

# ***Rotary Transducer***

## ***Analogue Rotary Transducer - Industry Type***



### ***Series WP***

- ***High precision potentiometer***
- ***Rotation angle 180° / 320°  
and Multiturn 3 / 5 / 10 / ... / up to 120 turns***
- ***Case diameter: 40 / 60 mm***
- ***Protection: IP60 to IP67***
- ***Output: voltage divider, 0-10 VDC, 4-20 mA***
- ***Linearity: up to 0,05%***
- ***Rotation speed: 200 rpm***
- ***Torque: 0,8 Ncm***
- ***Life expectancy: 2 mio. turns***
- ***Housing: anodised aluminium***

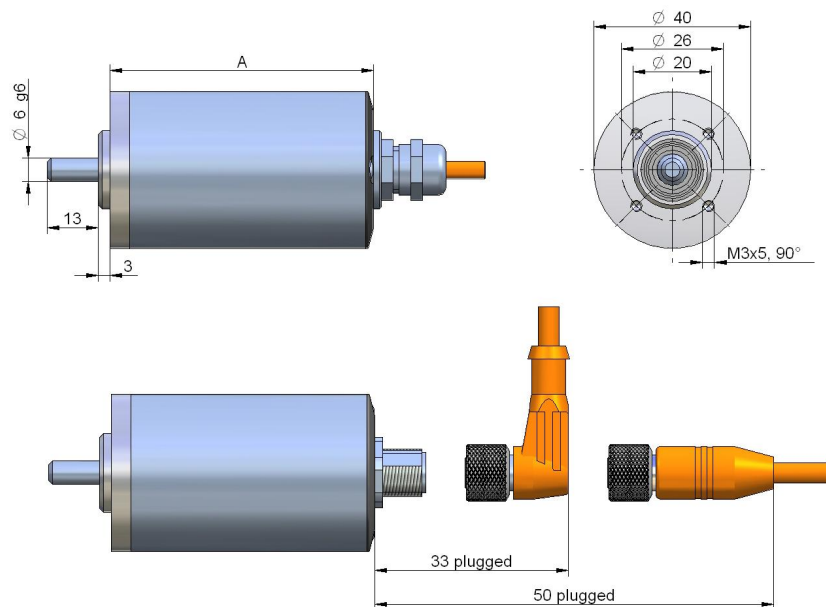
### Technical data (mechanical) – WP-M series

WP-M	turns [°]	linearity [%]	continuous rotation
1 Turn	320	0,5 (0,25)	yes
3 Turn	1000	0,15 (0,10)	-
5 Turn	1800	0,15 (0,10)	-
10 Turn	3600	0,15 (0,10)	-

Linearity values in brackets are optional and available on request.

signal direction	signal increasing counter clock wise (view on shaft)
housing	aluminium, titan grey anodised; stainless steel
storage temperature	-30...+85°C
connection	M12-connector or TPE-cable (2m) with cable outlet
rotation speed max.	200 rpm
torque	0,8 Ncm
shaft material	stainless steel
shaft bearing	2 sealed bearings, type 2RS
shaft load	40 N radial, 25 N axial
protection class (housing)	IP65 or IP67
protection class (shaft input)	IP60 or IP65
life time	at least 2 mio. shaft turns
w eight	approx. 130 g

