



### Model Number

#### ECA10TL - EtherCAT

Cable pull rotary encoder with EtherCAT interface

### Features

- **Solid yet lightweight plastic construction**
- **Compact, slim design (the shaft of the mounted rotary encoder is used to provide the function of the drum bearing)**
- **Coupling-free adaptation**
- **Wide range of mounting options**
- **Rust and acid-resistant measuring cable**
- **Very high level of linearity and repeatability**
- **EtherCAT interface**
- **Free of wear magnetic sampling**

### 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 EtherCAT interface
Measuring range	3000 ... 10000 mm
Construction type	80 mm, 130 mm, 190 mm
Resolution	Cable pull: 80 mm design: 0,028 mm 130 mm design: 0,047 mm 190 mm design: 0,068 mm Encoder: 25 Bit (13 Bit/revolution)

### Electrical specifications

Operating voltage $U_B$	10 ... 30 V DC
Power consumption $P_0$	approx. 4 W
Output code	binary code
Code course (counting direction)	adjustable

### Interface

Transfer rate	10 MBit/s / 100 MBit/s
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### Connection

Connector	Ethernet: 2 sockets M12 x 1, 4-pin, D-coded Supply: 1 plug M12 x 1, 4-pin, A-coded
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### Standard conformity

Degree of protection	acc. DIN EN 60529
Connection side	connector models: 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

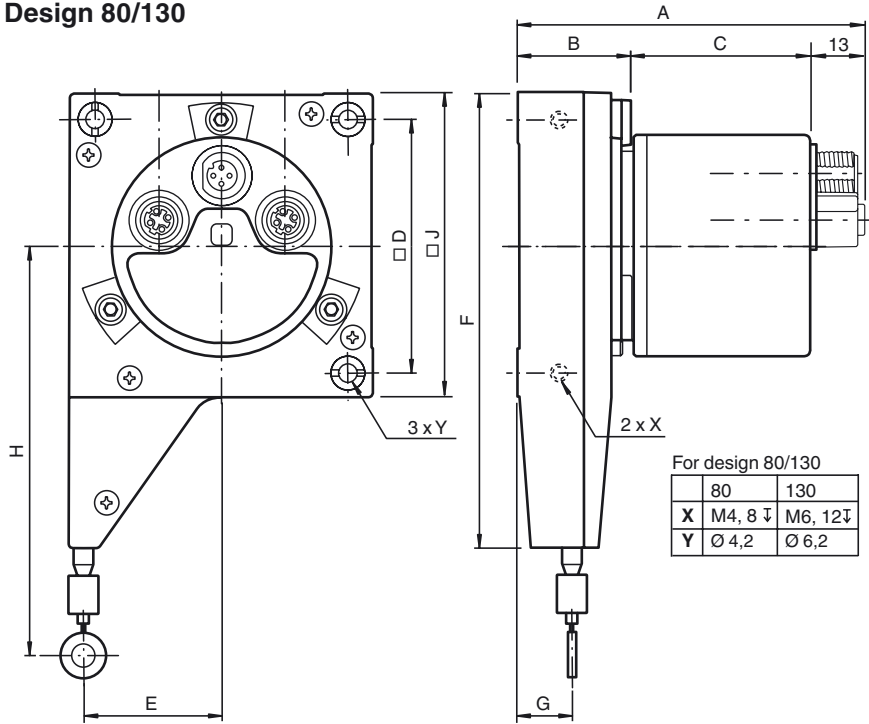
Ambient temperature	-30 ... 70 °C (-22 ... 158 °F)
Operating temperature	-30 ... 70 °C (-22 ... 158 °F)
Storage temperature	-30 ... 70 °C (-22 ... 158 °F)
Relative humidity	98 % , no moisture condensation

### Mechanical specifications

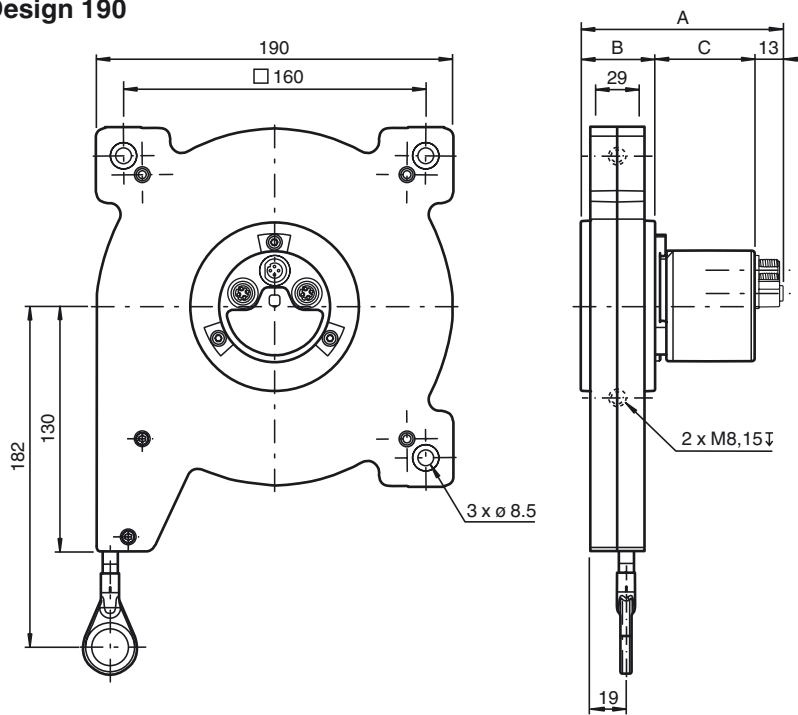
Rope diameter	0.55 mm
Material	
Housing	nickel-plated steel
Cable pull	design 80/130 : Luranyl® or Lexan 920 design 190 : ABS-GF17
Flange	Aluminum
Rope	Stainless steel 1.4401/316
Life span	up to 10 <sup>6</sup> Cycles

