# JUNO TH TRACKER TECHNICAL DATA SHEET EN


The Juno Tracker is a versatile tracker that uses mioty®, LoRaWAN® or cellular technologies such as NB-IoT and LTE-CAT-M1 for reliable and energy-efficient data transmission. The tracker is also available in different versions, e.g. for cold chain monitoring. Thanks to its robust design and IP69k/IP67 rating, it is ideal for use in demanding environments and can withstand dust, water and high pressures.

## VERSIONS

| Article code | Features |
|---|---|
| **S-JUNO-LOEU-TRACK** | JUNO Tracker with tilt and activity detection and opening detection LoRaWAN® , GNSS Scan, WIFI SSID Scan |
| **S-JUNO-MIOTY-TRACK** | JUNO Tracker with tilt and activity detection and opening detection LoRaWAN, GNSS Scan, WIFI SSID Scan mioty® |
| **S-JUNO-iX-LOEU-TRACK** | INDUSTRIAL JUNO Tracker with tilt and activity detection and opening detection LoRaWAN® , GNSS Scan, WIFI SSID Scan |
| **S-JUNO-iX-MIOTY-TRACK** | INDUSTRIAL JUNO Tracker with tilt and activity detection and mioty® opening detection, GNSS Scan, WIFI SSID Scan |
| **S-JUNO-LOEU-TH-TRACK** | JUNO IP67 TH Tracker, temperature and relative humidity with tilt and activity detection and LoRaWAN opening detection® |
| **S-JUNO-MIOTY-TH-TRACK** | JUNO IP67 TH Tracker, temperature and relative humidity with tilt and activity detection and opening detection mioty® |
| **S-JUNO-IX-LOEU-TH-TRACK** | INDUSTRIAL JUNO IP67 TH Tracker, temperature and relative humidity with tilt and activity detection and LoRaWAN opening detection® |
| **S-JUNO-IX-MIOTY-TH-TRACK** | INDUSTRIAL JUNO IP67 TH Tracker, temperature and relative humidity with tilt and activity detection and opening detection mioty® |
| **S-JUNO-NBM1-TRACK-2** | JUNO Tracker with tilt and activity detection and opening detection NB-IoT, LTE-CAT-M1 , GNSS, WIFI SSID Scan, **with SIM card slot, two batteries** |

| | |
|---|---|
| **S-JUNO-NBM1-TRACK-3** | JUNO Tracker with tilt and activity detection and opening detection NB-IoT, LTE-CAT-M1 , GNSS, WIFI SSID Scan, **with on board SIM, three batteries** |
| **S-JUNO-IX-NBM1-TRACK-2** | INDUSTRIAL JUNO tracker with tilt and activity detection and opening detection NB-IoT, LTE-CAT-M1 , GNSS, WIFI SSID scan, **with SIM card slot, two batteries** |
| **S-JUNO-IX-NBM1-TRACK-3** | INDUSTRIAL JUNO Tracker with tilt and activity detection and opening detection NB-IoT, LTE-CAT-M1 , GNSS, WIFI SSID Scan, **with on board SIM, three batteries** |
| **S-JUNO-NBM1-TH-TRACK-2** | JUNO IP67 TH Tracker, temperature and relative humidity tracker with tilt and activity detection and opening detection NB-IoT, LTE-CAT-M1 , GNSS, WIFI SSID Scan, **with SIM card slot, two batteries** |
| **S-JUNO-NBM1- TH-TRACK-3** | JUNO IP67 TH Tracker, temperature and relative humidity tracker with tilt and activity detection and opening detection NB-IoT, LTE-CAT-M1 , GNSS, WIFI SSID Scan, **with on board SIM, three batteries** |
| **S-JUNO-IX-NBM1- TH-TRACK-2** | INDUSTRIAL JUNO IP67 TH tracker, temperature and relative humidity tracker with tilt and activity detection and opening detection NB-IoT, LTE-CAT-M1 , GNSS, WIFI SSID scan, **with SIM card slot, two batteries** |
| **S-JUNO-IX-NBM1- TH-TRACK-3** | INDUSTRIAL JUNO IP67 TH Tracker, temperature and relative humidity with tilt and activity detection and opening detection NB-IoT, LTE-CAT-M1 , GNSS, WIFI SSID Scan, **with on board SIM, three batteries** |

