SIEMENS

Product data sheet 6FX2001-5FN13

product brand name	Measuring systems ABS. VALUE ENCODER SINGLETURN 13 BIT WITH PROFINET OPERATE VOLTAGE 10-30V SYNCHROFLANGE / SHAFT 6MM CONNECTOR M12 RADIAL



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
Design of the interface	PROFINET IO mit RT / IRT
Clock input	Differential line driver according to EIA Standard RS 485
Data output	PNO encoder profile
Short-circuit strength	Yes
LED for diagnostics	Yes (green/red/yellow)
Transfer rate	100 Mbit/s
Speed	
• electrical	
• with ± 1 bit accuracy / max.	5800 1/min

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• mechanical / max.	12000 1/min
Length of cable to subsequent electronics	
• max.	100 m
Digital resolution	13 bit
• note	(8192 increments)
Code type	
• Sampling	Gray
• Transfer	Binary, PROFINET
Parameterization capability	
• Preset	Yes
• Preset	Any
• Counting direction	Yes
Accuracy	79 "
• note	with 8192 increments (± 1/2 LSB)
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.	110 N
Length / of rotary encoder shaft	10 mm
Angular acceleration / maximum	100000 rad/s²
Moment of inertia of rotor	
• Solid shaft	0.00000301 kg·m²
Vibration 55 to 2000 Hz according to DIN IEC 60068-2-6 / max.	100 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

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Ambient temperature	
• during operating	-40 … +85 °C
Weight, approx.	0.4 kg
EMC	Tested to DIN EN 50081 and EN 50082
Approval, accord. to	CE, cULus
Current consumed	130 … 400 mA
• maximum / note	Differential line receiver according to EIA Standard RS 485
Design of the electrical connection	2 x connector M12, 4-pin for PROFINET Ports, 1 x connector M12, 4-pin for operating voltage
Telegram	According to PNO cncoder profile V4.1 Class1, Class 2, Class 3, Class 4, standard telegrams 81/82/83/84, Siemens telegram 860
Direction of connection opening	Radial
Cycle time / min.	1 ms
Cycle time / max.	100 ms
Parameterization capability	
• Resolution per revolution	Yes
• note	Any 1 ... 8192
• Total resolution	Yes
• note	Any 1 ... 16384
• Speed signal	Yes
• Limit switches	No
• Isochronous mode	Yes
• Slave-to-slave communication	No
Online parameterization	Yes
Approval, accord. to	Yes
Profile / is supported	PNO encoder profile V4.1
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, ...)

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