



TRS.ALMX

THREEAXIAL ANGULAR SAFETY SENSOR with DINAMIC
COMPENSATION and 2 SEPARATE CAN-BUS LINES



- Double CPU, a double 3D-MEMS accelerometer and a double gyroscope, in a fully redundant circuit scheme, with 2 independent CAN-Bus lines
- Termination resistors are permanent (electrically measurable even with the device off)
- M12 connector with 8 poles
- The device can filter and improve the measure accuracy in presence of vibration and acceleration loads
- Implementable as a SLAVE in a CAN network
- Polyurethane resin case
- E3 certified UNECE regulation 10 automotive

TECHNICAL FEATURES

MASTER CODE	TRS.184.367
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
CONNECTION PORT	WIRED , WITH PUR CABLE AND M12 8PIN MALE 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



(09/08/2024) - 1



TRS.ALMX

THREEAXIAL ANGULAR SAFETY SENSOR with DINAMIC
COMPENSATION and 2 SEPARATE CAN-BUS LINES

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
--------	------

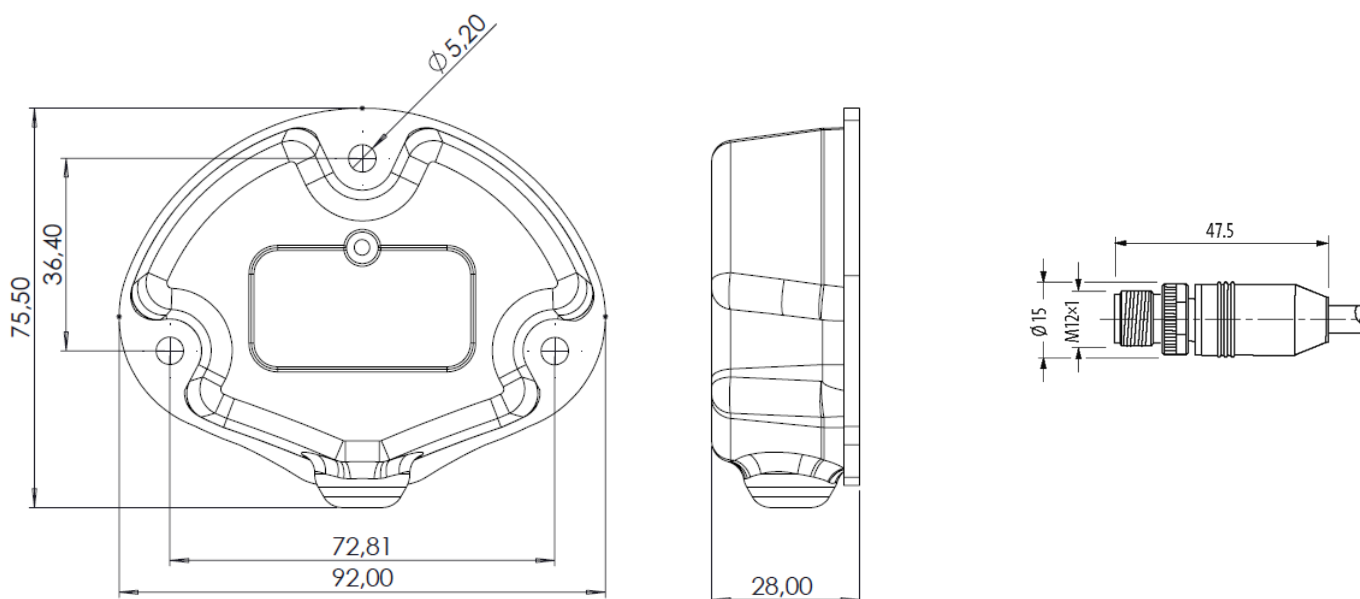
MTTFd

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)