## GENERAL PROPERTIES

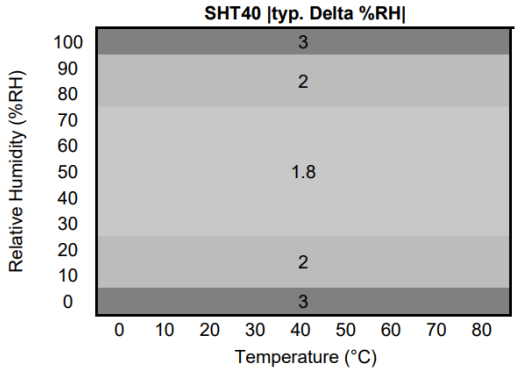
| FEATURE | VALUE | UNIT |
|---|---|---|
| Dimensions lxbxh | 86x86x25 | mm |
| Weight | <200 | g |
| Operating temperature | -25 to +75 (extended temperature range on request. Temperature range is limited by the maximum operating temperature of the primary cells) | °C |
| Maximum operating temperature Device | 85 | °C |
| Storage temperature (recommended) | 15 to +30 | °C |
| Rel. humidity during operation | 5 to 99 | %RH |
| IP Rating | • IP67/IP65 for -TH variants<br>• IP69k for non-TH variants | |
| IK Rating | TBD | |
| Sensors | Temperature, relative humidity, acceleration sensor | |
| Traffic light function | no | |
| Audible alarm function | Yes, buzzer | |
| Provisioning | NFC | |
| Material | PBT GF20 + ASA | |
| NFC antenna | Integrated | |
| RF antenna | Integrated | |
| Accelerometer | Yes | |
| Batteries | Primary cell, replaceable, AA | |
| Primary cell type | LoRaWAN® , mioty® :<br>• 2 x 3.6V LiSOCl2(recommended SAFT LS14500)<br>Cellular:<br>• 2 x 3V LiMnO2 spiral AA cell<br>• 2 x 3.6V LiSOCl2 spiral AA cell | |
| Housing color | S-JUNO-XXXX black<br>S-JUNO-IX-XXXX silk gray | |
| Assembly and installation | • Adhesive pad<br>• Magnets<br>• Screws<br>• Gluing | |

## CONNECTIVITY AND RF SPECIFICATION

| CHARACTERISTIC | WORTH | UNIT |
|---|---|---|
| RF Standards | | MHz |
| Frequency LoRaWAN®/mioty® EU | 868 | MHz |
| Mobile radio frequency | Band 8, 20 (900 MHz, 800 MHz) | dBm |
| Transmission power LoRaWAN®/mioty® EU | 14 | dBm |
| Transmission power NB-IoT | 23 | dBm |
| LoRa® mac layer version | 1.0.4 | |

## SENSOR SPECIFICATION TEMPERATURE

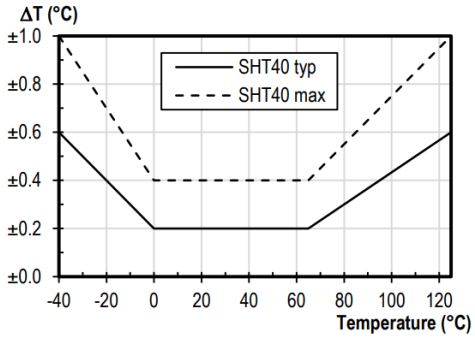
| CHARACTERISTIC | WORTH | UNIT |
|---|---|---|
| Measuring range | -40 to +125 | °C |
| Drift (long-term) | <0,03 | °C/year |
| Accuracy | +/-0,2 | °C |
| Resolution | 0,1 | °C |
| Repeatability | 0,2 | °C |



