



Type SCA40

- Shaft Encoder - \varnothing 40 mm
- Shaft: \varnothing 6 mm x 10 mm
- Resolution up to 7500 ppr
- Standard IP 64 (IP 65 option)

Electrical Specifications

Code:	Incremental
Resolution:	1 to 7500 ppr (pulses per revolution)
Supply Voltage:	4,5 Vdc min. to 30 Vdc max. (35 mA max. - no load) **
Output Voltage:	Low: 500 mV max. at 10 mA High: ($V_{in} - 0,6$) at -10 mA ($V_{in} - 1,3$) at -25 mA
Output Current:	25 mA max. load per output channel **
Frequency Response:	200 kHz max. **
Output Format:	Two channel (A, B) quadrature with Index (Z) and optional complementary (A-, B-, Z-) outputs
Phase Sense:	A leads B clockwise (CW) from the mounting end of the encoder
Index:	Gated with Channels A and B high
Accuracy:	+/- 0,8 arc-min.
Outputs:	ASIC Push pull and Differential OL7272 Push-pull and Differential Line Driver 26C31 Differential Line Driver 5V output (with 5V input)
Electrical Protection:	Reverse polarity and output short circuit protected
Noise Immunity:	Tested to EN61000-6-2 : 2005 (industrial environments) Electromagnetic compatibility (EMC) and EN 61000-6-3 : 2007 (residential, commercial, and light-industrial environments) for Electromagnetic compatibility (EMC)

**= It is recommended user not to combine max. Value for all 3 parameters

Mechanical Specifications

Material:	Housing: Aluminum Cap: Electroplated Steel Aluminum (flat cable option) Shaft: Stainless Steel
Weight:	Encoder: ~ 45 gr (1,59 oz) Cable: 50 gr / meter (1,76 oz / meter)
Bearing Life:	> $1,9 \times 10^{10}$ revolutions at rated load
Shaft Speed:	12.000 rpm (max.)
Starting Torque:	< 0,005 Nm (0,708 oz-in) at 25° C
Mass Moment of Inertia:	1,0 gcm ² ($1,42 \times 10^{-5}$ oz-in-sec ²)
Shaft Loads:	Axial: 20 N (4,50 lbs) max. Radial: 20 N (4,50 lbs) max.

Environmental Specifications

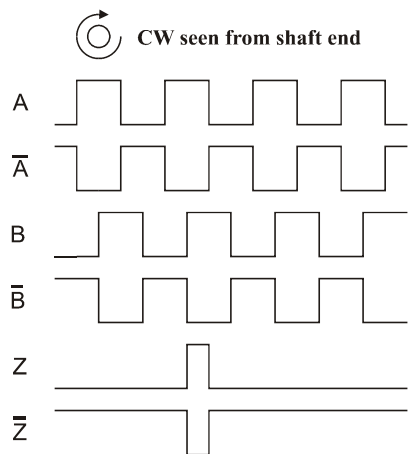
Operating Temp.:	-40° to +85° C
Storage Temp.:	-40° to +85° C
Shock:	100 G / 11 ms
Vibration:	10-2000 Hz / 10 G
Bump:	10 G / 16 ms (1000 x 3 axis)
Humidity:	98 % RH without condensation
Enclosure Rating:	IP 64 / Nema 4 (approx.) IP 50 / Nema 5 (approx.) - flat cable

Connection Options

Cable:	8 leads (0,05 mm ² , 30 AWG) - Differential 5 leads (0,14 mm ² , 26 AWG) - Standard twisted pairs; shielded
Flat Cable:	10 lead flat cable with IDC connector

Output waveform

Disk Resolutions (pulses per revolution)



