} = 11 ms

EC conformity

Wiring diagram



Characteristic

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