

Incremental

Solid shaft



- Miniature encoder for industrial use
- Low current consumption
- High noise interference immunity
- Cable lengths of up to 100 m
- Suitable for high pulse frequencies
- High protection class
- Applications: CNC machines, manipulators, motors, medical technology, textile machines



NUMBER OF PULSES

5 / 10 / 20 / 25 / 30 / 50 / 60 / 100 / 120 / 200 / 250 / 256 / 288 / 300 / 360 / 400 / **500** / **512** / 600 / 720 / **1000** / 1024 / 1250 / 1500

Other number of pulses on request

Preferably available versions are printed in bold type.

TECHNICAL DATA
mechanical

Housing diameter	30 mm
Shaft diameter	5 mm (Solid shaft)
Flange (Mounting of housing)	Synchro flange, Pilot flange
Protection class shaft input (EN 60529)	IP64
Protection class housing (EN 60529)	IP64
Shaft load axial / radial	5 N / 10 N
Max. speed	max. 10 000 rpm
Starting torque typ.	≤ 0.2 Ncm
Moment of inertia	approx. 0.8 gcm ²
Vibration resistance (DIN EN 60068-2-6)	100 m/s ² (10 ... 2000 Hz)
Shock resistance (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Operating temperature	-10 °C ... +70 °C
Storage temperature	-25 °C ... +85 °C
Material housing	Aluminum
Weight	approx. 60 g
Connection	Cable, axial or radial M16 (Binder), axial

TECHNICAL DATA
electrical

General design	as per DIN VDE 0160, protection class III, contamination level 2, overvoltage class II
Supply voltage	RS422 + Alarm (R), RS422 + Sense (T): DC 5 V ±10 % Push-pull (K): ± 10% DC 5 V or DC 10 - 30 V
Current w/o load typ.	40 mA (DC 5 V), 60 mA (DC 10 V), 30 mA (DC 24 V)
Max. pulse frequency	RS422: 300 kHz Push-pull: 200 kHz
Standard output versions ^{1,2}	RS422 + Alarm (R): A, B, N, \bar{A} , \bar{B} , \bar{N} , Alarm RS422 + Sense (T): A, B, N, A, \bar{B} , \bar{N} , Sense Push-pull (K): A, B, N, Alarm
Pulse width error	± max. 25° electrical
Number of pulses	5 ... 1500

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TECHNICAL DATA
electrical (continued)

Alarm output	NPN-O.C., max. 5 mA
Pulse shape	Square wave
Pulse duty factor	1:1

¹ With push-pull (K): pole protection
² Output description and technical data see chapter "Technical basics"

ELECTRICAL CONNECTIONS
Cable

Description (push-pull)	Description (RS422)	Lead α mm ²	Colour
DC 10 - 30 V	DC 5 V	0.5	red
	Sense V _{cc}	0.14	yellow/red
Channel A	Channel A	0.14	white
	Channel \bar{A}	0.14	white/brown
Channel B	Channel B	0.14	green
	Channel \bar{B}	0.14	green/brown
Channel N	Channel N	0.14	yellow
	Channel \bar{N}	0.14	yellow/brown
GND	GND	0.5	black
$\bar{A}larm$	$\bar{A}larm/Sense$ GND ¹	0.14	yellow/black
screen ²	screen ²		screen ²

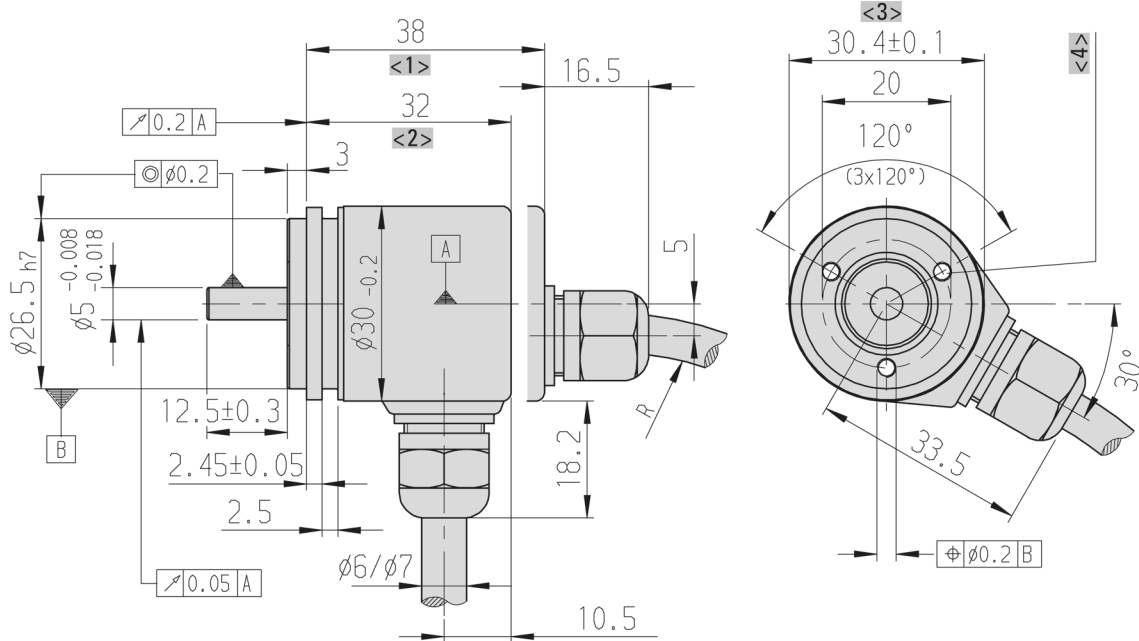
¹ depending on ordering code
² connected with encoder housing

