ENX 16 EASY INT Encoder ⌀16 mm,
1...1024 CPT / 4096 steps, Single Turn
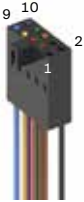**Sterilizable, integrated into motor**

Key Data		EASY Incremental Differential	EASY Absolute
Number of channels		3	
Max. counts per turn		1024	
Steps per turn			4096
Resolution (bit single turn)			12
Encoder length L	mm	-1 (integrated into motor)	-1 (integrated into motor)
Ambient temperature	°C	-40...100	-40...100
Weight	g	<5	<5

Selection criteria	EASY Incremental Differential	EASY Absolute
Speed and rotation direction detection	🟩	🟩
Speed and position control	🟩	🟩
Compact and robust design	🟩	🟩
High resolution	🟩	🟩
Cost effective	🟩	🟩

🟩 suitable   🔺 suitable to a limited extent   🔴 not suitable

Specifications		EASY Incremental Differential[3]	EASY Absolute
Supply voltage Vcc	V	5 ± 0.5	5 ± 0.5
Typical current draw	mA	22	22
Max. operating frequency	kHz	4000	
Max. Speed	rpm	200 000	200 000
Connector[2]		10-pin 2.54 mm multipoint connector (IEC/EN 60603-13 / DIN41651) cable AWG 28	without connector

<table>
<tr><td colspan="2">Pin 1 Not connected</td><td>cable AWG 28</td></tr>
<tr><td colspan="2">Pin 2 (black) V_{CC}</td><td>green   Data</td></tr>
<tr><td colspan="2">Pin 3 (brown) GND</td><td>black V_{CC}</td></tr>
<tr><td colspan="2">Pin 4 Not connected</td><td>brown GND</td></tr>
<tr><td colspan="2">Pin 5 (red)   Channel $\overline{A}$</td><td>yellow CLK</td></tr>
</table>

Pin 6 (orange) Channel A
Pin 7 (yellow) Channel $\overline{B}$
Pin 8 (green)   Channel B
Pin 9 (blue)   Channel $\overline{I}$
Pin 10 (violet)   Channel I
Output signal: EIA-Standard RS 422
Output current per channel: ± 20 mA

Output signal: CMOS compatible
Output current per channel + 20 mA

Configuration		EASY Incremental Differential	EASY Absolute
Counts per turn[1]		1...1024	
Signalprotokoll			BiSS-C, SSI
Cable length	mm	200, 500	200, 500
Electric connection			cable length/pin connection/connector

maxon Modular System	Page
maxon EC motor	
ECX SPEED 16 M	195–198
ECX SPEED 16 L	199–202

Sterilization information

🄴135°C🄴 Typically 1000 autoclave cycles

Sterilization with steam
Temperature +134 ± 4°C
Compression pressure up to 2.3 bar
Rel. humidity 100%
Cycle length 18 minutes

The connector is not sterilizable and needs to be removed first.

Notes

[1] maxon controllers require a resolution of at least 16 counts per turn and commutation signals.
[2] H1, index and angle zero are aligned with angle commutation zero (see p. 56).

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