

SHM-SENSORS

WIRELESS SHM INSTRUMENTATION



Wireless Tilt Meter. SHM-TILT:

- **Wireless 4G, Nbiot, LTE-M or LORA communications options.**
- **3 years typical battery life.**
- **Temperature compensated.**

Description

The SHM-TILT is a stand alone tilt metering device suitable for structural health monitoring. It is powered by a single battery that keeps it sending tilt information periodically for several years.

The tilt meter is temperature calibrated and compensated in order to provide stable readings independent of temperature and with minimal long term drift.

Compact small unit that reports mqtt data periodically to any cloud of your preference where you can recover historical information.

Communications options NBIOT, LTE-M, LTE-4G are used when there is a cellular network coverage and LORA when there is not.

Also available as a 24vdc powered unit for industrial processes that provide RS485 ,4-20ma outputs as well the radio options of the battery powered device.

Configuration

The device is configured by a programming interface and software running on a windows personal computer. Parameters such as sampling time, noise filtering, communication data are downloaded to the device and stored on the computer for backup.

Also some parameters such as the sample period can be set remotely by

mqtt commands.

The programming interface is also used for set up, debug and verifying operation by direct data logging to the computer.

Technical Specifications.

Sensor	Main sensor	Temperature compensated MEMS accelerometer.
	Number of axis	2.
	Measurement range	+/- 15 degree.
	Resolution	0.001 degree.
	Accuracy	+/- 0.010 degree in the -25C... 60C range, maximum.
	Offset drift	0.001 degree/C maximum.
	Long term offset drift	20ppm/year maximum.
Additional sensors		
	Voltage	Battery voltage monitoring
	Temperature	Internal device temperature
Power Supply	Battery type:	D size, 3.6V, 13AH, Lithium-thionyl Chloride
	Battery life:	3 years, sending 24 messages by day. (NBiot)
	Current drain (sleep state):	10uA maximum.
	DC Option :	10... 50 Vdc,
Construction	Material	Aluminum
	Total Dimensions:	91 x 116 x 50 mm. Without antenna
	Weight	800 grams.
	Operation temperature:	-25... 60 °C.
	Protection	IP67
Regulations	Complies	LTE 3GPP specification
	Certified to FCC rules.	47 CFR Part 22, 24, 27, 90, 2.1091
	Certified to ISED rules.	RSS-132 Issue 4 RSS-130 Issue 2 RSS-139 Issue 4 RSS-133 Issue 6
	Canadian ICES-003	Class B digital

PART CODES:

Model:

SHM-TILT

Options:

-LORA

Lora communications.

-NB-IOT

Nbiot or LTE-M.

-4G

LTE-4G

-BAT

Battery operated.

-DC

20.. 60 Vdc power supply.

FOR MORE INFORMATION:

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