LoRaWAN Valve Positioning Sensor

Intelligent industrial wireless sensor
for remote monitoring in hazardous environments

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INTELLIGENT SENSORS DRIVING CONNECTIVITY

PATENTED DESIGN

Performance Features

- ☑ Compact, robust and weather-proof
- ☑ Quick and cost-effective installation
- ☑ SensorFusion Remove angular algorithm
- ☑ Cortex® 150Mhz-M4 for analytics at edge
- ☑ LoRaWAN Global frequency plans
- ☑ End-to-End Security: Inc. 128-bit AES encryption + MFA
- ☑ Bluetooth® 5 Low Energy
- ☑ Ultra-low power up to 10 years battery life [2]
- ☑ Intrinsically safe design for hazardous area (Zone 0/1)

Applications

- ☑ Oil, gas and mining
- ☑ Chemical and petrochemical
- ☑ Biomass, geothermal & hydrogen
- ☑ Energy, utilities and transport
- ☑ Recycling & waste treatment
- ☑ Pharmaceutical
- ☑ Aerospace

Sensor specifications

Measuring Principle	Inertial Measurment Unit (IMU)
Measuring ranges	Full Range 0 - 100%
Accuracy [1]	3% FS
Embedded calculation	Sensor Fusion algorithm
Long term stability	0.5° (0.05% of FS) max
Mounting options	Page 2

Environment

Operating Temperature	-40 ... + 72°C
Storage Temperature (recommended)	+ 25 °C
Protection rating	IP65/67
Vibration	20 g, 5...2000 Hz, X/Y/Z
Endurance @ 25 °C	>10 millions FS cycles
Shock	50g/11ms - 100g/6ms
Humidity	0 to 100% non-condensing

Material

Wetted Part	Stainless Steel 316L or Inconel 625	
Housing Option	Aluminum powder coated light weight	1.0 Kg
	Stainless Steel 316L	1.5 Kg
Antenna	Reinforced anti-static polymer (ESD Protection and UV Stabilized)	

Communication

Bluetooth® 5	
Operating OS	Android 7.0 or IOS 12 or greater
Beacon mode	Available for Live pulling data

Class	A – lowest power bi-directional
Range	up to 10km
Baud rate range	from 0.3 kbps to 50 kbps
Adaptative data rate (ADR)	available
Interference immunity	very high
Mode	OTAA with External Join Server
Update rate [2]	100 frames/per day (default)
Frequency Plans	EU868 (863-870 MHz)
	US915 (902-928 MHz) / AS923 (920-925 MHz)
RF Power	Max. 14dBM ERP

Security	Dedicated trusted secure element
	AES 128 bits encryption
	Roaming activation via HSM
Antenna	Omni-directional multiband

Battery

Format	Field replaceable D-size format
Type	Primary Li-MnO2
Nominal capacity @ 20°C	12.4 Ah
Nominal voltage @ 20°C	3.0 V
Storage Temperature	+25 °C recommended

Approvals

|	
Conformity	RoHS directive 2011/65/EU - RED directive 2014/53/EU ATEX directive 2014/34/EU - IEC 61010-1 + A1
Safety	ATEX II 1 GD, ATEX I M1, Ex ia I Ma, UKCA IECEX Ex ia IIC T4 Ga, Ex ia IIIB T135 °C Da Class I/II/III Groups ABCDEFG T4

1   Including linearity, hysteresis and repeatability. Linearity calculated as best straight line through zero.
2   Changing default parameters can impact the battery life.

