

CD120 – DRAW WIRE SENSOR

INCREMENTAL OUTPUT – MEASUREMENT RANGE UP TO 3500 MM

SPECIFICATIONS

Maximum measuring range	3500 mm
Sensing device	Incremental optical encoder
Output signal	Push-Pull - RS422 compatible
Supply	5Vdc
	8 ... 30 Vdc
Resolution	1 up to 100 pulses/mm
Material	Body and cover - aluminium (RohS)
	Measuring cable – Stainless steel
Cable diameter	0,60 mm
Connection	Male connector M23 – 12-pin CW
	Male connector M16 – 8-pin DIN
	Male connector M12 – 8-pin (A-coding)
	PVC cable – shielded – LIYCY 8 x 0.14mm²
Linearity	up to +/-0,01% f.s
Protection class	IP65 (IP67 optional)
Max. Velocity	10 m/s
Max. Acceleration	7 m/s² (before cable deformation)
Weight	≈ 2000 g
Operating temperature	-20° to +100°C
Storage temperature	-40° to +100°C



CABLE FORCES

Measurement range in mm	Min. pull-out force	Max. pull-out force
3500	≈ 13.00 N	≈ 18.00 N

ORDERING REFERENCE

CD120 – 3500 – 020 – PPCAO – L05 – AR1 – OP – AC – ...

Model									
CD120									
Measurement range									
3500	= 0 to 3500 mm								
<i>Or other ranges between 0 and 3500mm</i>									
Resolution									
001	= 1 pulse/mm								
↓									
100	= 100 pulses/mm								
<i>All resolution between 1 and 100 pulses/mm</i>									
Output stage									
PP	= Push-Pull output, RS422 compatible								
Supply									
A	= 5Vdc								
C	= 8 ... 30 Vdc								
Output signals									
A	= A ; A/ ; B ; B/ ; 0 ; 0/ (0 calibrated on A and B)								
	(0 gated A & B – A before B when the measuring cable is pulled)								
<i>Other output signals available on demand</i>									
Technology									
O	= Optical								
Linearity									
L05	= +/- 0.05% f.s.								
L01	= +/- 0.01% f.s. (optional)								
Connections									
A	= Male connector M23 - 12 pins CW								
D	= Male connector M16 - 8 pins DIN								
F	= Male connector M12 - 8 pins								
G	= PVC cable 8 wires								
<i>Other output termination available on demand</i>									
Orientation									
A	= Axial								
R	= Radial								
Electrical connection (refer to the connection table on page 2)									
1	= Standard								
<i>Other connection available on demand</i>									
Cable length if output connection G									
/xx	= example /03 for 3 meters of cable								
OP options									
AC	= Complete anodizing								
BR	= Cleaning brush for the cable								
CP	= Fixing of the measuring cable with a clevis								
IP67	= Protection class of encoder IP67								
M4	= Fixing of the measuring cable with a M4 threaded rod								
TEV	= Water evacuation holes								



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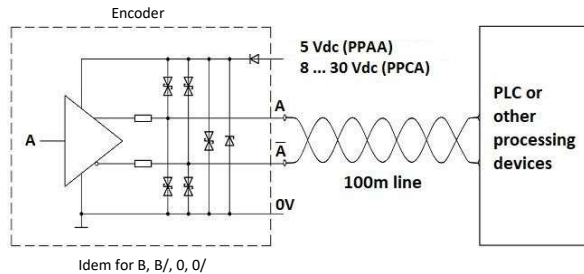
ELECTRICAL CHARACTERISTICS

PPAA electronics

Output stage: Push-Pull – compatible RS422
 Power supply: 5Vdc
 Consumption without load: at 5Vdc = 50 mA
 Protected against over-voltage, polarity inversion
 and overcurrent

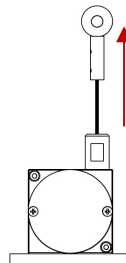
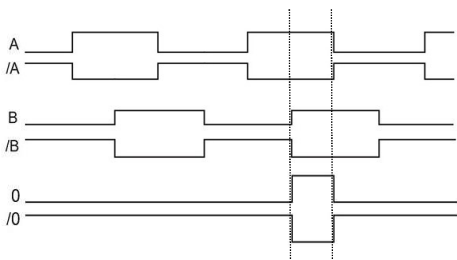
PPCA electronics