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

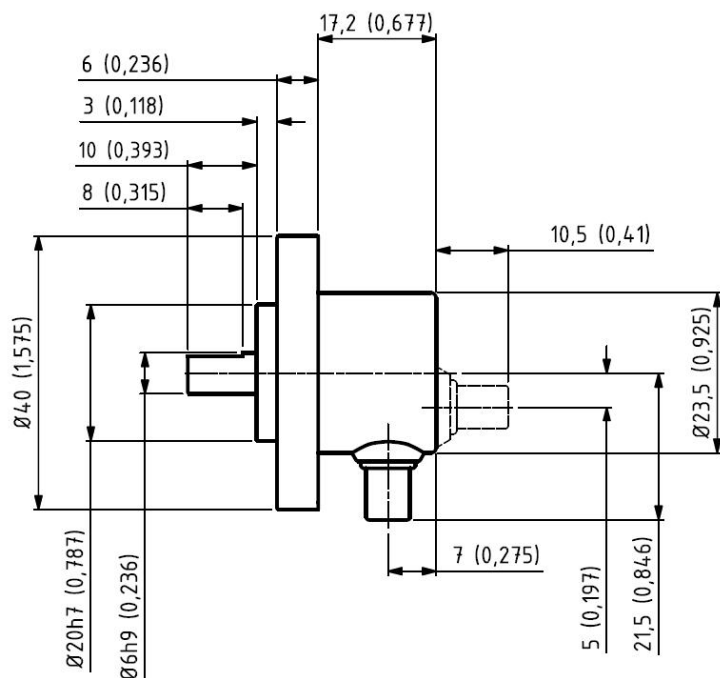
Other options on request

Pulses per revolution,
min. 1 – max. 7.500

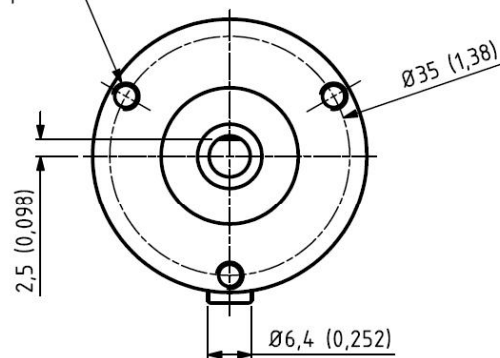
Channel tolerance $180^\circ \pm 36^\circ$
Phase difference tolerance $90^\circ \pm 18^\circ$
Z channel tolerance $90^\circ \pm 18^\circ$

