

Type SCH68DW



- Smallest DrawWorks encoder on the market
–68 mm (2.68”) Servo mount
- Shaft Loads to 100 N (22.5 lbs)
- IP 65 (IP 66 & 67 options)
- Up to 10.000 pulses per revolution
- Through Hollow Shaft – with different
Convertible adaptor options

Electrical Specifications

Code:	Incremental
Resolution:	1 to 10,000 ppr (pulses per revolution)
Supply Voltage:	4.5 Vdc min. to 30 Vdc max. (45 mA max. - no load) **
Output Voltage:	Low: 500 mV max. at 10 mA High: (Vin – 0.6) at -10 mA (Vin – 1.3) at -25 mA
Output Current:	30 mA max. load per output channel **
Frequency Response:	300 kHz max. **
Output Format:	Two channel (A, B) quadrature with Index (Z) and optional complementary (A-, B-, Z-) outputs
Phase Sense:	A leads B counterclockwise (CCW) from the shaft end of the encoder
Index:	Gated with Channel B low
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: Aluminum Hollow Shaft: Stainless Steel - AISI 303
Weight:	Encoder: Approx. 550 gr (19.41 oz)
Bearing Life:	> 1.9 x 10 ¹⁰ revolutions at rated load
Shaft Speed:	6,000 rpm max. IP 65 3,000 rpm max. IP 67 (option)
Starting Torque:	< 0.05 Nm (7.08 oz-in) at 25° C IP 65 < 0.1 Nm (14.16 oz-in) at 25° C IP 67
Mass Moment of Inertia:	50 gcm ² (7.08 x 10 ⁻⁴ oz-in-sec ²)
Shaft Loads:	Axial 100 N (22.50 lbs) max. Radial 100 N (22.50 lbs) max.

Environmental Specifications

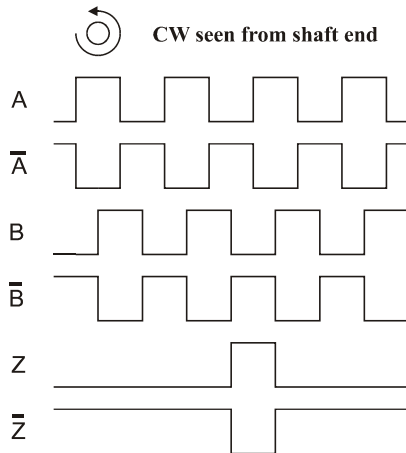
Operating Temperature:	-40° to +85° C
Storage Temperature:	-40° to +85° C
Shock:	100 G @ 11 ms
Vibration:	10-2000 Hz @ 10 G
Bump:	10 G @ 16 ms (1000 x 3 axis)
Humidity:	98 % RH without condensation
Enclosure Rating:	IP 65 / Nema 4 (approx.) IP 66 / Nema 6 (approx.) option IP 67 / Nema 6 (approx.) option

Connection Options

Cable:	8 leads (0.14 mm ² , 26 AWG) twisted pairs; shielded
Connectors:	7-pin Mil radial 10-pin Mil radial

