Spring Return Displacement Sensor with Easy-Sense Function

- Measurement range: 10 - 100 mm
- Long mechanical life
- Excellent repeatability: <0.01 mm
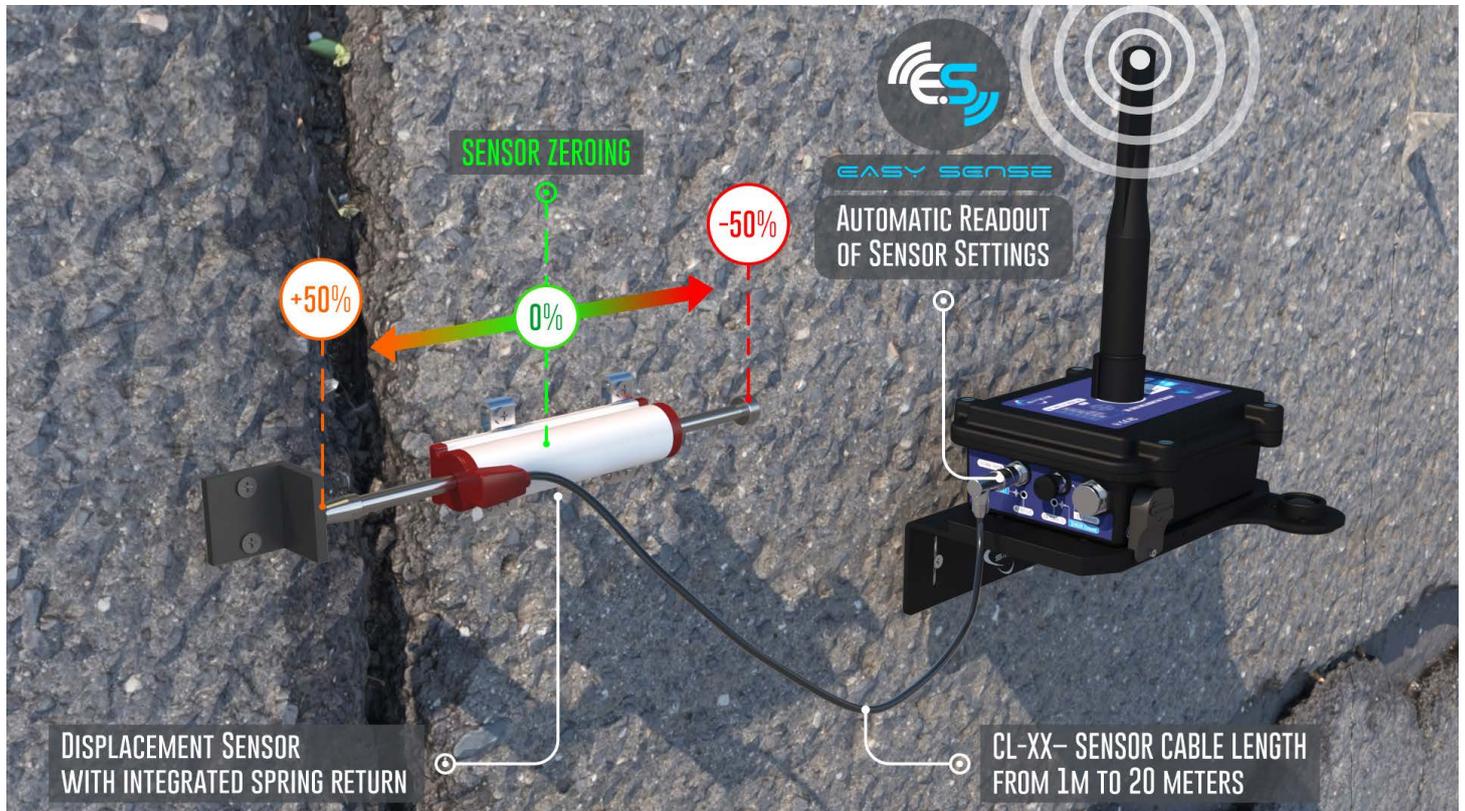

