

# CIO40P – INCREMENTAL OPTICAL ENCODER Ø40 – SOLID SHAFT

## Technical characteristics

Output	Push-Pull (HTL), RS422 (TTL) compatible
Power supply	5Vdc
	4.75 ... 32 Vdc
Resolution	1 to 65 536 PPR
Max. admissible rotational speed	12 000 rpm
Max. continuous rotational speed	9 000 rpm
Max. axial load	20N
Max. radial load	60N
Material	Body and cover: aluminum (RohS)
	Shaft: stainless steel
Protection	IP64 (IP67 optional)
Connection	M16 – 8 pins (DIN)
	M12 – 8 pins (A-coded)
	PVC cable 8 wires (standard length : 2m)
Weight	~ 120 g
Operating temperature	-20°C ... +100°C
Storage temperature	-40°C ... +100°C



## Ordering reference

**CIO40P\_06 – PPCA – 01024 – GR1/03 – A00**

Model	
<b>CIO40P</b>	
Shaft diameter	
<b>06</b>	= Ø6mm – Length 10mm
<b>06A</b>	= Ø6mm – Length 16mm
<b>Other dimensions on demand</b>	
Output stage	
<b>PP</b>	= Push-Pull (HTL) - RS422 (TTL) compatible
Power supply	
<b>A</b>	= 5Vdc
<b>C</b>	= 4.75 ... 32Vdc
Output signals	
<b>A</b>	= A, B, 0, /A, /B, /0 (A & B gated)
<b>Other output signals on demand</b>	
Resolution	
<b>1 to 65 536 PPR</b>	
Connections	
<b>D</b>	= M16 – 8 pins (DIN)
<b>F</b>	= M12 – 8 pins (A-coded)
<b>G</b>	= PVC cable - 8 wires
<b>Other connections on demand</b>	
Orientation	
<b>A</b>	= Axial
<b>R</b>	= Radial
Connection type	
<b>1</b>	= Standard (please refer to the connection table page 2)
<b>Other connection types on demand</b>	
Cable length for <b>G</b> connection	
<b>/xx</b>	= example <b>/03</b> for 3m long cable (standard 2m)
Mechanical options	
<b>A</b>	= None
<b>B</b>	= IP67 protection
Electronic options	
<b>00</b>	= None



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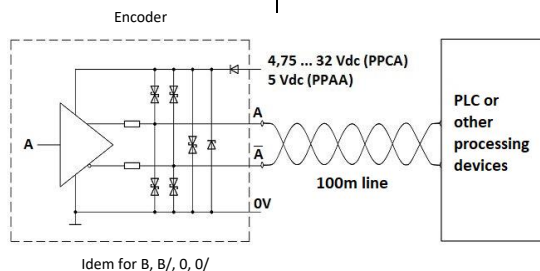
## Electrical characteristics

### PPCA electronics

Output stage: Push-Pull – compatible RS422  
 Power supply: 4.75 ... 32Vdc  
 Consumption without load:  
 at 5Vdc = 250 mA  
 at 12Vdc = 55 mA  
 at 24Vdc = 30 mA  
 at 32Vdc = 25 mA  
 Protected against over-voltage, polarity inversion and overcurrent

### PPAA electronics

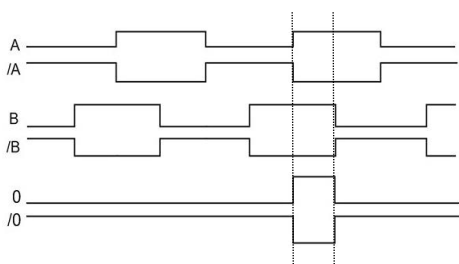
Output stage: Push-Pull – compatible RS422  
 Power supply: 5Vdc  
 Consumption without load: at 5Vdc = 50 mA  
 Protected against over-voltage, polarity inversion and overcurrent



Idem for B, B/, 0, 0/

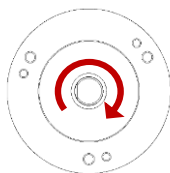
## Output signals

### A & B gated (standard)

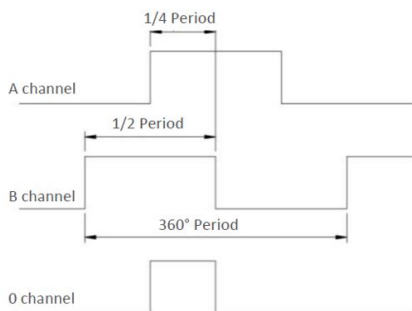


B channel (rising edge) before A channel in CW direction, view on axis.

