SIEMENS

Data sheet for Absolute encoder



Ordering data

6FX2001-5FP24

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

Electrical data

Operating voltage Up	DC 10 ... 30 V
Max. power consumption	100 ... 300 mA (2,5 W)
Interface	PROFIBUS DP-V2
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
Transmission rate	12 Mbit/s
LED for diagnostics	Yes (green/red)
Number of nodes	99
Connection type	Terminal block with address selector switch and bus terminating resistor in removable cover with radial cable glands (3 units) terminating resistor in removable cover with radial cable glands (3 units), Radial
Cable diameter	6.5 mm ... 9.0 mm, Tube dismantling possible without bus interruption
Resolution	27 bit, (8192 increments x 16384 rpms)
Telegram	Telegram 81

Cable length up to the subsequent electronics, max.

Up to 93.75 kbit/s	1200 m
Up to 1.5 Mbit/s	200.0 m
Up to 12 Mbit/s	100.0 m

Code type

Sampling	Gray
Transmission	Binary, PROFIBUS

Mechanical data

Shaft diameter	6 mm
Shaft length	10 mm
Angular acceleration, max.	100000 rad/s²
Moment of inertia of rotor	0.00000190 kgm²
Vibration (55...2000 Hz), max.	100 m/s²
Friction torque (at 20 °C)	<= 0.01 Nm
Starting torque (at 20 °C)	<= 0.01 Nm
Net weight	0.5 kg

Speed max.

With ± 1 bit accuracy	5800 rpm
Max. permissible speed (mech.)	6000 rpm

Load capacity

n ≤ 6000 rpm	
- Axial	10 N
- Radial at shaft end	20 N
n > 6000 rpm	
- Axial	40 N
- Radial at shaft end	110 N

Shock, max.

2 ms	2000 m/s²
6 ms	1000 m/s²

Degree of protection

Without shaft input	IP67
With shaft input	IP64

Technical data are subject to change! There may be discrepancies between calculated and rating plate values.

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Electrical data

Parameterizability

Preset	Yes
Counting direction	Yes
Resolution per revolution	Any 1 ... 8192
Total resolution	Any 1 ... 16384
Speed signal	Yes
Limit switch	Yes, 2 pieces
Clock synchronism	Yes
Slave-to-slave communication	Yes
Accuracy	± 79 " with 8192 increments (± 1/2 LSB)

Ambient temperature

During operation	-40 ... 85 °C

Standards

Compliance with standards	CE, cULus
EMC class filter	Tested to DIN EN 50081 and EN 50082