



SCIGATE AUTOMATION (S) PTE LTD

Bukit Batok Street 22 #01-01 Singapore 659592

Tel: (65) 6561 0488

Fax: (65) 6561 0588

Email: sales@scigate.com.sg

Web: <https://scigate.com.sg/>

Business Hours: Monday - Friday 8:30AM - 6:15PM

More Precision

capaNCDT CST6110 // Capacitive rotation speed sensor for industrial counting tasks



Capacitive rotation speed sensor for industrial counting tasks

capaNCDT CST6110



- *Material independent rotation speed measurement of 1 ... 400,000 rpm*
- *Adjustable rotary switch (max. 16) for rotation output*
- *Measurement from the first detection*
- *Easy integration due to compact sensor size*
- *Ideal for industrial environments with electromagnetic radiation*

The capaNCDT CST6110 is a capacitive measuring system for non-contact rotation speed measurement of conductive measurement objects such as metals and non-conductive objects such as ceramics or plastics. This non-contact measurement is performed, for example, in drives, on rotor blades or on position marks of shafts. The sensor can be mounted in axial and radial direction to the target in order to detect objects such as blades, teeth, rings or nubs. The measuring range from 1 to 400,000 rpm enables the detection of both the startup from the first rotation and high rotational speeds reliably. The adjustable rotary switch supports the rotation output of objects which have several measuring points per rotation, e.g., rotor blades. Data output is via a voltage output or a digital interface.

Compact sensor for integration into confined spaces

The rotation speed system consists of a compact industrial sensor which is connected to the robust controller via a sensor cable. Based on an M5 thread, the design allows for the sensor to be firmly mounted in confined spaces. Its interference immunity enables it to operate the system in environments with electromagnetic fields.



Axial installation: rotation speed monitoring on shafts



Radial installation: measurement in turbines



Axial installation: rotation speed in drilling rigs

Controller	CST6110
Speed range (measuring range)	1 ... 400,000 rpm
Start of measuring range	max. sensor distance from measurement object 1 mm ¹⁾
Frequency response (-3dB)	110 kHz
Linearity	< ±0.2 % FSO ²⁾
Target material	Conductors / non-conductors
Supply voltage	11 ... 32 VDC
Power consumption	< 0.8 W
Digital output	TTL level (1 pulse / detection with variable pulse duration or 1 pulse / rotation with 100 µs pulse duration)
Analog output	0...5 V (short circuit proof)
Connection	Sensor: triax connector Supply/signal: 6-pole connector (suitable connection cable SCAC3/6/IP included)
Mounting	2x through bores for M4 screw
Temperature range	Storage: -40 ... +85 °C Operation: -40 ... +85 °C ³⁾
Shock (DIN-EN 60068-2-27)	20 g / 5 ms in 3 axes, 1000 shocks each
Vibration (DIN-EN 60068-2-6)	10 g / 10 ... 2000 Hz in 3 axes, 10 cycles
Protection class (DIN-EN 60529)	IP67 (with closed lid and when connected) ⁴⁾
Material	Aluminum die-cast
Weight	approx. 165 g
Rotary switch	1 ... 16 (adjustable via rotary switch)
Control and display elements	Color LED indicates mode and measurement (red, blue, green and mixed colors)

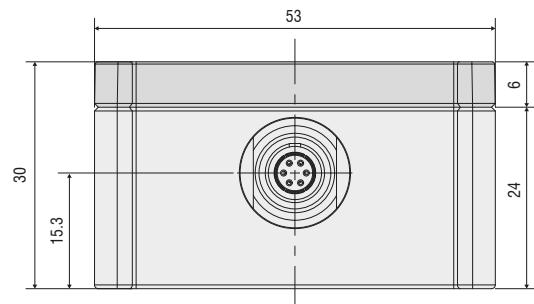
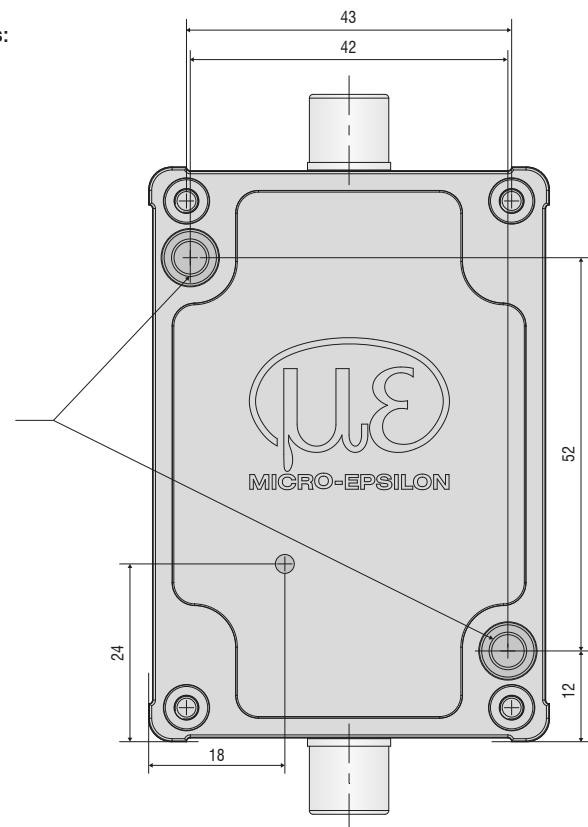
FSO = Full Scale Output
¹⁾ Depends on sensor and target geometry; reference value for CS025/M5-CAm1,0/RS (capacitive speed sensor and electrically conductive target; with non-conductive materials, shorter measurement distances are required depending on the material)
²⁾ Relates to analog output; digital output without limitation
³⁾ Short-term up to 125 °C
⁴⁾ Up to an ambient temperature of max. 50 °C

