



CHARACTERISTIC

ENCODER TYPE	Mini Shaft encoder
SMD - TECHNOLOGY	Strong compact electronics
IP-RATING	Std. IP 50 (Option IP 65)
LOW CURRENT CONSUMPTION	To be connected directly to PLC'S and counters
SHORT CIRCUIT PROTECTION	Thermal shut down at 155°C
WIDE SUPPLY RANGE	Min. 4,5 to max. 30V
STRONG MECH. CONSTRUCTION	Based on 2 precision ball bearings for industrial environments

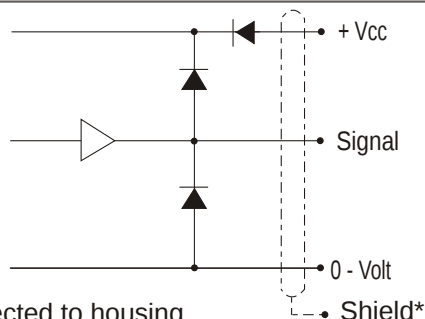
ELECTRICAL SPECIFICATIONS

	At +25°C
Output waveform	Incremental (A, B, Z)
Zero or index pulse	(Z) one pr. Rev
Output	Totempole
Supply-voltage (Vin)	Min 4,5V to Max. 30V * Reverse polarity protection
Current (no load)	35mA
Max. load pr. output	20mA (Short circuit protected) *
V out low	Max. 500 mV @ I = 10mA
Operating temp.	-10°C to +70°C
Storage temp.	-10°C to +70°C
Max. Pulse frequency	200 kHz *
V out high	Min. (Vin -0,6) @ I = -10mA Min. (Vin -1,3) @ I = -25mA
Cable data	5(0,14 mm ²) or 8 leads(0,05mm ²) shielded
Output signals	Standard, Differential (RS-422A compatible)
Certified acc. to	EN 50081-1 and EN 50082-2
	* = It is not recommended to combine max. value for all 3 parameters

MECHANICAL SPECIFICATIONS

Weight	45 g (+cable = 0,040 Kg/meter)
Materials: Housing	Aluminium / Aluminum
Shaft	100 Cr 6
Bearings	Lifetime lubricated ball bearings
Shaft dimensions	View Shaft options
Shaft loads	Axial max. 10 N Radial max. 20 N
Max. rev.	9.000 rev./min.
IP-rating	Standard IP 50 (Option IP 65)
Start torque	<0,005 Nm (IP 65 < 0,05 Nm) at 25°C
Massmoment of inertia	1 gcm ²
Max. shock	100 G/11 ms.
Bump	10 G - 16 ms (1000 X 3 axis)
Vibration	(10 - 2000 Hz)/10 G

OUTPUT CIRCUIT



*Shield connected to housing

Advanced Output Options:

Options

Normal Open Collector NPN
Differential Open Collector NPN

Normal Open Collector PNP
Differential Open collector PNP

Ordering codes

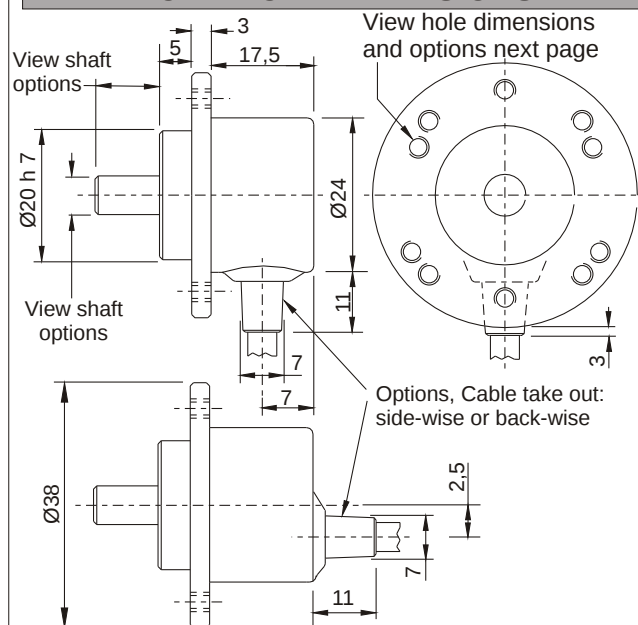
NON
DON

NOP
DOP

To order replace ☐ with ☐

☐ ☒ ☐
Output signal Output signal

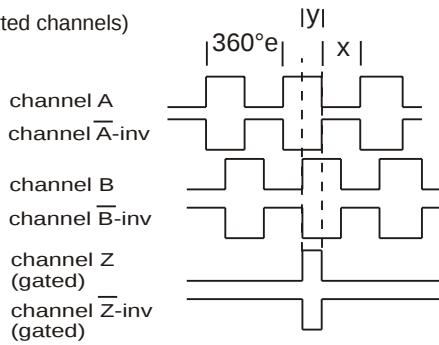
MECHANICAL DIMENSIONS



OUTPUT WAVEFORM

Rotation: Clockwise (cw) from shaftside

(inv = inverted channels)



