



Figure similar

product brand name	Measuring systems
Design of the interface	TTL / RS 422
Measuring procedure / for position feedback	Incremental
Operating voltage / of the rotary encoder / for DC	5 V
Relative symmetrical tolerance / of the operating voltage / of the rotary encoder / for DC	10 %
Scanning frequency / maximum	300 kHz
Consumed current / without load / maximum	150 mA
Standard for interfaces	TTL (RS 422)
Property of the output / Short-circuit proof against 0 V	Yes
Pulse duration / with 1 m connecting cable / with recommended input circuit / maximum / Note	Rise / fall time $t_{+}/t_{-} \leq$
Pulse duration / with 1 m connecting cable / with recommended input circuit / maximum	50 ns
Phase displacement angle / between signal A and signal B	90°
Edge interval / between signal A and signal B <ul style="list-style-type: none"> <li>• with scanning frequency 300 kHz / minimum</li> </ul>	0.45 $\mu$ s
Cable length <ul style="list-style-type: none"> <li>• maximum</li> </ul>	100 m
Failure monitoring type / for LED	High impedance driver
Incremental resolution <ul style="list-style-type: none"> <li>• per revolution / maximum</li> </ul>	2 048
Measurement deviation angle of rotation / of the incremental encoder	32"
Speed	

<ul style="list-style-type: none"> <li>• with electrical rotation transmission / maximum</li> <li>• maximum</li> </ul>	8 800 1/min 12 000 1/min
Friction torque / at 20 °C / maximum	0.01 N·m
Starting torque / at 20 °C / maximum	0.01 N·m
Axial force / at shaft <ul style="list-style-type: none"> <li>• with n ≤ 6000 rpm / maximum</li> <li>• with n &gt; 6000 rpm / maximum</li> </ul>	40 N 10 N
Cantilever force / at shaft extension <ul style="list-style-type: none"> <li>• with n ≤ 6000 rpm / maximum</li> <li>• with n &gt; 6000 rpm / maximum</li> </ul>	60 N 20 N
Outer diameter / of rotary encoder shaft	10 mm
Length / of rotary encoder shaft	20 mm
Angular acceleration / maximum	100 000 rad/s <sup>2</sup>
Moment of inertia / of rotor	0.0000015 kg·m <sup>2</sup>
Resistance against vibration / at 55 Hz ... 2 kHz / acc. to IEC 60068-2-6	300 m/s <sup>2</sup>
Shock acceleration <ul style="list-style-type: none"> <li>• limited to 2 ms / acc. to IEC 60068-2-27</li> <li>• limited to 6 ms / acc. to IEC 60068-2-27</li> </ul>	2 000 m/s <sup>2</sup> 1 000 m/s <sup>2</sup>
Protection class IP <ul style="list-style-type: none"> <li>• without shaft input</li> <li>• with shaft input</li> </ul>	IP67 IP64
Ambient temperature <ul style="list-style-type: none"> <li>• with supply voltage 5 V ± 10% / with installed cable / during operation</li> <li>• with supply voltage 5 V ± 10% / with moving cable / during operation</li> </ul>	-40 ... +100 -10 ... +100
Net weight	0.3 kg
EMI immunity	Tested according to the EMC guidelines 89/336/EEC and the rules of the EMC guidelines (generic standards)
Certificate of suitability	CE, cULus
Flange type	Clamping flange
Direction of connection opening	Axial
Type of electrical connection	Flange socket

#### Further information

##### Information und Download Center

[https://www.automation.siemens.com/mcms/infocenter/content/en/Pages/order\\_form.aspx](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/Catagog/Product/6FX20012RC04/all>

##### Industry Online Support

<http://support.automation.siemens.com/WW/view/en/6FX20012RC04/all>

last modified:

09.03.2015