ELECTRICAL CONNECTIONS
M16 connector (Binder), 6 pole

Description (push-pull)	Pin
DC 10 - 30 V	1
Channel A	2
Channel N	3
Channel B	4
$\bar{A}larm$	5
GND	6

DIMENSIONED DRAWINGS

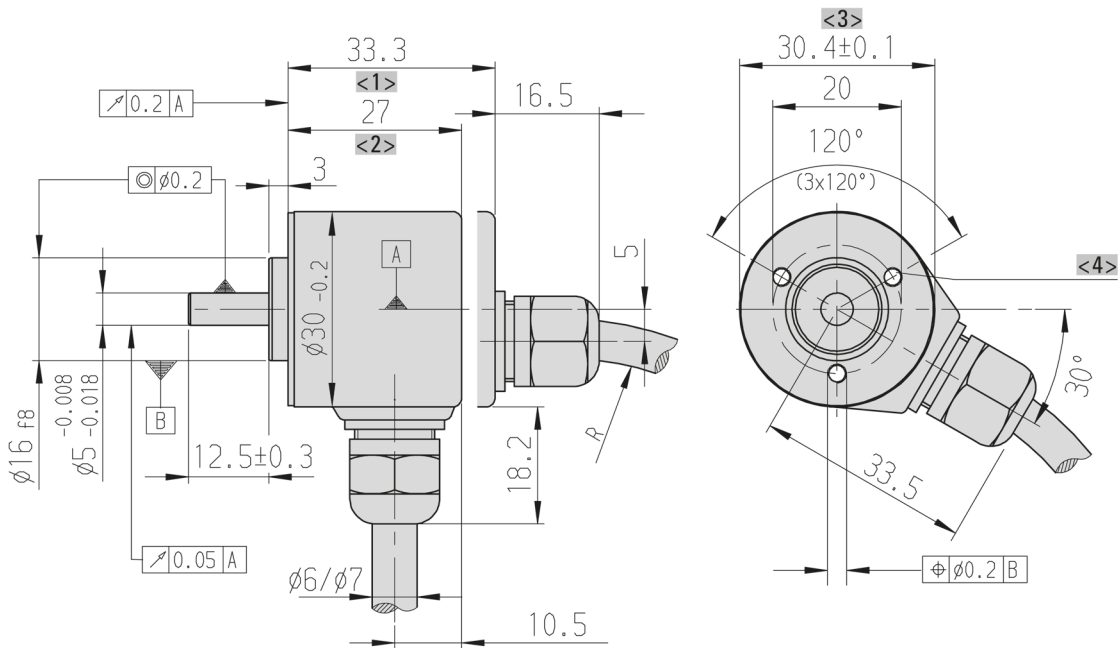
Synchro flange, cable



- <1> axial
- <2> radial
- <3> Housing

- <4> mounting thread M3x5
- Cable bending radius R for flexible installation ≥ 100 mm
- Cable bending radius R for fixed installation ≥ 40 mm
- Dimensions in mm

