

# MECHATRONICS

TRS.184

THREEAXIAL ANGULAR SAFETY SENSOR with DINAMIC COMPENSATION



The TRS.184 is an inclinometer sensor based 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.



E3 certified UNECE regulation It's 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		PUR MOUNTING BRACKET: STEEL, WITH CATAPHORESIS TREATMENT		
WORKING TEMPERATURE		-40°C +85°C (TEMPERATURE DRIFT-REDUCTION)		

MEASURE FEATURES		
OPTIONS	ANGLE – TILT	
FILTERING	USER CONFIGURABLE	
RESOLUTION	UP TO 0,01°	[K(M)]
ADDITIONAL DATA	3-AXIS ACCELERATION ACCURACY: 0,5 mg/sample	■ 22株利
ADDITIONAL DATA	3-AXIS ROTATION SPEED ACCURACY: 0,03 (deg/s)/sample	Scan me



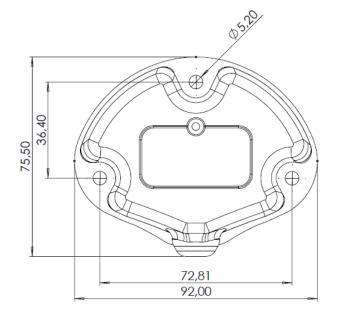
TRS.184

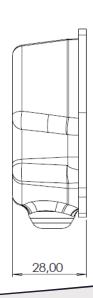
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ELECTRONIC FEATURES			
SLAVE USAGE	BY EDS FILE (CODESYS COMPATIBLE)		
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL		
CONFIGURING	THROUGH ALTILT CONFIG		
SAMPLE TIME	LESS THAN 5 ms		
CPU	DOUBLE ARM CORTEX M4, 32 bit MICROCONTROLLER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







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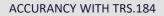
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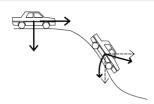
### **ELECTRICAL CONNECTIONS PINOUT CABLE + CONNECTOR** 1 POSITIVE POWER SUPPLY SUPERSEAL CONNECTOR 2 CAN L 4 POLES 3 **GND** CABLE L: 300 mm 4 CAN H **PINOUT CABLE + CONNECTOR** 1 **CAN GND** POSITIVE POWER SUPPLY M12 MALE CONNECTOR 5 POLES 3 **GND** CAN H CABLE L: 50 or 300 mm 5 CAN L **PINOUT** BN POSITIVE POWER SUPPLY **CABLE** WH CAN L CABLE L: 1000 mm BU GND CAN H BK

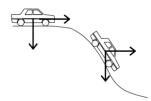
## **FEATURES**

# DEVICE SUITABLE FOR MOTION APPLICATION WITH BASIC CONSTANT REFERENCE

ACCURANCY OF A TRADITIONAL DEVICE







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				







