



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	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°
ADDITIONAL DATA	3-AXIS ACCELERATION ACCURACY: 0,5 mg/sample
	3-AXIS ROTATION SPEED ACCURACY: 0,03 (deg/s)/sample





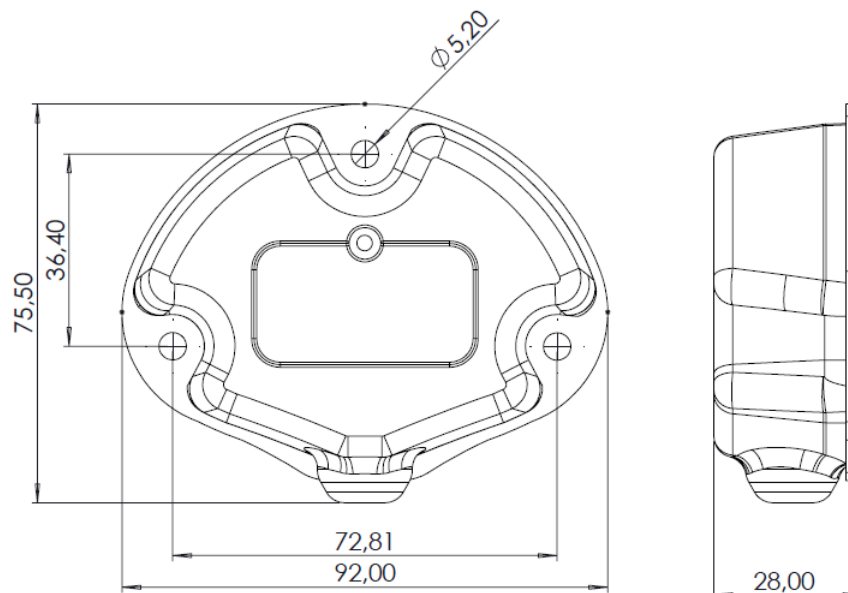
## ELECTRONIC FEATURES

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)





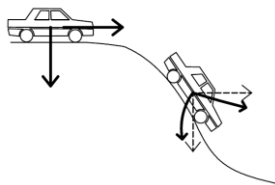
### ELECTRICAL CONNECTIONS

<b>CABLE + CONNECTOR</b>  SUPERSEAL CONNECTOR 4 POLES  CABLE L: 300 mm	<b>PINOUT</b>		
	1	POSITIVE POWER SUPPLY	
	2	CAN L	
	3	GND	
<b>CABLE + CONNECTOR</b>  M12 MALE CONNECTOR 5 POLES  CABLE L: 50 or 300 mm	<b>PINOUT</b>		
	1	CAN GND	
	2	POSITIVE POWER SUPPLY	
	3	GND	
	4	CAN H	
<b>CABLE</b>  CABLE L: 1000 mm	<b>PINOUT</b>		
	BN	POSITIVE POWER SUPPLY	
	WH	CAN L	
	BU	GND	
	BK	CAN H	

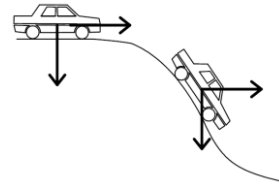
### FEATURES

DEVICE SUITABLE FOR MOTION APPLICATION WITH BASIC CONSTANT REFERENCE

ACCURACY OF A TRADITIONAL DEVICE



ACCURACY WITH TRS.184



### 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