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

Output waveform



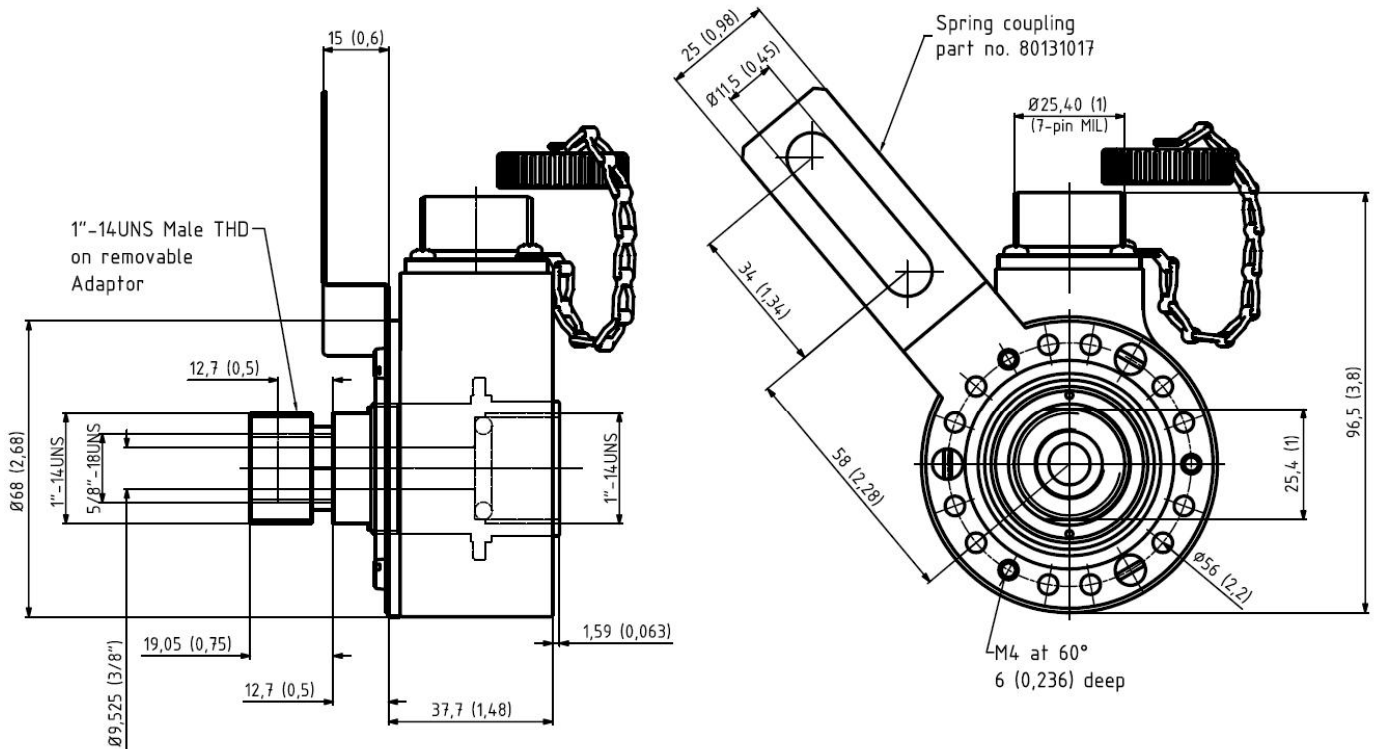
Channel tolerance $180^\circ \pm 36^\circ$
 Phase difference tolerance $90^\circ \pm 18^\circ$
 Z channel tolerance $180^\circ \pm 36^\circ$

Disk Resolutions (pulses per revolution)

100	400	1024	2048	2500
3072	3600	4096		

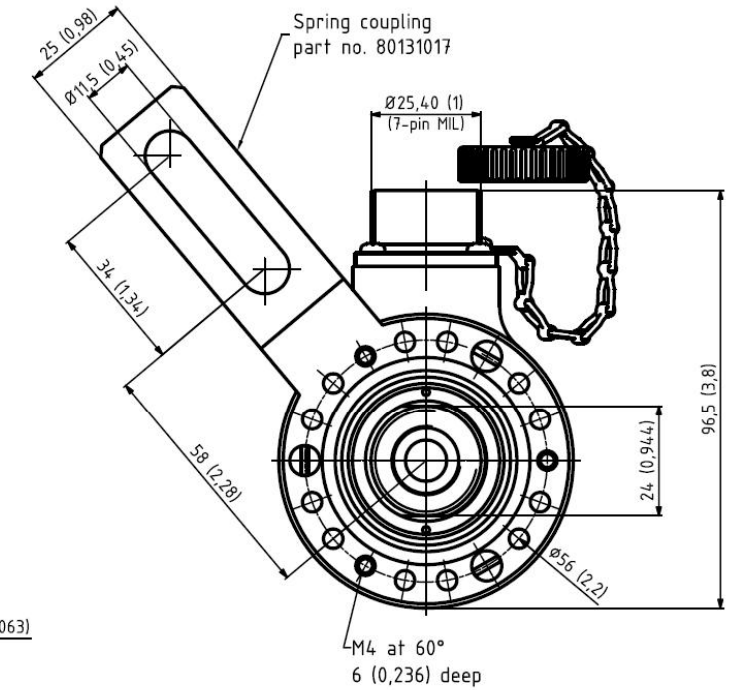
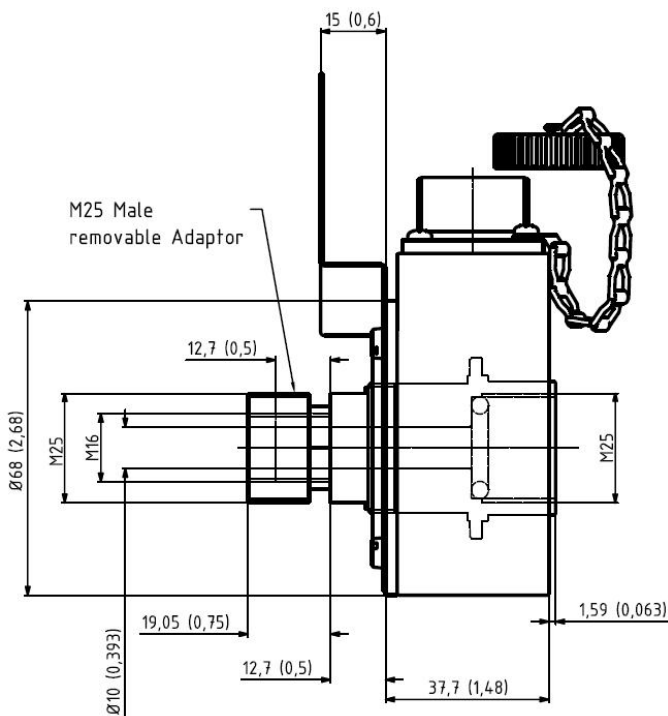
Other options on request
 Pulses per revolution,
 min. 1 – max. 10.000

