

ABSOLUTE VALUE ENCODER 6FX2001-5SS12 SINGLETURN 13  
BIT WITH SSI, OPERAT. VOLT. 10-30 V STRIP FLANGE SHAFT  
10MM AXIAL FLANGE SOCKET



Figure similar

|                                                                                                |                                                             |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| product brand name                                                                             | Measuring systems                                           |
| Measuring procedure / for position feedback                                                    | absolute                                                    |
| Manner of function / of absolute encoder                                                       | singleturn                                                  |
| Operating voltage / of the rotary encoder / at DC                                              | 10 ... 30                                                   |
| Consumed current / typical                                                                     | 160 mA                                                      |
| Design of the interface                                                                        | SSI                                                         |
| Design of input / for clock cycle                                                              | Differential line receiver according to EIA Standard RS 485 |
| Design of encoder output                                                                       | Differential line driver according to EIA Standard RS 485   |
| Property of the output / Short-circuit proof                                                   | Yes                                                         |
| Clock frequency                                                                                | 100 kHz ... 1 MHz                                           |
| Speed                                                                                          |                                                             |
| • for digital measuring accuracy +/- 1 bit / with electrical rotation transmission / maximum   | 5 000 1/min                                                 |
| • for digital measuring accuracy +/- 100 bit / with electrical rotation transmission / maximum | 10 000 1/min                                                |
| • maximum                                                                                      | 12 000 1/min                                                |
| Wire length                                                                                    |                                                             |
| • at 0 Hz ... 1 MHz / maximum                                                                  | 50 m                                                        |

|                                                                                                                                                                                              |                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at 0 Hz ... 300 kHz / maximum</li> <li>• at 0 Hz ... 100 kHz / maximum</li> </ul>                                                                   | 100 m<br>400 m                                   |
| Digital resolution                                                                                                                                                                           | 13 bit; (8192 increments)                        |
| Telegram length                                                                                                                                                                              | 13 bit; without parity                           |
| Type of coding <ul style="list-style-type: none"> <li>• for sampling</li> <li>• for transmission</li> </ul>                                                                                  | Gray<br>Gray, fir-tree format                    |
| Product function <ul style="list-style-type: none"> <li>• parameterizable preset</li> <li>• parameterizable counting direction</li> </ul>                                                    | Yes; Set to zero<br>Yes                          |
| Measurement deviation angle of rotation / of absolute encoder                                                                                                                                | 79"; (with 8192 increments)                      |
| Friction torque / at 20 °C / maximum                                                                                                                                                         | 0.01 N·m                                         |
| Starting torque / at 20 °C / maximum                                                                                                                                                         | 0.01 N·m                                         |
| Axial force / at shaft <ul style="list-style-type: none"> <li>• with <math>n &gt; 6000</math> rpm / maximum</li> <li>• with <math>n \leq 6000</math> rpm / maximum</li> </ul>                | 10 N<br>40 N                                     |
| Cantilever force / at shaft extension <ul style="list-style-type: none"> <li>• with <math>n &gt; 6000</math> rpm / maximum</li> <li>• with <math>n \leq 6000</math> rpm / maximum</li> </ul> | 20 N<br>60 N                                     |
| Rotary encoder shaft version                                                                                                                                                                 | Solid shaft                                      |
| Diameter / of rotary encoder shaft                                                                                                                                                           | 10 mm                                            |
| Length / of rotary encoder shaft                                                                                                                                                             | 20 mm                                            |
| Angular acceleration / maximum                                                                                                                                                               | 100 000 rad/s <sup>2</sup>                       |
| Moment of inertia / of rotor <ul style="list-style-type: none"> <li>• with solid shaft encoder</li> </ul>                                                                                    | 0.0000015 kg·m <sup>2</sup>                      |
| Vibrational acceleration / at 55 Hz ... 2 kHz / acc. to IEC 60068-2-6                                                                                                                        | 300 m/s <sup>2</sup>                             |
| Shock acceleration <ul style="list-style-type: none"> <li>• limited to 2 ms / acc. to IEC 60068-2-27</li> <li>• limited to 6 ms / acc. to IEC 60068-2-27</li> </ul>                          | 2 000 m/s <sup>2</sup><br>1 000 m/s <sup>2</sup> |
| Protection class IP <ul style="list-style-type: none"> <li>• without shaft input</li> <li>• with shaft input</li> </ul>                                                                      | IP67<br>IP64                                     |
| Ambient temperature / during operation                                                                                                                                                       | -40 ... +85                                      |
| EMI immunity                                                                                                                                                                                 | Tested to DIN EN 50081 and EN 50082              |
| Certificate of suitability                                                                                                                                                                   | CE, cULus                                        |
| Type of electrical connection                                                                                                                                                                | Flange socket                                    |
| Direction of connection opening                                                                                                                                                              | Axial                                            |
| Flange type                                                                                                                                                                                  | Clamping flange                                  |
| Net weight                                                                                                                                                                                   | 0.35 kg                                          |

#### Further information

**Information und Download Center**

[https://www.automation.siemens.com/mcms/infocenter/content/en/Pages/order\\_form.aspx](https://www.automation.siemens.com/mcms/infocenter/content/en/Pages/order_form.aspx)

**Technical documentation**

<http://w3.siemens.com/mcms/mc-solutions/en/motion-control/support/technical-documentation/Pages/technical-documentation.aspx>

**Industry Mall**

<https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/6FX2001-5SS12/all>

**Industry Online Support**

<http://support.automation.siemens.com/WW/view/en/6FX2001-5SS12/all>

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