



Type SCA30

- Shaft Encoder - $\varnothing$ 30 mm
- Shaft: $\varnothing$ 4 mm to $\varnothing$ 1/4 inch
- Resolution up to 7500 ppr
- Standard IP 64 (IP 50 for IDC – option)
- Formerly named 2RE

Electrical Specifications

Code:	Incremental
Resolution:	1 to 7500 ppr (pulses per revolution)
Supply Voltage:	4,5 Vdc min. to 30 Vdc max. (25 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)

Mechanical Specifications

Material:	Housing: Aluminum Cap: Electroplated Steel Shaft: Stainless Steel
Weight:	Encoder: ~ 40 gr (1,41 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 (2,25 lbs) max. Radial: 20 N (3,37 lbs) max.

Environmental Specifications

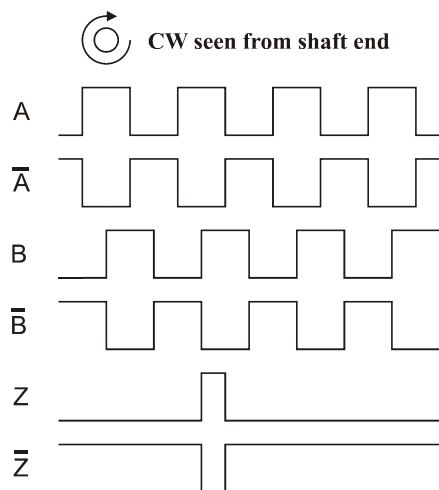
Operating Temp.:	-40° to +85° C
Storage Temp.:	-40° to +85° C
Shock:	100 G / 11 ms
Vibration:	10-2000 Hz / 10 G
Bump:	10 G / 16 ms (1000 x 3 axis)
Humidity:	98 % RH without condensation
Enclosure Rating:	IP 64 / Nema 4 (approx.) IP 50 / Nema 5 (approx.) – Flat cable

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

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

Output waveform



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

Disk Resolutions (pulses per revolution)

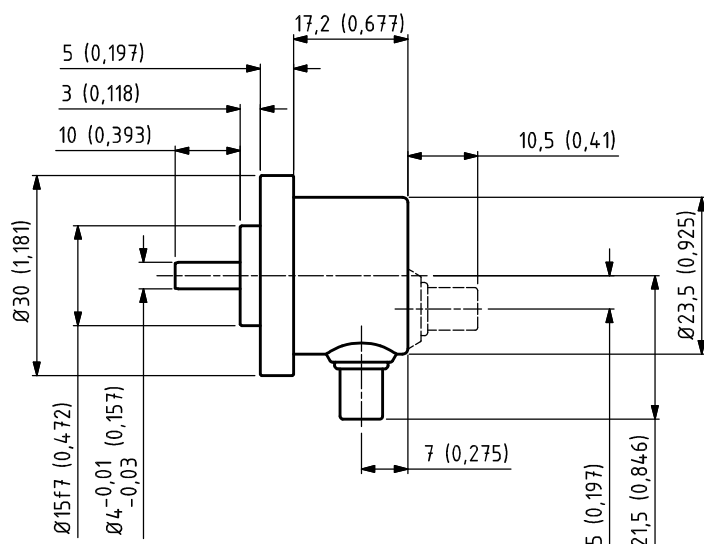
1	30	128	500	2500
4	36	150	512	3000
10	50	180	600	3600
11	60	200	1000	5000
12	64	250	1024	7500*
15	75	256	1250	
18	90	300	1800	
20	100	360	2000	
25	125	400	2048	

Other options on request

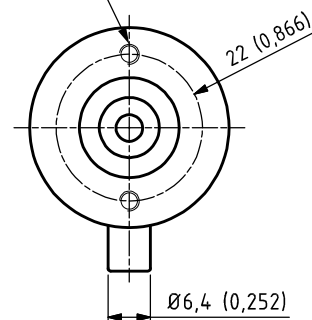
Pulses per revolution,
 min. 1 – max. 7.500

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

Mechanical Dimensions

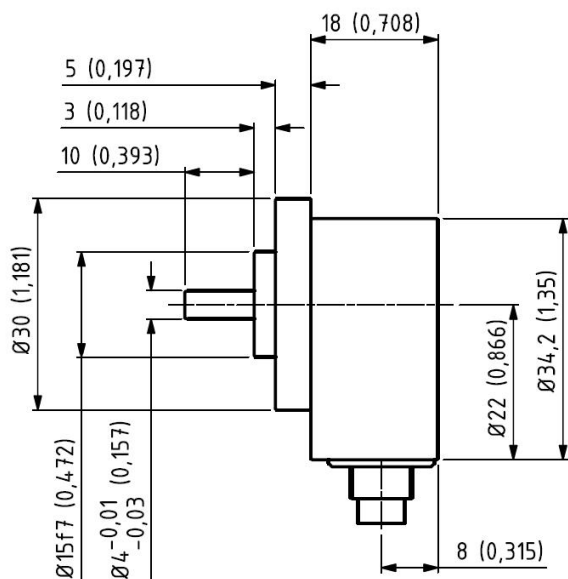


2 pcs. M3
 max. 3,5 deep

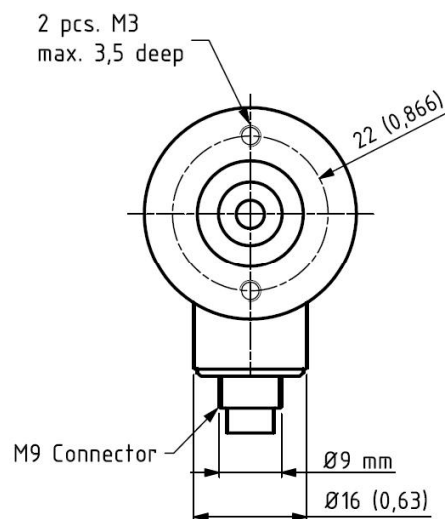


Standard Cable Gland
 Side (S) or Back (B)