### Technical drawing – WP-M series



output	A
potentiometer	53,5
10V / 420A	67

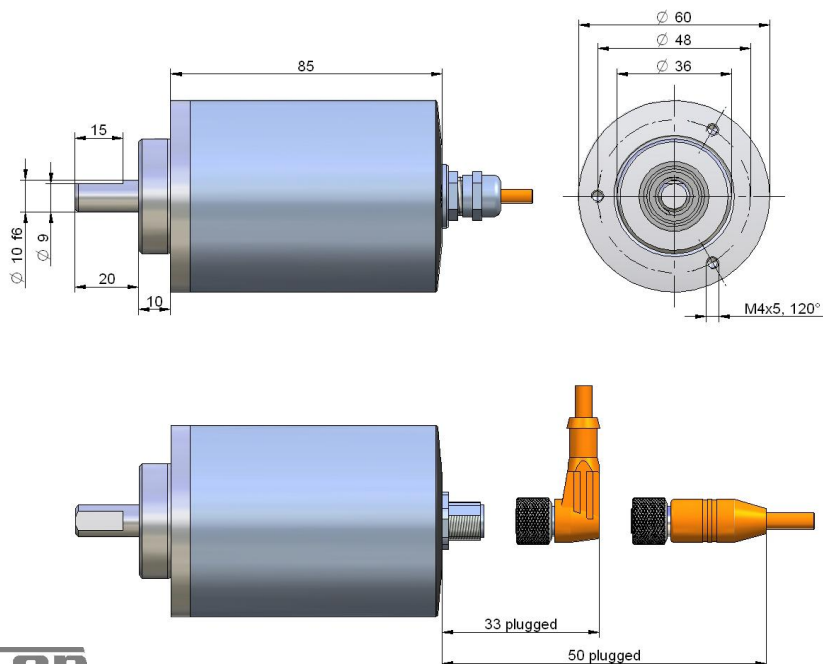
## Technical data (mechanical) – WP series

WP	range [°]	linearity [%]	continuous rotation
180	180	0,50 (0,25)	yes
1 Turn	320	0,50 (0,10)	yes
3 Turn	1000	0,15 (0,10)	-
5 Turn	1800	0,15 (0,10)	-
10 Turn	3600	0,10 (0,05)	-
20 Turn	7200	0,10 (0,05)	-
30 Turn	10800	0,10 (0,05)	-
45 Turn	16200	0,10 (0,05)	-
60 Turn	21600	0,10 (0,05)	-
75 Turn	25200	0,10 (0,05)	-
90 Turn	32400	0,10 (0,05)	-
100 Turn	36000	0,10 (0,05)	-
120 Turn	43200	0,10 (0,05)	-

Other measurement ranges are available on request. Linearity values in brackets are optional and available on request.

signal direction	signal increasing counter clock wise (view on shaft)
housing	aluminium, titan grey anodised; stainless steel
storage temperature	-30...+85°C
connection	M12-connector or TPE-cable (2m) with cable outlet
rotation speed max.	200 rpm
torque	0,8 Ncm
shaft material	stainless steel
shaft bearing	2 sealed bearings, type 2RS
shaft load	50 N radial, 30 N axial
protection class (housing)	IP65 or IP67
protection class (shaft input)	IP60, IP65 or IP67
life time	at least 2 mio. shaft turns
weight	approx. 260 g

## Technical drawing – WP series

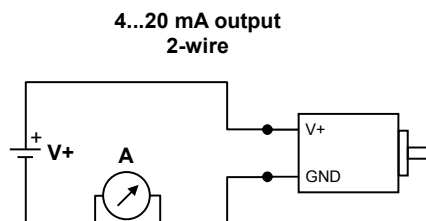
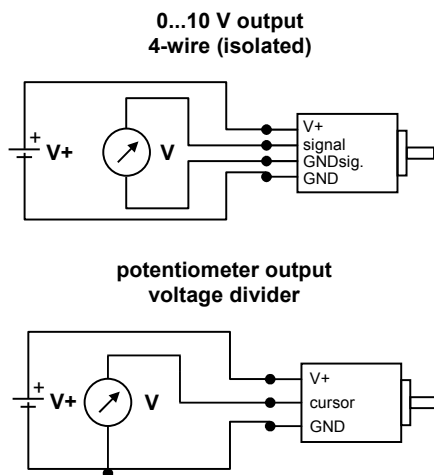
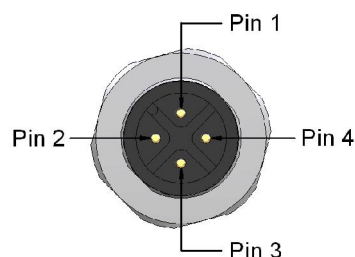


