ALMEC MECHATRONICS

TRS.ETMB | THREEAXIAL ANGULAR SAFETY SENSOR

The TRS.ETMB is an inclinometer sensor based on a double CPU and a double 3D MEMS accelerometer, in a fully redundant circuit scheme, with a safety based relay output switch.

The logic output is configurable by software.
It allows to emulate the functioning of a toroidal mercury bubble or a independent axes rectangular system.
It differentiates the X-, X+, Y-, Y+ axes as well as to get separate offset.
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.

CE

TECHNICAL FEATURES		
MASTER CODE		TRS.ETMB
POWER SUPPLY		9-36 VDC / CURRENT CONSUMPTION 30 mA AT 24 VDC (STAND BY MODE)
OUTPUT		2 SAFETY RELAY DIGITAL ON/OFF TRIGGER OUTPUT
		REDUNDANT OUTPUT CIRCUIT SCHEME
		OUTPUT CURRENT: MAX 2 A
		4 INDEPENDENT THRESHOLD ANGLES SETUP (X-, X+, Y-, Y+)
		THRESHOLD PROFILE WINDOW: RECTANGULAR OR TOROIDAL
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
MEASURE OPTIONS		TILT / ANGLE
TECHNOLOGY		3D MEMS ACCELEROMETER
SAFETY		DOUBLE CPU AND DOUBLE SENSOR
CONNECTION PORT	**1**	0,60 m CABLE TPE 0,50 m CABLE PUR WITH 8 POLES DEUTSCH CONNECTOR
CASE		ENCAPSULATED IN PUR RESIN - SELF-EXTINGUISHING UL94 (V0)
WORKING TEMPERATURE		-40°C +80°C

Scan me

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Tel. +39 0173 742821 - www.almec.net - info@almec.net - Società soggetta a direzione e controllo di MILC S.r.l. (R.I. Cuneo n° 04064750047)

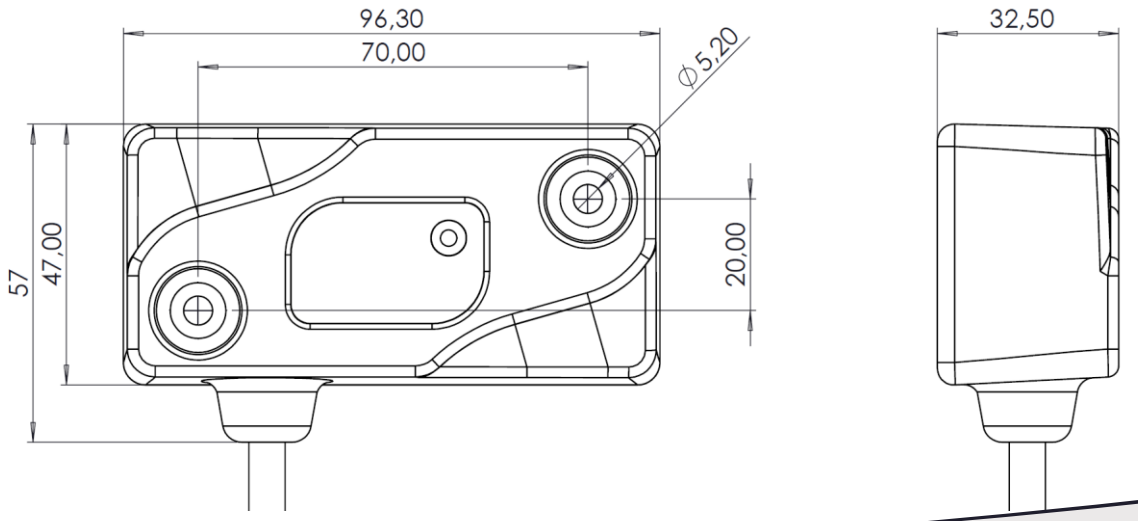
MEASURE FEATURES	
OPTIONS	ANGLE – TILT
FILTERING	USER CONFIGURABLE
RESOLUTION	UP TO 0,01°
REDUNDANCY DIFFERENCE MEASURE	LESS THAN 1°

ELECTRONIC FEATURES	
SLAVE USAGE	EDS FILE
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

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	96,86 YEARS CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), WITH ENVIRONMENTAL FACTORS 3K7 (IEC60721) RATED RELAY CYCLES: 20000/YEAR
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)



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CONNECTION OPTIONS

CABLE: PUR , 0,50m LENGTH

CONNECTOR: DEUTSCH DT04-8P

1	BN	POSITIVE POWER SUPPLY
2	WH	GND POWER SUPPLY
3	YE	CAN L
4	OR	CAN H
5	BU	OUTPUT R3
6	BK	OUTPUT R2
7	VT	ZERO
8	GY	POSITIVE COMMON POWER SUPPLY R1

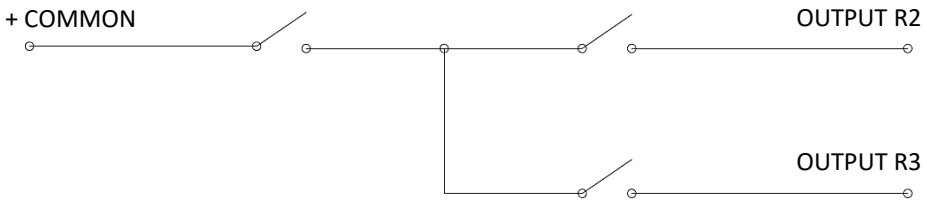
CABLE: TPE , 0,60m LENGHT
***TWISTED WIRES ON COLOUR COUPLES**

CONNECTOR: n.a.

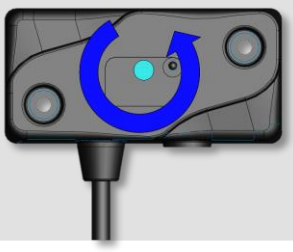
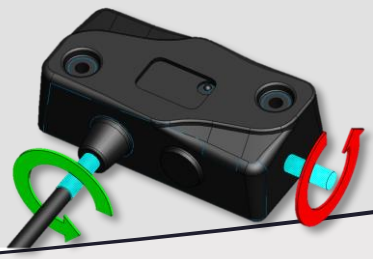
*	BN	POSITIVE POWER SUPPLY
	WH	GND POWER SUPPLY
*	YE	CAN L
	GN	CAN H
*	BU	OUTPUT R3
	RD	OUTPUT R2
*	PK	ZERO
	GY	POSITIVE COMMON POWER SUPPLY R1

OUTPUT FEATURES

OUTPUT CIRCUIT SCHEME



MEASURE OPTIONS

S00	S01	S04
TRASDUCER WITH FULLY CONFIGURABLE ANGLE MEASUREMENT MODE AND FILTERS SETUP	TRASDUCER WITH ANGLE MEASUREMENT MODE ONLY ON Z AXIS (ANGLE MEASUREMENT)	TRASDUCER WITH ANGLE MEASUREMENT MODE ON X &Y AXIS (TILT MEASUREMENT)
		

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NOTE