

Inclination and gyro sensor NGS

Sensors

KEY FEATURES

- Sensor for measurement of angular velocity and acceleration in 3 axes
- Determination of inclination in relation to the installation position
- Robust design for use in harsh environments
- Various configurations possible
- High long-term stability
- Easy installation and commissioning
- With ECE type approval

TECHNICAL DATA

- Gyro measurement range $-50 \dots +50 \text{ }^\circ/\text{s}$
- Inclination measurement range $-180 \dots +180 \text{ }^\circ$
- CANopen protocol
- Protection class IP69K

Sensor-Technik Wiedemann GmbH

Am Bärenwald 6
87600 Kaufbeuren
+49 8341 9505-0
info.stw@wiedemann-group.com
www.stw-mm.com

TECHNICAL DATA

Sensor

Sensor type	Sensor feature	Description / value
Gyro:	bandwidth 3 dB	40 Hz
	measurement range	$\pm 50^\circ/\text{s}$ (typ. $75^\circ/\text{s}$)
	resolution	$0.25^\circ/\text{s}$
	accuracy offset	$\pm 0.5^\circ/\text{s}$
	accuracy gain	$\pm 0.5\%$ FS
	nonlinearity	$\pm 0.1\%$ FS
	acceleration effect	$(0.1^\circ/\text{s})/\text{g}$
Acceleration:	bandwidth 3 dB	15 Hz
	measurement range	$\pm 2\text{ g}$
	resolution	0.2 mg
	accuracy offset	$\pm 15\text{ mg}$
	accuracy gain	$\pm 0.5\%$ FS
	nonlinearity	$\pm 0.5\%$ FS
Inclination:	bandwidth 3 dB	15 Hz
	measurement range	$\pm 180^\circ$
	resolution	0.01°
	accuracy	$\pm 1.5^\circ$ (typ. 0.5°)

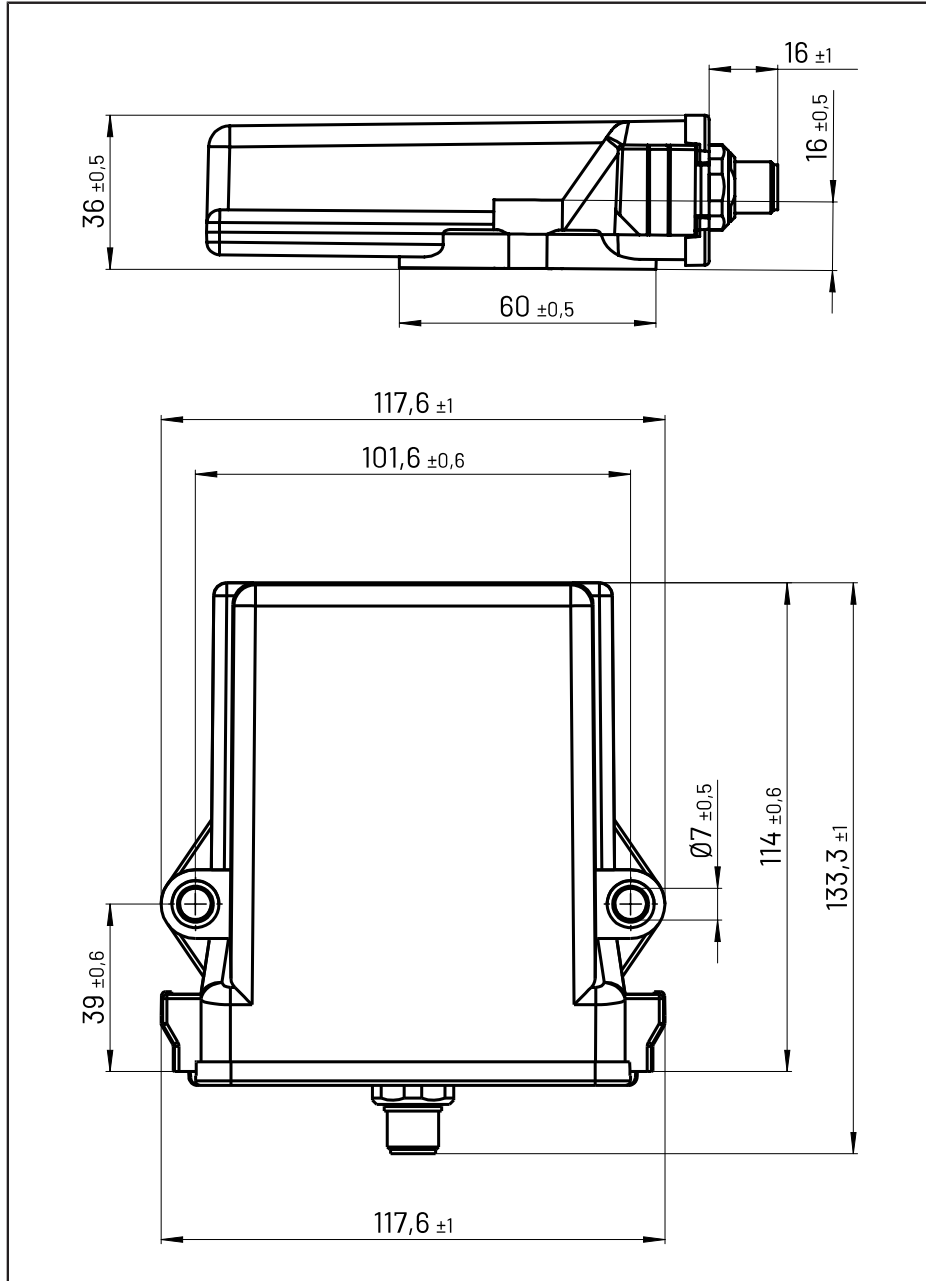
CAN Interface

CAN feature	Description
Maximal bitrate	1 Mbit/sec
Short-circuit	Protected against short-circuit
Bus termination	external
Physical layer	2-wire interface, 5 V level according to ISO 11898-2
CAN protocol	CANopen DS301, device profile DS404

Power Supply

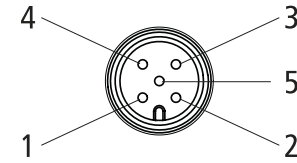
Supply feature	Description
Supply voltage	9 ... 36 V DC, protected against reverse polarity
Current consumption	120 mA at 12 V, 60 mA at 24 V

TECHNICAL DRAWING



PIN ASSIGNMENT



Pin assignment 5 pin M12 connector:



Pin	Name	Description
1	–	Do not Connect
2	VCC	Power supply
3	GND	Common Ground
4	CAN_H	CAN bus (high)
5	CAN_L	CAN bus (low)

QUALIFICATION

Compliance Information

Standard	Description	Parameter
ISO/IEC 17050-1	 Conformity	See Declaration of Conformity
KBA (Kraftfahrt-Bundesamt)	 Certification Requirement in accordance to the EC type-approval of the Kraftfahrt-Bundesamt (KBA) - Federal Motor Transport Authority: All vehicle types with a 12 V respectively 24 V - electrical wiring and battery(-) at the body.	According UN ECE Regulation No. 10
RoHS	Restriction of Hazardous Substances	

DETAILED QUALIFICATION

Environmental Qualification

Environment	Description / standard / value
Operating temperature	-40 ... +85 °C
EMC	EN ISO 14982
Temperature	EN 60068-2-14, EN 60068-2-2
Climatic	EN 60068-2-30
Shock	EN 60068-2-27
Vibration:	EN 60068-2-64
Chemical resistance	Diesel fuel, hydraulic fluid, antifreeze fluid, NaCl
Protection class	IP69K