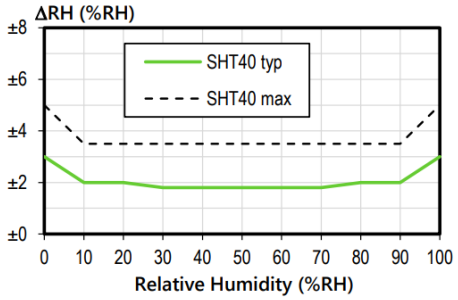

HT_DS_Datasheet_SHT4x_5.pdf

## SENSOR SPECIFICATION REL. HUMIDITY

| CHARACTERISTIC | WORTH | UNIT |
|---|---|---|
| Measuring range | 0 to +100 | %RH |
| Drift (long-term) | <0,25 | %RH/year |
| Accuracy | +/-1,8 | %RH |
| Resolution | 1 | %RH |
| Repeatability | 0,25 | %RH |




HT_DS_Datasheet_SHT4x_5.pdf




HT_DS_Datasheet_SHT4x_5.pdf

More accurate temperature sensors available on request.

## OVERVIEW OF TRACKING FEATURES

| **Item number** | **Radio standard** | **2.4 GHz scan** | **5 GHz scan** | **Maximum number of MAC addresses** |
|---|---|---|---|---|
| **S-JUNO(-iX)-LOEU-TRACK** | LoRaWAN® | ✓ | **X** | 6 |
| **S-JUNO(-iX)-LOEU-TH-TRACK** | LoRaWAN® | ✓ | **X** | 6 |
| **S-JUNO(-iX)-NBM1-TRACK-2** | Cellular | ✓ | ✓ | 20 |
| **S-JUNO(-iX)-NBM1-TRACK-3** | Cellular | ✓ | ✓ | 20 |
| **S-JUNO(-iX)-NBM1-TH-TRACK-2** | Cellular | ✓ | ✓ | 20 |
| **S-JUNO(-iX)-NBM1-TH-TRACK-3** | Cellular | ✓ | ✓ | 20 |
| **S-JUNO(-iX)-MIOTY-TRACK** | mioty® | ✓ | ✓ | 20 |
| **S-JUNO(-iX)-MIOTY-TH-TRACK** | mioty® | ✓ | ✓ | 20 |

## LOCALIZATION LORAWAN SENSORS

| CHARACTERISTIC | WORTH | UNIT |
|---|---|---|
| WIFI SSID Scan | Up to 6 MAC addresses on port 199 | |
| WIFI SSID Scan Frequency | 2,4 | GHz |
| WIFI SSID scan accuracy | 6 to 50 | m |
| GNSS | GNSS **scan** with GPS and BeiDou | |
| GNSS accuracy | 10 to 100 | m |
| Antenna | Integrated | |
| Chipset | LR1110 | |
| Feature for on-prem indoor tracking | Customization by configuring that up to 5 MAC addresses and RSSI values are transmitted in the standard uplink payload | |
| Tracking in the LoRaWAN | Network-dependent | |
| Tracking in Motion | Yes | |

## LOCALIZATION CELLULAR SENSORS

| CHARACTERISTIC | WORTH | UNIT |
|---|---|---|
| WIFI SSID Scan | Up to 20 MAC addresses | |
| WIFI SSID Scan Frequency | 2,4 and 5 | GHz |
| WIFI SSID scan accuracy | 2 to 50 | m |
| GNSS | GPS, Galileo, GLONASS, BeiDou | |
| GNSS accuracy | 5 to 100 | m |
| Antenna | Integrated | |
| Cell Locate | Supported | |
| Tracking in Motion | Yes | |

## SENSOR SPECIFICATION INCLINATION

| CHARACTERISTIC | WORTH | UNIT |
|---|---|---|
| Measuring range | 0 to 360 | ° |
| Accuracy | +/-2° | ° |
| Triggering in low power mode for opening detection | +/-60 | ° |

## SENSOR SPECIFICATION TEMPERATURE ACCELERATION SENSOR

| CHARACTERISTIC | WORTH | UNIT |
|---|---|---|
| Measuring range | -40 to +85 | °C |
| Accuracy | +/- 0,8 | °C |

# TECHNICAL DRAWING