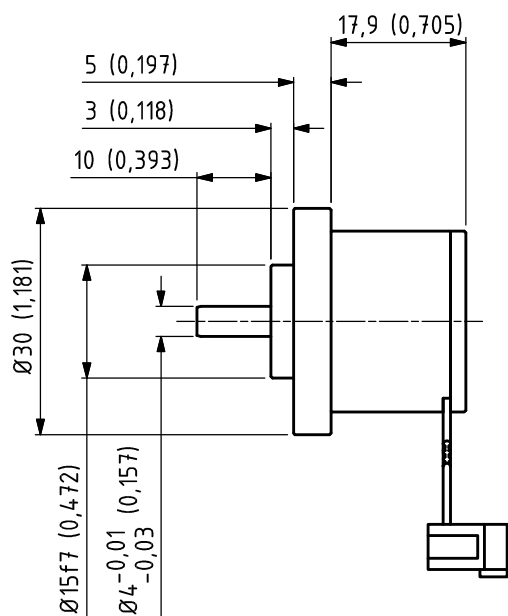
mm (inches)



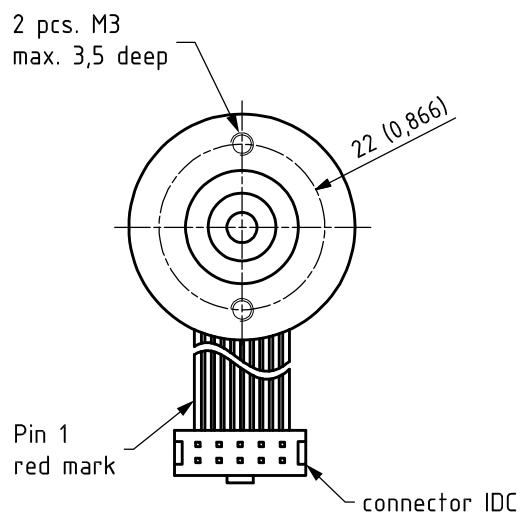
M9 Connector



mm (inches)



Flat Ribbon Cable with IDC connector



mm (inches)

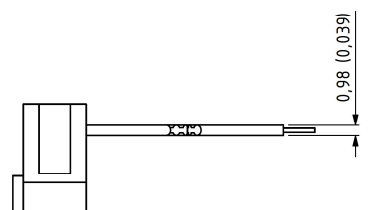
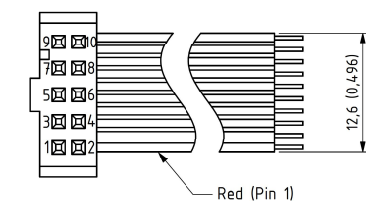
Output Terminations

	Standard Cable	
	Standard Output	Differential Output
Channel	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

GND = Circuit Ground

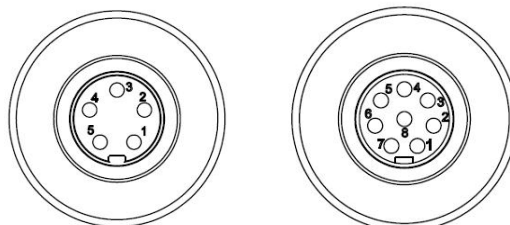
Flat Cable w/ IDC Connector	
	Differential Output *
Position	Channel
1	NC
2	Vsup
3	GND
4	NC
5	A
6	A -
7	B
8	B -
9	Z -
10	Z

* Hewlett Packard (HP) compatible



mm (inches)

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



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

Type

SCA30 - - - - -

Output

Shaft Length

IP

Cable Length

Cable Takeout

Connector

Standard	N
Standard – <i>Open Collector NPN</i>	NON
Standard – <i>Open Collector PNP</i>	NOP
Differential	D
26C31 Line Driver 5V / 5V only	L
OL 7272 Line Driver	M
Standard - with built-in TSM **	T

IP 50	50
IP 64	64

<u>Standard Cable</u>	
Standard is 1 meter	01
Specify length	XX
No cable	00
<u>Flat Cable w/ IDC*</u>	
0,5 meter	0,5
1,0 meter	01
2.0 meters	02

* = Only IP50

No connector	00
M9 5-pin	P5
M9 8-pin	P8
IDC*	IDC
No connector	00

* = Only Flat Cable

4.0 mm x 10 mm Without Flat	04	-	10
4.0 mm x 10 mm Flat	04	-	10F
5.0 mm x 10 mm Flat	05	-	10F
6.0 mm x 10 mm Flat	06	-	10F
1/4 inch x 10 mm Flat	1/4	-	10F

Side (radial)	S
Back (axial)	B
Flat cable w/ IDC connector	SF
Connector Side	S

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