SIEMENS

## Product data sheet 6FX2001-5FS12

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|---|---|
| product brand name | Measuring systems<br>ABSOLUTE VALUE ENCODER SINGLETURN 13 BIT WITH SSI,<br>OPERAT. VOLT. 10-30 V SYNCHRONOUS FLANGE SHAFT 6MM RADIAL FLANGE SOCKET |

Fig. similar

| | |
|---|---|
| Measuring method / for position feedback | Absolute |
| Operating principle of absolute encoder | Singleturn |
| Operating voltage VP at the encoder / min. | 10 V |
| Operating voltage VP at the encoder / max. | 30 V |
| Current drawn / typical | 160 mA |
| Design of the interface | SSI |
| Clock input | Differential line receiver according to EIA Standard RS 485 |
| Data output | Differential line driver according to EIA Standard RS 485 |
| Short-circuit strength | Yes |
| Clock frequency | 100 kHz … 1 MHz |
| Speed<br>• electrical | |

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| • with ± 1 bit accuracy / max. | 5000 1/min |
| • with ± 100 bit accuracy / max. | 10000 1/min |
| • mechanical / max. | 12000 1/min |
| Length of cable to subsequent electronics | |
| • up to 1 MHz, max. | 50 m |
| • up to 100 kHz, max. | 400 m |
| • up to 300 kHz, max. | 100 m |
| • max. | 400 m |
| Digital resolution | 13 bit |
| • note | (8192 increments) |
| Telegram | 13 bit |
| • note | Without parity |
| Code type | |
| • Sampling | Gray |
| • Transfer | Gray, fir-tree format |
| Parameterization capability | |
| • Preset | Yes |
| • Preset | Set to zero |
| • Counting direction | Yes |
| Accuracy | 79 " |
| • note | (with 8192 increments) |
| Friction torque at 20°C / max. | 0.01 N·m |
| Starting torque at 20 °C / max. | 0.01 N·m |
| Shaft load capacity | |
| • at n > 6000 rpms | |
| • axially, max. | 10 N |
| • radially on shaft end, max. | 20 N |
| • at n ≤ 6000 rpms | |
| • axially, max. | 40 N |
| • radially on shaft end, max. | 60 N |
| Length / of rotary encoder shaft | 10 mm |
| Angular acceleration / maximum | 100000 rad/s² |
| Moment of inertia of rotor | |
| • Solid shaft | 0.00000145 kg·m² |

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|---|---|
| Vibration 55 to 2000 Hz according to DIN IEC 60068-2-6 / max. | 300 m/s² |
| Shock according to EN 60068-2-27 | |
| • 2ms, max. | 2000 m/s² |
| • 6ms, max. | 1000 m/s² |
| IP degree of protection | |
| • without shaft input | IP67 |
| • with shaft input | IP64 |
| Ambient temperature | |
| • during operating | -40 … +85 °C |
| Weight, approx. | 0.35 kg |
| EMC | Tested to DIN EN 50081 and EN 50082 |
| Approval, accord. to | CE, cULus |
| Design of the electrical connection | Flange socket |
| Direction of connection opening | Radial |
| Flange type | Synchro flange |
| Design of rotary encoder shaft | Solid shaft |

## Further information

Information and download center for Industry Automation and Drives

Technical documentation (Motion Control)

Industry Mall (online ordering system)

Service & Support (FAQs, manuals, operating instructions, certificates, characteristics, ...)

**last change:** Jul 3, 2014