EASY SENSE

Automatic Readout of Sensor Settings

Displacement Sensor With Spring Return

Satevis Alpha-INC Wireless IoT Inclinometer Sensor

Spring Return Displacement Sensor with Easy-Sense Function

1 What is Easy-Sense function ?

How often have you experienced false alarms due to incorrect sensor configuration or calibration?
Easy-Sense helps address this issue by automatically storing and displaying the sensor settings:
• Sensor Type and Measurement Stroke (ex: Potentiometer, Measurement stroke: 100mm).
• Sensor Calibration settings and date of calibration .
• Alarms Thresholds Values (Three levels: Critical, Severe, Minor).
• Sensor Zero-offset and date of Sensor zero offset.

• Enhanced Traceability

The sensor's calibration settings are securely stored in its internal Flash memory, allowing for easy re-calibration using the Satevis® Link software.

• Simplified Maintenance

Users can keep the displacement sensor on-site and easily swap the Satevis® Alpha-Inc in case of sensor redeployment. There's no need to adjust the displacement sensor settings, such as alarm thresholds or zero-offset values.

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• Increased flexibility

The sensor's zero-offset can be adjusted remotely via the Satevis® cloud application (or a third-party cloud application).
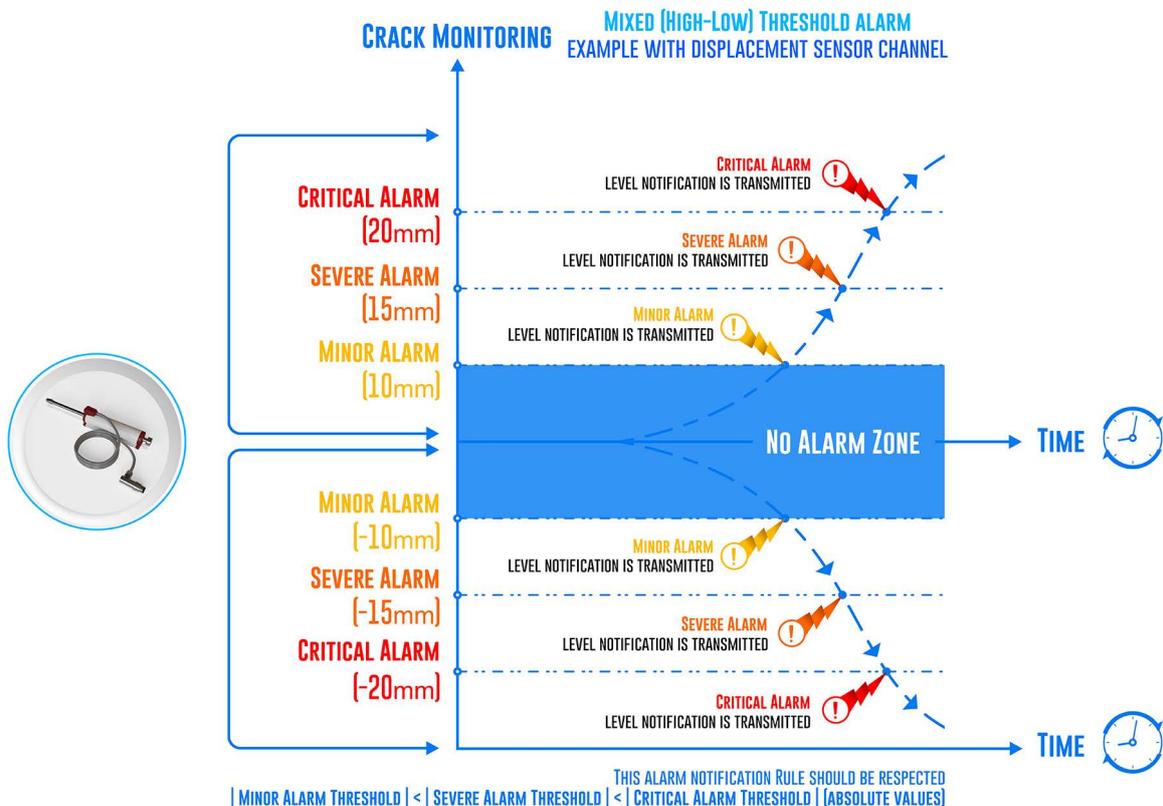
• Advanced Alarm Management
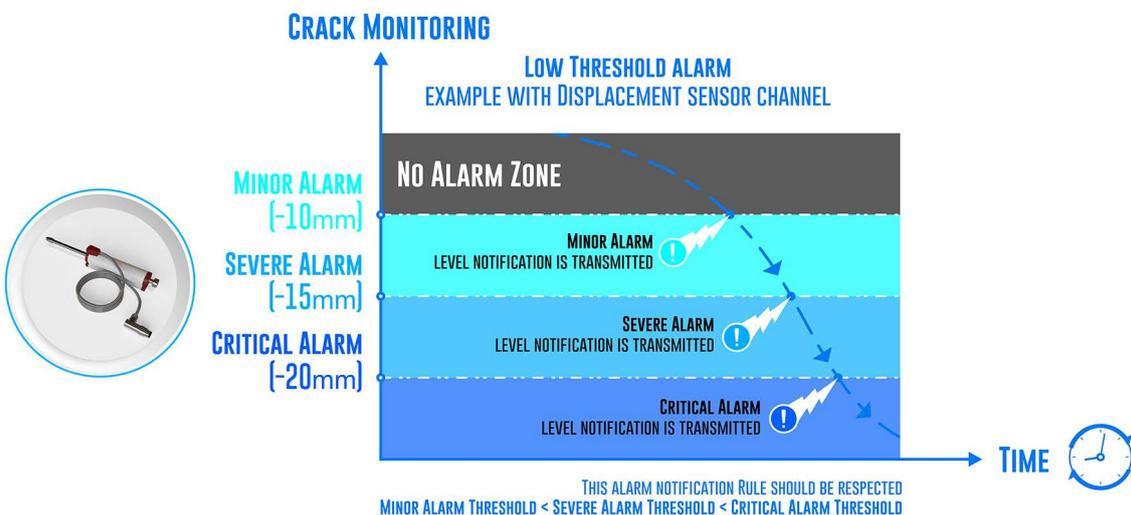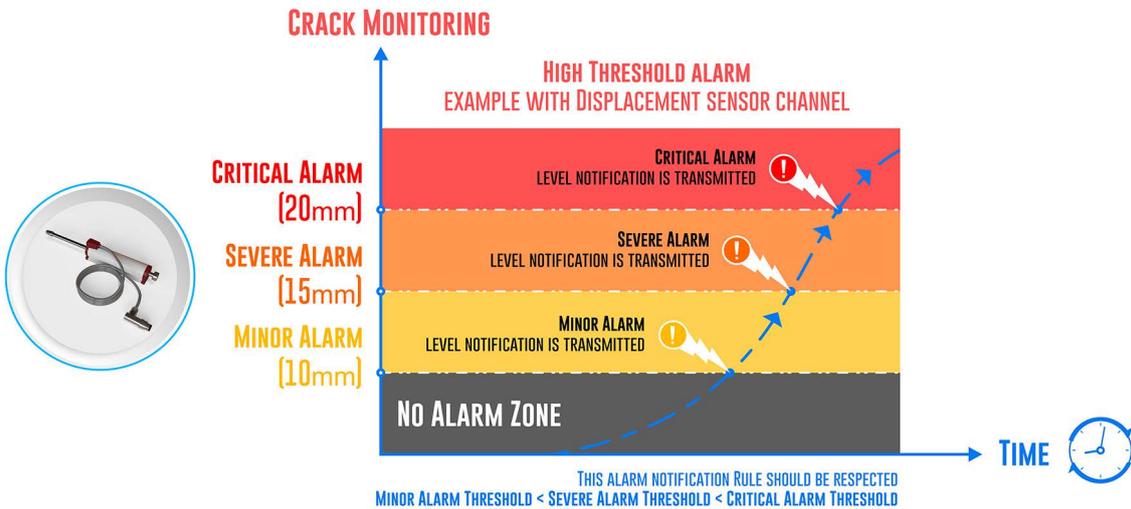
Three types of alarm thresholds are available:
• Low Alarm Threshold: Triggers an alarm when a data measurement falls below the set threshold.
• High Alarm Threshold: Triggers an alarm when a data measurement rises above the set threshold.
• Mixed Alarm Threshold: Triggers an alarm when a data measurement changes in two opposite directions.