Mechanical Dimensions



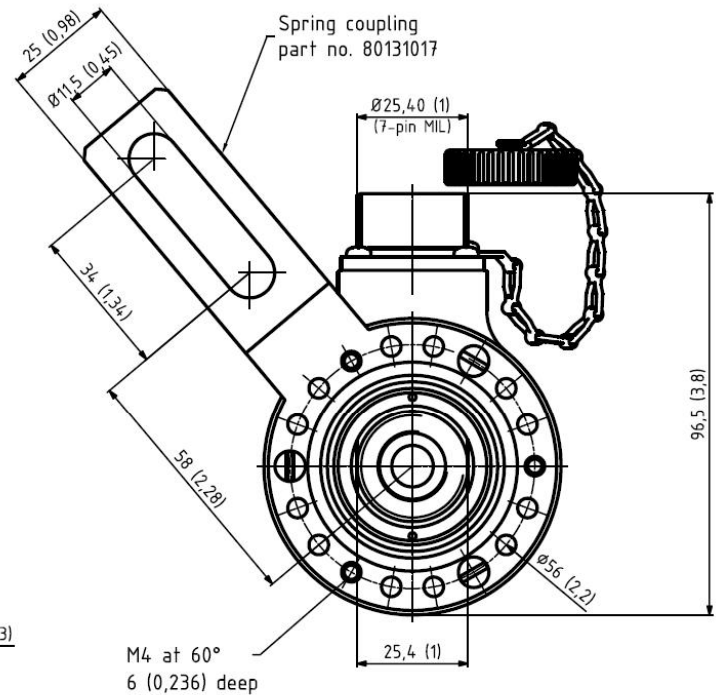
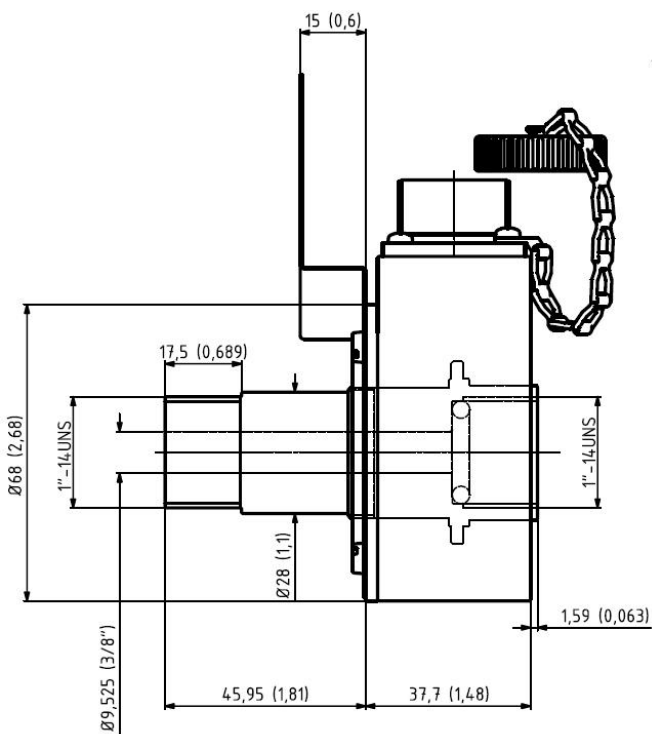
Mil Connector
 Hollow Shaft Type 01

mm (inches)



