The Seascape Underwater Inclinometer, depth rated to 1000 m, with variable outputs and measuring ranges.

The UWIM-series of inclination sensors measures angles in 1 or 2 axes. These products are based on robust MEMS technology, in which capacitance differences can be converted into an analogue voltage within a micro-mechanical sensor chip. This analogue voltage is proportional to the angle to which the sensor is exposed. The modular design makes it easy to adapt the sensors to specific requirements.

An inclination sensor is used in situations where accurate positioning or constant monitoring of the angle in relation to gravitational pull is essential. An inclination sensor measures the angle with respect to a horizontal position, whereby an imaginary line from the center of the earth serves as a reference. An inclination sensor has a very wide range of applications since it can be mounted anywhere and offers flexibility in mechanical design. The sensor output has two components: a static (slope) component and a dynamic (acceleration) component. The sensor output is always a combination of these two components. The inclination sensors from DIS have a standard bandwidth of 10 Hz, although it is possible to reduce this bandwidth further at the client's request.

Features

- *1 or 2 axes*
- *Based on MEMs-tech.*
- *Bandwidth 10 Hz*
- *Depth rated up to 1000 m*

Applications

- *Tilt protection*
- *Roll & pitch measurement*
- *Platform levelling*
- *Angle monitoring*

Applications

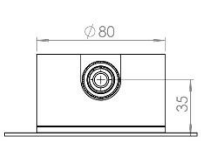
Inclination sensors are used for various applications such as: tilt protection, roll and pitch measurements and angle monitoring at ROV's, Stingers and Dredging equipment.

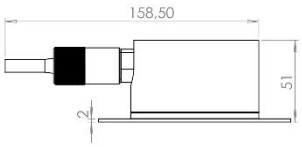
Specifications

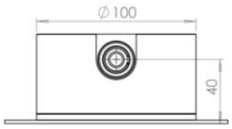
Single axis measurement range	:	±10°; ±30°; ±90°; 0 – 360°
Double axis measurement range	:	±10°; ±30°; ±90°
Energy supply	:	5V DC or 10-30V DC
Analogue output	:	0,5-4,5V or 4-20 mA, 0 – 10 Volt
Digital output	:	CANopen, Serial RS232/RS485
Accuracy	:	depending on model and range: up to 0.02°

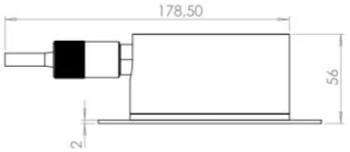
Distributed by:

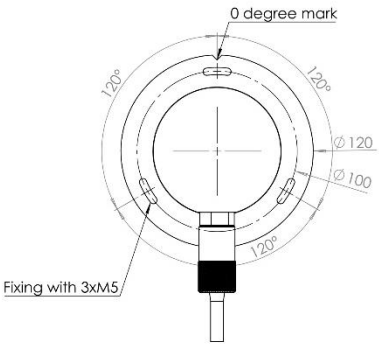
Family Overview	UWIM-B			UWIM-A					UWIM-A CANopen			UWIM-AX
Measuring range	±10°	±30°	±90°	±10°	±30°	±90°	±15°	30..360°	±30°	±90°	360°	360°
Max. # of axis	2			2			1		2		1	1
Switching output	no			2x NPN / 2x PNP 100mA					no			no
Centering function	no			yes					Yes (CAN object dictionary)			Yes (CAN object dictionary)
Redundant	no			no					no			no
Output format	4-20mA / 0.5-4.5V			4-20mA / 0.5-4.5V					CANopen			CANopen
Output bandwidth	0 - 10 Hz			0 - 10 Hz					0 - 10 Hz			0 - 10 Hz
Output function	Output = x + y*(sin(α)			Output = x + y*(α)					Output = x + y*(α)			Output = x + y*(α)
Resolution	0,03°			0,01°			0,004°	0,01°	0,01°			0,001°
Accuracy (typ.)	0,3°	0,6°	0,9° (-45° ..+45°)	0,04°	0,04°	0,08° (-45° ..+45°)	0,02°	0,07°	0,04°	0,06° (-45° ..+45°)	0,06°	0,04° over full Temp. Range (Active Temp. Comp.)
	offset error excluded, 1° typ.											
Temp. Coefficient (typ.)	0,01° /K			0,005° /K					0,005° /K			0 (-20° to +60° C)
Size	Ø80x51 mm			Ø80x51 mm					Ø100x56 mm			Ø100x56 mm	
Material Housing	POM	SS316		POM	SS316				POM	SS316		POM	SS316
Operating Depth	200 msw	1000 msw		200 msw	1000 msw				200 msw	1000 msw		200 msw	1000 msw
Weight in air	510 gr.	1600 gr.		510 gr.	1600 gr.				700 gr.	2400 gr.		700 gr.	2400 gr.
Weight in water	400 gr.	1270 gr.		400 gr.	1270 gr.				550 gr.	1900 gr.		550 gr.	1900 gr.
Temp. Range	'-25 . . +85°C			'-40 .. +85°C					'-40 .. +85°C			'-40 .. +85°C	
Connection standard	MCBH5MSS			MCBH8MSS					MCBH5MSS			MCBH8MSS	

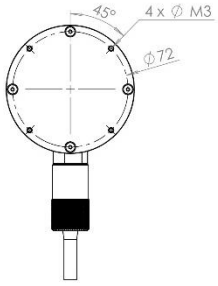


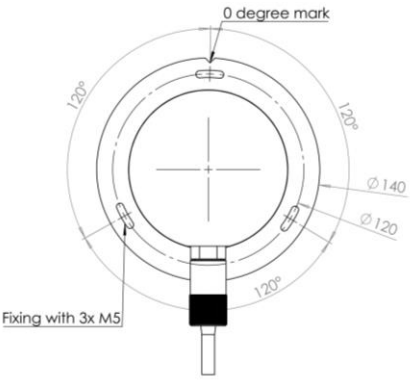


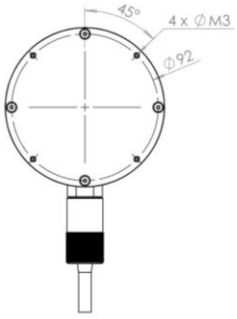












Number of axis
1 = 1 axis
2 = 2 axis

Degrees
45 = 45° degree
90 = 90° degree
180 = 180° degree
360 = 360° degree

Analog output
AI = 4-20 mA
AV = 0,5 - 4,5 Volt
AV1 = 0 - 10 Volt
CAN = Can open
232 = Serial rs232
485 = Serial rs485

Material
S = AISI316
P = POMC

UWIM	P	A	1	-	V	360	S	-	AI	C5

UnderWater InclinoMeter

Housing
A = ø 100 mm
B = ø 80 mm

Position
H = Horizontal
V = Vertical
HV = Horizontal & Vertical
N/A = Not applicable

Accuracy
S = Standard
H = High
X = Extra high

Connector
C5 = MCBH5MSS
C8 = MCBH8MSS