ESC-SERIES INDUSTRIAL INCLINOMETER

Model ESC30xxZ

ESC-Series industrial inclinometers are high performance sensors used MEMS accelerometer to determine inclination in X and Y axes with excellent precision and high value. Using Aluminum Die-Cast housing, the versions offer mechanical stability and encapsulated sensor, further have a high environmental protection in harsh industrial environments.

Main Features

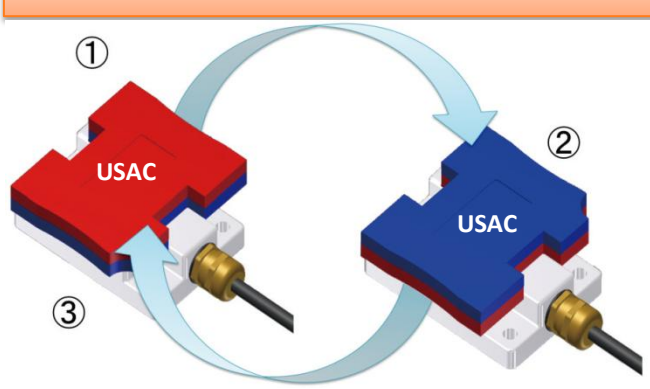
- ◆Dual Axis Measurement up to ±80°
- ◆High accuracy <±0.5%FS
- ◆Various Data Output : Voltage, Current, Serial RS-485
  *Requesting other serial interface such as SAE J1939 & CANopen, please contact us.
- ◆Stable measurement under vibration
- ◆Programmable Parameters
  Inclination range, Baud Rate, Data Transmissions Period, Filter factor
- ◆Highest Protection Class : IP67

Specifications

	Voltage	Voltage Ratio	Current	Serial (RS-485)
Electrical Angle	±10°, ±20°, ±30°, ±45°, ±60°, ±80° Separate choice of X and Y axes (Option) Teach-in setting is available (Option)			±80°
Absolute Linearity	±0.5%FS			±0.1°(～±10°) ±0.2°(～±30°) ±0.5°(～±80°)
Input Voltage	DC 8～30V	DC 5±0.25V	DC 24±4V	—
Current Consumption	75mA max.			
Output Range	0.5～4.5V	10～90%Vin	4～20mA	—
Output Resolution	12bit equivalent			—
Index point setting	Resetting to 0° from ±5° error max. (Option)			
Damper Control	・Time constant against input step : 443ms (Standard) ・Selectable 16 steps during 70ms~900ms (Option) ・Teach-in setting is available (Option)			
Temp. Characteristics	0° position : ±0.5° (-30°C ~ 85°C deviation from 25°C)			
Mass	300g approx.			
Cable	6 cores Cabtyre Cable, Outer diameter: dia. 7.4mm, Core: 0.5mm^2			
EMS	ISO11452 corresponding ±1% output shifting at 10MHz~1GHz 100V/m (Ratio, Current, Serial) / 50V/m (Voltage)			
EMI	CISPR25 3rd.edit CLASS1 corresponding			
Operating Temp. Range	-30～85℃			
ESD	IEC61000-4-2 ±12kV			
Vibration	70m/s^2, 5～200Hz/10min. 2 hours			
Shock	1000m/s^2, Half sine wave 6ms			
IP Grade	IP67(Housing)			

New User-Friendly functions

Easy Resetting Function for Index Point(0°)



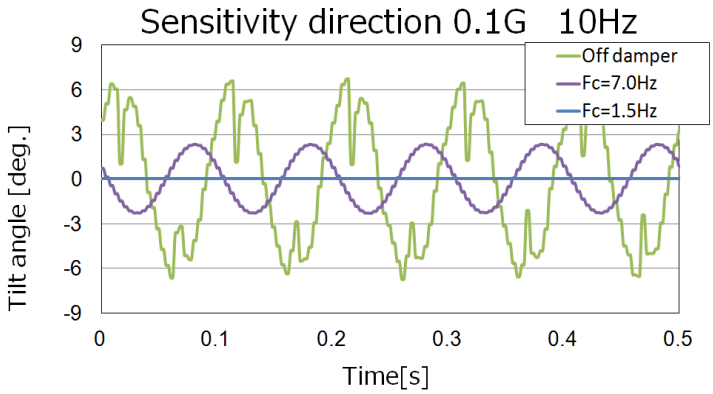
Only 5 seconds to reset index point (0°)
using User-Settable Adjustment Card. (USAC)

(1) Please touch ESC 3times with USAC
①front→②back→③front
(2) Then current position (±5° max./horizontality)
will be changed to index point.

Any electrical connections do not needed.

*Note: USAC is optional item.

Programmable Digital Damping Control Function

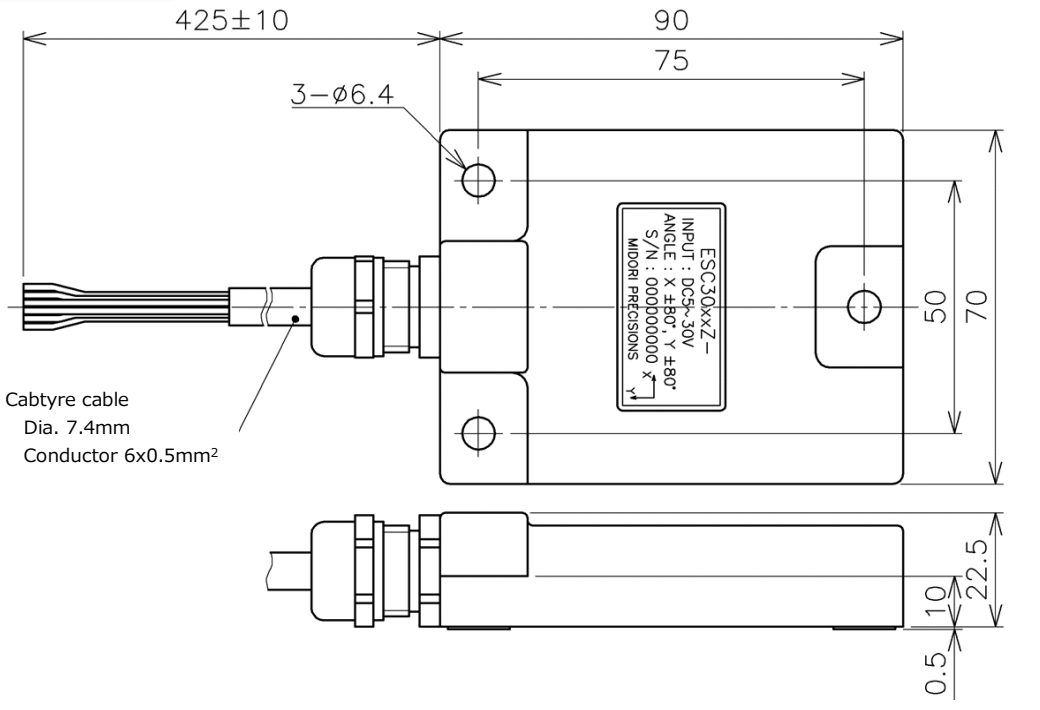


ESC30xxZ implements the digital filter that would remove external noise to give the user a choice of certain filter factor from 16 available settings.
Existing inclinometers have to be add extra electrical low-pass filter or mechanical damping structure.
ESC30xxZ apply digital filter. It makes wider choice of cut-off frequency and easy to design frequency response.

Note: Frequency response is set before shipping.
Programmable function will be option.

Dimensions

[mm]



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