Additionally, three alarm severity levels are available, allowing users to direct notifications to different emails or activate a dry contact:
• Minor Level: The lowest level of alarm.
• Severe Level: Medium level of alarm notification.
• Critical Level: Highest level of alarm, requiring field intervention.

Crack Monitoring

Mixed (High-Low) Threshold alarm example with displacement sensor channel

Critical Alarm (20mm)
Severe Alarm (15mm)
Minor Alarm (10mm)

Critical Alarm LEVEL NOTIFICATION IS TRANSMITTED
Severe Alarm LEVEL NOTIFICATION IS TRANSMITTED
Minor Alarm LEVEL NOTIFICATION IS TRANSMITTED

No Alarm Zone

Time

Minor Alarm (-10mm)
Severe Alarm (-15mm)
Critical Alarm (-20mm)

Minor Alarm LEVEL NOTIFICATION IS TRANSMITTED
Severe Alarm LEVEL NOTIFICATION IS TRANSMITTED
Critical Alarm LEVEL NOTIFICATION IS TRANSMITTED

Time

This alarm notification Rule should be respected
| Minor Alarm Threshold | < | Severe Alarm Threshold | < | Critical Alarm Threshold | (absolute values)

Spring Return Displacement Sensor with Easy-Sense Function

Crack Monitoring

High Threshold alarm
EXAMPLE WITH DISPLACEMENT SENSOR CHANNEL

Critical Alarm
(20mm)

Severe Alarm
(15mm)

Minor Alarm
(10mm)

Critical Alarm
LEVEL NOTIFICATION IS TRANSMITTED

Severe Alarm
LEVEL NOTIFICATION IS TRANSMITTED

Minor Alarm
LEVEL NOTIFICATION IS TRANSMITTED

No Alarm Zone

Time

This alarm notification Rule should be respected
Minor Alarm Threshold < Severe Alarm Threshold < Critical Alarm Threshold

Crack Monitoring

Low Threshold alarm
EXAMPLE WITH DISPLACEMENT SENSOR CHANNEL

No Alarm Zone

Minor Alarm
(-10mm)

Severe Alarm
(-15mm)

Critical Alarm
(-20mm)

Minor Alarm
LEVEL NOTIFICATION IS TRANSMITTED

Severe Alarm
LEVEL NOTIFICATION IS TRANSMITTED

Critical Alarm
LEVEL NOTIFICATION IS TRANSMITTED

Time

This alarm notification Rule should be respected
Minor Alarm Threshold < Severe Alarm Threshold < Critical Alarm Threshold

• Sensor Zeroing

Sensor zeroing can be done by holding a magnet on Sensor Zeroing Label or remotely from Satevis® Cloud application (or Third-Party Cloud Software).

Spring Return Displacement Sensor with Easy-Sense Function

TECHNICAL SPECIFICATIONS

PRODUCT REFERENCE
SAT-EASY-SENSE-DISP-SR-MS-YY-CL-XX
MS-YY - Measurement stroke
10mm, 50mm and 100 mm
CL-XX– SENSOR CABLE LENGTH
from 1m to 20 meters
Example: SAT-EASY-SENSE-DISP-SR-50MM-CL-10M Displacement sensor with spring return, Measurement stroke 50mm, Cable length 10 meters

DISPLACEMENT SENSOR SPECIFICATIONS	
Sensor technology	Linear potentiometer with spring return
Measurement stroke	10mm, 50mm and 100mm
Linearity	±0.2% (100 mm) , ±0.5% (50mm, 10mm)
Repeatability	< 0.01mm
Resolution	0.0003mm for 10mm measurement stroke 0.0017mm for 50mm measurement stroke 0.0034mm for 100mm measurement stroke
Resistance	2 kOhm: 10....50mm 5 kOhm : 100mm
Sensor Voltage	3.3VDC Powered directly by Satevis® device
Integrated Analog to Digital Converter	Integrated 15-bit Analog to Digital Converter
Displacement speed	< 5m/s
Mechanical Life	100 millions movements
Casing dimensions	18 mm of diameter
Casing material	Anodized Aluminum
Rod material	stainless steel
Rod diameter	5 mm of diameter
Mechanical mounting	Variable brackets
Waterproofness	IP66
Operating Temperature	-20°C to +80°C
Connection Plug	M8-4Pins connector
Satevis® compatibility	compatible with Satevis® Alpah-Inc/Alpha-Inc Kompakt