* Operating temperature: -20°C to 50°C

Mechanical Dimensions

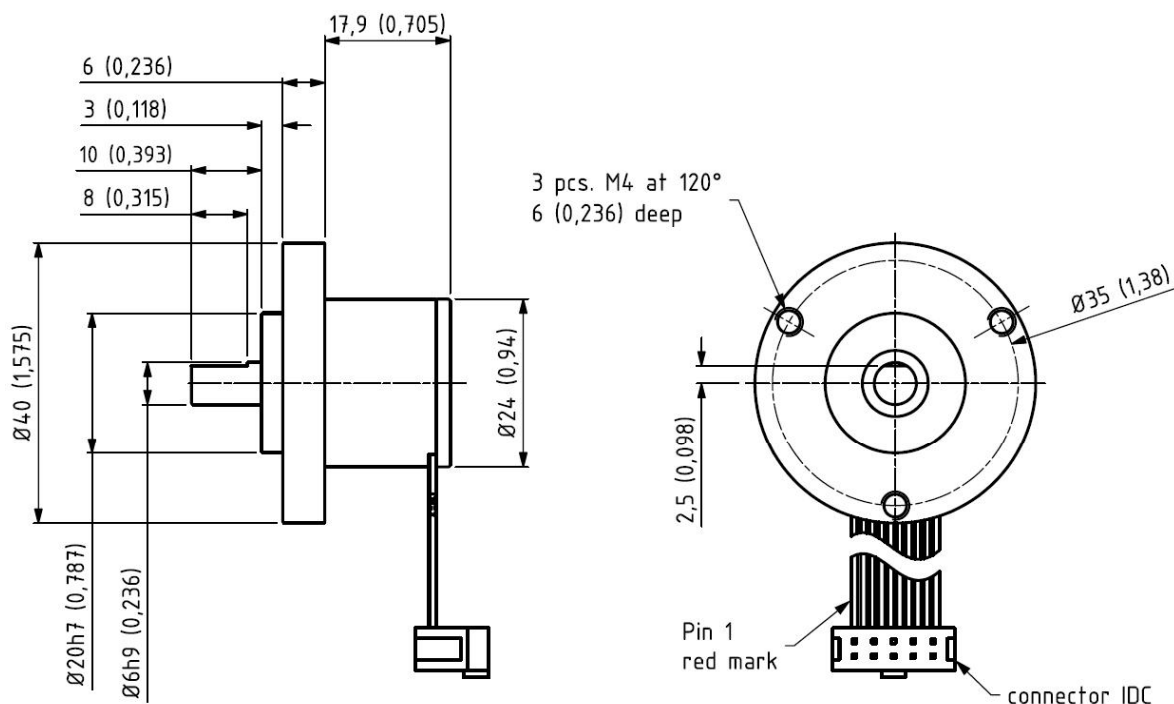


3 pcs. M4 at 120°
6 (0,236) deep



Standard Cable Gland
Side (S) or Back (B)

mm (inches)



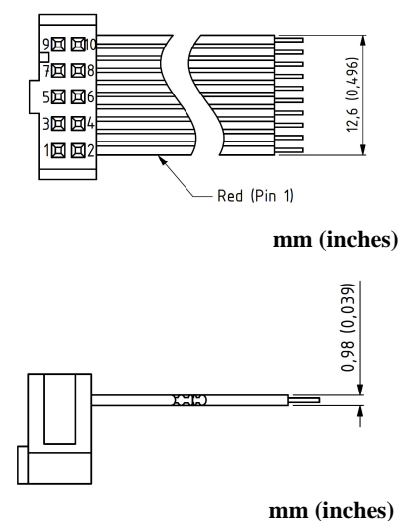
Flat Ribbon Cable with IDC connector

mm (inches)

Output Terminations

Channel	Standard Cable	
	Standard Output	Differential Output
	Wire Color	
A	Green	Pink
A -	NC	Gray
B	Yellow	Green
B -	NC	Yellow
Z	Gray	White
Z -	NC	Brown
Vsup	Brown	Red
GND	White	Blue

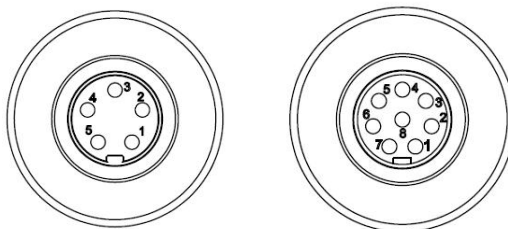
Position	Flat Cable w/ IDC Connector	
		Differential Output *
	Channel	
1	NC	
2	Vsup	
3	GND	
4	NC	
5	A	
6	A -	
7	B	
8	B -	
9	Z -	
10	Z	



