

INCREM. ENCODER WITH RS 422 (TTL), 1024 P/R, CLAMP  
FLANGE SHAFT 10MM OPERATING VOLTAGE 10 - 30 V  
UNIVERSAL CABLE OUTGOING AXIAL / RADIAL CABLE 1M WITH  
CONNECTOR



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	10 ... 30
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	
• with scanning frequency 300 kHz / minimum	0.45 $\mu$ s
Cable length	
• maximum	100 m
Failure monitoring type / for LED	High impedance driver
Incremental resolution	
• per revolution / maximum	1 024
Measurement deviation angle of rotation / of the incremental encoder	63"
Speed	
• with electrical rotation transmission / maximum	17 600 1/min
• maximum	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 <math>n \leq 6000</math> rpm / maximum</li> <li>• with <math>n &gt; 6000</math> rpm / maximum</li> </ul>	40 N 10 N
Cantilever force / at shaft extension <ul style="list-style-type: none"> <li>• with <math>n \leq 6000</math> rpm / maximum</li> <li>• with <math>n &gt; 6000</math> 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 10 V ... 30 V / with installed cable / during operation</li> <li>• with supply voltage 10 V ... 30 V / with moving cable / during operation</li> </ul>	-40 ... +70 -10 ... +70
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	Universal
Type of electrical connection	cable 1m with connector

#### 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/Catag/Product/6FX20012NB02/all>

##### Industry Online Support

<http://support.automation.siemens.com/WW/view/en/6FX20012NB02/all>

last modified:

09.03.2015