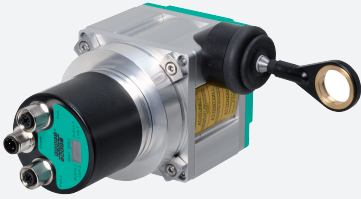


# Cable pull rotary encoder

## ECA30PL - PROFINET



- Robust aluminum drum housing
- Drum travel when cable retracted using threaded spindle
- Bellows with steel tip
- Comprehensive accessories
- Housing can be coated as an option (Hart Coat)
- Rust and acid-resistant measuring cable
- PROFINET interface
- Free of wear magnetic sampling

Cable pull rotary encoder with PROFINET interface

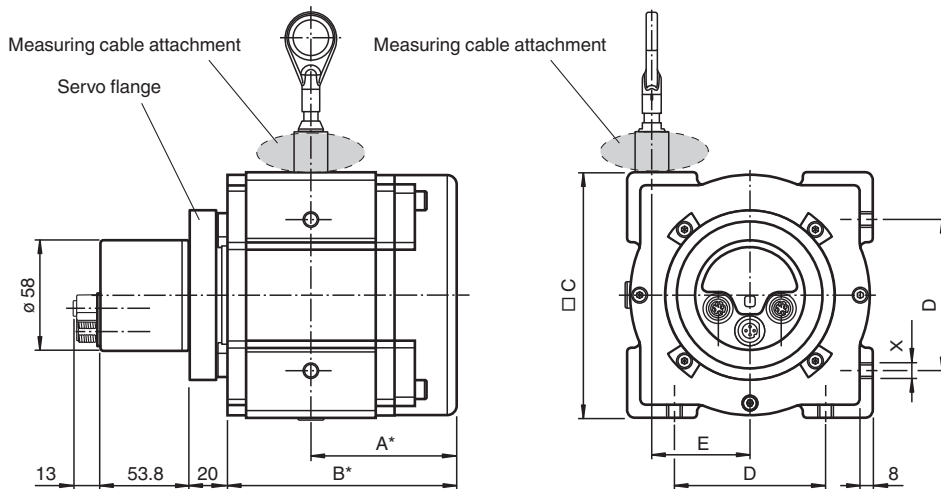


### Function

Flexible cable pull rotary encoder designed to meet tough requirements in all fields of application.

### Dimensions

Details of variable specifications of designs and measuring length see chapter „Variable Data and Dimensions“



\*depending on measuring length

Measuring length	X
01 - 02	4 x M6 ↓8
03	8 x M6 ↓8
05 - 10	4 x M8 ↓8
15 - 30	12 x M8 ↓8
35 - 60	12 x M10 ↓11

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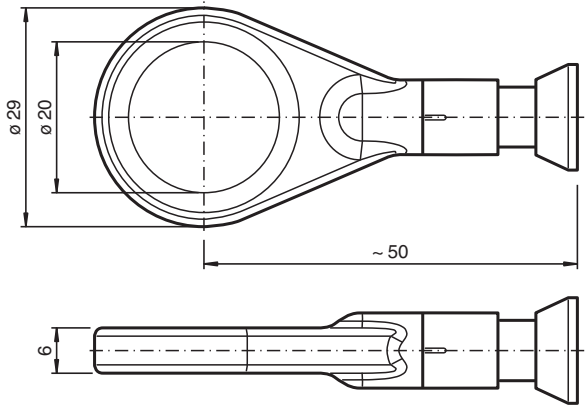
Germany: +49 621 776 1111  
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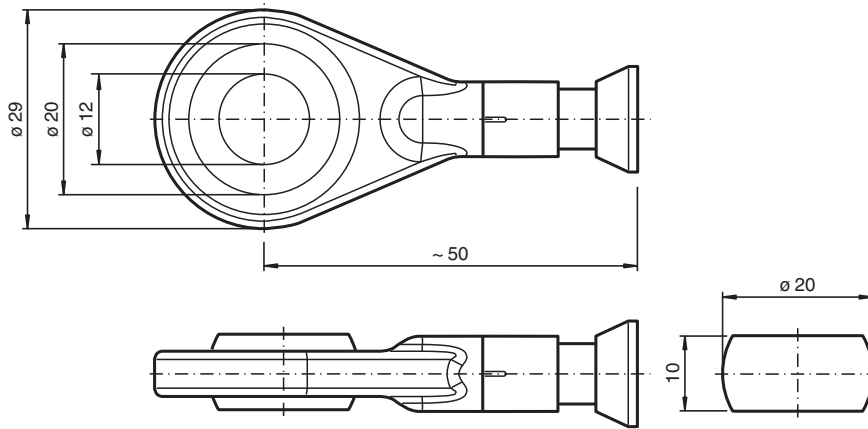
**PF** PEPPERL+FUCHS

