



AKS-090-2-C901-HK2-PW

POSITAL
FRABA



Product Description

POSITAL TILTIX 2 Axes inclinometer: J1939 interface, Dynamic / Accelerometer + Gyroscope technology and IP68 / IP69K protection class.

GENERAL SPECIFICATIONS



Application	Dynamic 2-Axes Inclinometer
Measurement Range	$\pm 90^\circ$
Accuracy (INL)	$\pm 0.30^\circ$
Resolution	0.01°
Repeatability	$\leq 0.05^\circ$
Dynamic Accuracy	$\pm 0.50^\circ$
Cycle Time Base Sensor	5 ms
Hysteresis	$\leq 0.05^\circ$
Device Orientation	Horizontal

ELECTRICAL SPECIFICATIONS



Supply Voltage	9 - 30 VDC
Current Consumption	$\leq 65 \text{ mA @ } 10 \text{ V DC}, \leq 60 \text{ mA @ } 24 \text{ V DC}$
EMC: Emitted Interference	DIN EN 61000-6-4
EMC: Noise Immunity	DIN EN 61000-6-2
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
MTTF	260 years @ 40 °C

ENVIRONMENTAL SPECIFICATIONS



Min Temperature	-40 °C (-40 °F)
Max Temperature	+75 °C (+167 °F)
Storage Temperature	-40 °C (-40 °F) - +85 °C (+185 °F)
Temperature Gradient	0.008°/ K
Protection Class (Housing)	IP68/IP69K
Shock Resistance	≤ 100 g (half sine 6 ms, EN 60068-2-27)
Vibration Resistance	1.5 mm (10 Hz - 58 Hz) & ≤ 20 g (58 Hz to 2000 Hz)

MECHANICAL SPECIFICATIONS



Housing Material	Die-Cast Aluminum Alloy
Potting Material	PUR (Polyurethane)
Weight	220 g (0.49 lb)

INTERFACE



Interface	J1939
Settling Time	50 ms
Output Driver	Transceiver (ISO 11898), Galvanically Isolated by Opto-Couplers
Transmission Rate	125 kBaud, 250 kBaud, 500 kBaud
Default Transmission Rate	250 kBaud
Default Node ID	C0h
Default PGN	PGN 65280 (X-Angle, Y-Angle, Acceleration x, Acceleration y) + PGN 65281 (Acceleration z, Gyro x, Gyro y, Gyro z)

ELECTRICAL CONNECTION



Connection Type	Connector 2 x M12 (CAN) Male+Female
Connector 1	M12, Male, 5 pin, a coded
Connector 2	M12, Female, 5 pin, a coded

PRODUCT LIFE CYCLE



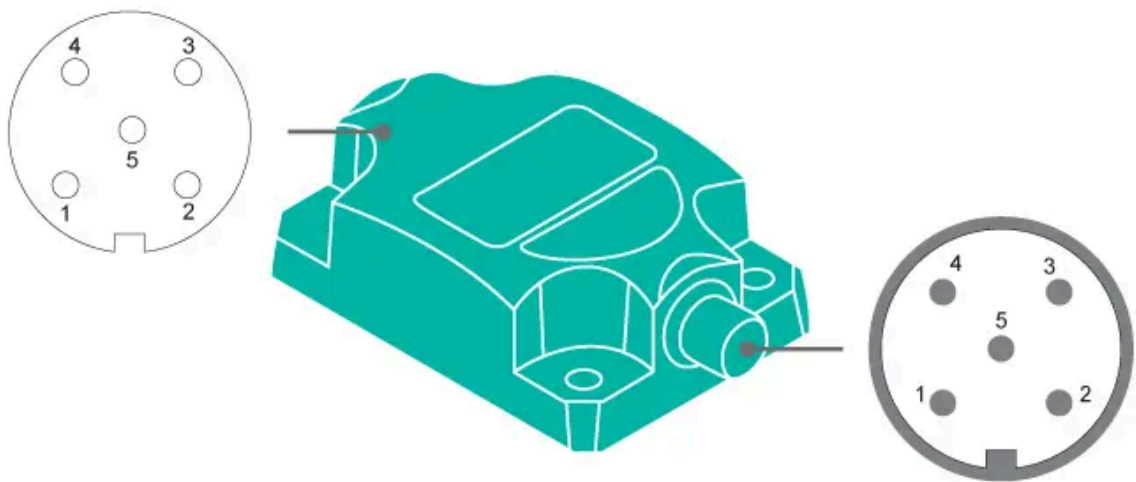
Product Life Cycle	Discontinued
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CERTIFICATION



Approval	CE + E1
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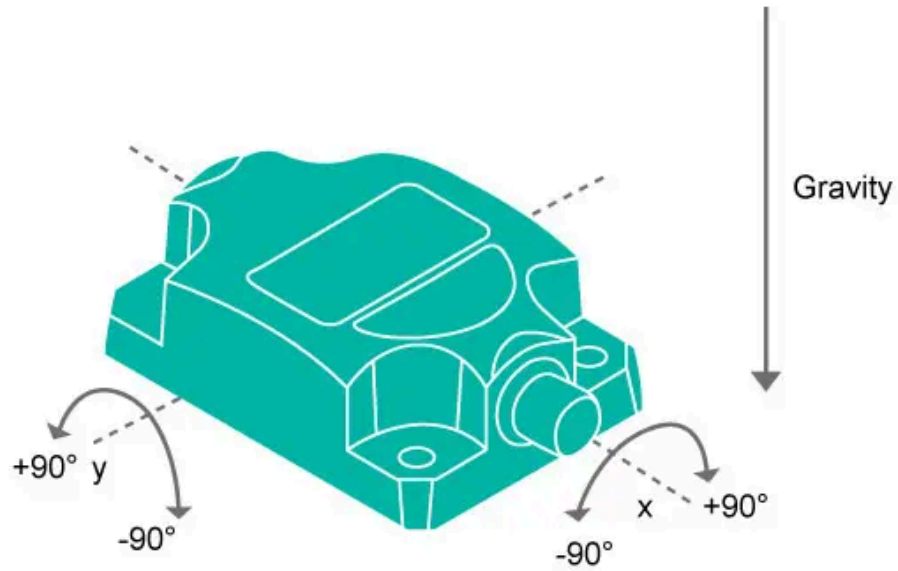
Connection Plan



Signal	Connector	Pin Number
Power Supply	1	2
GND	1	3
CAN High	1	4
CAN Low	1	5
CAN GND	1	1
Power Supply	2	2
GND	2	3
CAN High	2	4
CAN Low	2	5
CAN GND	2	1

Drawings

Device Orientation



Only for reference of the orientation of the product.

Online Datasheet