Sensor	CS025/M5-CAm1,0/RS
Measuring range	0.25 mm
Linearity	< ± 0.2 % FSO
Connection	integrated cable with thermal protection hose, length 1 m; minimum bending radius: static 7 mm, dynamic 25 mm
Mounting	Screw connection via M5 thread
Temperature range	Storage: -50 ... +125 °C Operation: -50 ... +125 °C
Humidity	0 ... 95 % r.H. (non-condensing)
Shock (DIN-EN 60068-2-27)	50 g / 5 ms in 3 axes, 1000 shocks each
Vibration (DIN EN 60068-2-6)	30 g / 10 ... 2000 Hz in 3 axes, 10 cycles
Protection class (DIN-EN 60529)	IP67 (when connected)
Material	1.4301 (non-magn.)
Weight	approx. 32 g
Compatibility	compatible with capacitive CST controllers from Micro-Epsilon

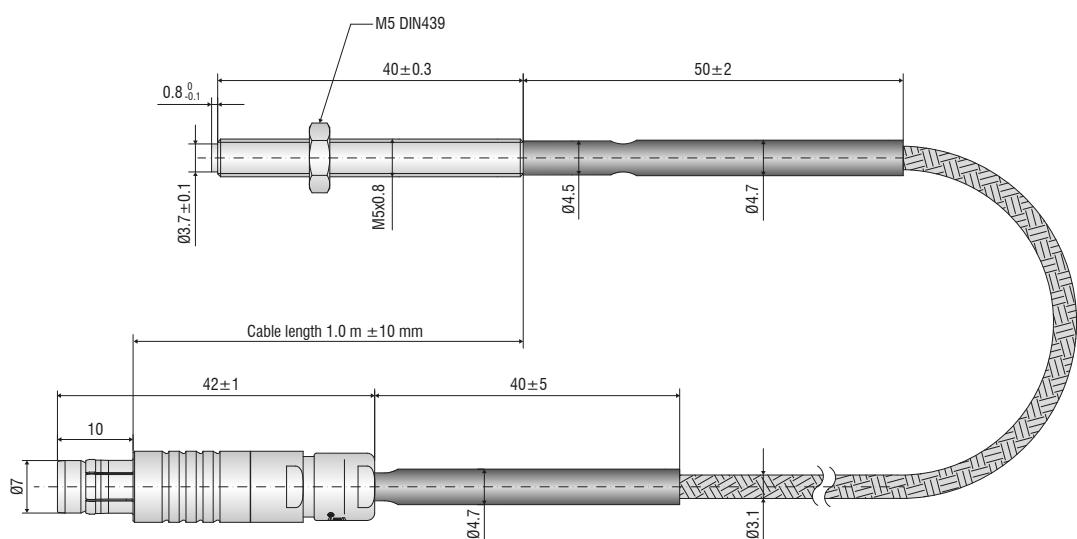
Dimensions:

Controller

Mounting holes
for M4 screws



Sensor



(dimensions in mm, not to scale)

Pin assignment of the supply and signal cable

Assignment	Color (Cable: SCAC3/6/IP)
Analog output signal 0 ... 5 V	Pink
Digital output signal, TTL pulse	Brown
Raw signal	Blue
GND	Green
Power supply -	Gray
Power supply + (11 ... 32 VDC)	White
Shield (housing)	Black