

# SIEMENS

## Product data sheet

**6FX2001-4SA10**

INCREM. ENCODER WITH HTL, 100 P/R,  
OPERATING VOLTAGE 10-30V CLAMP FLANGE  
SHAFT 10 MM AXIAL FLANGE CONNECTOR



Fig. similar

product brand name	Measuring systems
Design of the interface	HTL
Measuring method / for position feedback	Incremental
Operating voltage VP at the encoder / min.	10 V
Operating voltage VP at the encoder / max.	30 V
Scanning frequency	
• maximum	300 kHz
Current consumption without load	
• max.	150 mA
Signal level	UH $\geq$ 21 V at IH = 20 mA at 24 V; UL $\leq$ 2,8 V at IL = 20 mA at 24 V
Outputs protected against short circuit to 0 V	Yes
Switching time (10 ... 90 %) for 1 m cable and recommended input circuit	
• note	Rise / fall time t+/t- $\leq$

• max.	200 ns
Phase position signal A to B	90 °
Edge spacing at	
• 300 kHz / min.	0.45 µs
Length of cable to subsequent electronics	
• max.	300 m
LED failure monitoring	High impedance driver
Resolution	
• max.	100
Precision	648 "
Speed / electric	
• max.	180000 1/min
Speed / mechanical / max.	12000 1/min
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.	60 N
External diameter / of rotary encoder shaft	10 mm
Length of encoder shaft	20 mm
Angular acceleration / maximum	100000 rad/s <sup>2</sup>
Moment of inertia of the rotor	0.00000145 kg·m <sup>2</sup>
Vibration 55 to 2000 Hz according to DIN IEC 60068-2-6 / max.	300 m/s <sup>2</sup>
Shock according to EN 60068-2-27	
• 2ms, max.	2000 m/s <sup>2</sup>
• 6ms, max.	1000 m/s <sup>2</sup>
IP degree of protection	
• without shaft input	IP67
• with shaft input	IP64

Ambient temperature / during operation	
<ul style="list-style-type: none"> <li>• with flange socket or fixed installation cable, at           <ul style="list-style-type: none"> <li>• <math>V_p = 10 \dots 30 \text{ V}</math>, min. -40 °C</li> <li>• <math>V_p = 10 \dots 30 \text{ V}</math>, max. 100 °C</li> </ul> </li> <li>• with flexible installation cable, at           <ul style="list-style-type: none"> <li>• <math>V_p = 10 \dots 30 \text{ V}</math>, min. -10 °C</li> <li>• <math>V_p = 10 \dots 30 \text{ V}</math>, max. 100 °C</li> </ul> </li> </ul>	
Weight, approx.	0.3 kg
EMC	Tested according to the EMC guidelines 89/336/EEC and the rules of the EMC guidelines (generic standards)
Approval, accord. to	CE, cULus
Flange type	Clamping flange
Direction of connection opening	Axial
Design of the electrical connection	Flange socket

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**last change:**

Apr 14, 2014