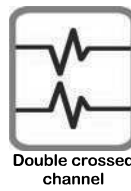
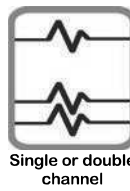
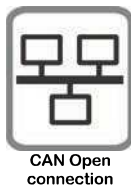
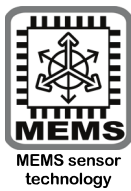


- Compact angle length transducer
- MEMS technology angular sensor
- Single channel. Possible to have it with double channel for PL d (EN13849-1) systems
- Voltage, current, ratiometric or CAN bus output
- Waterproof, plastic, compact body
- Easy to install
- PA12-coated 7x7 AISI 316 stainless steel rope
- Ninety degrees orientable fixing bracket
- Ninety degrees orientable electrical connection with M12x1 connectors
- Ring for steel rope fast & easy fix

Typical fields of application: mounted cranes, mobile cranes, aerial platforms, industrial automation and generic mobile machines.

Note: the user/installer is responsible for evaluating the values and, thus, the safety of the application



Technical data

Power supply	5±0.2 V _{DC}	from 9 to 33 V _{DC}		
Outputs	10% to 90% V _{IN} ratiometric	0.5 ÷ 4.5 V _{DC}	CAN bus	from 4 to 20 mA
Maximum output current	10 mA	10 mA	-	-
Current consumption ⁽¹⁾ [double]	10 [20] mA	30 [60] mA		30+20 [60+40] mA

⁽¹⁾ Device supply current (and max output load for 4 to 20 mA version) for single and double channel version

Measurable length	up to 4.0m	5.5m
Length transducer (linearity, hysteresis, repetibility) accuracy	± 0.50% FS	± 0.75% FS
Length transducer resolution	0.03% FS	
Length transducer temperature drift	< 100 ppm / °C	
Angular range	from 0 to 360 degrees	
Angular transducer accuracy	± 0.5 degrees	
Angular transducer resolution	0.1 degrees	
Angular transducer temperature drift	± 0.01 degrees / °C	
Rope diameter (with coating)	0.63 (0.80) mm	
Rope breaking force	320 N	
Min/max force to pull out the rope	3.0/6.0 N	
Max wire speed	3 m/s	
Max wire acceleration	5 m/s ²	
Operating temperature	from -40 to +70 °C	
Maximum weight	0.60 kg	
Electric insulation	6500 V _{AC}	
Housing material	PA 6.6 + 35% glass reinforced and mineral filled	
Standard protection grade (electronics and spring box)	IP66	
CE conformity	EMC Directive: 2014/30/EU Machine Directive: 2006/42/EC	
EMC: Immunity Emission	EN 61000-6-2 EN61000-6-3	
Vibration resistance: Sinus	EN 60068-2-6: 5 g, 10 to 150 Hz	
Shock resistance: Shock	EN 60068-2-27: 30 g, 6 ms	
MTTFd (electronic board)	EN 13849-1: ≥ 100 years	
Maximum number of mechanical cycles	1x10 ⁵ (5x10 ⁵ on request)	

