



Cable pull rotary encoder ECA10TL - EtherCAT

- 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

Cable pull rotary encoder with EtherCAT interface

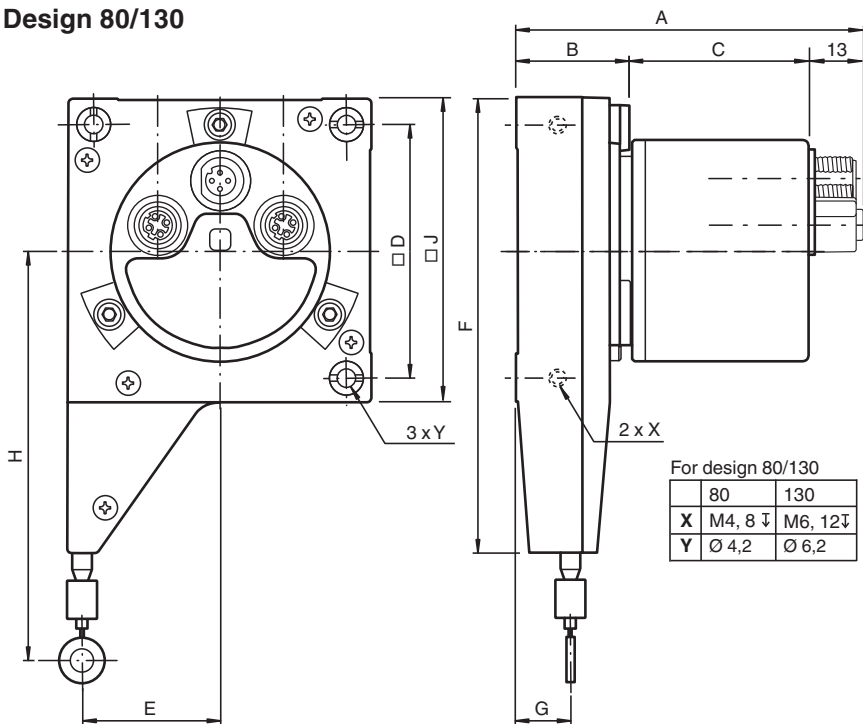


Function

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

Dimensions

Design 80/130



Release date: 2022-12-12 Date of issue: 2022-12-12 Filename: t176985_eng.pdf

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

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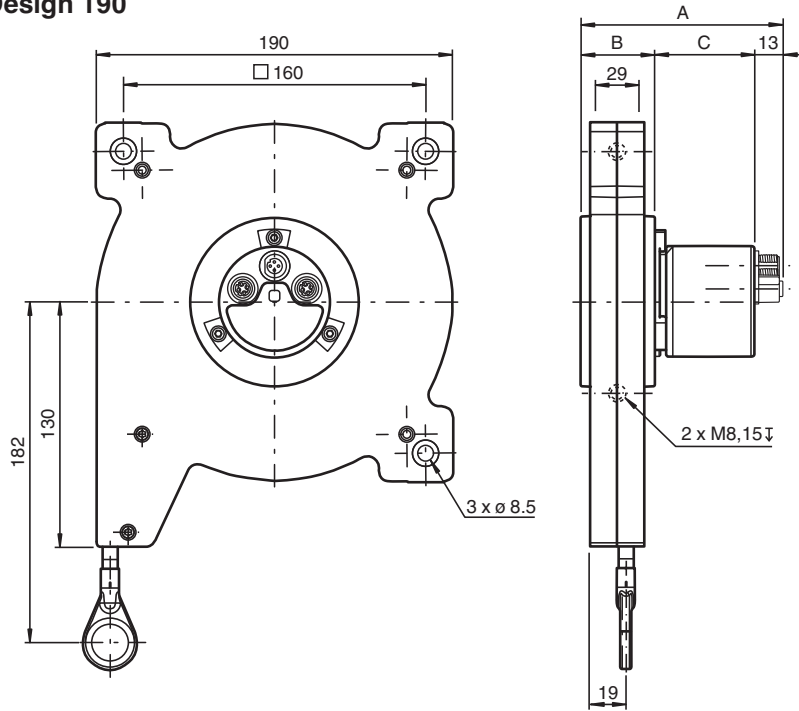
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Dimensions

