



The TRS.184 is an inclinometer sensor based on a double CPU, a double 3D-MEMS accelerometer and a double gyroscope, in a fully redundant circuit scheme.

Using a special algorithm, the device can filter and improve the measure accuracy in presence of vibration and acceleration loads.

It can be implemented as SLAVE in a CAN network.

The polyurethane resin case makes the sensor suitable for use on machines that operate in harsh work environments.

It's E3 certified UNECE regulation 10 automotive.



TECHNICAL FEATURES

MASTER CODE	TRS.184
POWER SUPPLY	9-36 VDC / CURRENT CONSUMPTION 10 mA AT 24 VDC
CAN BUS	1 PORT
	2.0B COMPLIANT - (11, 29 BIT) - ISO 11898 - UP TO 1MBIT/S
CAN BUS PROTOCOLS	CAN OPEN (CIA DS410 DEVICE PROFILE FOR INCLINOMETER, WITH DS306 COMPLIANT EDS FILE)
TECHNOLOGY	3D-MEMS ACCELEROMETER AND GYROSCOPE
SAFETY	DOUBLE CPU AND DOUBLE SENSOR
CONNECTION PORT	WIRED, WITH SUPERSEAL/M12 CONNECTOR
LED	N.1 BI-COLOR STATUS LED
CASE	ENCAPSULATED IN PUR RESIN - SELF-EXTINGUISHING UL94 (V0)
WORKING TEMPERATURE	-40°C +85°C (TEMPERATURE DRIFT-REDUCTION)

MEASURE FEATURES

OPTIONS	ANGLE – TILT
FILTERING	USER CONFIGURABLE
RESOLUTION	UP TO 0,01°
ADDITIONAL DATA	3-AXIS ACCELERATION ACCURACY: 0,5 mg/sample
	3-AXIS ROTATION SPEED ACCURACY: 0,03 (deg/s)/sample





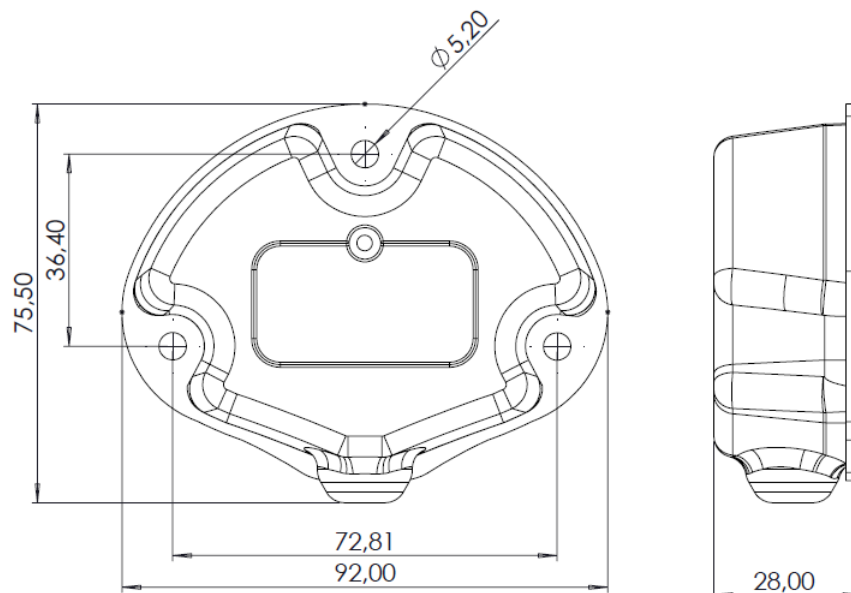
ELECTRONIC FEATURES

SLAVE USAGE	EDS FILE
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL
CONFIGURING	THROUGH ALTILT CONFIG
SAMPLE TIME	LESS THAN 5 ms
CPU	DOUBLE ARM CORTEX M4, 32 bit MICROCONTROLLER CORE

STANDARDS

ELECTROMAGNETIC EMISSIONS	EN 61000-6-4
ELECTROMAGNETIC IMMUNITY	EN 61000-6-2
ROAD VEHICLES — ELECTRICAL DISTURBANCES FROM CONDUCTION AND COUPLING — PART 2	ISO 7637-2: 2011
ROAD VEHICLES — COMPONENT TEST METHODS FOR ELECTRICAL DISTURBANCES FROM NARROWBAND RADIATED ELECTROMAGNETIC ENERGY — PART 1	ISO 11452-1: 2005
VERIFICATIONS AND TESTS PERFORMED ACCORDING TO THE REQUIREMENTS OF UNECE REGULATION 10 - AMENDMENT 06 - SUPPLEMENT 0	E3 – TYPE APPROVAL
BOX IP	IP68
MTTFd CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), WITH ENVIRONMENTAL FACTORS 3K7 (IEC60721)	231,98 YEARS
PERFORMANCE AND SAFETY INTEGRITY LEVEL	PLd – SIL2 (DUAL CHANNEL INTERNAL SCHEME)

SIZE (mm)





TRS.184

THREEAXIAL ANGULAR SAFETY SENSOR with
DINAMIC COMPENSATION

ELECTRICAL CONNECTIONS

CABLE + CONNECTOR SUPERSEAL CONNECTOR 4 POLES CABLE L: 300 mm	PINOUT		
	1	POSITIVE POWER SUPPLY	
	2	CAN L	
	3	GND	
	4	CAN H	

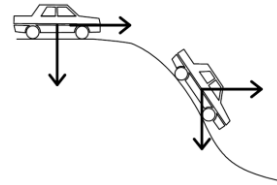
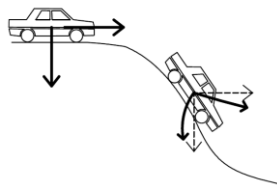
CABLE + CONNECTOR M12 MALE CONNECTOR 5 POLES CABLE L: 50 or 300 mm	PINOUT		
	1	CAN GND	
	2	POSITIVE POWER SUPPLY	
	3	GND	
	4	CAN H	
5	CAN L		

CABLE CABLE L: 1000 mm	PINOUT		
	BN	POSITIVE POWER SUPPLY	
	WH	CAN L	
	BK	CAN H	

FEATURES

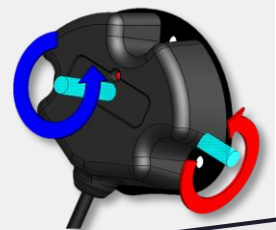
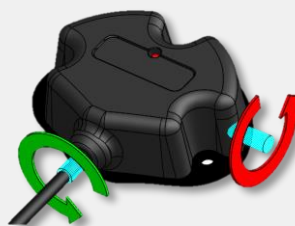
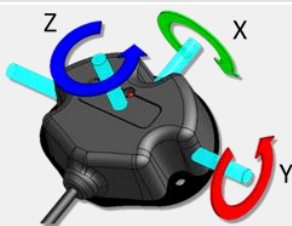
DEVICE SUITABLE FOR MOTION APPLICATION WITH BASIC CONSTANT REFERENCE

ACCURACY OF A TRADITIONAL DEVICE	ACCURACY WITH TRS.184
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MEASURE OPTIONS

S00	S01	S04	S10
TRANSDUCER IN ANGLE MEASUREMENT MODE ON X, Y, Z AXES, WITH CONFIGURABLE PARAMETERS	TRANSDUCER IN ANGLE MEASUREMENT MODE ON Z AXLE	TRANSDUCER IN TILT MEASUREMENT MODE ON X AND Y AXES	TRANSDUCER IN ROTATION MEASUREMENT MODE ON Z AND Y AXES





ALMEC
MECHATRONICS

NOTE