



### Model Number

**ECA10TL-03BNY-B20BD:01**

Cable pull rotary encoder with J1939 interface

### Features

- Cable drum anodized
- Plastic sheathed measuring cable
- Solid yet lightweight plastic construction
- Compact and very sleek design
- Coupling-free adaptation
- Very high level of linearity and repeatability
- CAN bus with SAE J1939 protocol

### Description

Lighter and more solid cable pull rotary encoder with flat housing design.

## Technical Data

### General specifications

Detection type	magnetic sampling
Device type	Target line with J1939 interface
Measuring range	3000 mm
Construction type	80 mm
Resolution	Cable pull: Design 80 mm: 0.056 mm Encoder: 24 bit (12 bit/revolution)

### Indicators/operating means

LED green	Operating mode
LED red	wrong baud rate

### Electrical specifications

Operating voltage $U_B$	9 ... 30 V DC (with galvanic isolation)
Power consumption $P_0$	≤ 1.2 W
Time delay before availability $t_v$	< 250 ms
Output code	binary code
Code course (counting direction)	adjustable

### Interface

Interface type	J1939
Resolution	
Single turn	12 Bit
Multiturn	12 Bit
Overall resolution	24 Bit
Transfer rate	min. 20 kBit/s , max. 1 MBit/s
Cycle time	≥ 1 ms
Standard conformity	ISO 11898

### Connection

Connector	M12 connector, 5 pin
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### Standard conformity

Degree of protection	acc. DIN EN 60529
Connection side	Encoder: IP65 Cable pull: IP50
Climatic testing	DIN EN 60068-2-3, no moisture condensation
Emitted interference	EN 61000-6-4:2007
Noise immunity	EN 61000-6-2:2005

### Ambient conditions

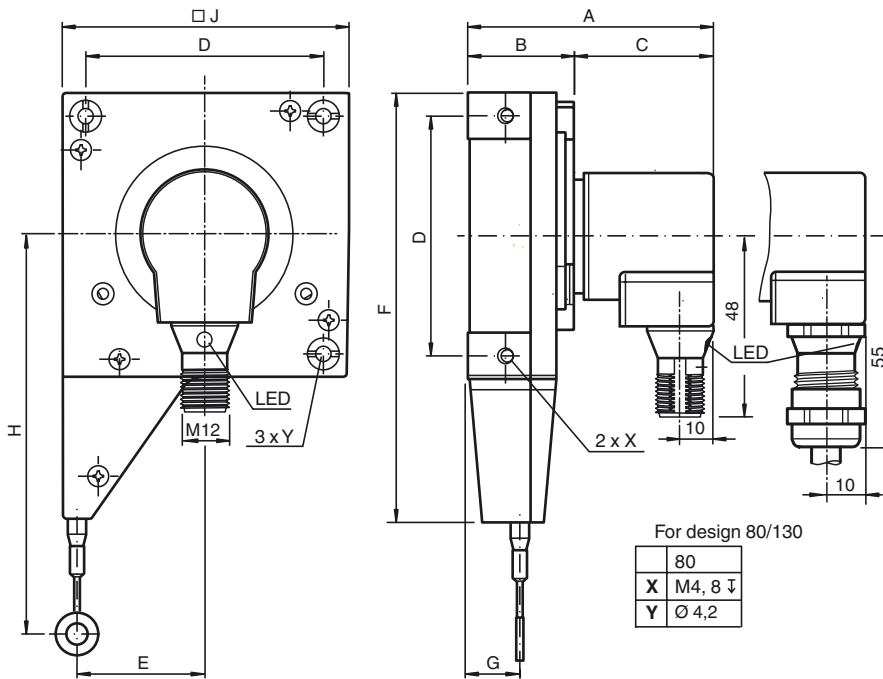
Ambient temperature	-30 ... 70 °C (-22 ... 158 °F)
Operating temperature	-30 ... 70 °C (-22 ... 158 °F)
Storage temperature	-30 ... 70 °C (-22 ... 158 °F)
Relative humidity	98 % , no moisture condensation

### Mechanical specifications

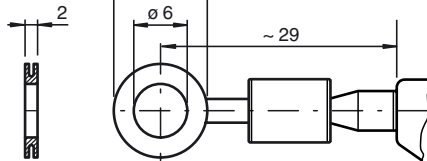
Rope diameter	0.55 mm
Material	
Housing	nickel-plated steel
Cable pull	Luranyl® or Lexan 920
Flange	Aluminum
Rope	Stainless steel 1.4401/316, PA sheathing
Life span	up to 10 <sup>6</sup> Cycles

Dimensions

For design 80



B



Electrical connection

Signal	5-pin, M12 x 1 connector
CAN GND	1
+V <sub>S</sub>	2
GND	3
CAN-High	4
CAN-Low	5
Shielding	Housing
Pinout	

Variable Data and Dimensions

Technical data	Design 80
Measuring length (in m)	03
Drum size (incl. cable) (in mm)	230
Retraction speed (in m/s)	6
Spring retraction force (in N)	5–6.3
Weight (in kg)	0.4
Rotary encoder Ø (in mm)	36
<b>Dimensions (in mm)</b>	

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

A	67
B	30
C	37
D	67
E	36
F	120
G	14.5
H	106
J	80

### Example of the transmit commands

Command	Identifier	Data	Comments
Read request Direction	18EA2000	01 EF 00 00 00 00 00 00	
Read request Node	18EA2000	08 EF 00 00 00 00 00 00	
Write Direction	00EF2000	01 01 00 00 00 FF FF FF (CCW increase position)	When you change direction it will give you a different positional value. You will then need to set your preset value.
Write PRESET	00EF2000	04 A8 61 00 00 FF FF FF (value 25.000)	The preset value should be received at positional value 18FFAA20.
Write Save	00EF2000	FA 73 61 76 65 FF FF FF	The settings saved in non-volatile memory

If you change the node number, you will need to cycle power (after you save your settings) for the node number to change. Once you cycle power, you will need to enter the new node number in your identifier. You can confirm everything is saved in non-volatile memory by cycling power.

#### Receive:

18FFAA20: Positional and speed data

18EA2000: Read response