Ordering Code

ASu	5.5	D	W	090090	UL	1	R	99	M26	3	S6	N	P1
Transducer type	Length	Channels	Rotation direction	Rotation angles	Rope output	Steel rope	Ring type	Electrical output	Electrical connection	Electrical outlet	Mounting bracket	CAN termination	Potentiometer
Length	x . y	Available lengths: 2.0 m, 4.0 m, 5.5 m											
Channels	S D R	Single channel Double channel Double channel with crossed signals											
Rotation direction	W C	Clockwise rotation direction (see "Available fittings configurations") Counterclockwise rotation direction (see "Available fittings configurations")											
Rotation angles	A N 1 A N 2	AN1: angle opposed to rotation direction AN2: angle concordant to rotation direction (see "Available angle configurations")											
Rope output	U L L R	Steel rope outlet on upper left side Steel rope outlet on lower right side											
Steel rope	1	AISI 316 stainless steel polyamide coated rope PA12 ϕ 0,63/0.80 mm 7x7											
Ring type	R	With metallic ring at the end of the steel rope (ϕ_{IN}/ϕ_{OUT} : 5/10 mm)											
Electrical output	4 _ 5 _ 7 _ 9 _	Current output: 4 to 20 mA (44 if double) Ratiometric output: 10% to 90% V_{IN} , $V_{IN}=+5 V_{DC}$ (55 if double) CAN output: CAN Open (77 if double) Voltage output: 0.5÷4.5 V_{DC} , $V_{IN}=9\pm 33 V_{DC}$ (99 if double)											
Electrical connection	c a b	Electrical wiring harness code (see "Electrical connections" on the right)											
Electrical outlet	0 3 6 9	Set to hours "0" or "12" Set to hours "3" Set to hours "6" Set to hours "9"											
Mounting bracket	S 0 S 3 S 6 S 9	Set to hours "0" or "12" Set to hours "3" Set to hours "6" Set to hours "9"											
CAN termination	N	Without internal CAN bus termination											
Potentiometer	P 1 P 3 P 4	Potentiometer type: 10 K Ω , 10 rounds, 1 x 10 ⁵ cycles Potentiometer type: 10 K Ω , 5 rounds, 1 x 10 ⁵ Cycles. For 2.0 meters only Potentiometer type: 10 K Ω , 10 rounds, 5 x 10 ⁵ cycles											

Electrical connections

Current output (4 to 20 mA)
M12 plug
Code: M65 single channel
Code: M66 double channel
1: $V_{IN}=9$ to 33 V_{DC}
2: Negative power supply
3: Angle signal 4: Length signal

Voltage output (0.5 to 4.5 V_{DC})
M12 plug
Code: M25 single channel
Code: M26 double channel
1: $V_{IN}=9$ to 33 V_{DC}
2: Negative power supply
3: Angle signal 4: Length signal

Ratiometric output (10% to 90% V_{IN})
M12 plug
Code: M45 single channel
Code: M46 double channel
1: $V_{IN}=5 V_{DC}$
2: Negative power supply
3: Angle signal 4: Length signal

CAN Open output
Two M12 plugs
Code: M06 single or double channel
1: Cable shield
2: $V_{IN}=9$ to 33 V_{DC}
3: Negative power supply
4: CH
5: CL

Custom configurations are available on request.