Design 190



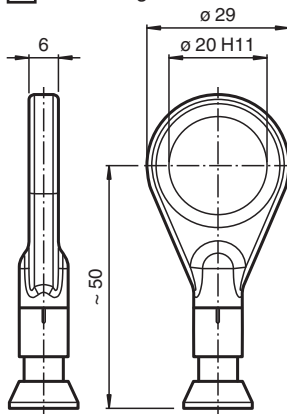
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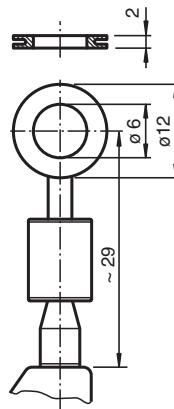
Dimensions

Cable mounts

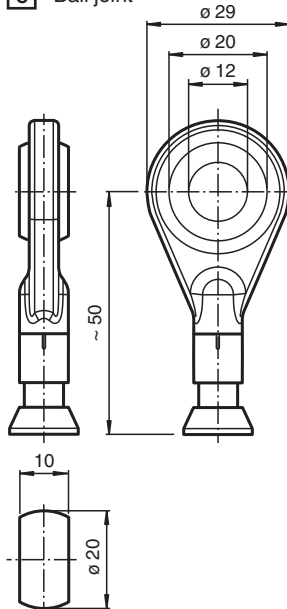
A Brass ring PE



B Ring



C Ball joint



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

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Technical Data

Transfer rate	10 MBit/s / 100 MBit/s
Connection	
Connector	Ethernet: 2 sockets M12 x 1, 4-pin, D-coded Supply: 1 plug M12 x 1, 4-pin, A-coded
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 ⁶ Cycles

Connection

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

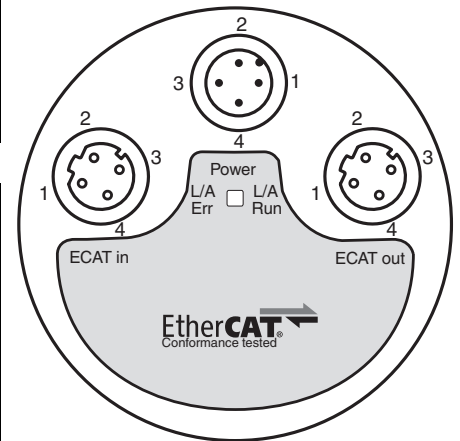
Indication

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



Dimensions

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		
Dimensions (in mm)			
A	91	93	106
B	30	32	40
C	48	48	53

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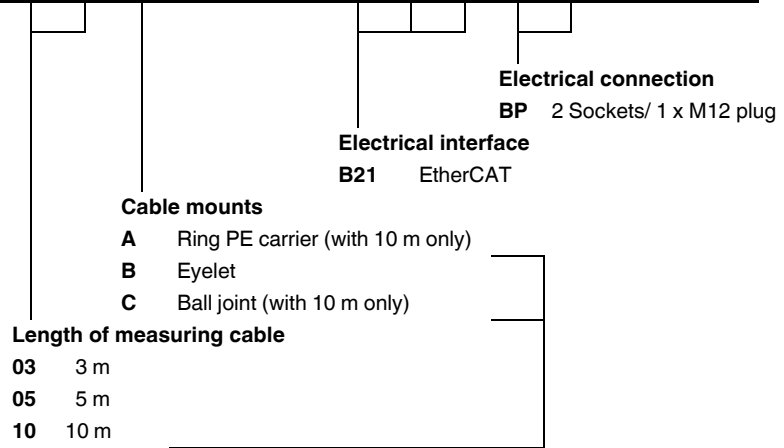
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D	67	110	-
E	36	61	-
F	120	186	-
G	14,5	17	-
H	106	150	-
J	80	130	-

Type Code

Model Number

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



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