SIEMENS

Data sheet for Absolute encoder



Ordering data

6FX2001-5QN25

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	130 ... 400 mA (< 4 W)
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
Transmission rate	100 Mbit/s
LED for diagnostics	Yes (green/red/yellow)
Connection type	2 x connector M12, 4-pin for PROFINET Ports, 1 x connector M12, 4-pin for operating voltageRadial
Resolution	27 bit (8192 increments x 16384 rpms)
Telegram	According to PNO cncoder profile V4.1 Class1, Class 2, Class 3, Class 4, standard telegrams 81/82/83/84, Siemens telegram 860

Code type

Sampling	Gray
Transmission	Binary, PROFINET

Cable length up to the subsequent electronics, max.

Up to 12 Mbit/s	100 m

Mechanical data

Shaft diameter	10 mm
Shaft length	20 mm
Angular acceleration, max.	100000 rad/s²
Moment of inertia of rotor	0.00000301 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	0.4 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	No
Clock synchronism	Yes
Slave-to-slave communication	No
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