Available fittings configurations

Rotation direction - Rotation angles - Rope output



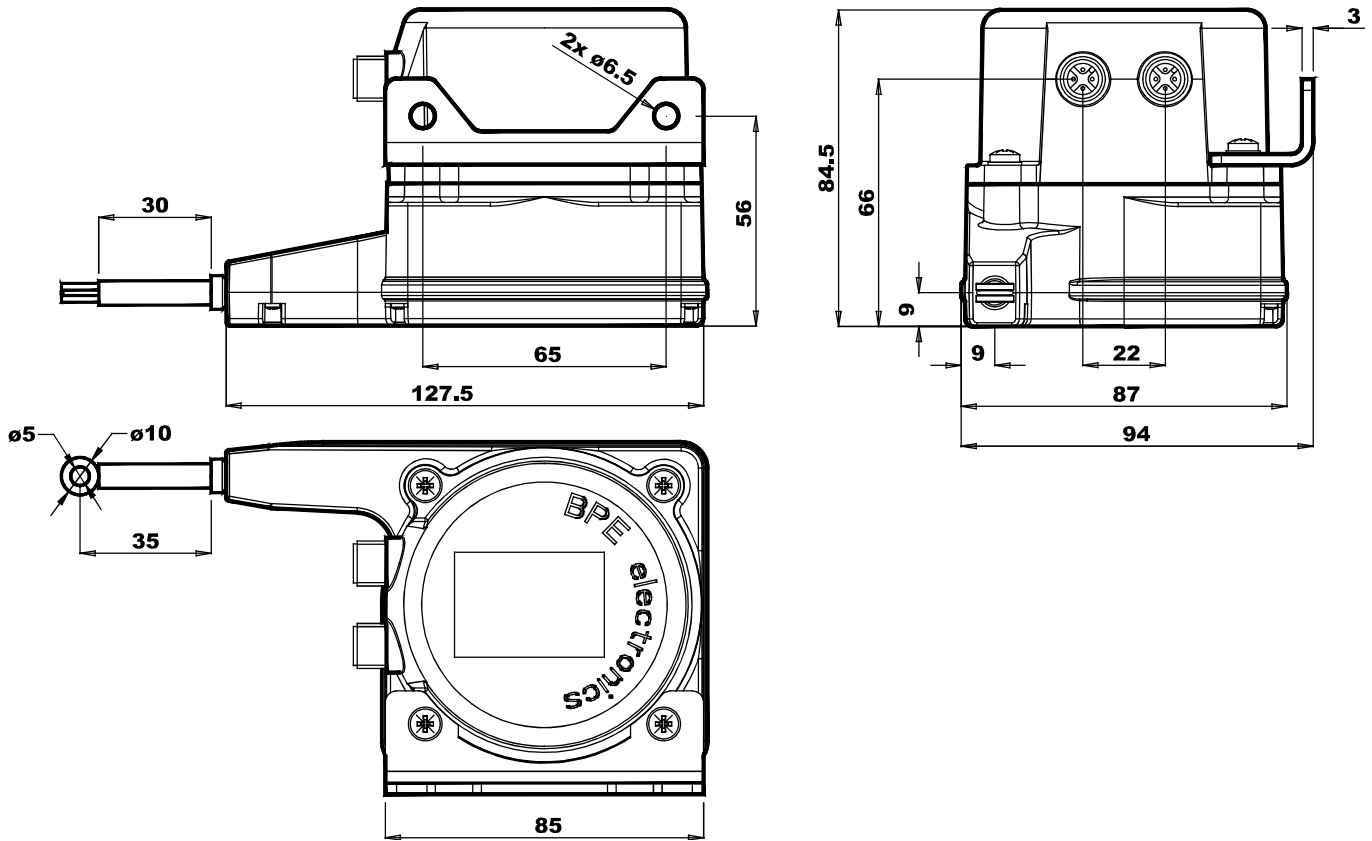
Available fitting configurations:
W AN1AN2 UL

Available fitting configurations:
C AN1AN2 LR

Available angle configurations

AN1	AN2	Range
045	135	180°
090	090	180°
135	135	270°
180	180	360°

Dimensions [mm]



Accessories

Type	Description	Code	Notes
Counterpart Connector	M12 receptacle connector: loose connector with 4pin, screw terminals.	7.003.045	
Extension cable	Length 5000mm, multipolar cable for dynamic installations, 4 conductors (brown, grey, black, yellow/green) sections 0.5mm ² , external grey jacket with excellent resistance to abrasive action, ordinary industrial oils and chemical agents. M12 4pin receptacle connector.	7.180.431	
Extension cable	Length 10000mm, multipolar cable for dynamic installations, 4 conductors (brown, grey, black, yellow/green) sections 0.5mm ² , external grey jacket with excellent resistance to abrasive action, ordinary industrial oils and chemical agents. M12 4pin receptacle connector.	7.180.433	
CAN Counterpart Connector	M12 receptacle connector: loose connector with 5pin, screw terminals.	7.003.059	
CAN Extension cable	Length 5000mm, multipolar cable for dynamic installations, 2x2xAWG22 conductors (brown, white, yellow, green) , external purple jacket with excellent resistance to abrasive action, ordinary industrial oils, chemical agents and UV. M12 5pin receptacle connector.	7.180.469	
CAN Extension cable	Length 10000mm, multipolar cable for dynamic installations, 2x2xAWG22 conductors (brown, white, yellow, green), external purple jacket with excellent resistance to abrasive action, ordinary industrial oils, chemical agents and UV. M12 5pin receptacle connector.	7.180.409	
CAN Network Termination	M12 5 pin receptacle connector cap with CAN network termination.	7.003.069	
Adapter	Ring to threaded rod adapter	7.003.076	