

Inclinometer - SST20 series



- Low cost, high performance, suitable for high volume application
- 50Hz refresh rate, 10Hz response frequency
- $\pm 0.5\%$ Cross-axis error, $\pm 0.1^\circ$
- Available for horizontal, vertical, headstand, etc installation
- Auto-correct installation error
- IP67 protection

- Endurance to 1500g shock while operating
- OEM available, MIL/ EN/DIN/ISO/IEC testing standard upon request application



The SST20 inclinometer is based on advanced tilt measurement technology with an optimised performance-cost ratio, for competitively pricing and high reliability in volume applications.

The SST20 employs universal mass-produced components, a cast aluminum alloy housing, high reliability M12-5 pin industrial connector as well as full epoxy seal with IP67 protection. The unit is produced using the latest auto-test/calibration equipment which ensures rapid production speed and maintains quality consistency. Advanced technologies used in the design and manufacture of the SST20 include CAE/EDA simulation; modal test for both housing and PCB to eliminate resonance due to vibration; comprehensive performance & function test for component & firmware; calibration technology based on SST300 high accuracy inclinometer; reference standards MIL/ EN/ ISO/IEC standards to enhance SST20 durability & reliability.

The SST20 supports remote diagnosis without disassembly and has an MTBF of more than 10 years. It can operate in 10m submersible depth for long periods and has high EMC immunity. Available with a choice of CANOpen or Current output, the range offers excellent power management to meet the requirements of automotive/truck/vehicle applications without regulated power. OEM service is also available with calibrated PCBA or MIL qualified standards.

Applications

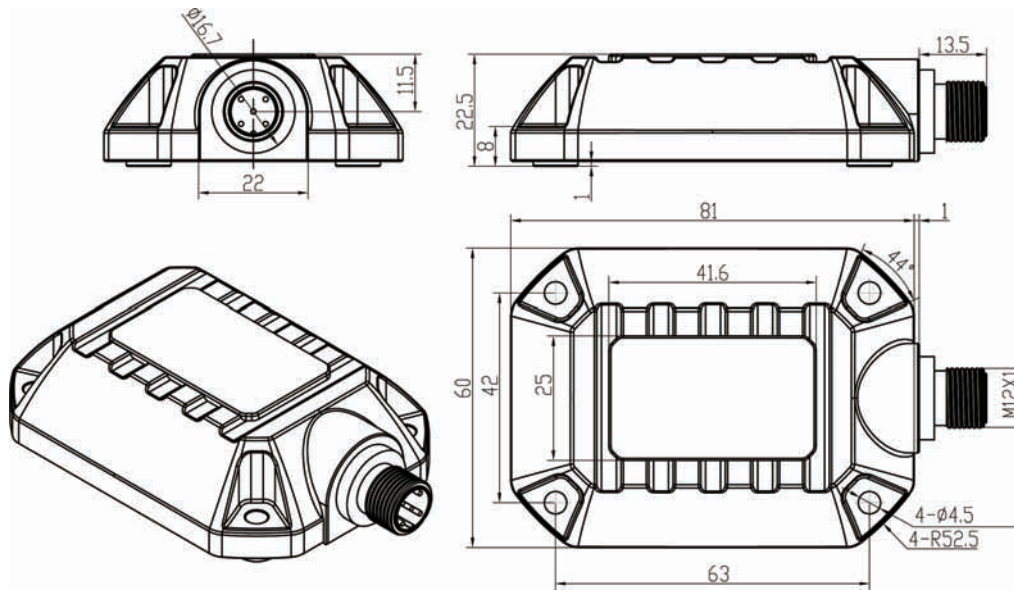
- Vessel
- Engineering machinery
- Solar/wind energy
- Automobile/truck/vehicle
- Communication/electric
- Tower monitoring
- High-voltage pylon monitoring
- Antenna construction engineering
- Landslide, etc

Specification:

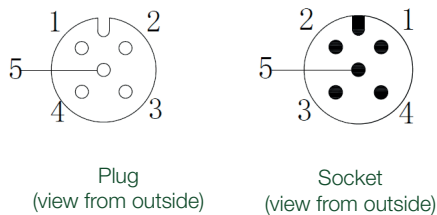
| | CANopen version | Current output version |
|-------------------------|---|---|
| Measurement range | $\pm 5^\circ$, $\pm 10^\circ$, $\pm 15^\circ$, $\pm 30^\circ$, $\pm 45^\circ$, $\pm 60^\circ$, $\pm 90^\circ$, $\pm 180^\circ$ | 0...360° |
| Accuracy | $\pm 0.1^\circ @ -15 \dots 50^\circ\text{C}$ | $\pm 0.15^\circ @ -15 \dots 50^\circ\text{C}$ |
| Non-linearity | $\pm 0.03^\circ$ | $\pm 0.05^\circ$ |
| Resolution | 0.002° | 0.005° |
| Repeatability | $\pm 0.02^\circ$ | $\pm 0.05^\circ$ |
| Offset | $\pm 0.02^\circ$ | $\pm 0.05^\circ$ |
| Cross-axis sensitivity | $\pm 0.2\%$ FS | $\pm 0.2\%$ FS |
| Measurement axis | 1 or 2 axis ($\pm 180^\circ$ and 0-360° measurement range single axis only) | |
| Bandwidth | Default 3Hz, 5Hz, 10Hz available | |
| Response time | 5ms (no filtering) | 10ms (no filtering) |
| Refresh rate | Default 5Hz, max. 50Hz | 50Hz |
| Cold-start warming time | Less than 60s | |
| Function | Zeroing, baud rate, refresh rate, zero point correction, bandwidth, ID address, factory producing data | |
| Power supply | 9-36 VDC | 16-36 VDC |

| | |
|-----------------------------|------------------------------------|
| Operation temperature range | -40 ... 85°C |
| Storage temperature range | -40 ... 85°C |
| EMC | According to EN 61000, CE approved |
| Isolation | $\geq 100\text{M}\Omega$ |
| MTBF | 10 years |
| Shock | 1500g, three-axis, half- sine |
| Vibration | 8g rms, 20 ... 2000Hz |
| Protection | IP67 |
| Connection | M12 5-Pin socket |
| Weight | $\leq 200\text{g}$ |

Dimensions



Wiring



| Pin | Wire colour | Output interface | |
|-----|-------------|------------------|------------|
| | | CANOpen | Current |
| 1 | Red | Power+ | Power+ |
| 2 | Black | Power GND | Power GND |
| 3 | Blue | CAN_H | Ix |
| 4 | Brown | CAN_L | Iy |
| 5 | Green | Signal GND | Signal GND |

Ordering Information

(Please use the characters in the chart below to construct your product code)

Sample Code: **SST20 - 01 - P1 - 45 - G19**

| Series | Axis | Accuracy | Range | Output |
|--------------|------------------------------------|-------------|---|------------------------------|
| Series SST20 | Single axis - 01 Dual axis - 02 | ±0.15° - P1 | ±5° - 05 ±10° - 10 ±15° - 15 ±30° - 30 ±45° - 45 ±60° - 60 ±90° - 90 ±180° - 180 0-360° - 360 | CANOpen - G4 4-20mA - G19 |

For example, to order a double-axis SST20 inclinometer, with range ±60°, ±0.1° accuracy, Output 4-20mA, the model should be chosen as: SST20-02-P1-60-G19

**Stock models: SST20-02-P1-45-G19
SST20-02-P1-90-G19**