Pilot flange, cable

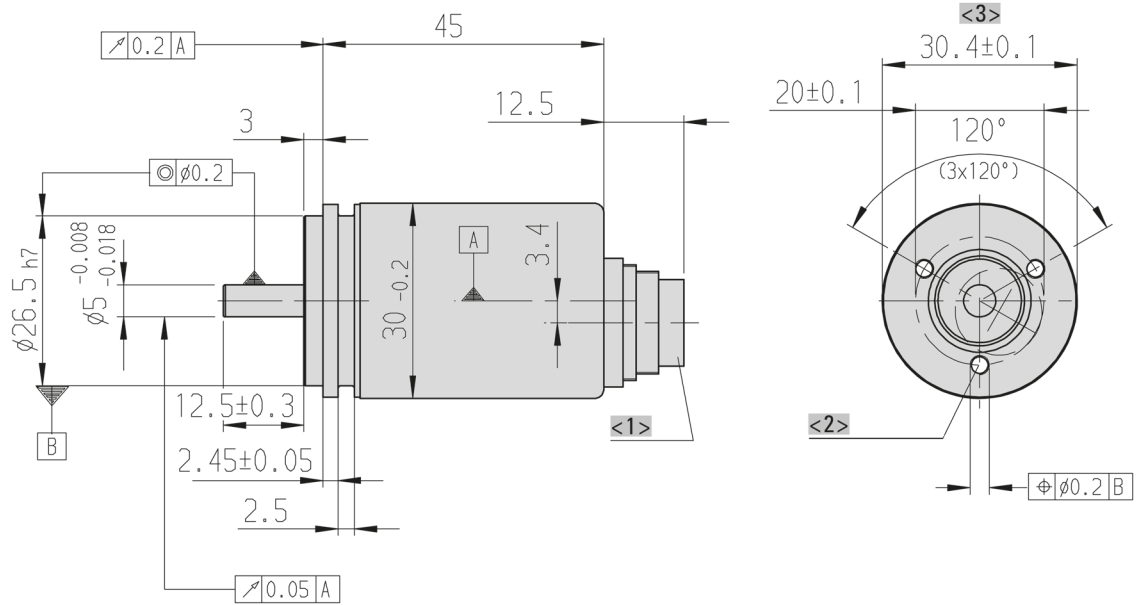


- <1> axial
- <2> radial
- <3> Housing

- <4> mounting thread M3x5
- Cable bending radius R for flexible installation ≥ 100 mm
- Cable bending radius R for fixed installation ≥ 40 mm
- Dimensions in mm

DIMENSIONED DRAWINGS (continued)

Synchro flange, M16 (Binder)

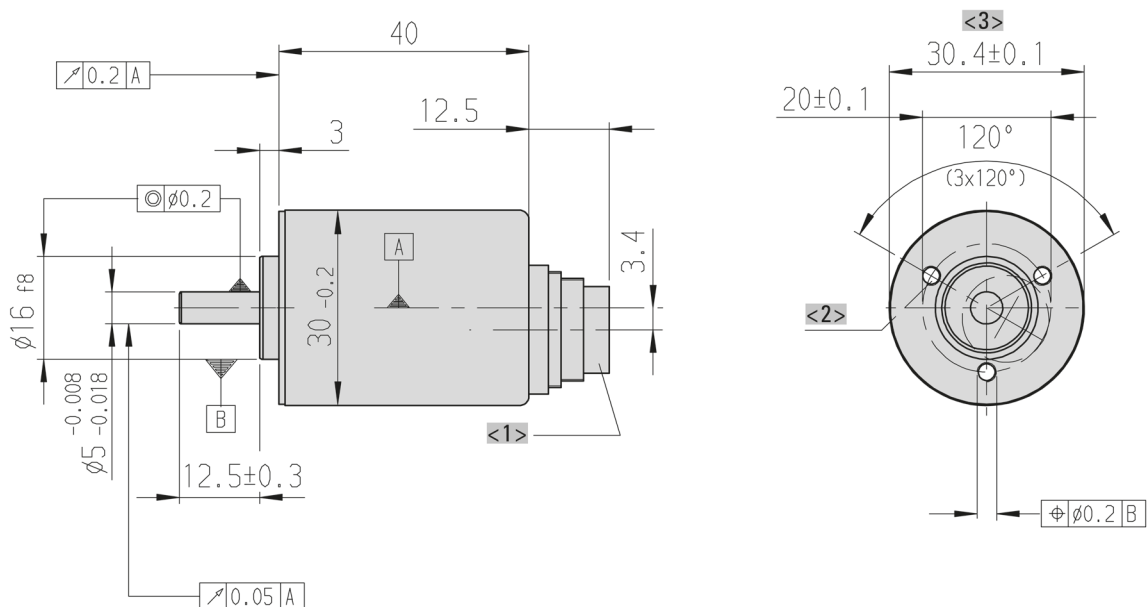


- <1> 6 pole (pins)
- <2> mounting thread M3x5

<3> Housing

Dimensions in mm

Pilot flange, M16 (Binder)



- <1> 6 pole (pins)
- <2> mounting thread M3x5

<3> Housing

Dimensions in mm

ORDERING INFORMATION

Type	Number of pulses	Supply voltage ¹	Flange, Protection, Shaft	Output ²	Connection ³
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RI30-0	5 ... 1500	A DC 5 V E DC 10 - 30 V	S.34 Synchro, IP64, 5 mm R.34 Pilot, IP64, 5 mm	R RS422 +Alarm T RS422 +Sense K Push-pull	A Cable, axial B Cable, radial E-I M23 connector (Conin) at 1 m TPE cable, cw E-D M23 connector (Conin) at 1 m TPE cable, ccw N M16 connector (Binder), 6 pole, axial

¹ DC 10 - 30 V only with push-pull

² Output code "K": short-circuit-proof

³ For Output Code "N" (M16): only push-pull

ORDERING INFORMATION

Selection of cable length

Versions with cable outlet (connection A, B, E or F) are available with various lengths of cable. To order your desired cable length, please add the respective code to the end of your ordering code. For variants with connector on cable end please add cable length code in between. Further cable lengths on request.

Code	Cable length
without code	1.5 m
-D0	3 m
-F0	5 m
-K0	10 m
-P0	15 m
-U0	20 m
-V0	25 m

Example:

Cable 3 m length: ... B - D0

Cable mit 3 m length and M23 connector, cw: ... B - D0 - I

ACCESSORIES

see chapter "Accessories"