



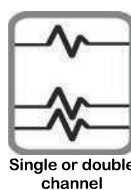
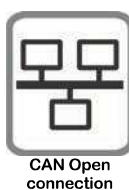
- Length transducer for work area management
- Single channel. Possible to have it with double channel for PL d (EN13849-1) systems
- Voltage, current, potentiometric or CAN bus output
- Electrical connection with M12x1 connectors
- Standard length: 8.5 and 12.5 meters
- PA12-coated 7x7 AISI 316 stainless steel rope
- Waterproof, compact aluminium body
- Easy to install
- Right or left side mounting version
- Provided with a plastic casing to protect the pulley

On request

- Special length
- Electrical connection with cable

Typical fields of application: truck mounted cranes, mobile cranes, aerial platforms 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	from 0 to 33 V _{DC}	from 9 to 33 V _{DC}		
Outputs	10% to 92%	0.5 ÷ 4.5 V _{DC}	CAN bus	from 4 to 20 mA
Maximum output current	-	10 mA	-	-
Current consumption ⁽¹⁾ [double]	3.3 [6.6] 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 12.5m
Length transducer (linearity, hysteresis, repetibility) accuracy	± 1.0% FS
Length transducer resolution	0.03% FS
Length transducer temperature drift	< 100 ppm / °C
Rope diameter (with coating)	1.5 (2.0) mm
Rope breaking force	> 1000 N (greater than)
Min/max force to pull out the rope	9,5 N (± 40 %)
Max wire speed	3 m/s
Max wire acceleration	5 m/s ²
Operating temperature	from -25 to +70 °C
Maximum weight	2.3 kg
Housing material	aluminium body/ plastic pulley and casing
Standard protection grade (electronics and spring box)	IP65
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
MTTFd (electronic board)	EN 13849-1: ≥ 100 years
Maximum number of mechanical cycles	1x10 ⁵ (2.5x10 ⁵ on request)

Ordering Code

	TL	08.5	D	UL	5	F4	99	M31	D	N	P1	C																
	Transducer type	Length	Channels	Rope output	Steel rope	Suppl. rope	Electrical output	Electrical connection	Electrical outlet	CAN termination	Potentiometer	Casing type																
Length	<table><tr><td>x</td><td>x</td><td>.</td><td>y</td></tr></table>	x	x	.	y	Available lengths: 8.5 m, 12.5 m																						
x	x	.	y																									
Channels	<table><tr><td>S</td></tr><tr><td>D</td></tr><tr><td>R</td></tr></table>	S	D	R	<table><tr><td>Single channel</td></tr><tr><td>Double channel</td></tr><tr><td>Double channel with crossed signals</td></tr></table>											Single channel	Double channel	Double channel with crossed signals										
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Rope output	<table><tr><td>U</td><td>R</td></tr><tr><td>U</td><td>L</td></tr><tr><td>L</td><td>R</td></tr><tr><td>L</td><td>L</td></tr></table>	U	R	U	L	L	R	L	L	<table><tr><td>Steel rope outlet on upper right side</td></tr><tr><td>Steel rope outlet on upper left side</td></tr><tr><td>Steel rope outlet on lower right side</td></tr><tr><td>Steel rope outlet on lower left side</td></tr></table>							Steel rope outlet on upper right side	Steel rope outlet on upper left side	Steel rope outlet on lower right side	Steel rope outlet on lower left side								
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Steel rope	<table><tr><td>5</td></tr></table>	5	AISI 316 stainless steel polyamide coated rope PA12 Ø 1.5/2.0 mm 7x7																									
5																												
Supplementary rope	<table><tr><td>F</td><td>4</td></tr></table>	F	4	Supplementary steel rope length (Standard: 04 meters)																								
F	4																											
Electrical output	<table><tr><td>3</td><td>—</td></tr><tr><td>4</td><td>—</td></tr><tr><td>7</td><td>—</td></tr><tr><td>9</td><td>—</td></tr></table>	3	—	4	—	7	—	9	—	<table><tr><td>Potentiometric output: see "Outputs" on previous table</td><td>(33 if double)</td></tr><tr><td>Current output: 4 to 20 mA</td><td>(44 if double)</td></tr><tr><td>CAN output: CAN Open</td><td>(77 if double)</td></tr><tr><td>Voltage output: 0.5÷4.5 V_{DC}</td><td>(99 if double)</td></tr></table>											Potentiometric output: see "Outputs" on previous table	(33 if double)	Current output: 4 to 20 mA	(44 if double)	CAN output: CAN Open	(77 if double)	Voltage output: 0.5÷4.5 V _{DC}	(99 if double)
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Electrical outlet	<table><tr><td>L</td></tr><tr><td>R</td></tr><tr><td>D</td></tr></table>	L	R	D	<table><tr><td>Electrical connector used: left</td></tr><tr><td>Electrical connector used: right</td></tr><tr><td>Electrical connector used: both (for double transducers)</td></tr></table>											Electrical connector used: left	Electrical connector used: right	Electrical connector used: both (for double transducers)										
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CAN termination	<table><tr><td>N</td></tr></table>	N	Without internal CAN bus termination																									
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Potentiometer	<table><tr><td>P</td><td>1</td></tr><tr><td>P</td><td>4</td></tr></table>	P	1	P	4	<table><tr><td>Potentiometer type: 10 KΩ, 10 rounds, 1 x 10⁵ cycles</td></tr><tr><td>Potentiometer type: 10 KΩ, 10 rounds, 2,5 x 10⁵ cycles</td></tr></table>											Potentiometer type: 10 KΩ, 10 rounds, 1 x 10 ⁵ cycles	Potentiometer type: 10 KΩ, 10 rounds, 2,5 x 10 ⁵ cycles										
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Casing type	<table><tr><td>C</td></tr></table>	C	With a plastic casing to protect the pulley																									
C																												

