



The TRS.ALMX is an inclinometer sensor based on a double CPU, a double 3D-MEMS accelerometer and a double gyroscope, in a fully redundant circuit scheme, with 2 independent CAN-Bus lines.

The termination resistors are permanent and electrically measurable even with the device off. The connector is an M12 with 8 poles.

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 controller suitable for use on machines that operate in harsh work environments.



TECHNICAL FEATURES

MASTER CODE	TRS.ALMX.367.S00
POWER SUPPLY	9-36 VDC / CURRENT CONSUMPTION 30 mA AT 24 VDC
CAN BUS	2 INDEPENDENT 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 DOUBLE SENSOR DOUBLE CAN LINE
MEASURE OPTIONS	ANGLE TILT ROTATION
CONNECTION PORT	WIRED, WITH 30 cm CABLE LENGTH AND M12 FPM
LED	N.1 BI-COLOR STATUS LED
CASE	PUR MOUNTING BRACKET: STEEL, WITH CATAPHORESIS TREATMENT
WORKING TEMPERATURE	-40°C +85°C (TEMPERATURE DRIFT-REDUCTION)





ELECTRONIC FEATURES

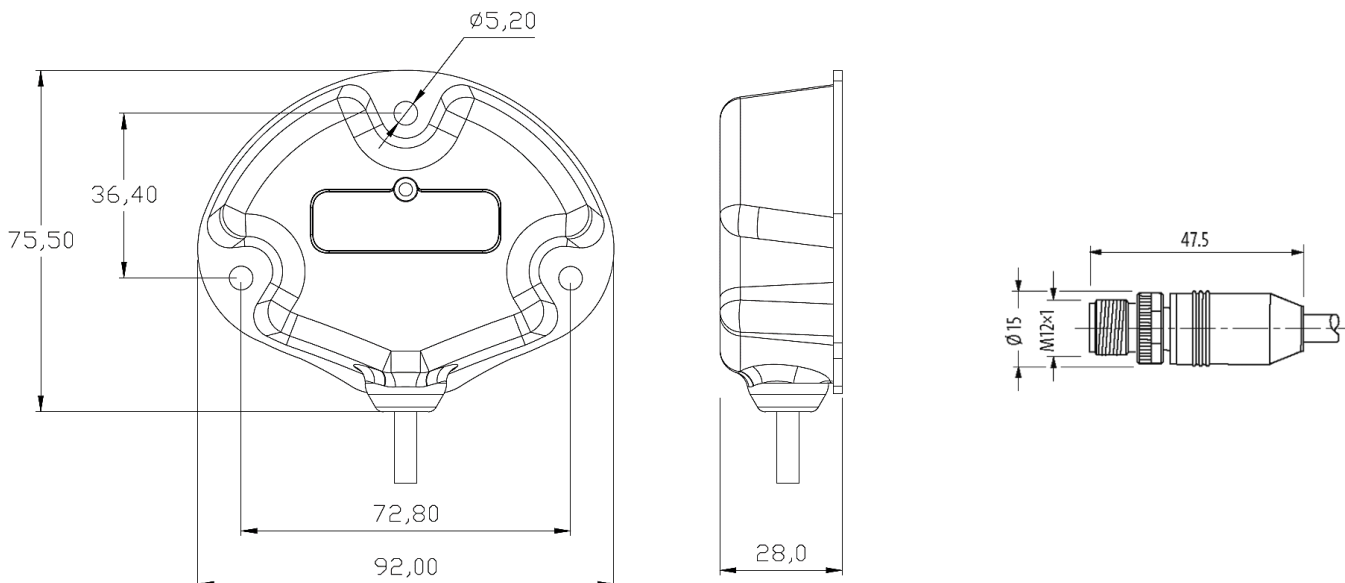
SLAVE USAGE	BY EDS FILE (CODESYS COMPATIBLE)	
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL	
CONFIGURING	THROUGH ALTILT CONFIG	
SAMPLE TIME	LESS THAN 5 ms	
CPU	DOUBLE ARM CORTEX M4, 32 bit MICROCONTROLLER CORE	
MEASURING RANGE	TILT	0 ... 360°
	ANGLE	-180°+180°
ACCURACY	SELECTABLE AS: 1° - 0,1° - 0,01° - 0,001°	

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 M12 VERSION: IP67
MTTFd	231,98 YEARS CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), WITH ENVIRONMENTAL FACTORS 3K7 (IEC60721)
PERFORMANCE AND SAFETY INTEGRITY LEVEL	PLd – SIL2 (DUAL 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.

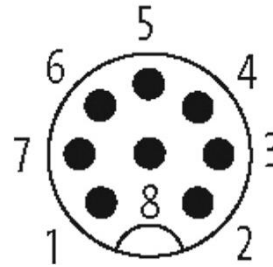
SIZE (mm)





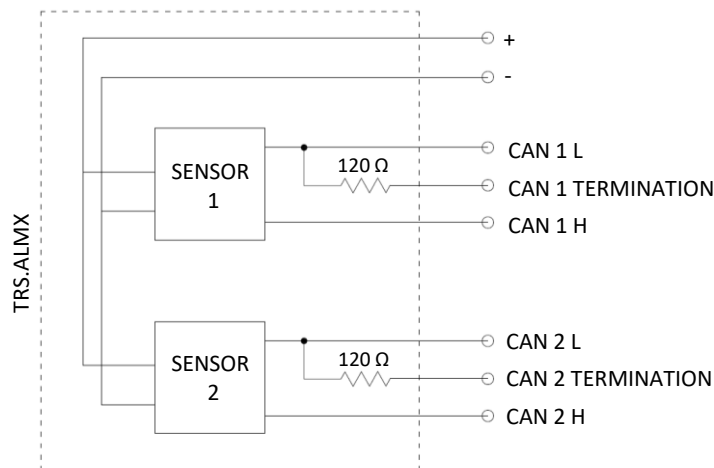
ELECTRICAL CONNECTIONS

WIRED	
M12 MALE (FPM) CONNECTOR 8 POLES	
PINOUT	
1	CAN BUS L - PORT 1
2	POSITIVE POWER SUPPLY
3	CAN BUS H - PORT 1
4	CAN BUS L - PORT 2
5	CAN BUS TERMINATION RESISTOR PORT 1
6	CAN BUS TERMINATION RESISTOR PORT 2
7	GND POWER SUPPLY
8	CAN BUS H - PORT 2



1	white
2	brown
3	green
4	yellow
5	gray
6	pink
7	blue
8	red

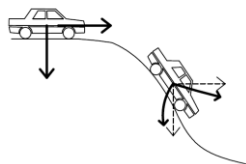
INTERNAL SCHEME



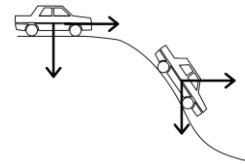
FEATURES

DEVICE SUITABLE FOR MOTION APPLICATION WITH BASIC CONSTANT REFERENCE

ACCURACY OF A TRADITIONAL DEVICE



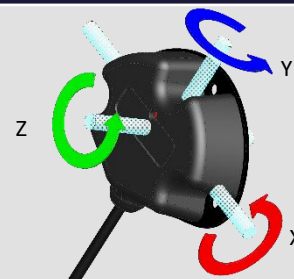
ACCURACY WITH TRS.ALMX



MEASURE OPTIONS

S00

TRASDUCER WITH CONFIGURABLE MEASUREMENT MODE ON X Y & Z AXIS (FOR TILT/ANGLE/ROTATION)





ALMEC
MECHATRONICS

NOTE