Dimensions

Design 80/130



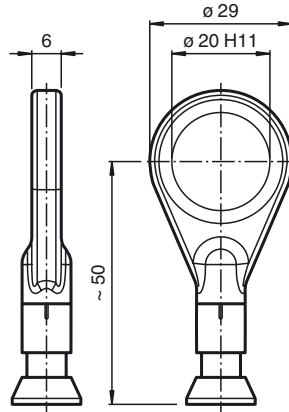
Design 190



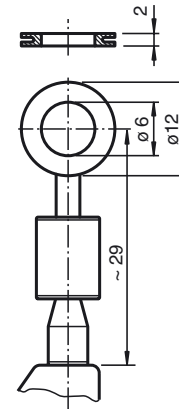


### Cable mounts

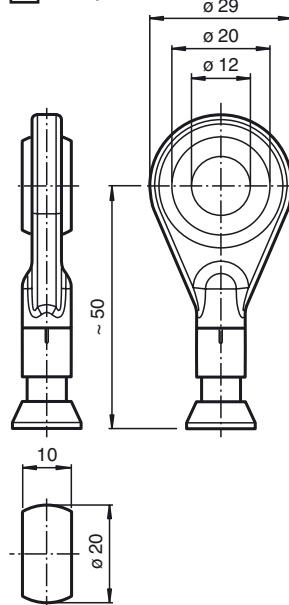
**A** Brass ring PE



**B** Ring



**C** Ball joint



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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

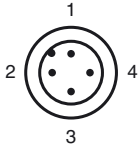
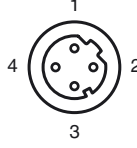
Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**Electrical connection**

Pin	Male connector M12 x 1, 4-pin, A-coded	Female connector M12 x 1, 4-pin, D-coded
1	Supply voltage +U <sub>B</sub>	Tx +
2	-	Rx +
3	0 V	Tx -
4	-	Rx -

	
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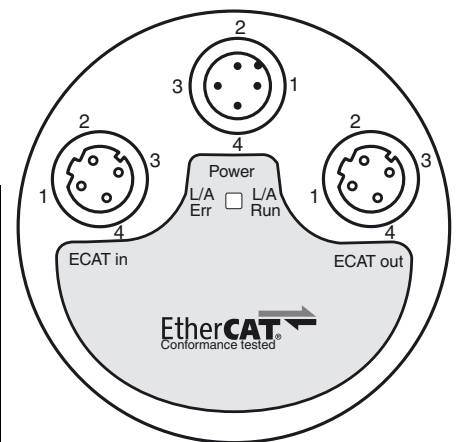
**Indicators**

**Port LEDs**

LED	Color	Status	Description
Link/Act IN	green	on	LINK active for HUB port 1
		blinking	Activity on HUB port 1
Link/Act OUT	green	on	LINK active for HUB port 2
		blinking	Activity on HUB port 2

**EtherCAT LEDs**

LED	Color	Status	Description
Error	red	off	no error
		blinking	invalid configuration
		single flash	local error
		double flash	process data watchdog timeout/ EtherCAT watchdog timeout
		flickering	booting error
		on	application failure
Run	green	off	initialization
		blinking	Pre-Operational
		single flash	Safe-Operational
		flickering	initialization or bootstrap
		on	Operational



**Variable Data and Dimensions**

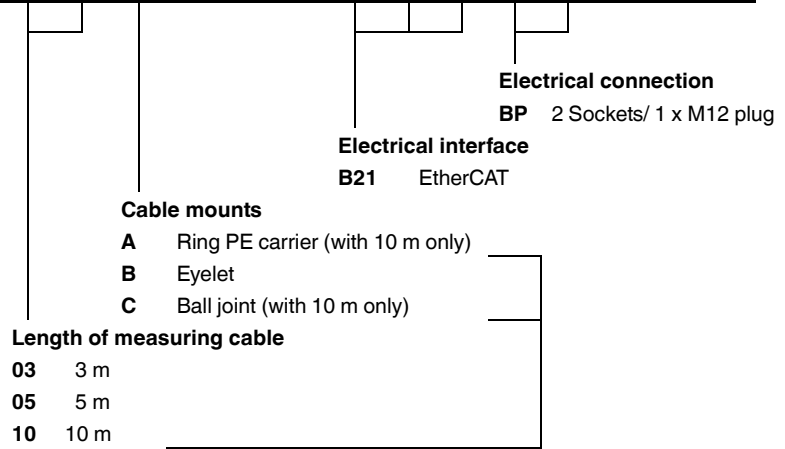
Technical data	Design 80	Design 130	Design 190
Measuring length (in m)	03	05	10
Drum size (incl. cable) (in mm)	230	385	555
Retraction speed (in m/s)	6	3	4
Spring retraction force (in N)	5–6.3	4.5–7	9–12
Weight (in kg)	0.55	1.1	2.2
Rotary encoder Ø (in mm)	58		
<b>Dimensions (in mm)</b>			
A	91	93	106
B	30	32	40
C	48	48	53
D	67	110	-
E	36	61	-
F	120	186	-
G	14,5	17	-

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H	106	150	-
J	80	130	

**Model Number**

**E C A 1 0 T L -                      N P - B 2 1 B P : N N**



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