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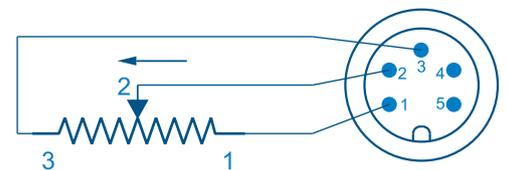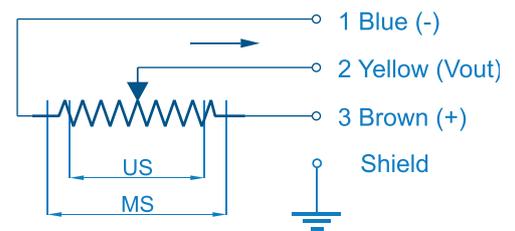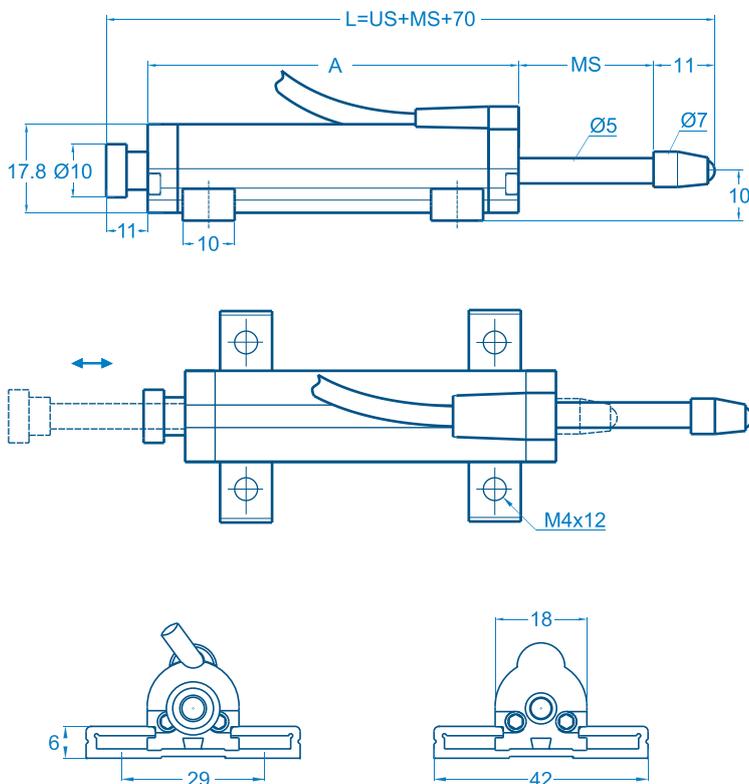| EASY-SENSE FUNCTION	
Internal Flash Memory	Automatic Readout of Sensor Settings: • Sensor Type and Range • Sensor Calibration settings and date of calibration ; • Alarms Thresholds Values • Sensor Zero-offset and date of Sensor zero offset
Calibration	Calibration performed at Beanair Lab.
Alarms Management	Three level of Alarms: Critical/Severe/Minor With High/low and Mixed Alarms Thresholds
Sensor Zeroing	Sensor Zeroing can be performed on site or Remotely from Satevis Cloud Application (or Third-Party Cloud software)

DRAWING

Spring Return Displacement Sensor with Easy-Sense Function

DISP-SENS (mm)	10	50	100
US (Usefull Stroke)	10	50	100
MS (Mecanical Stroke)	13	53	103

A	
DISP-SENS-SR-MS-10MM	58
DISP-SENS-SR-MS-50MM	104
DISP-SENS-SR-MS-100MM	163

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