$X = 180^\circ \pm 36^\circ$ and $Y = 90^\circ \pm 18^\circ$
Z puls: Gated with A and B (standard)

Options: TTL or HTL compatible. Open Collector NPN or PNP
Gated Z-puls or none-gated Z-puls.
View more Output options in section 15 - page 1

CONNECTIONS

Color code	Standard	Color code	Differential
Green	Ch A	Pink	Ch A
Yellow	Ch B	Grey	Ch A inv
Grey	Ch Z	Green	Ch B
Brown	Vcc	Yellow	Ch B inv
White	0-Volt	White	Ch Z
		Brown	Ch Z inv
		Red	Vcc
		Blue	0-Volt

PULSES/REV.

4	30	100	250	600	2048
10	36	125	256	1000	2500
11	50	128	300	1024	3000
12	60	150	360	1250	3600
15	75	180	400	2000	5000
25	90	200	500	2500	7500

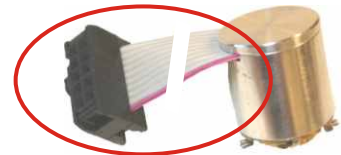
ORDERING CODES

Pulses pr.rev.:	Options	Ordering codes
	No. of pulses	XXXX
Output signal:	Normal (TP-Standard)	
	3 channel = A, B, Z	N
	TP-Differential, 6 channel	
	A, B, Z and A-inv, B-inv, Z-inv	D
Shaft dimensions:	$\varnothing 4 \times 9$ mm	04x09
	$\varnothing 5 \times 10$ mm	05x10
	$\varnothing 6 \times 10$ mm	06x10
	1/4" ($\varnothing 6.35$) x 10 mm	1/4x10
IP-rating:	IP 50 Standard	50
	IP 65 (Option)	65
Round Cable	Standard 1 meter	01
Length of cable:	No. of meters	XX
Round Cable	Side	S
Cable take out:	Back	B
Anti rotation spring coupling or Flange / Plate:	View Section 9 page 1 to 6	
Cable and connector options:	View section 20 page 10 to 13	

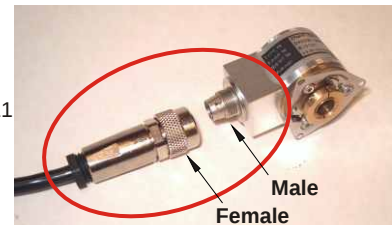
Flat Ribbon Cable and/or Connector

Options

Flat Cable (only IP 50)
Ribbon + IDC or AMP
View Section 20 page 10

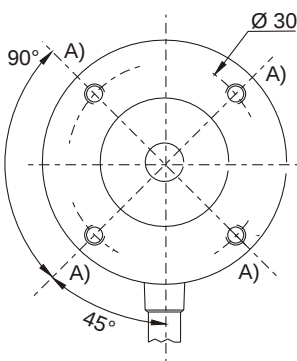


Connector on Encoder:
(only IP64)
View Section 20 page 11

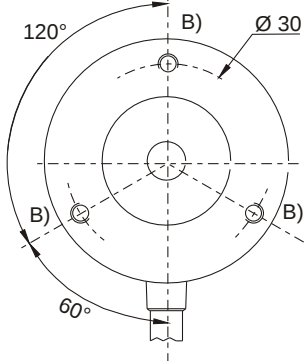


OPTIONS: Hole dimensions for 2REB - 3 mounting options in one Encoder

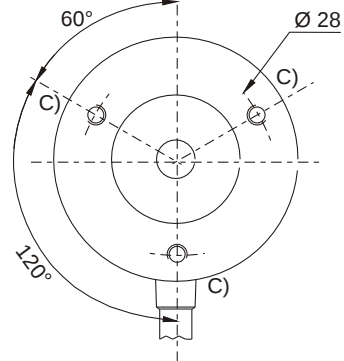
Option A: 4 x M3 in $\varnothing 30$



Option B: 3 x M3 in $\varnothing 30$



Option C: 3 x M3 in $\varnothing 28$



2REB



Hole Dimensions



Pulses



Output signal



Shaft

X



Shaft length



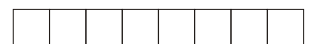
IP-rating



Length of round cable



Cable take out



Anti Rotation Spring Coupling Or Flange / Plate Order Number