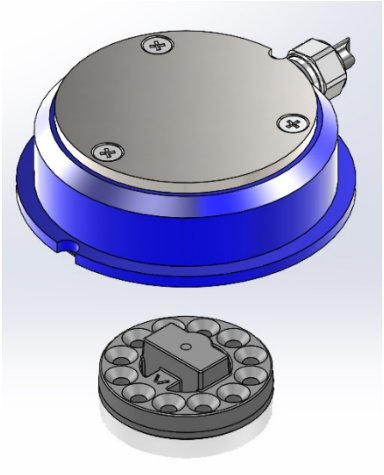
MOBIL ELEKTRONIK GMBH

Safety angle transducer Type Series

Two-part design, analog output 533 6AW

Special features

- Contactless measuring principle
- Integrated signal amplifier
- Redundant design for safety-relevant applications
- Approval according to ECE-R10
- Two-part design for direct integration into bearing arrangements
- Extremely robust construction
- Long service life
- High resolution
- Available in different housing versions (see order code)



Electrical data

Signal output range	0,25 V ... 4,75 V	4 mA … 20 mA
Supply voltage	+9 VDC …. +34 VDC	+9 VDC …. +34 VDC
Current consumption	25 mA typical	max. 60 mA
Output current	≤ 1 mA *)	-
Working resistance	-	max. 250 Ω
External voltage at signal output	≤ 34 V	≤ 34 V
Resolution	12 Bit	12 Bit
Repeat accuracy	≤ 0,1°	< 0,2% of working range **)
Linearity (related to the measuring range)	≤ ±0,75 %	- ±1 %

*) ≤ 0,05 mA for specified accuracy

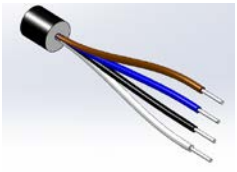
**) after noise reduction

Environmental properties (ISO16750)

Protection class (ISO 20653) Housing/cable entry	IP6K6K / IP6K8 (1m;12h) / IP6K9K (deviations possible depending on housing design.)
Operating temperature	-40 °C to +85 °C (deviations possible depending on the cable/connector used)
Storage temperature	-40 °C to +85 °C (deviations possible depending on the cable/connector used)
Vibration resistance	(in preparation)
Random vibrations	10 ... 2000 Hz average acceleration 57.9 m/s²
Sinusoidal oscillations	35 Hz, 100 ... 300 m/s²
Shock resistance	500 m/s² Half sine 6 ms (in preparation)

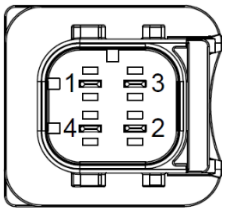
Electrical connection

4 wire cable with open end



Wire color	Assignment
brown	Supply $+U_B$
black	Out A
white	Out B
blue	Ground GND

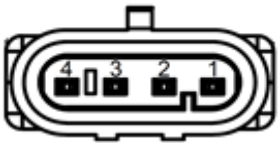
4-pin HDSCS connector (TE Connectivity 2-1703818-1, contacts tin plated)



Pin	Assignment
1	Ground GND
2	Out A
3	Supply $+U_B$
4	Out B

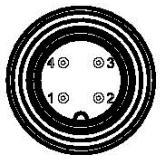
4-pin connector AMP-Superseal (1.5 Series 282106-1, contacts tin plated)

(operating temperature -30°C ... +85°C)



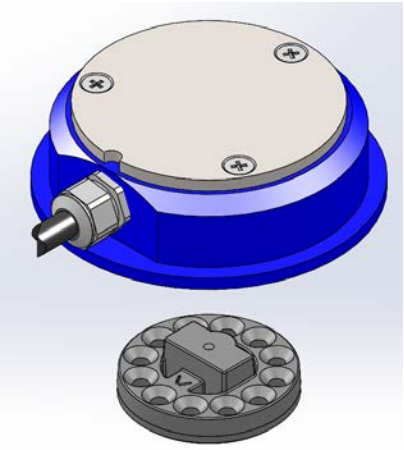
Pin	Assignment
1	Supply +UB
2	Out A
3	Out B
4	Ground GND