Dimensions

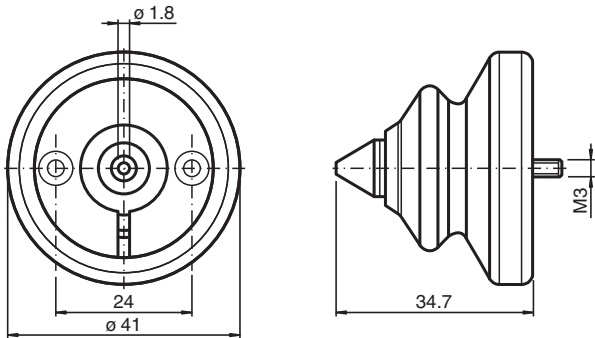
A



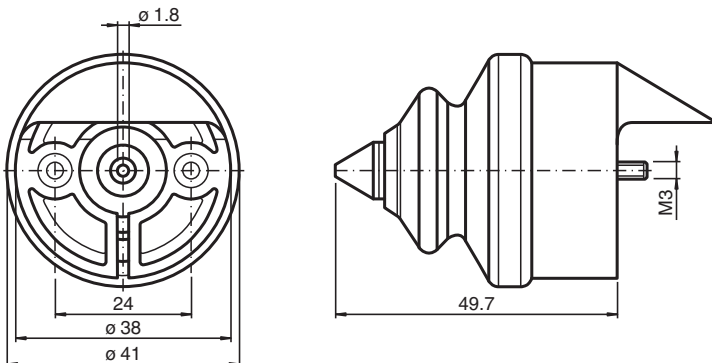
C



1 For design 130/190



1 For design 80



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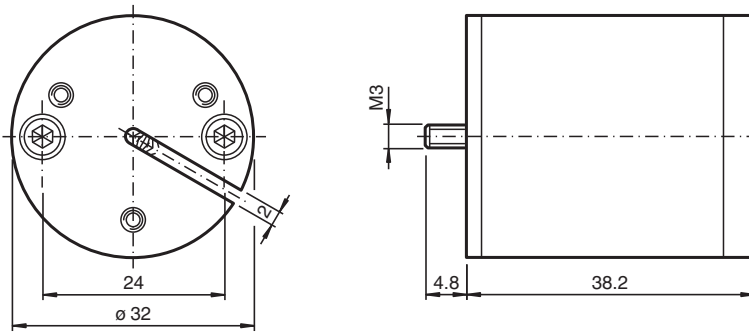
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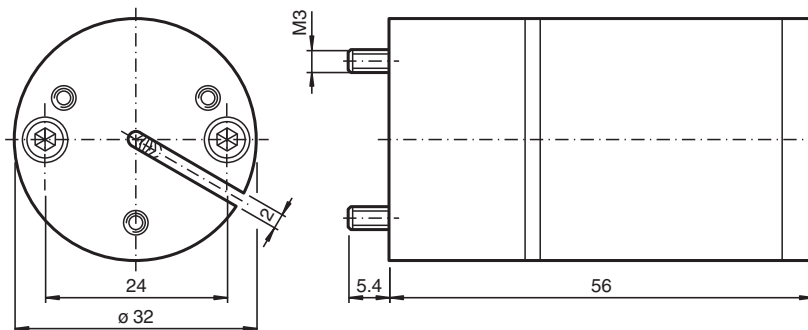
**PF** PEPPERL+FUCHS

