

CMPT 2323 and CMPT 2323T

Low profile integral cable accelerometers

SKF® CMPT 2323 and CMPT 2323T models are piezoelectric accelerometer sensors especially made for monitoring low speed machinery ($n < 40$ r/min) operating in harsh industrial conditions, such as horizontal grinding mill trunnions, vertical grinding mill rollers (tyres), roll crushers, press rolls, etc.. The sensors have greater sensitivity and lower-frequency measurements capability than CMPT 2310 and CMPT 2310 models.

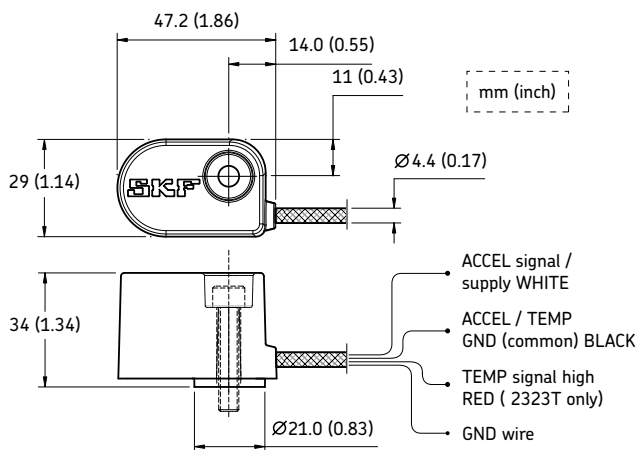
The CMPT 2323T model includes a precision integrated circuit temperature sensor. The CMPT 2323T temperature output voltage is linearly proportional to the temperature (°C) and does not require external calibration or trimming to provide high accuracy over the full 0° to +120 °C temperature range.

The CMPT 2323 and CMPT 2323T sensors are hermetically sealed in a stainless steel body and have an integral stainless steel wire over-braided cable. The sensors have a low profile housing and a side exit integral cable for use in a wide range of industrial applications where harsh operating conditions and limited mounting space prevail. The stainless steel and hermetic construction makes them suitable in corrosive and wet environments. The sensor cable is double insulated and highly resistant to abrasion and wear. The sensor cable has excellent signal transmission characteristics, low capacitance, redundant shielding and high mechanical durability. The transducer and internal cable shield/ground are isolated from the sensor housing to prevent ground loops. The sensor mounting base and fastener (included) are compatible with industry standard accelerometers.



Features

- 230 mV/g sensitivity
- 0,2 Hz low frequency cut off
- CMPT 2323T includes an integral temperature sensor (10 mV/°C)
- Rugged design, stainless steel hermetically sealed sensor housing
- Integral 5 m (16 feet) stainless steel wire over-braided twisted shielded cable
- Straight forward sensor interface with color-coded cabling
- Standard mounting techniques, utilizing a low profile side exit cable with recessed mounting screws
- The internal sensor capsule is isolated from the machine ground
- Low noise, highly shock resistant, and overload protected electronics.



Specifications

Specifications conform to ISA-RP-37.2 (1-95) and are typical values referenced at +24 °C (+75 °F), 24 V DC supply, 4 mA constant current and 80 Hz.

Sensor – Accelerometer (CMPT 2323 and CMPT 2323T)

Sensitivity: 230 mV/g

Sensitivity precision: $\pm 10\%$

Sensitivity deviation over full temperature range:
10% (approx. -5% at -50 °C and +5% at 120 °C)

Amplitude linearity: < 1% up to full scale

Transverse sensitivity: < 5% of axial

Acceleration output range: 70 g

Shock limit: 5000 g

Accelerometer measurement temperature range:
-50 to 120 °C (-58 to 248 °F)

Sensor – Temperature (CMPT 2323T)

Sensitivity: 10 mV/°C

Temperature measurement range:
0 to 120 °C (32 to 248 °F)

Precision: $\pm 1,5$ °C

Electrical

Power requirements

Voltage source: +24 V DC nominal, +18 to +30 V DC

Constant current diode: 4 mA DC at +24 V. 2 to 10 mA is permissible.

Acceleration sensor bias voltage:

11,5 V DC $\pm 10\%$ for +24 V DC supply at 25 °C

Over voltage protection: At approximately 18 V DC

Reverse polarity: (Wiring) Protection installed

Cables: Integral cable, 5 meters (16 feet) length

Acceleration sensor electrical noise level: < 1 mG RMS
broadband 2,5 Hz to 25,0 kHz

Wire spec.: 0,32 mm² (AWG 22) stranded tin copper
(7 strands @ 0,05 mm² each)

Grounding/shielding: Case isolated, internal shielding (faraday cage), faraday cage connected to power supply return

Wire connections – CMPT 2323

White: ACCEL signal/power (connected to Constant Current Source)

Black: ACCEL signal Ground (GND)

Blank twisted wire: Screen connected to internal shield

Wire connections – CMPT 2323T

White: ACCEL signal/power

Black: ACCEL/TEMP signal Ground (GND)

Red: TEMP signal high

Blank twisted wire: Screen connected to internal shield

Environmental

Maximum operating temperature: 140 °C (284 °F)

Storage temperature: -50 to 150 °C (-58 to +302 °F)

Vibrations limits: 70 g peak

Shock limit: 5 000 g peak

Electromagnetic sensitivity, equivalent g:
< 100 micro g/Gauss at 50 to 60 Hz

CE: According to the generic immunity standard for Industrial Environment EN50082-2

IEC: 529, IP67

Physical

Weight: Sensor without cable 210 gram (8 oz)
Sensor with cable 410 g (14.4 oz)

Sensor housing material: 304 stainless steel

Hardware: (1) M6×1 socket head cap screw
(30 mm long) included, and
(1) 1/4-28 UNF socket head cap
screw (1.25" long) included

Screw torque: 6 Nm (50 inch-lbf)

See www.skf.com for more information.