

# SIEMENS

## Product data sheet

**6FX2001-2FF00**

INCREM. ENCODER WITH RS 422 (TTL),  
5000 P/R,  
SYNCHRO-FLANGE SHAFT 6MM OPERATING  
VOLTAGE: 10-30 V RADIAL FLANGE CONNECTOR



Fig. similar

|  |                           |
|--|---------------------------|
| product brand name   | Measuring systems         |
| Design of the interface  | TTL / RS 422              |
| Measuring method / for position feedback                                 | Incremental               |
| Operating voltage VP at the encoder / min.                               | 10 V                      |
| Operating voltage VP at the encoder / max.                               | 30 V                      |
| Scanning frequency   |                           |
| • maximum  | 300 kHz                   |
| Current consumption without load   |                           |
| • max.   | 150 mA                    |
| Signal level   | TTL (RS 422)              |
| Outputs protected against short circuit to 0 V                           | Yes                       |
| Switching time (10 ... 90 %) for 1 m cable and recommended input circuit |                           |
| • note   | Rise / fall time t+/t- <= |
| • max.   | 50 ns                     |

|   |  |
|---|--|
| Phase position signal A to B  | 90 °   |
| Edge spacing at<br>• 300 kHz / min.   | 0.45 µs  |
| Length of cable to subsequent electronics<br>• max.   | 100 m  |
| LED failure monitoring  | High impedance driver                          |
| Resolution<br>• max.  | 5000   |
| Precision   | 13 "   |
| Speed / electric<br>• max.  | 3600 1/min                                     |
| Speed / mechanical / max.   | 12000 1/min                                    |
| Friction torque at 20°C / max.  | 0.01 N·m                                       |
| Starting torque at 20 °C / max.   | 0.01 N·m                                       |
| Shaft load capacity<br>• at n > 6000 rpms<br>• axially, max.<br>• radially on shaft end, max.<br>• at n ≤ 6000 rpms<br>• axially, max.<br>• radially on shaft end, max. | 10 N<br>20 N<br>40 N<br>60 N                   |
| External diameter / of rotary encoder shaft   | 6 mm   |
| Length of encoder shaft   | 10 mm  |
| Angular acceleration / maximum  | 100000 rad/s <sup>2</sup>                      |
| Moment of inertia of the rotor  | 0.00000145 kg·m <sup>2</sup>                   |
| Vibration 55 to 2000 Hz according to DIN IEC 60068-2-6 / max.   | 300 m/s <sup>2</sup>                           |
| Shock according to EN 60068-2-27<br>• 2ms, max.<br>• 6ms, max.  | 2000 m/s <sup>2</sup><br>1000 m/s <sup>2</sup> |
| IP degree of protection<br>• without shaft input<br>• with shaft input  | IP67<br>IP64                                   |
| Ambient temperature / during operation  |  |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• with flange socket or fixed installation cable, at           <ul style="list-style-type: none"> <li>• <math>V_p = 10 \dots 30 \text{ V}</math>, min. -40 °C</li> <li>• <math>V_p = 10 \dots 30 \text{ V}</math>, max. 70 °C</li> </ul> </li> <li>• with flexible installation cable, at           <ul style="list-style-type: none"> <li>• <math>V_p = 10 \dots 30 \text{ V}</math>, min. -10 °C</li> <li>• <math>V_p = 10 \dots 30 \text{ V}</math>, max. 70 °C</li> </ul> </li> </ul> |   |
| Weight, approx.  | 0.3 kg  |
| EMC  | Tested according to the EMC guidelines 89/336/EEC and the rules of the EMC guidelines (generic standards) |
| Approval, accord. to   | CE, cULus   |
| Flange type  | Synchro flange  |
| Direction of connection opening  | Radial  |
| Design of the electrical connection  | Flange socket   |

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**last change:**

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