**Dimensions**

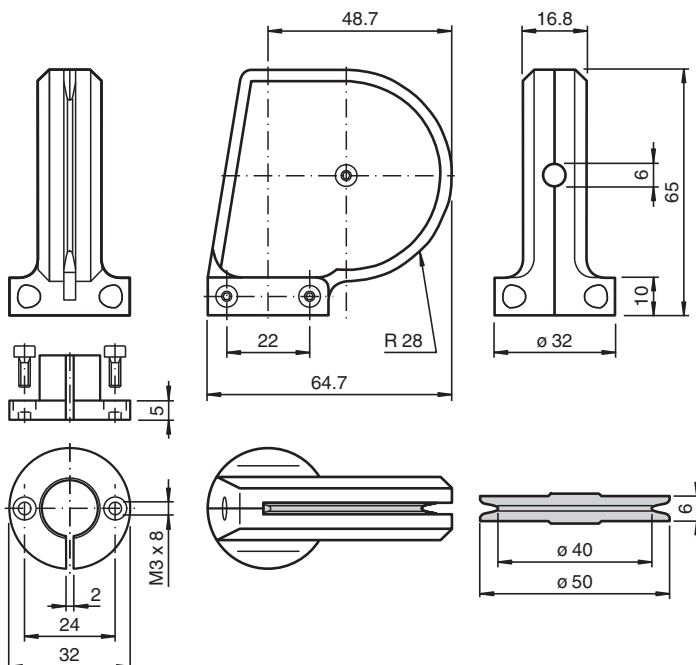
**2 For design 130/190**



**2 For design 80**



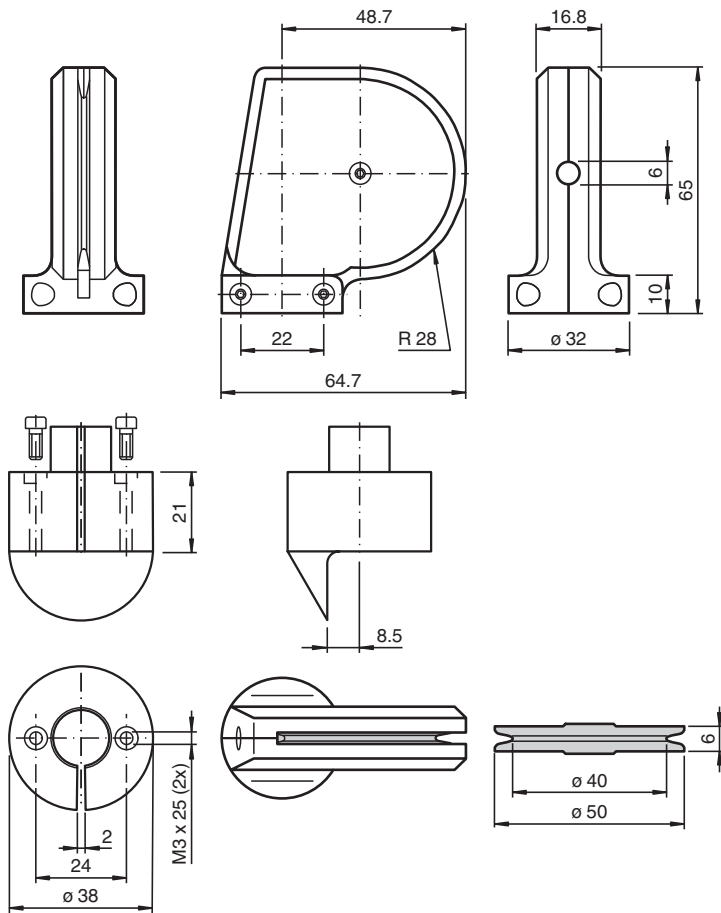
**4 For design 130/190**



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**Dimensions**

**4 For design 80**



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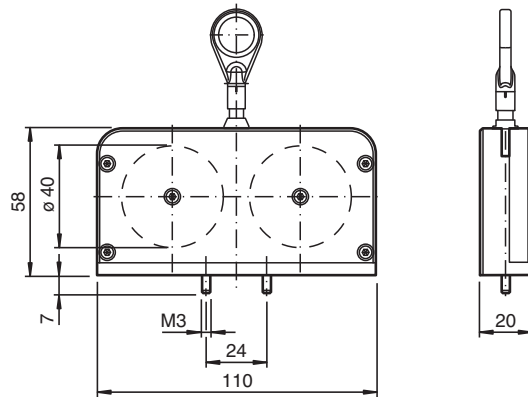
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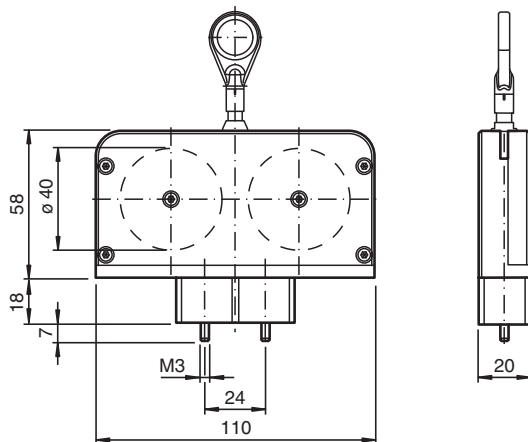
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## Dimensions

### 5 For design 130/190



### 5 For design 80



## Technical Data

### General specifications

Detection type	magnetic sampling	
Device type	Premium Line with PROFINET interface	
Measuring range	1000 ... 60000 mm	
Construction type	80 mm, 130 mm, 190 mm	
Resolution	Cable pull: Design 80 mm: 0,024 mm Design 130 mm: 0,041 mm Design 190 mm: 0,059 mm Encoder: 25 Bit (13 Bit/revolution)	

### Functional safety related parameters

$B_{10d}$	300000
-----------	--------

### Electrical specifications

Operating voltage	$U_B$	10 ... 30 V DC
No-load supply current	$I_0$	typ. 134 mA
Power consumption	$P_0$	approx. 4 W
Time delay before availability	$t_v$	< 250 ms
Output code	binary code	
Code course (counting direction)	adjustable	

### Interface

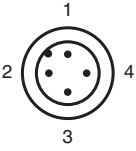
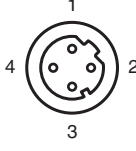
Interface type	PROFINET IO	
Transfer rate	100 MBit/s	

