

## Data sheet for Incremental encoder

Article No. : 6FX2001-4NA10

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

Item no. :  
Consignment no. :  
Project :



Figure similar

### Electrical data

|                                     |                                                                     |
|-------------------------------------|---------------------------------------------------------------------|
| Operating voltage Up                | DC 10 ...30 V                                                       |
| Max. power consumption without load | 150 mA                                                              |
| Signal level                        | UH >= 21 V at IH = 20 mA at 24 V; UL <= 2,8 V at IL = 20 mA at 24 V |
| Resolution                          | 100 S/R                                                             |
| Accuracy                            | 648 rad                                                             |
| Sampling frequency, max.            | 300 kHz                                                             |
| Switching time (10 ... 90 %)        | ≤ 200 ns                                                            |
|                                     | Rise / fall time t+/t- <=                                           |
| Phase relation signal A to B        | 90 °                                                                |
| Edge clearance at 300 kHz           | 0.45 μs                                                             |
| LED failure monitoring              | High impedance driver                                               |

### Cable length

To the downstream electronics, max. 300 m

### Ambient temp in operation

#### Fixed installation of flange outlet or cable

- At Up = 10V ... 30V -40 ... 100 °C

#### Flexible cable

- At Up = 10V ... 30V -10 ... 100 °C

### Standards

|                           |                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------|
| Compliance with standards | CE, cULus                                                                                                 |
| EMC class filter          | Tested according to the EMC guidelines 89/336/EEC and the rules of the EMC guidelines (generic standards) |

### Mechanical data

|                                |                             |
|--------------------------------|-----------------------------|
| Shaft diameter                 | 10 mm                       |
| Shaft length                   | 20 mm                       |
| Angular acceleration, max.     | 100,000 rad/s <sup>2</sup>  |
| Rotor moment of inertia        | 0.00000145 kgm <sup>2</sup> |
| Vibration (55...2000 Hz), max. | 300 m/s <sup>2</sup>        |
| Friction torque (at 20°C)      | 0.01 Nm                     |
| Starting torque (at 20°C)      | 0.01 Nm                     |
| Net weight                     | 0.3 kg                      |

### Max. admissible speed

|            |             |
|------------|-------------|
| Electrical | 180,000 rpm |
| Mechanical | 12,000 rpm  |

### Load capacity

|                       |      |
|-----------------------|------|
| n ≤ 6000 rpm          |      |
| - Axial               | 40 N |
| - Radial at shaft end | 60 N |
| n > 6000 rpm          |      |
| - Axial               | 10 N |
| - Radial at shaft end | 20 N |

### Shock, max.

|      |                        |
|------|------------------------|
| 2 ms | 2,000 m/s <sup>2</sup> |
| 6 ms | 1,000 m/s <sup>2</sup> |

### Degree of protection

|                |      |
|----------------|------|
| At housing     | IP67 |
| At shaft input | IP64 |