



**Axial up to 50 N Radial up to 100 N**

**MIL-connector**



**NOTE..!**  
STANDARD COVER with Coninvers  
Connector and normal cable take out.  
View Coninvers in Section 14 page 3.

## CHARACTERISTICS

ENCODER CATEGORY	Shaft encoder
SMD - TECHNOLOGY	Strong compact electronics
HIGH IP-RATING	Std. 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 4,5V to Max. 30V
STRONG MECH. CONSTRUCTION	Based on 2 strong precision ball bearings, for harsh industrial environments

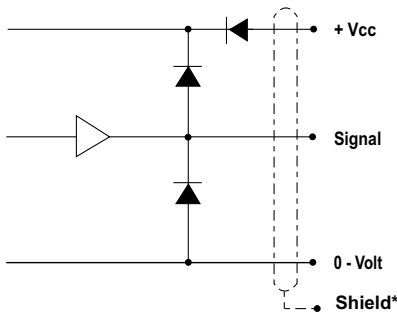
## ELECTRICAL SPECIFICATIONS

	At +25°C
Output waveform	Incremental (A, B)
Zero or index pulse	(Z) one pr./rev.
Output	Totempole (OC on request)
Supply-voltage	Min 4,5V to Max. 30V Reverse polarity protection
Current (no load)	Max. 45 mA
Max. load pr. output	30 mA - (Short circuit protected)
V out low	Max. 500 mV at I out low =10 mA
Operating temp.	- 40°C to + 85°C
Storage temp.	- 40°C to + 85°C
Max. pulse frequency	300 kHz
Phase difference	180° ± 36°
Duty cycle	90° ± 18°
Cable data	8 leads (0,14 mm²) pairtwisted/shielded
Output signals	Normal (Standard), Inverted, Differential (RS-422A compatible @ 5V)
Certified acc. to	EN 50081-1 and EN 50082-2

## MECHANICAL SPECIFICATIONS

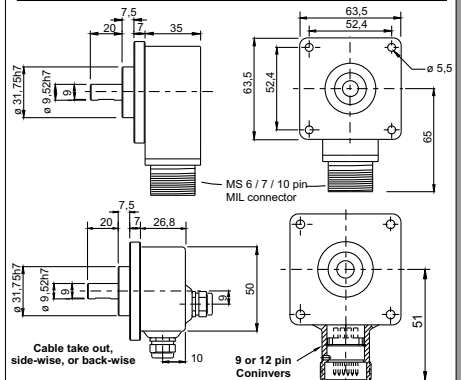
Weight	About 350 g (+ cable 60 g/meter)
Materials : Housing	Aluminum
Shaft	Stainless steel
Bearings	Lifetime lubricated ball bearings
Shaft dimensions	9,52mm, 10 mm
Shaft loads	Axial max. 50 N Radial max. 100 N
Max. rev.	6.000 rev./min.
IP-rating	Standard IP 65
Start torque	< 0,01 Nm at 25°C
Mass moment of inertia	4 gcm²
Max. shock	100 G/11 ms
Bump	10 G - 16 ms (1000 x 3axis)
Vibration	(10 - 2000 Hz )/10 G

## OUTPUT CIRCUIT



\*Shield connected to housing

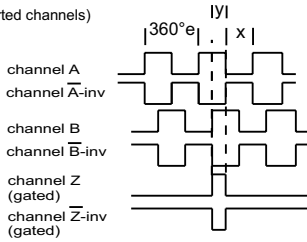
## MECHANICAL DIMENSIONS



## OUTPUT WAVEFORM

Rotation: Clockwise (cw) from shaftside

(inv = inverted channels)



$X = 180^\circ \pm 36^\circ e$  and  $Y = 90^\circ \pm 18^\circ e$   
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 to 2

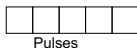
## PULSES/REV.

1	32	150	635	3000
2	36	180	720	3600
5	40	200	800	4000
6	50	250	1000	4096
8	60	256	1024	5000
10	64	300	1131	9000
15	75	360	1250	10000
16	80	400	1500	12500
20	90	455	2000	
25	100	500	2048	
30	125	600	2500	

## ORDERING CODES

	Options	Ordering codes
Pulses pr. rev.:	No. of pulses	XXXXX
Output signal:	Standard (normal) Inverted Differential	N I D
	Line driver OL 7272 for extra long cable, up to 100 meters (Differential)	M
	Line driver chip 26C31 (V out low < 0,4 V)	L
Shaft dimensions:	1/4" (ø6.35) x 20 mm 3/8" (ø9.525) x 20 mm ø8 x 20 mm ø10 x 20 mm	1/4x20 3/8x20 08x20 10x20
IP-rating:	IP 65 IP67	65 67
Length of cable:	Standard 1 meter No. of meters	01 XX
Cable take out:	Back Side	B S
MIL-Connector ONLY side-wise	6 Pin 7 Pin 10 Pin	06 07 10
Coninvers Connector ONLY side-wise	9 Pin 12 Pin	09 12
Connector:	Coninvers Connector or MIL-connector	
	View Section 14 page 3	

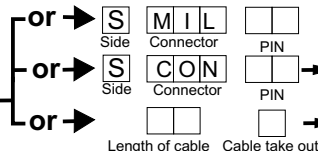
2Q  
or  
2Q-ELT



Output signal

Shaft ø

X 20 Shaft Length



NOTE...!  
Standard cover  
View Coninvers in  
Section 14 page 3.

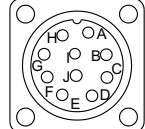
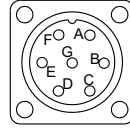
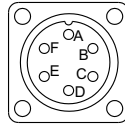
NOTE...!  
Standard cover

## CONNECTIONS MIL-connector

6 pin mil

7 pin mil

10 pin mil



	6 pin mil	7 pin mil	10 pin mil
+Vcc	B	D	D
-Gnd	A	F	F
A	E	A	A
B	D	B	B
Z	C	C	C
A inv.	-	-	H
B inv.	-	-	I
Z inv.	-	-	J

## CONNECTIONS for Cable (colours)

Color code	Standard	Color code	Differential
Pink	Ch. A	Pink	Ch. A
Grey*	Ch. A Gnd	Grey	Ch. A inv.
Green	Ch. B	Green	Ch. B
Yellow*	Ch. B Gnd	Yellow	Ch. B inv.
White	Ch. Z	White	Ch. Z
Brown*	Ch. Z Gnd	Brown	Ch. Z inv.
Red	Vcc	Red	Vcc
Blue*	Gnd	Blue	Gnd

\*Blue, grey, yellow and brown are internal connected

## CONNECTIONS CONINVERS connector

View Section 14 - Page 3 to 6

## OPTION: 2Q-ELT FACE

