

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS SIMATIC S7

6FX2001-5QN25

PROFINET ABSOLUTE ENCODER

Used with the applicable SIMATIC measuring systems configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens official manufacturer documentation

ABS.VALUE ENCODER MULTITURN 27 BIT WITH PROFINET
OPERATE VOLTAGE 10-30V CLAMP FLANGE / SHAFT 10MM
CONNECTOR M12 RADIAL



Figure similar

product brand name	Measuring systems
Measuring procedure / for position feedback	Absolute
Manner of function / of absolute encoder	Multiturn
Operating voltage / of the rotary encoder / for DC	10 ... 30
Design of the interface	PROFINET IO mit RT / IRT
Design of input / for clock cycle	Differential line driver according to EIA Standard RS 485
Design of encoder output	PNO encoder profile
Property of the output / Short-circuit proof	Yes
Display version / for diagnostic function	Yes (green/red/yellow)
Transfer rate	100 Mbit/s
Speed	
• for digital measuring accuracy +/- 1 bit / with electrical rotation transmission / maximum	5 800 1/min
• maximum	6 000 1/min
Cable length	
• maximum	100 m
Digital resolution	27 bit; (8192 increments x 16384 rpms)
Type of coding	
• for sampling	Gray
• for transmission	Binary, PROFINET
Product function	
• parameterizable preset	Yes; Any
• parameterizable counting direction	Yes
Measurement deviation angle of rotation / of absolute encoder	79°; with 8192 increments ($\pm 1/2$ LSB)
Friction torque / at 20 °C / maximum	0.01 N·m

Starting torque / at 20 °C / maximum	0.01 N·m
Axial force / at shaft • with $n > 6000$ rpm / maximum • with $n \leq 6000$ rpm / maximum	10 N 40 N
Cantilever force / at shaft extension • with $n > 6000$ rpm / maximum • with $n \leq 6000$ rpm / maximum	20 N 110 N
Rotary encoder shaft version	Solid shaft
Diameter / of rotary encoder shaft	10 mm
Length / of rotary encoder shaft	20 mm
Angular acceleration / maximum	100 000 rad/s ²
Moment of inertia / of rotor • with solid shaft encoder	0.000003 kg·m ²
Resistance against vibration / at 55 Hz ... 2 kHz / acc. to IEC 60068-2-6	100 m/s ²
Shock acceleration • limited to 2 ms / acc. to IEC 60068-2-27 • limited to 6 ms / acc. to IEC 60068-2-27	2 000 m/s ² 1 000 m/s ²
Protection class IP • without shaft input • with shaft input	IP67 IP64
Ambient temperature / during operation	-40 ... +85
EMI immunity	Tested to DIN EN 50081 and EN 50082
Certificate of suitability	CE, cULus
Consumed current / minimum	130 mA
Consumed current / maximum	400 mA; (< 4 W)
Type of electrical connection	2 x connector M12, 4-pin for PROFINET Ports, 1 x connector M12, 4-pin for operating voltage
Telegram format	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
Measuring cycle	1 ... 100
Product function • parameterizable resolution per revolution • parameterizable resolution per revolution / Note • parameterizable total resolution • parameterizable total resolution / Note • parameterizable speed signal • parameterizable limit switch • parameterizable isochronous mode • Slave-to-slave communication parameterizable • online parameterization	Yes Any 1 ... 8192 Yes Any 1 ... 16384 Yes No Yes No Yes
Certificate of suitability / PI certificate	Yes

Profile / is supported	PNO encoder profile V4.1
Flange type	Clamping flange
Net weight	0.43 kg

Further information

Information und Download Center

https://www.automation.siemens.com/mcms/infocenter/content/en/Pages/order_form.aspx

Technical documentation

<http://w3.siemens.com/mcms/mc-solutions/en/motion-control/support/technical-documentation/Pages/technical-documentation.aspx>

Industry Mall

<https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/6FX20015QN25/all>

Industry Online Support

<http://support.automation.siemens.com/WW/view/en/6FX20015QN25/all>

last modified: 09.03.2015