

CMCP780A/IS

Compact Intrinsically Safe Side Entry Accelerometer



Features

- Compact Intrinsically Safe Accelerometer
- ATEX and IECEx Approved
- 100 mV/g $\pm 10\%$
- 150°C Max Temperature Range
- ± 80 g Dynamic Range
- 1/4"-28 UNF or M8x1.25 Captive Mounting Bolt
- Sealed to IP68
- Side Exit 2 Pin MS 5015 Connector



Typical Applications

For tight places on Fans, Motors, Pumps, Compressors, Centrifuges, Conveyors, Air Handlers, Gearboxes, Rolls, Dryers, Presses, Cooling, HVAC, Spindles, Machine Tooling, Process Equipment and many more.

Technical Performance

Mounted Base Resonance:	24 kHz (nominal)
Sensitivity:	100 mV/g $\pm 10\%$ Nominal 80 Hz at 22°C
Frequency Response:	2.0 Hz to 14 kHz $\pm 5\%$ (120 cpm to 840k cpm) 1.5 Hz to 16 kHz $\pm 10\%$ (90 cpm to 960k cpm) 0.8 Hz to 19 kHz $\pm 3\text{dB}$ (48 cpm to 1,140k cpm)
Isolation:	Base Isolated
Measurement Range:	± 80 g
Transverse Sensitivity:	Less than 5%

Electrical

Supply Voltage:	18-30 VDC
Current Range:	0.5 mA to 8 mA
Bias Voltage:	10-12 Vdc
Electrical Noise:	0.1 mg max
Settling Time:	1 Second
Output Impedance:	200 Ohm max.
Case Isolation:	$>10^8$ Ohm at 500 Volt

Environmental

Operating Temperature Range:	-67 to 302°F (-55 to 150°C)
Sealing:	IP68 / Hermetically Sealed
Maximum Shock:	5000 g
Approvals:	CE Approved

Mechanical

Case Material:	Stainless Steel
Sensing Element:	PZT/Shear
Mounting Torque:	5.9 ft-lbs (8 Nm)
Weight:	1.8 Oz (52 gram)
Mating Connector:	2 Pin MS 5015 Connector
Mounting Thread:	
CMCP780A/IS:	1/4-28 UNF Captive Bolt
CMCP780A-M8/IS:	M8x1.25 Captive Bolt
Recommended Cable Assembly:	CMCP602L or CMCP602H Series

Hazardous Location Ratings

Class I, II, III, Division 1 and 2, Groups A-G, T4, -55°C to + 110°C IP65

Class 1, Zone 0, AEx, ia, IIC, T4, Ga, -55°C to + 110°C

Zone 20, AEx, ia, IIIC, T130°C, IP65, Da, -55°C to + 110°C

Class I, II, III, Division 1, 2, Groups A-G, T6, -55°C to + 110°C

Zone 20, AEx, ia, IIIX, T80°C, IP65, DA, -55°C to + 110°C

Intrinsically Safe Requirements

Certificate details: Group I

IECEX 18.0082X

Baseefa18ATEX0130X

EI M 1

Ex ia I Ma

Certificate details: Group II and III

IECEX 18.0082X

Baseefa18ATEX0130X

Ex II 1GD

Ex ia IIC T6..T4 Ga

Ex ia IIIC T135°C Da

Ex ia IIIB T110°C..T145°C Da

Terminal Parameters Connector

Ui = 28V, Ii = 93mA, Pi = 0.65W

Ci = 1.2nF

Li = 0

500V Isolation

Units Will Pass A 500V Isolation Test

Standards Applied to Product

EN IEC 60079-0:2018

EN 60079-11:2012

IEC 60079-0 Edition 7 2017

IEC 60079-11 Edition 6 2011

Barrier

1 x Pepperl + Fuchs Galvanic Isolator

KFD2-VR4-Ex1.26 (BAS02ATEX7206)

1 x MTL Zener Barrier MTL7728+ (CMCP245-02)

or any other barrier that conforms with the terminal parameters

Certified Temperature Range

Ex ia IIC T6 Ga (-55°C ≤ Ta ≤ +57°C) (Gas)

Ex ia IIC T4 Ga (-55°C ≤ Ta ≤ +103°C) (Gas)

Ex ia IIIB T110°C Da (-55°C ≤ Ta ≤ +57°C) (Dust)

Ex ia IIIC T135°C Da (-55°C ≤ Ta ≤ +70°C) (Dust)

Ex ia IIIB T145°C Da (-55°C ≤ Ta ≤ +92°C) (Dust)

Ex ia I Ma (-55°C ≤ Ta ≤ +103°C) (Mining)

Australian Approval Group I

IECEX ExTC 18.0032X

Ex ia I Ma

(-55°C < Ta < +104°C)

US/Canada Approvals

Certificate No. SGSNA/19/BAS/00005

Cl I, II, III, Div 1, 2 Gr A-G T*

Cl I Zn 0 AEx ia IIC T6...T4 Ga

Cl II Zn 20 AEx ia IIIC T135°C Da

Ex ia IIC T6...T4 Ga

Ex ia IIIC T135°C Da

Or

Cl I, II, III, Div 1, 2 Gr A-D G and F T*

Cl I Zn 0 AEx ia IIC T6...T4 Ga

Cl II Zn 20 AEx ia IIIB T110°C...T145°C Da

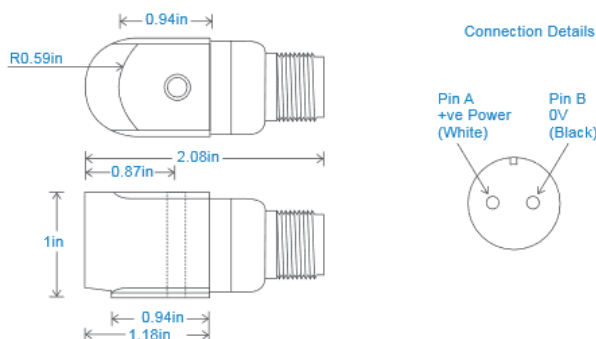
Ex ia IIC T6...T4 Ga

Ex ia IIIC T110°C...T145°C Da

Control Drawing

CMCP700A(Connector) System Connections

Dimensions



Ordering Information

CMCP780A/IS

Compact Intrinsically Safe Side Entry Accelerometer, 100 mV/g, 2 Pin MS 5015, ¼-28 UNF Captive Bolt

CMCP780A-M8/IS

Compact Intrinsically Safe Side Entry Accelerometer, 100 mV/g, 2 Pin MS 5015, M8x1.25 Captive Bolt

Note: Due to STI's continuous process improvement, specifications are subject to change without notice.