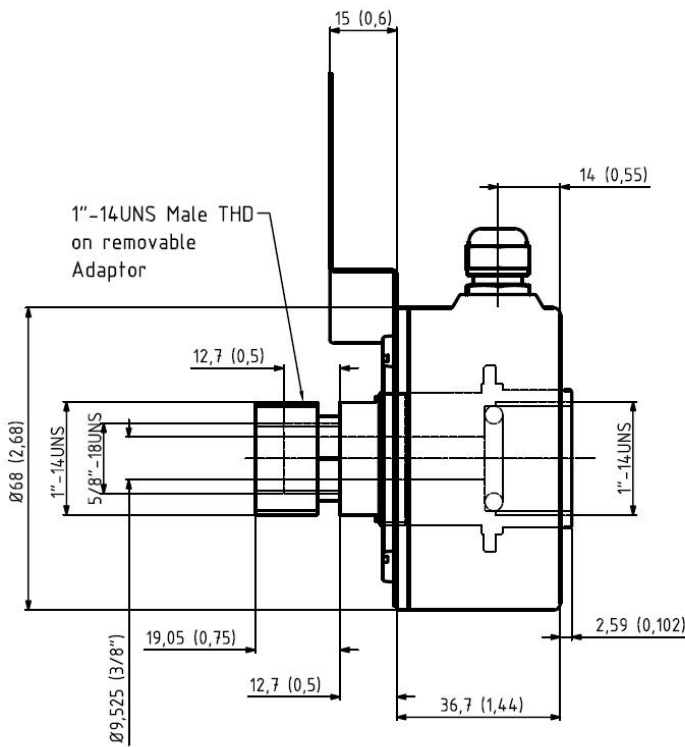
Mil Connector
Hollow Shaft Type 02

mm (inches)



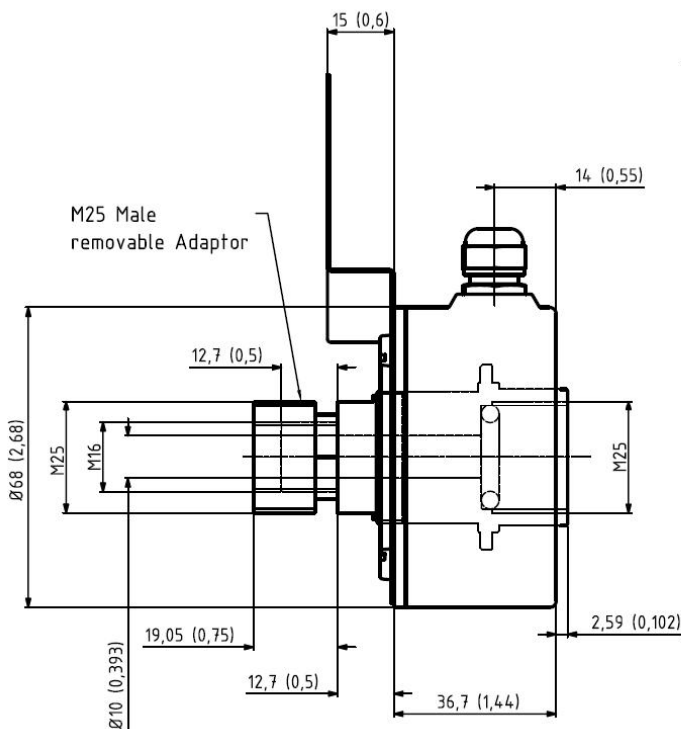
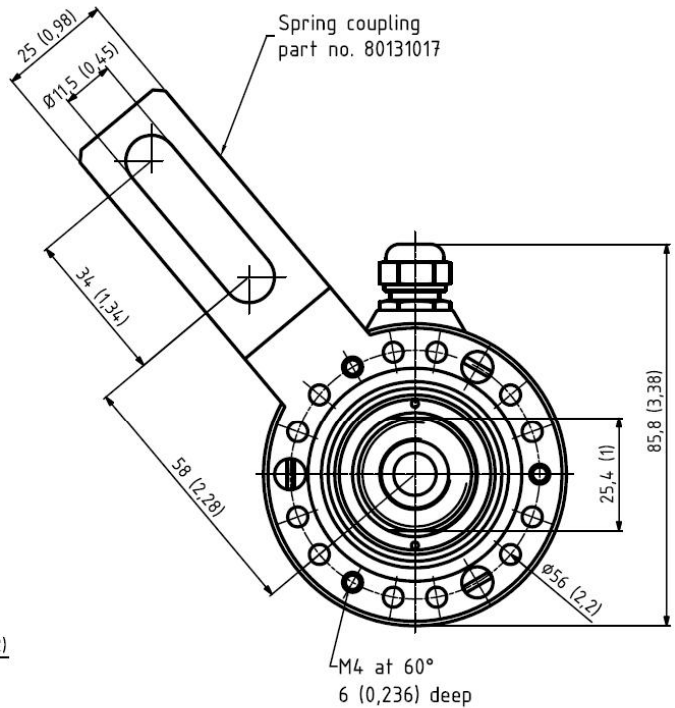
Mil Connector
Hollow Shaft Type 03

