

SCK-11

- ▣ inclinometer with two orthogonal axes
- ▣ high accuracy, temperature compensated
- ▣ high resistance to vibrations
- ▣ precision internal accelerometer



The dual axis inclinometer module **SCK-11** was designed to stationary measurements of inclinations of two orthogonal axes in relation to earth. Recommended range of measured angles maintains from -70 to +70 deg. While measuring in range -20 to +20 deg. range, the precision is better than 0.1 deg. in both axes. If measured angles exceeds range ± 75 deg. (in relation to earth) the measurement error can be higher 3 deg. (at both ends of range). Due storing of new scaling values to internal registers it is possible to change measurement unit and resolution to any other linear. Build in offset registers allows user to measure relative angles and self zeroing after mounting.

In addition to two registers containing information about **SCK-11** installation plane angle relative to the earth (two angles with the offset function), there are available additional two records containing information on the accelerations in the same axes, what makes measurement of transducer movement more precision. Indications of these records are expressed in 1/1000 of earth gravity, which corresponds to the reading equal to 1000 when inclination of sensor equals 90 deg. in relation to earth. Additional temperature measurement circuit allows to check temperature of internal accelerometer and compensate the measurements. Internal temperature can be read by user as third measurement channel.

Substantial aluminium case with high IP rating, wide operation temp. range and temperature compensation circuit allows to use **SCK-11** outside of buildings, with hard environment conditions (containers, platforms, outriggers, jibs etc.). The device should not be used while strong vibrations occurs and must not be used for security systems.

SCK-11 is equipped with RS-485 communication interface with Modbus RTU protocol, allowing direct readings of measurements and full configuration of the device.

- two measurement channels,
- build-in temperature sensor,
- resistance for mechanical damages,
- aluminium housing.

Applications

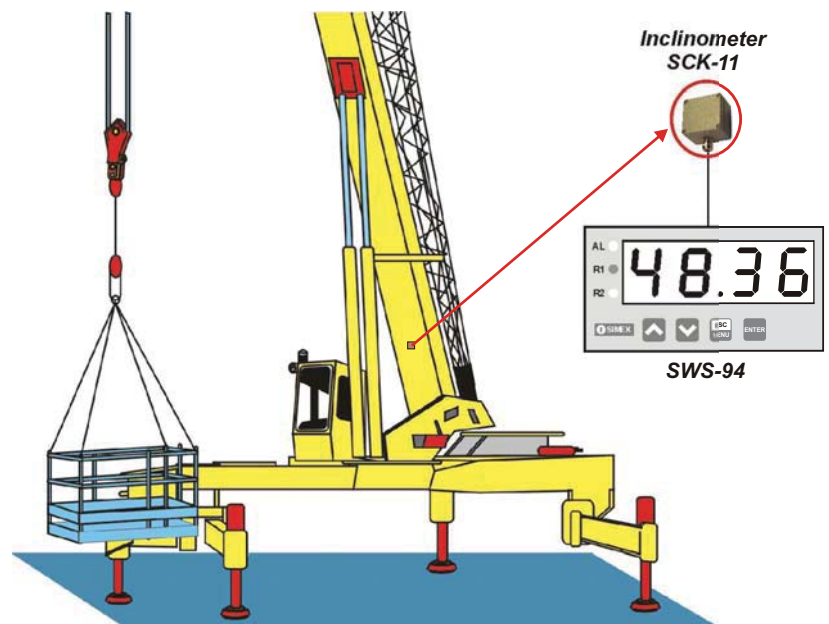
Possible application fields:

- industry and farming
- position control equipment
- measurement systems of lifts etc.

Ordering

SCK-11-001

Typical applications



Technical data

Power supply: 10 - 36V DC

Current consumption: during operation typically 12 mA @ 24V DC, during Modbus transmission up to 60 mA

Angle detector: MEMS

Measurement channels (axes): 2

Measurement range: ± 70 deg. in relation to earth

Measurement unit: any (factory scaled to degrees)

Measurement resolution: from 0,001 to 1, user configured

Measurement accuracy: ± 30 deg. (better than 0,2%; max. error 0,05 deg. @25°C)
 ± 70 deg. (better than 0,5%; max. error 0,2 deg. @25°C)

Nonlinearity: $\pm 0,1\%$

Recommended maximum gravity measurement range: $\pm 1,5G$ (1G = gravitational acceleration of earth)

Acceleration unit and resolution: 0,001 G

Communication interface: RS 485, 8N1 / Modbus RTU, not separated, baud rate 1200 bit/s + 115200 bit/s

Compensation range: -40°C + 85°C

Operation temperature: recommended -30°C to +60°C; max. -40°C to +85°C

Vibration frequency: higher than 10Hz

Protection level: IP 67

Case type: wall mounted

Case material: aluminium

Mounting: to wall, 2 M3 bolts

Dimensions: without glands 75 x 80 x 57 mm, with glands 100 x 80 x 57 mm

Weight: 350 g