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

<table>
<thead>
<tr>
<th></th>
<th>Voltage</th>
<th>Voltage Ratio</th>
<th>Current</th>
<th>Serial (RS-485)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Angle</td>
<td>±10°, ±20°, ±30°, ±45°, ±60°, ±80° Separate choice of X and Y axes (Option) Teach-in setting is available (Option)</td>
<td></td>
<td></td>
<td>±80°</td>
</tr>
<tr>
<td>Absolute Linearity</td>
<td></td>
<td>±0.5%FS</td>
<td></td>
<td>±0.1°(±10°) ±0.2°(±30°) ±0.5°(±80°)</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>DC 8~30V</td>
<td>DC 5±0.25V</td>
<td>DC 24±4V</td>
<td>—</td>
</tr>
<tr>
<td>Current Consumption</td>
<td></td>
<td>75mA max.</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>Output Range</td>
<td>0.5~4.5V</td>
<td>10~90%Vin</td>
<td>4~20mA</td>
<td>—</td>
</tr>
<tr>
<td>Output Resolution</td>
<td></td>
<td>12bit equivalent</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>Index point setting</td>
<td>Resetting to 0° from ±5° error max. (Option)</td>
<td></td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Damper Control</td>
<td></td>
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</table>
|  | • 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: 0.5mm² | | — |
| 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°C | | — |
| ESD | IEC61000-4-2 ±12kV | | — |
| Vibration | 70m/s², 5~200Hz/10min. 2 hours | | — |
| Shock | 1000m/s², 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 3 times with USAC front→back→front
(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

Cabtyre cable
Dia. 7.4mm
Conductor 6x0.5mm²
We are here for you. Addresses and Contacts.

### Sales Germany & Austria

<table>
<thead>
<tr>
<th>Postcode</th>
<th>Geometrical sensors</th>
<th>Sensor elements</th>
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<tbody>
<tr>
<td>00000 – 31999</td>
<td>Postcode 32000 – 37999</td>
<td>Postcode 40000 – 79999</td>
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<tr>
<td>38000 – 39999</td>
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<td></td>
</tr>
<tr>
<td>80000 – 99999</td>
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</tr>
<tr>
<td>Austria</td>
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</tbody>
</table>

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### Sales Switzerland & Liechtenstein

<table>
<thead>
<tr>
<th>Postcode</th>
<th>Sales International Key Accounts</th>
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<tbody>
<tr>
<td>30000 – 9999</td>
<td>Postcode 1000 – 2999</td>
</tr>
<tr>
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<td>Christian Mohrenstecher</td>
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### Sales Other Countries / Product Management

**Pressure Sensors**
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**Load cells**

**Power supplies**
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**Angle sensors**

**Current sensors**
- Power solutions

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