

SIEMENS

Product data sheet

6FX2001-5HE25

product brand name

Measuring systems

ABSOLUTE VALUE ENCODER MULTITURN 25 BIT
WITH ENDAT,
OPERATING VOLTAGE 5 V,
SYNCHRO-FLANGE WITH SHAFT 6MM AXIAL
FLANGE SOCKET



Fig. similar

Measuring method / for position feedback	Absolute
Operating principle of absolute encoder	Multiturn
Operating voltage VP at the encoder	5 V
Relative symmetric tolerance of the operating voltage	5 %
Current drawn / typical	200 mA
Design of the interface	EnDat
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 ... 2 MHz
Speed	
• electrical	

• with ± 1 bit accuracy / max. • with ± 100 bit accuracy / max. • mechanical / max.	5000 1/min 10000 1/min 10000 1/min
Length of cable to subsequent electronics	
• up to 1 MHz, max. • up to 300 kHz, max.	50 m 150 m
Digital resolution	25 bit
• note	(8192 increments x 4096 rpms)
Telegram	25 bit
• note	According to EnDat specifications
Incremental track	512 S/R, 1 Vpp
Code type	
• Sampling	Gray
• Transfer	Binary
Accuracy	60 "
• note	(Incremental track)
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 $n \leq 6000$ rpms	
• axially, max.	40 N
• radially on shaft end, max.	60 N
Length / of rotary encoder shaft	10 mm
Angular acceleration / maximum	100000 rad/s ²
Moment of inertia of rotor	
• Solid shaft	0.00000145 kg·m ²
Vibration 55 to 2000 Hz according to DIN IEC 60068-2-6 / max.	300 m/s ²
Shock according to EN 60068-2-27	
• 2ms, max.	2000 m/s ²
• 6ms, max.	1000 m/s ²
IP degree of protection	

• without shaft input	IP67
• with shaft input	IP64
Ambient temperature	
• during operating	-40 ... +100 °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	Axial
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