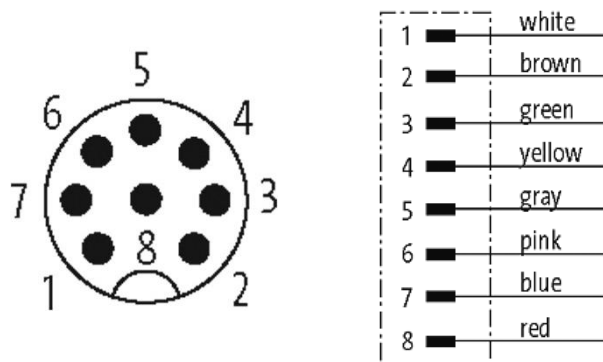




TRS.ALMX

THREEAXIAL ANGULAR SAFETY SENSOR with DINAMIC
COMPENSATION and 2 SEPARATE CAN-BUS LINES

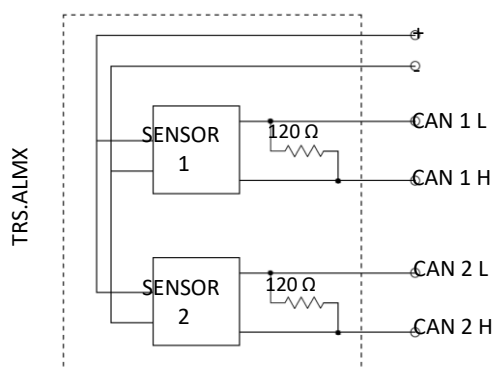
ELECTRICAL CONNECTIONS

	PINOUT	CONNECTOR DIAGRAM
WIRED CABLE: L=30cm CONNECTOR: M12 8 PIN MALE (FPM)	1 CAN BUS L - PORT 1	
	2 POSITIVE POWER SUPPLY	
	3 CAN BUS H - PORT 1	
	4 CAN BUS L - PORT 2	
	5 <i>empty</i>	
	6 <i>empty</i>	
	7 GND POWER SUPPLY	
	8 CAN BUS H - PORT 2	

INTERNAL SCHEME

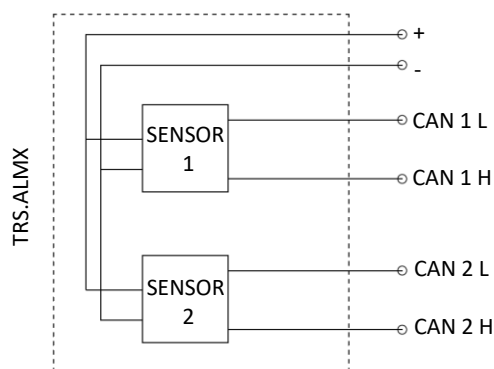
WITH TERMINATION RESISTORS

Code: **TRS.ALMX.367.6.R.S00**



WITHOUT TERMINATION RESISTORS

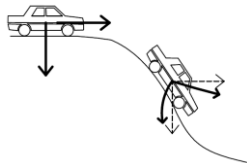
Code: **TRS.ALMX.367.6.S00**



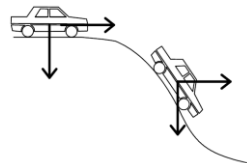
FEATURES

DEVICE SUITABLE FOR MOTION APPLICATION WITH BASIC CONSTANT REFERENCE

ACCURACY OF A TRADITIONAL DEVICE



ACCURACY WITH TRS.ALMX



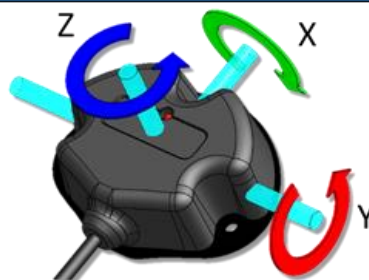
MEASURE OPTIONS

S00

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

ACCURACY: SELECTABLE AS: 1°-0,1°-0,01°-0,001°

MEASURING RANGE: 0 ... 360° // -180°+180°





NOTE