Clockwise direction



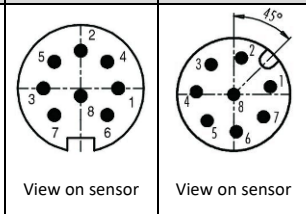
## Signal tolerances



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

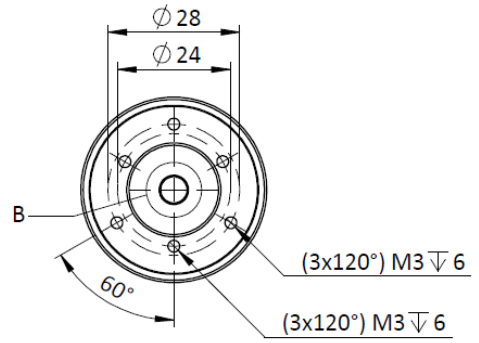
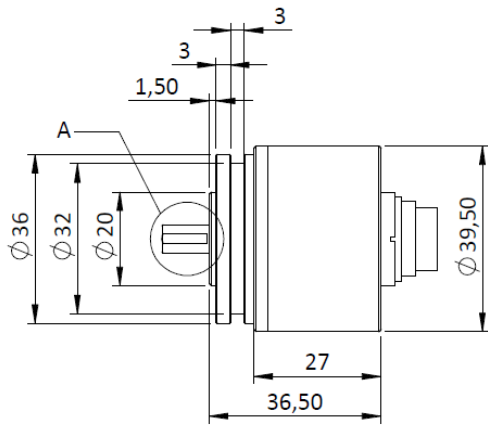
## Connections type 1

Standard connection	M16 - 8 pins (DIN)	M12 - 8 pins	Cable – 8 wires
Supply -	1	1	White
Supply +	2	2	Brown
Channel A	3	3	Green
Channel B	4	4	Yellow
Channel 0	5	5	Grey
Channel A/	6	6	Pink
Channel B/	7	7	Blue
Channel 0/	8	8	Red



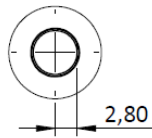
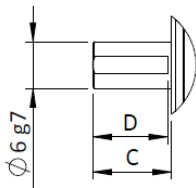
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**Technical drawing**

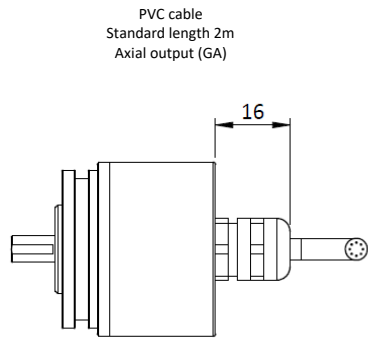


Detail A

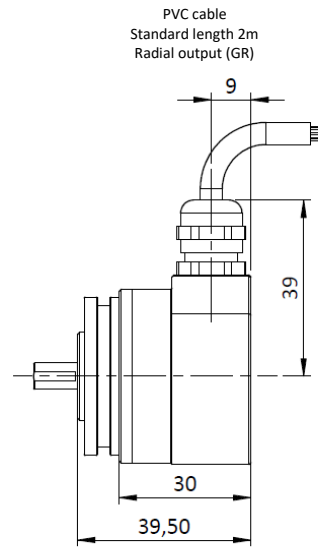
Detail B



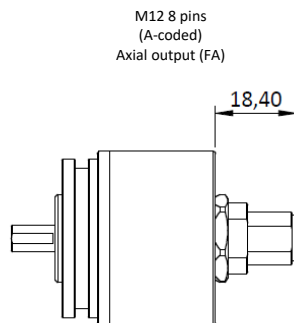
	C	D
CIO40P_06	10,00	9,00
CIO40P_6A	16,00	9,00



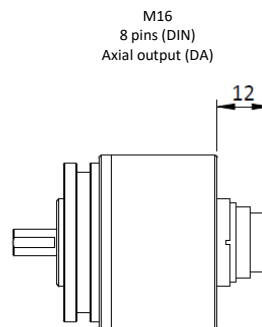
PVC cable  
Standard length 2m  
Axial output (GA)



PVC cable  
Standard length 2m  
Radial output (GR)



M12 8 pins  
(A-coded)  
Axial output (FA)



M16  
8 pins (DIN)  
Axial output (DA)