### Connection

## Technical Data

Connector	Ethernet : 2 x M12 x 1 socket, 4-pin, D-coded ; supply : M12 x 1 connector, 4-pin, A-coded
<b>Standard conformity</b>	
Degree of protection	DIN EN 60529, IP65
Climatic testing	DIN EN 60068-2-3, no moisture condensation
Emitted interference	EN 61000-6-4:2007
Noise immunity	EN 61000-6-2:2005
<b>Ambient conditions</b>	
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
<b>Mechanical specifications</b>	
Rope diameter	1.35 mm
Bending radius	min. 17 mm
Breaking force	min. 1227 N
Material	
Cable pull	anodized aluminum or Aluminum with Hart Coat coating
Rotary encoder	housing: nickel-plated steel Flange: aluminum
Flange	Aluminum
Rope	Stainless steel 1.4401/316
Life span	up to 10 <sup>6</sup> 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 <sub>B</sub>	Tx +	
2	-	Rx +	
3	0 V	Tx -	
4	-	Rx -	
			

**Technical Features**

**Variable Data and Dimensions**

Technical Data	Design 80			Design 130						Design 190			
	01	02	03	05	10	15	20	25	30	35	40	50	60
Max. measuring length (in m)				05	10	15	20	25	30	35	40	50	60
Drum size (incl. cable) (in mm)	200			334,1						491,5			
Retraction speed (in m/s)	8			8		6		3		4			
Spring retraction force (in N)	5-15			10-21	15-21	10-21	15-21	10-21	15-21	18-37			
Weight (in kg)	0,9	1,1	1,5	2,5	3,5	5	6	7,5	8,5	16	20	14,5	15,5
<b>Dimensions (in mm)</b>													
A	34	42	60	77	124	147	193	216	262	188	203	195	210
B	57	72	98	122	190	236	304	350	418	315	346	292	322
C	80			130						190			
D	50			80						140			
E	31,5			52						79			