## Technical data (electrical)

	potentiometer output (voltage divider)	0...10 V output	4...20 mA output
output	1 kOhm	0...10 V, isolated	4...20 mA
supply	max. 30 V	12...30 VDC	12...30 VDC
recommended cursor current	< 1 µA	-	-
current carrying capacity	-	22,5 mA (w ithout load)	-
output current	-	max. 10 mA, min. load 1 kOhm	max. 50 mA in case of error*
dynamic	-	< 3 ms from 0...100% a. 100...0%	< 1ms from 0...100% a. 100...0%
output ripple	depending on supply	3 mVpp typic, max. 37 mVpp	0,03 mApp = 6 mVpp on 200 Ohm
reverse polarity	-	yes, infinite	yes, infinite
shortcut protection	-	yes, permanent	-
w orking temperature	-20...+85°C	-20...+75°C	-20...+75°C
temperature coefficient	±0,0025 %/K	0,0037 %/K	0,0079 %/K

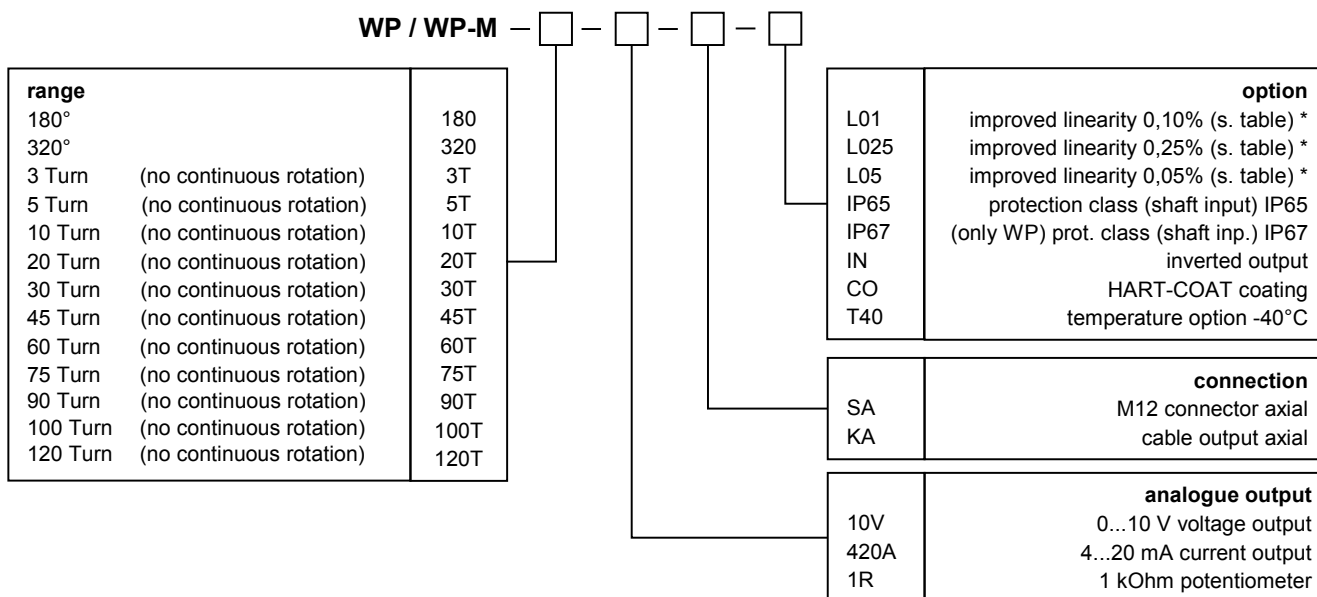
## Connection

Pin/ cable colour	10 V	420 mA	1 kOhm
1 brown	V+	V+	V+
2 white	signal	n.c.	cursor
3 blue	GND	GND	GND
4 black	GNDsig.	n.c.	n.c.



\* i.e. exceeding specified range by continuous rotation

**Order code**



\* on request

**Accessories**

**cable with M12 mating connector**

K4P2M-S-M12	2m, straight connector
K4P5M-S-M12	5m, straight connector
K4P10M-S-M12	10m, straight connector
K4P2M-SW-M12	2m, angular connector
K4P5M-SW-M12	5m, angular connector
K4P10M-SW-M12	10m, angular connector

**M12 mating connector**

D4-G-M12-S	(straight)
D4-W-M12-S	(angular)

**extended connector cable for transducer with cable output**  
additional metre of TPE-cable

We reserve the right to alter the specification without prior notice.

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