Electrical connections

Current output (4 to 20 mA)
M12 plug
Code: **M75** single channel
Code: **M76** double channel
1: V_R=9 to 33 V_{DC}
2: Length signal
3: Negative power supply

Voltage output (0.5 to 4.5 V_{DC})
M12 plug
Code: **M30** single channel
Code: **M31** double channel
1: V_R=9 to 33 V_{DC}
2: Length signal
3: Negative power supply

Potentiometric output
M12 plug
Code: **M55** single channel
Code: **M56** double channel
1: V_R=0 to 33 V_{DC}
2: Length signal
3: Negative power supply

CAN Open output

M12 plug
Code: **M07** single or double channel
1: Cable shield
2: V_R=9 to 33 V_{DC}

Custom configurations are available on request.

Electrical connections

Current output (4 to 20 mA)

M12 plug
Code: M75 single channel
Code: M76 double channel
1: V_{IN}=9 to 33 V_{DC}
2: Length signal
3: Negative power supply



Voltage output (0.5 to 4.5 V_{DC})

M12 plug
Code: M30 single channel
Code: M31 double channel
1: V_{IN}=9 to 33 V_{DC}
2: Length signal
3: Negative power supply



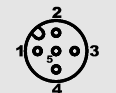
Potentiometric output

M12 plug
Code: M55 single channel
Code: M56 double channel
1: V_{IN}=0 to 33 V_{DC}
2: Length signal
3: Negative power supply

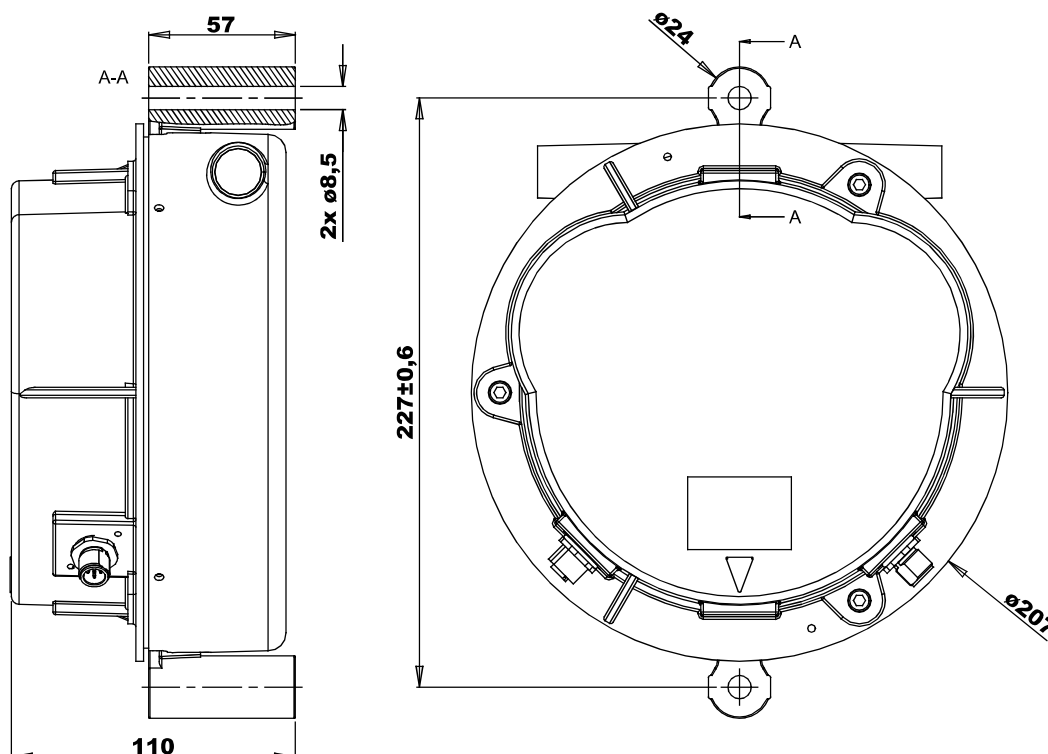


CAN Open output

M12 plug
Code: M07 single or double channel
1: Cable shield
2: V_{IN}=9 to 33 V_{DC}
3: Negative power supply
4: CH
5: CL



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, 3 conductors (brown, blue, yellow/green) sections 0.5mm ² , external black jacket with excellent resistance to abrasive action, ordinary industrial oils and chemical agents. M12 4pin receptacle connector.	7.180.347	
Extension cable	Length 10000mm, multipolar cable for dynamic installations, 3 conductors (brown, blue, yellow/green) sections 0.5mm ² , external black jacket with excellent resistance to abrasive action, ordinary industrial oils and chemical agents. M12 4pin receptacle connector.	7.180.342	
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 Counterpart Connector	M12 plug connector: loose connector with 5pin, screw terminals.	7.003.071	
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 plug connector.	7.180.486	
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 plug connector.	7.180.514	
CAN Network Termination	M12 5 pin receptacle connector cap with CAN network termination.	7.003.069	
CAN Network Termination	M12 5 pin plug connector cap with CAN network termination.	7.003.070	