4-pole M12 connector (Lumberg Automation - Type: RST, contacts gold plated)



Pin	Assignment
1	Versorgung $+U_B$
2	Out B
3	Masse GND
4	Out A

2-part design for integration in bearing arrangements without grease lubrication pressure



Housing Ø66 mm

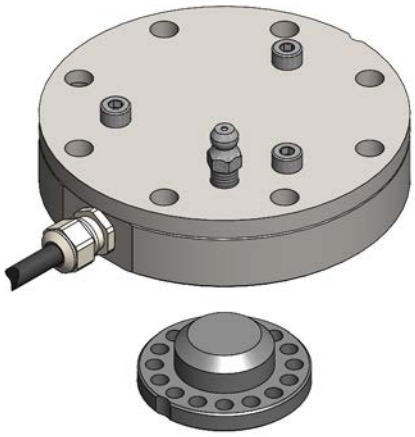
Mechanical data

Lifetime	Wear-free
Mechanical setting angle	360° rotatable
Corrosion resistance	
Magnetic carrier:	Plastic
Housing:	Aluminium alloy, anodised
Cover:	Stainless steel
Cable gland:	Brass, nickel-plated
Installation area	The angle transducers are not suitable for installation areas with grease lubrication pressure!

Definition of rotational direction

View on the back side of the transducer and steady magnet carrier unit, clockwise rotation of the transducer results in an increasing signal OUT A and a decreasing signal OUT B.
(Deviating signal gradient on request).

2-part design for integration in steering knuckle bearing arrangements with grease lubrication pressure



Housing Ø85 mm

Housing Ø55 mm

Mechanical data

Lifetime	Wear-free
Mechanical setting angle	360° rotatable
Corrosion resistance	
Magnetic carrier:	Aluminium alloy
Housing:	Stainless steel
Cover:	Stainless steel
Cable gland:	Brass, nickel-plated
Installation area	The angle transducers are suitable for installation areas with grease pressure of up to 80 bar.

Definition of rotational direction

View on the back side of the transducer and steady magnet carrier unit, clockwise rotation of the transducer results in an increasing signal OUT A and a decreasing signal OUT B.
(Deviating signal gradient on request).

Order code

533 6AW - ☐☐☐ - ☐☐☐☐ - ☐

Measuring range to center position

±35°	3
±60°	4
±45°	5
±90°	7
±135°	8
±175°	9

Housing designs / installation spaces

Bearing arrangements without grease pressure (special vehicles or functions)

Ø66mm with plastic magnet carrier Ø34mm	A A

Steering knuckle bearing arrangements with grease pressure (road vehicles)

Ø85mm with aluminium magnet carrier Ø40mm	K K
Ø55mm for Kessler installation space 10.9271 with aluminium magnet carrier Ø37mm	L L

Connector / cable type / length

without plug, 4x0,34 PUR unshielded for flexible use, cable length 1.0 m	A 1 0 E
without connector, 4x0.34 PUR unshielded for flexible use, cable length 4.0 m	A 4 0 E
4-pin M12x1 cable plug, 4x0.34 PUR unshielded for flexible use, cable length 0.5 m	J 0 5 H
4-pin HDSCS plug, 4x0.34 PUR unshielded, flex. use, cable length 1.5m + corrugated tube	E 1 5 F
4-pin AMP Superseal, 4x0.34 PUR unshielded for flexible use, cable length 0.5m	S 0 5 E

Customized special version

Standard	0
Current output 4 mA ... 20 mA	W

This data sheet describes the typical values and properties of the series. Deviations are possible depending on the product. For product-specific values and properties, please refer to the product data sheet.

Technical changes due to further technical development reserved.