

Linear measuring technology

Draw-wire encoder A40 / A41 **Compact-Line** **Measuring length A40 max. 1 m**
Measuring length A41 max. 2 m



The draw-wire encoders A40 and A41 with analog output is characterized by its compact design. They are available with a potentiometer, voltage or current output.



Analog output

Wide temperature range	High protection level	Reverse polarity protection	Easy mounting	Compact design

Compact and simple

- Measuring length up to 2000 mm.
- For applications with a low traversing speed.
- Easy to install.
- Robust zinc die-cast housing.

Order code **D5.350X.AXX.X.0000**
draw-wire encoder Type **a** **b** **c**

- | | | |
|--------------------------|----------------------------------|--|
| a Measuring range | b Output circuit | c Type of connection |
| 1 = 1000 mm | 11 = analog output 4 ... 20 mA | 1 = cable 2 m [6.56'] for measuring range 1000 mm: axial |
| 2 = 2000 mm | 22 = analog output 0 ... 10 V DC | for measuring range 2000 mm: radial |
| | supply voltage 15 ... 28 V DC | 2 = radial M12 connector, 4-pin |
| | 33 = potentiometer output 10 kΩ | (only available for measuring range 2000 mm) |

Accessories for draw-wire encoder	Dimensions in mm [inch]	Order no.	
Guide pulley 	Technical data: - mounting bracket (anodized alum.) - guide pulley (plastic POM) - ball bearing (type 696-2R5)	Scope of delivery: - 2 x countersunk screws for lateral fixing - 2 x hexagonal screws for fixing on a flat surface	8.0000.7000.0045
Extension cable (further on request) 		Steel wire 2 m [6.56'] Steel wire 5 m [16.40'] Steel wire 10 m [32.81'] Paraleine 2 m [6.56']	8.0000.7000.0033 8.0000.7000.0034 8.0000.7000.0035 8.0000.7000.0032

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Cables and connectors		Order no.
Preassembled cables	M12 female connector with coupling nut, 4-pin, A coded, straight single ended 2 m [6.56'] PUR cable	05.00.6061.6211.002M
Connector, self-assem	M12 female connector with coupling nut, 4-pin, A coded, straight (plastic)	05.B8141-0
	M12 male connector with external thread, 4-pin, A coded, straight (metal/plastic)	05.BS8141-0
	M12 female connector with coupling nut, 4-pin, A coded, right-angle (plastic)	05.B8241-0

Further Kübler cables and connectors can be found at: kuebler.com/connection-technology

Technical data

Mechanical characteristics (draw-wire mechanics)		
Measuring range	1000 mm (A40)	2000 mm (A41)
Speed max.	0.8 m/s	1 m/s
Acceleration max.	43.1 m/s ²	43.1 m/s ²
Working temperature	0 °C ... 50 °C [+32 °F ... +122 °F]	-10 °C ... +80 °C [+14 °F ... +176 °F]
Protection (sensor) acc. to EN 60529	IP50	IP65
Weight	approx. 200 g [7.06 oz]	approx. 320 g [11.29 oz]
Extension force F _{min}	2 N	
Repeat accuracy	±0.15 mm	
Linearity	±0.35 %	
Material	housing plastic / zinc die-cast	wire stainless-steel ø 0.45 mm plastic-coated

Electrical characteristics			
Analog output	0 ... 10 V	4 ... 20 mA	potentiometer 10 kΩ
Supply voltage	15 ... 28 V DC	–	–
Operating range	–	15 ... 28 V DC	max. 48 V DC
Temperature range	0 °C ... 50 °C [+32 °F ... +122 °F]	0 °C ... 50 °C [+32 °F ... +122 °F]	0 °C ... 50 °C [+32 °F ... +122 °F]
Load	max. 500 Ω	max. 500 Ω	–

Approvals		
CE compliant in accordance with		
EMC Directive	2014/30/EU	
RoHS Directive	2011/65/EU	
UKCA compliant in accordance with		
EMC Regulations	S.I. 2016/1091	
RoHS Regulations	S.I. 2012/3032	

Terminal assignment

Analog sensor A11 (4 ... 20 mA)			R/I converter				
		Signal:	+V	I _{out}	n.c.	n.c.	
	Cable	Core color:	BN	WH	GN		
	M12 connector, 4-pin	Pin:	1	2	3	4	
Analog sensor A22 (0 ... 10 V DC)			R/U converter				
		Signal:	+V	0 V	U _{out}	n.c.	
	Cable	Core color:	BN	WH	GN		
	M12 connector, 4-pin	Pin:	1	2	3	4	
Analog sensor A33 (Potentiometer 10 kΩ)			Potentiometer				
		Signal:	+V	0 V	Out	n.c.	
	Cable	Core color:	BN	WH	GN		
	M12 connector, 4-pin	Pin:	1	2	3	4	

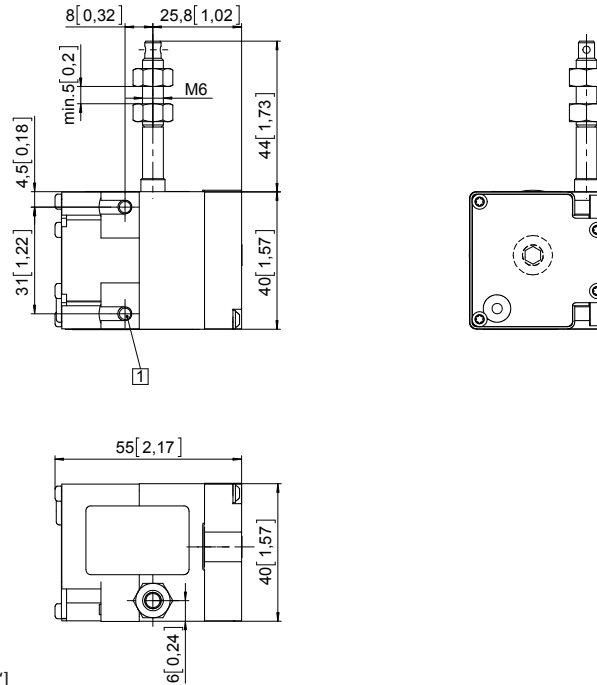
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Dimensions

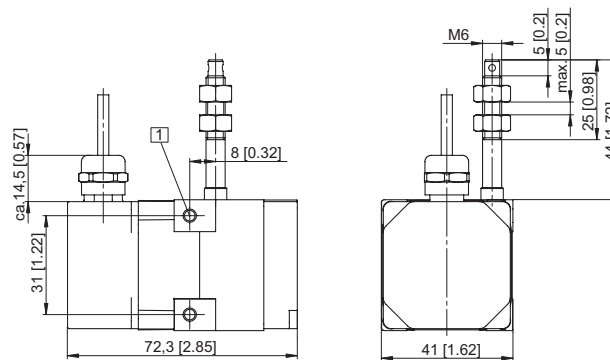
Dimensions in mm [inch]

for measuring range 1000 mm

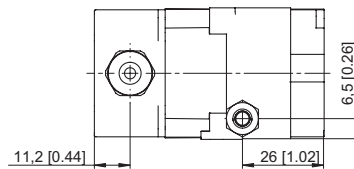


1 2 x M4, max. screw-in depth 8 mm [0.32"]

for measuring range 2000 mm



cable connection



M12 connector