Output stage: Push-Pull – compatible RS422
 Power supply: 8 ... 30Vdc
 Consumption without load:
 at 8Vdc = 55 mA
 at 12Vdc = 50 mA
 at 24Vdc = 30 mA
 at 30Vdc = 25 mA
 Protected against over-voltage, polarity inversion
 and overcurrent



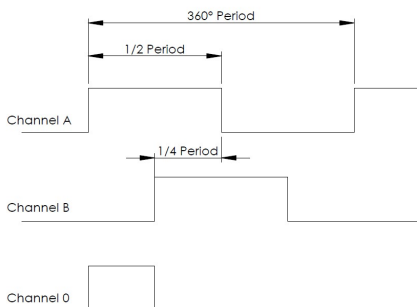
Output signals

O calibrated to A and B



A channel (rising edge) before B channel
 when the measuring cable is pulled.

Signals tolerance



Period : 360° (electrical)
 Duty cycle : 180° ± 10%
 Phase shift : 90° ± 25%
 Starting time : less than 100ms

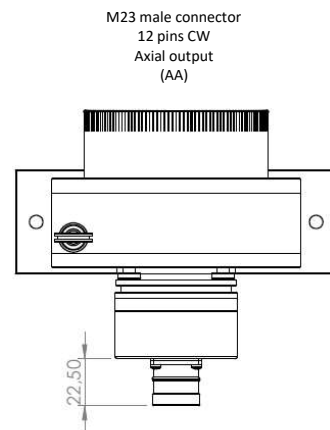
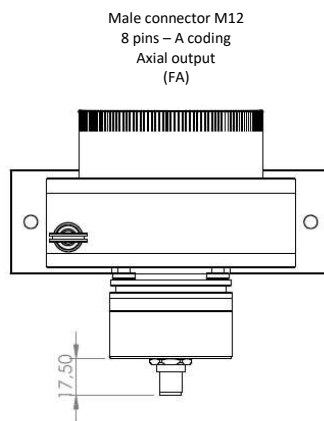
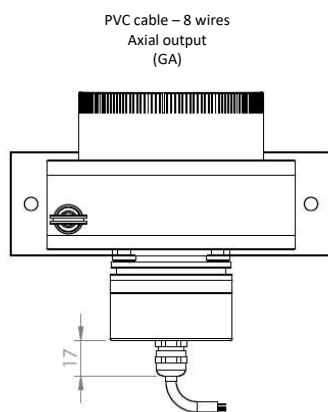
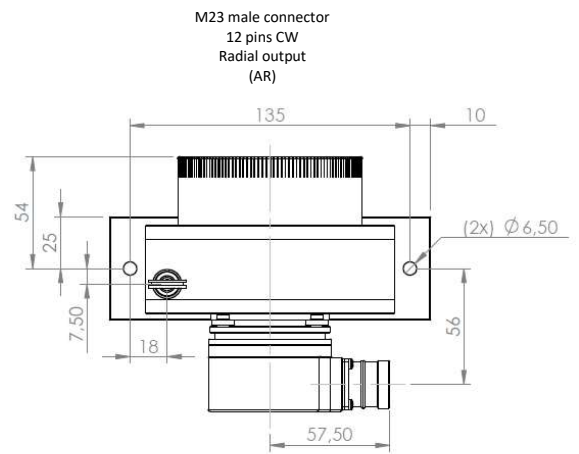
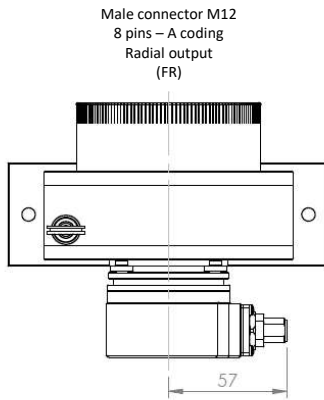
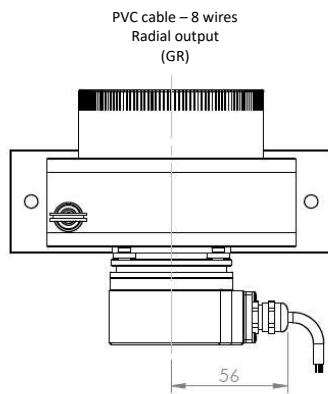
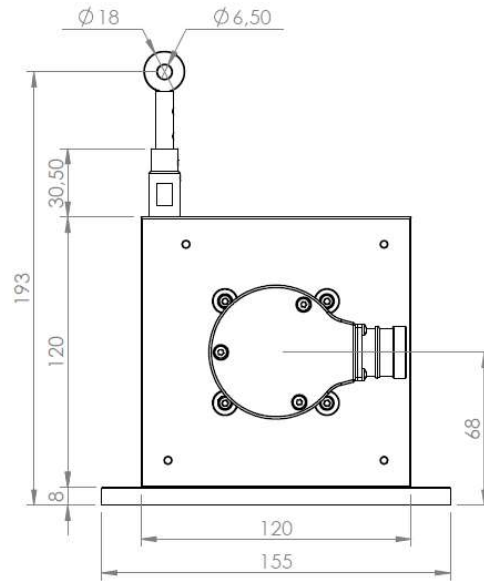
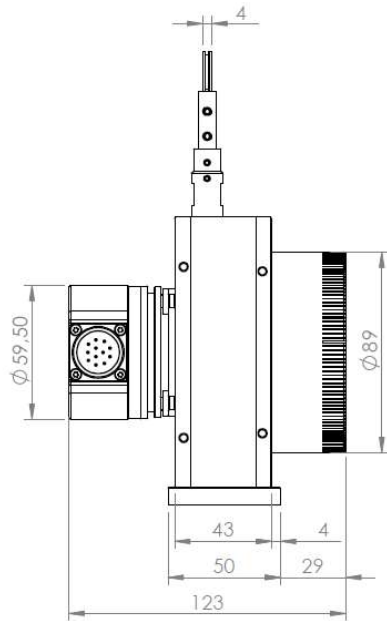
STANDARD CONNECTIONS (TYPE 1)