**Measuring Cable Attachments**

Dimensions (in mm)		Design 80		Design 130/design 190	
Attachment		Length	Width/Ø	Length	Width/Ø
1	Bellows	49.7	41/38	34.7	41
2	Brush attachment with bellows and steel tip	90.7	32	72.9	32
4	Guide pulley	86	32	70	32
5	Double guide pulley	110	58	110	58
<b>Design 80/130/190</b>					
<b>Length</b>					
8	Brush attachment + guide pulley	126		108.2	

**Indication**

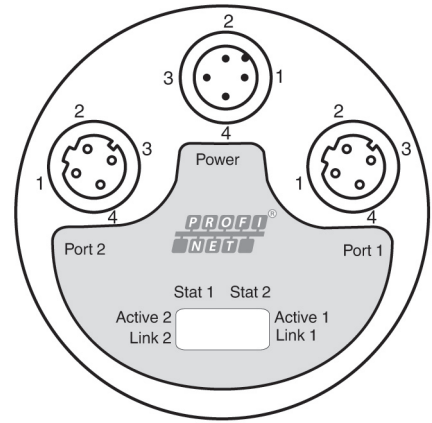
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**Diagnostic LEDs**

LED	Color	Description for LED = ON
Active1	Yellow	Incoming and outgoing data traffic for port 1
Link1*	Green	Connection to other Ethernet devices on port 1
Active2	Yellow	Incoming and outgoing data traffic for port 2
Link2*	Green </td <td>Connection to other Ethernet devices on port 2</td>	Connection to other Ethernet devices on port 2
Stat1	Green	Status 1, details see table below
Stat2	Red	Status 2, details see table below

\* flashes with 2 Hz if engineering identification call is activated and link connection is available



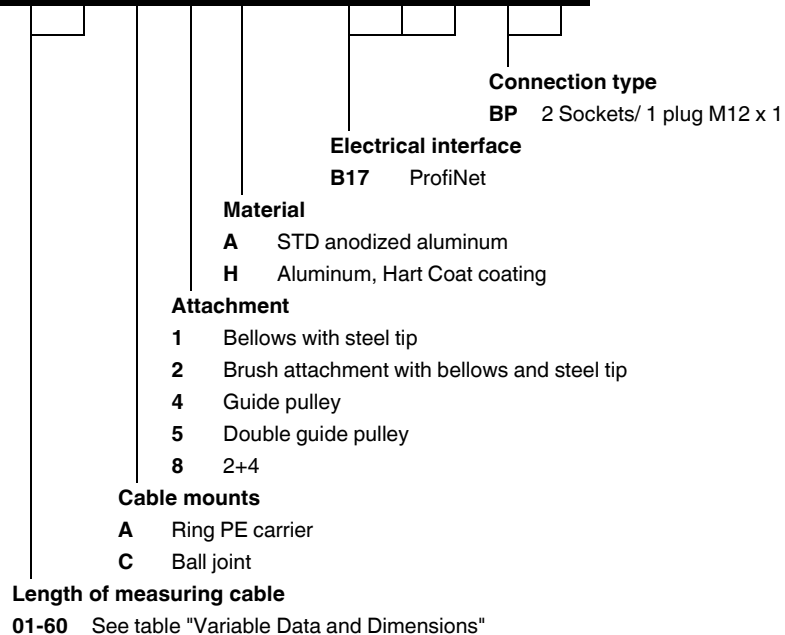
Stat1 (green)	Stat2 (red) bus failure	Meaning	Cause
off	off	No power	
on	on	No connection to another device Criteria: no data exchange	<ul style="list-style-type: none"> <li>bus disconnected</li> <li>Master not available / switched off</li> </ul>
on	flashes <sup>1)</sup>	Parameterization fault, no data exchange Criteria: data exchange correct. However, the slave did not switch to the data exchange mode.	<ul style="list-style-type: none"> <li>Slave not configured yet or wrong configuration</li> <li>Wrong station address assigned (but not outside the permitted range)</li> <li>Actual configuration of the slave differs from the nominal configuration</li> </ul>
on	off	Data exchange. Slave and operation ok.	

1) flashing frequency 0.5 Hz for at least 3 seconds

**Type Code**

**Model Number**

**E C A 3 0 P L - - - - - B 1 7 B P**



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