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Process Connections

L10mm
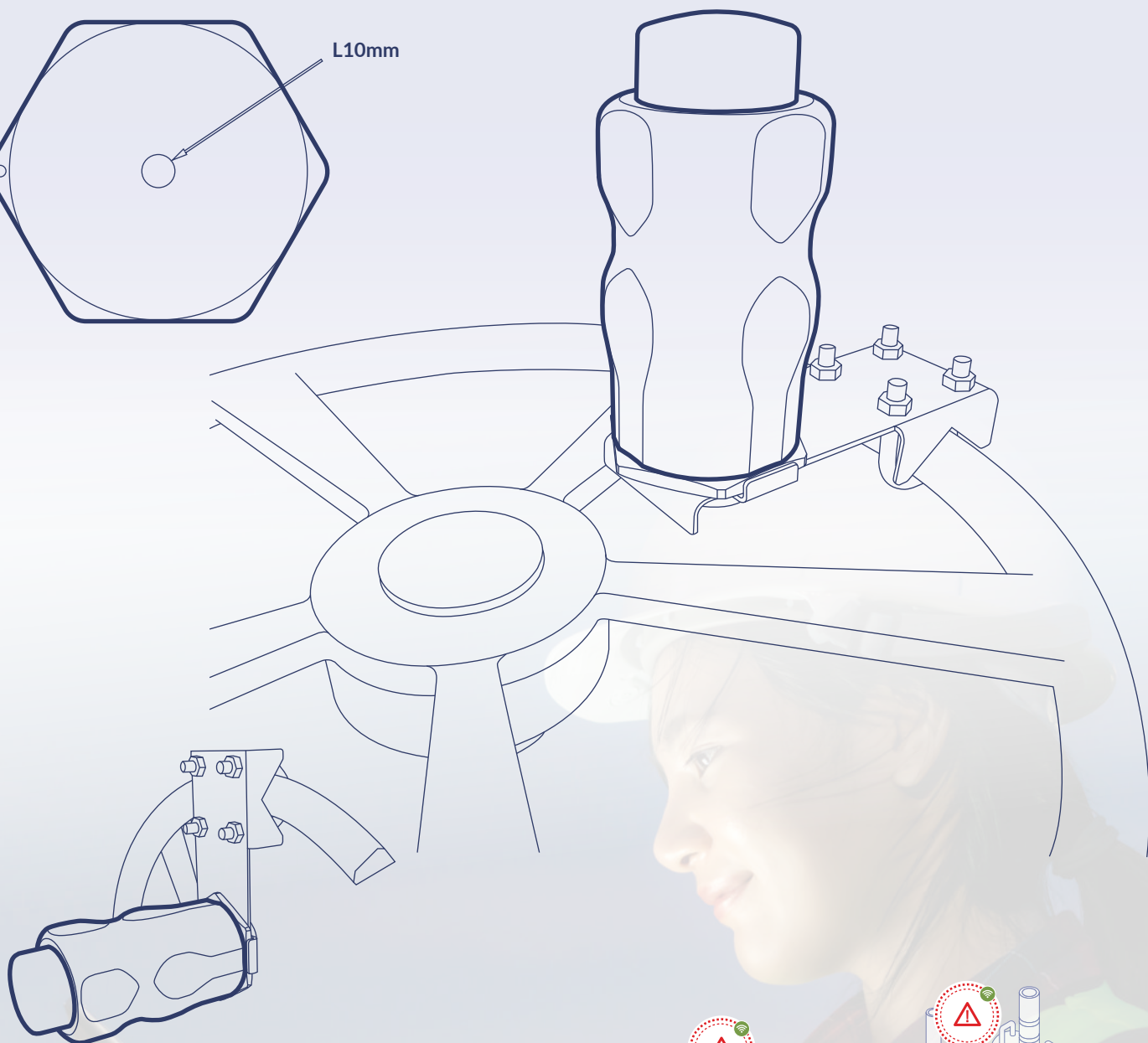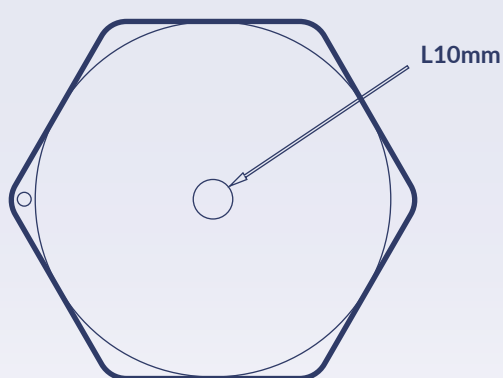
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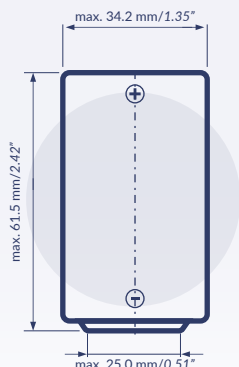
Scroll down for further information

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Battery Characteristics : SAFT M 20 EX SV[3]

max. 34.2 mm/1.35"

max. 61.5 mm/2.42"

max. 25.0 mm/0.51"

☑ **Stainless steel container**
☑ **Hermetic glass-to-metal sealing**
☑ **Built-in safety vent**
☑ **Made in Germany**
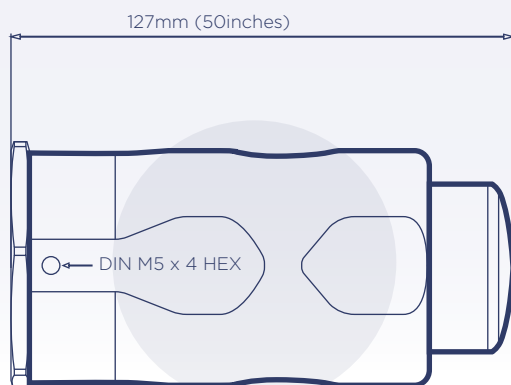☑ **ATEX and IECEX certified**