GND = Circuit Ground

* Hewlett Packard (HP) compatible

- IP 50 rating
- CE mark not available
- 0,5 m, 1 m, or 2 m cable length only

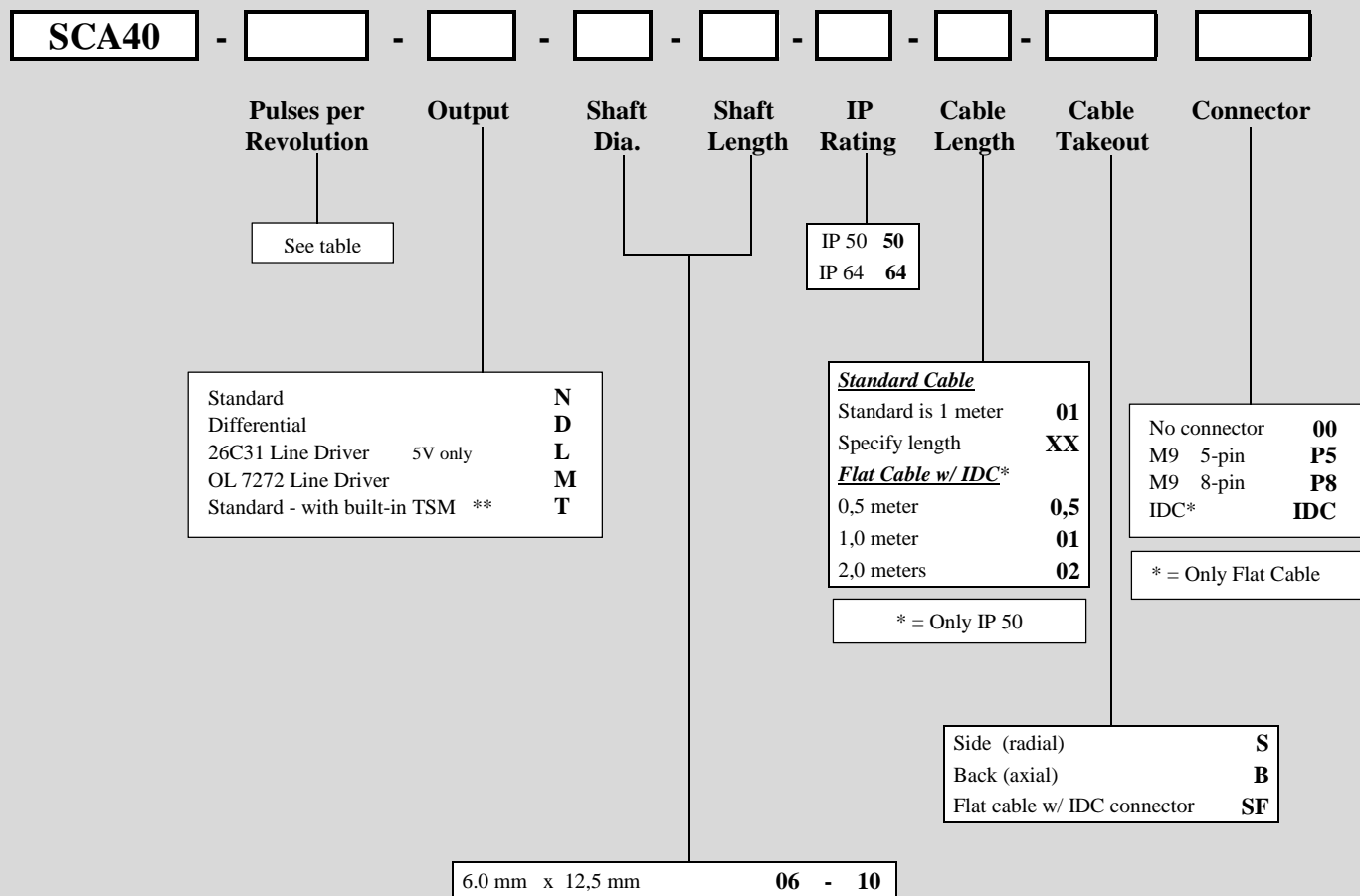


	M9 5 - pin Standard Output	M9 8 - pin Differential Output
Position	Channel	Channel
1	VDD	VDD
2	GND	GND
3	A	A
4	B	A -
5	Z	B
6		B -
7		Z
8		Z -

Ordering Code

Example: SCA40 – 1024 – D – 06 – 10 – 64 – 01 – B – 00

Type



Other options on request:
Please contact Scancon A/S

** Designed specifically for Wind Power applications.

See SCA24 COC under Industries – Wind Power – SCA24 for additional conformity standards testing.

TSM = Transient Suppression Module

Available only as Standard output

See Accessories for drawings