



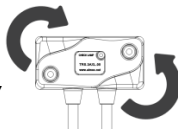
The TRS.TCM is an inclinometer sensor based on a double CPU and a double 3D MEMS accelerometer, in a fully redundant circuit scheme, with two independent outputs both 0-5 V and 4-20 mA.

It can be implemented as SLAVE in a CAN network.

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



TILT
MODALITY



ANGULAR
MODALITY

TECHNICAL FEATURES

MASTER CODE		TRS.TCM
POWER SUPPLY		9-36 VDC / CURRENT CONSUMPTION 30 mA AT 24 VDC (STAND BY MODE)
OUTPUT		(x2) 4 ÷ 20 mA – WITH PROGRAMMABLE OUTPUT SCALE FACTOR
		(x2) 0 ÷ 5 VDC – WITH PROGRAMMABLE OUTPUT SCALE FACTOR
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)
LED		NR.1 STATUS LED
TECHNOLOGY		3D MEMS ACCELEROMETER
SAFETY		DOUBLE CPU AND DOUBLE SENSOR
MEASURE OPTIONS		ANGLE
		TILT
CONNECTION PORT	1	WIRED, 1 m CABLE, WITH 8 POLES DEUTSCH CONNECTOR
CASE		PUR
WORKING TEMPERATURE		-40°C +80°C





ELECTRONIC FEATURES

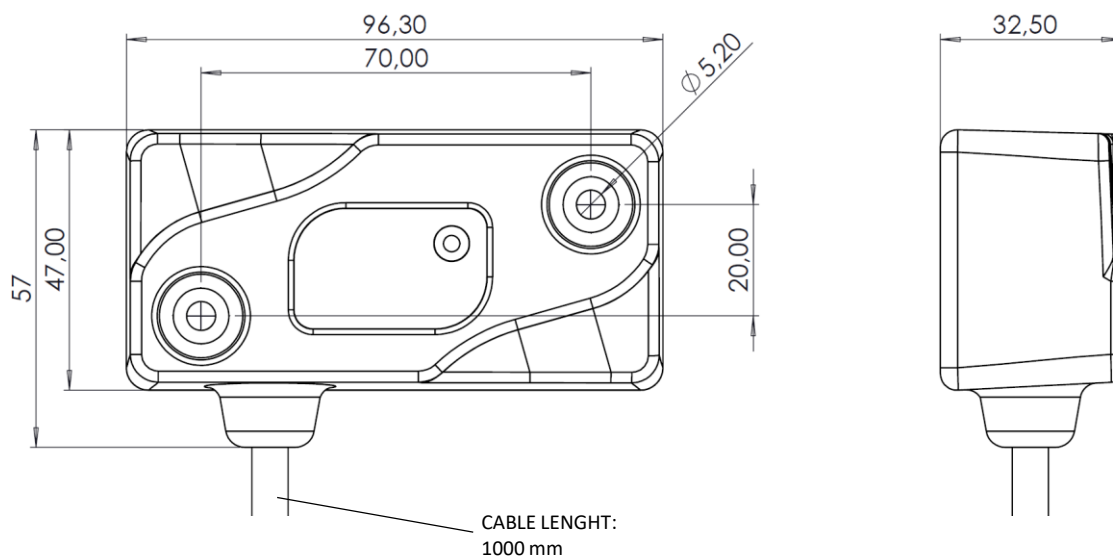
SLAVE USAGE	BY EDS FILE (CODESYS COMPATIBLE)	
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL	
CONFIGURING	THROUGH ALTILT CONFIG	
CPU	DOUBLE 16 bit MICROCONTROLLER CORE	
SAMPLE TIME	LESS THAN 5 ms	
MEASURING RANGE	TILT	0 - 360°
	ANGLE	-180°+180°
ACCURACY	TILT	0,01°
	ANGLE	0,1°

STANDARDS

ELECTROMAGNETIC EMISSIONS	EN 61000-6-4// EN 55011 (RF RADIATE)
ELECTROMAGNETIC IMMUNITY	EN 61000-6-2// EN 61000-4-2/3/4/6
IP	BOX: IP68
MTTFd	214,04 YEARS CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), WITH ENVIRONMENTAL FACTORS 3K7 (IEC60721)
PERFORMANCE AND SAFETY INTEGRITY LEVEL	PLd – SIL2 (DOUBLE-CHANNEL INTERNAL SCHEME)

IN ACCORDANCE WITH THE EN50498 THE DEVICE MEETS THE TECHNICAL SPECIFIC REQUIREMENTS OF 2004-104 DIRECTIVE (AUTOMOTIVE). THE DEVICE IS EMC 2004/108 COMPLIANT.

SIZE (mm)





PINOUT CONNECTOR



PIN	CABLE COLOR	DESCRIPTION	PIN	CABLE COLOR	DESCRIPTION
1	BN	POSITIVE POWER SUPPLY	5	BU	4-20 mA OUTPUT
2	WH	GND POWER SUPPLY	6	BK	4-20 mA OUTPUT
3	YE	CAN L	7	VT	0-5 V OUTPUT
4	OR	CAN H	8	GY	0-5 V OUTPUT

OUTPUT FEATURES

0-5 V		INTERNAL SCHEME	
MIN RESISTANCE LOAD	10 kΩ		CONNECTOR 3) CAN L 4) CAN H 5) 4-20 mA 7) 0-5 V
CENTRAL (0 DEGREE) OUTPUT VALUE	2,5V		
MIN OUTPUT VOLTAGE	0,5V		
MAX OUTPUT VOLTAGE	4,5V		
NUMBER OF OUTPUT STEPS	4096 (12 BIT)	CONNECTOR 6) 4-20 mA 8) 0-5 V	
4-20 mA			
MAX RESISTANCE LOAD	500 Ω		
CENTRAL (0 DEGREE) OUTPUT VALUE	12 mA		
MIN OUTPUT CURRENT	4 mA		
MAX OUTPUT CURRENT	20 mA		
NUMBER OF OUTPUT STEPS	4096 (12 BIT)		

MEASURE OPTIONS

S01	S04
TRASDUCER WITH ANGLE MEASUREMENT MODE ONLY ON Z AXIS (ANGLE MEASUREMENT)	TRASDUCER WITH ANGLE MEASUREMENT MODE ON X & Y AXIS (TILT MEASUREMENT)



ALMEC
MECHATRONICS

NOTE