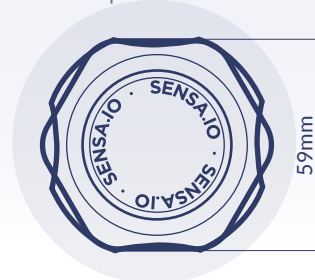|	
Diameter (max)	34.2mm (1.35 in)
Height (max)	61.5mm (2.42 in)
Typical weight	115g

3   Only use the correct battery model for this device SAFT M 20 EX SV. There is a risk of damage if you replace the battery with an incorrect model.
Restricted for transport (Class 9). Battery is sold separately.
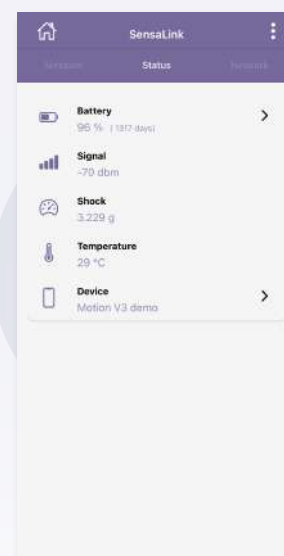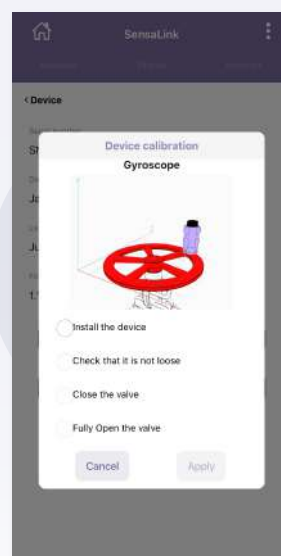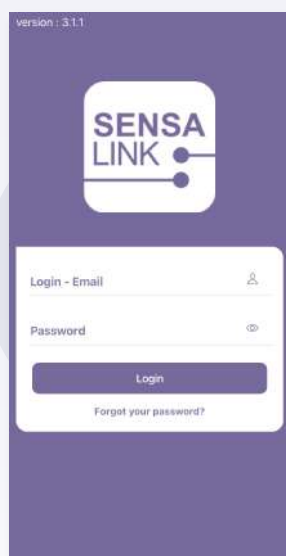
Dimensions

127mm (50inches)

○← DIN M5 x 4 HEX

Tool Kit

☑ Flat Spanner   59mm
☑ Allen key   2.5mm
☑ Max torque   50Nm

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59mm

Sensalink

version : 3.1.1

SENSA LINK

Login – Email 👤
Password 👁
Login
Forgot your password?

SensaLink ⋮
Measure   Status   Network
Information
Motion
Motion V3 demo
Range : 0 - 100 %
Value   %   Process Var   67 %
67   ▬▬▬▬▬▬
100
90
80
70
60
50
40
30
20
10

SensaLink ⋮
< Device
Device calibration
Gyroscope
○ Install the device
○ Check that it is not loose
○ Close the valve
○ Fully Open the valve
Cancel   Apply

SensaLink ⋮
Measure   Status   Network
🔋 Battery   >
   96 % | 1817 days)
📶 Signal
   -70 dbm
⚙ Shock
   3.229 g
🌡 Temperature
   29 °C
📱 Device   >
   Motion V3 demo

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GET IT ON **Google Play**

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Ordering details / part number creation chart

SENSA.		VALV	-	XXX	X	X	X	X	X	X	X
Model											
Valve Position sensor		VALV									

Type
Inertial Measurement Unit	IMU

Measurement Range
Max range 0-100%	1

Process Connection
M10 Female	1

Mounting option
Universal clamp	1

Housing Material
Aluminium Powder Coated Light Weight (1kg)	L
Stainless Steel 316L Heavy Duty Offshore (Mandatory for Mining)	H

Safety Standard
ATEX/IECEX/UKCA (Gas/Dust)	1
HAZLOC NEC USA / CSA Canada	2
ATEX/IECEX/UKCA (Mining)	3
INMETRO	4

Frequency Plan

Channel Plan	ID Plan	Channel Plan	ID Plan	Channel Plan	ID Plan	Channel Plan	ID Plan
EU863-870	1	AS923-1	7	KR920-923	10	AS923-4	13
US902-928	2	AS923-2	8	IN865-867	11		
AU915-928	5	AS923-3	9	RU864-870	12		

> **Choose ID Plan**

Options*
Null	N

Special Conditions
Calibration is mandatory after each battery replacement
and/or dismantlement of the device on the handwheel