Standard connection	M23 - 12 pins CW	M16 - 8 pins (DIN)	M12 - 8 pins	Cable 8 wires
Power -	1	1	1	White
Power +	2	2	2	Brown
Channel A	3	3	3	Green
Channel B	4	4	4	Yellow
Channel O	5	5	5	Grey
Channel A/	6	6	6	Pink
Channel B/	7	7	7	Blue
Channel O/	8	8	8	Red
nc	9-10-11-12	/	/	/

Sensor-side view

Sensor-side view

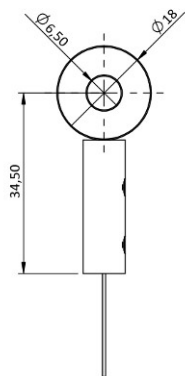
Sensor-side view



Cable attachment with a lug :

Standard

The attachment lug is fixed with a M6 screw or a clevis.



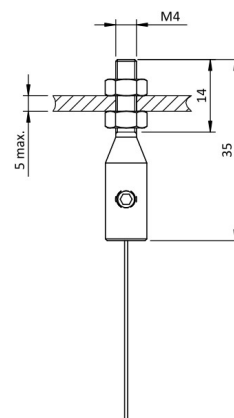
Cable attachment fitted with a M4 threaded rod:

OP-M4

The rod attachment uses a threaded rod with 2 nuts (provided). The required thickness of the plate does not exceed 5 mm.

Caution

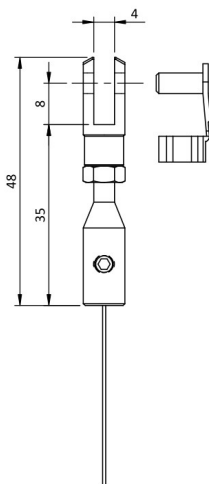
Never screw the threaded rod into a fixed nut, a twist of the measurement cable would damage it.



Cable attachment with a clevis :

OP-CP

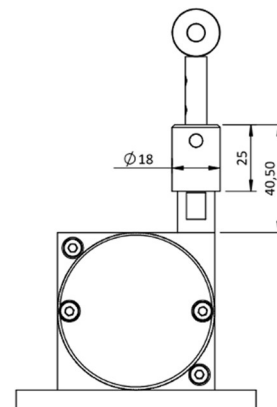
The attachment of the clevis is done using a pin (provided).



Cable cleaning brush:

OP-BR

The cleaning brush wipes the cable in dusty or humid environments.



Water evacuation holes:

OP-TEV

The holes allow the natural flow of fluids out of the sensor in order to avoid their accumulation in the system.