mm (inches)



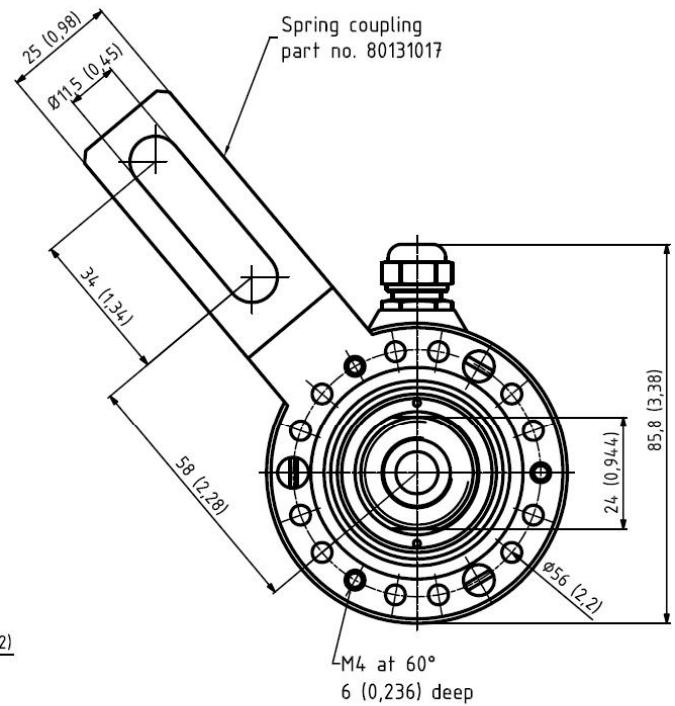
Standard Cable Gland
Hollow Shaft Type 01

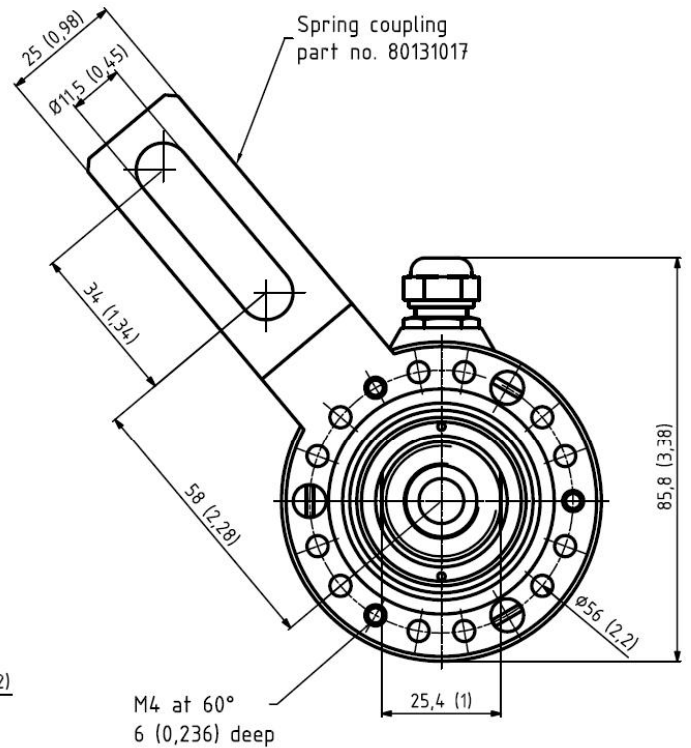
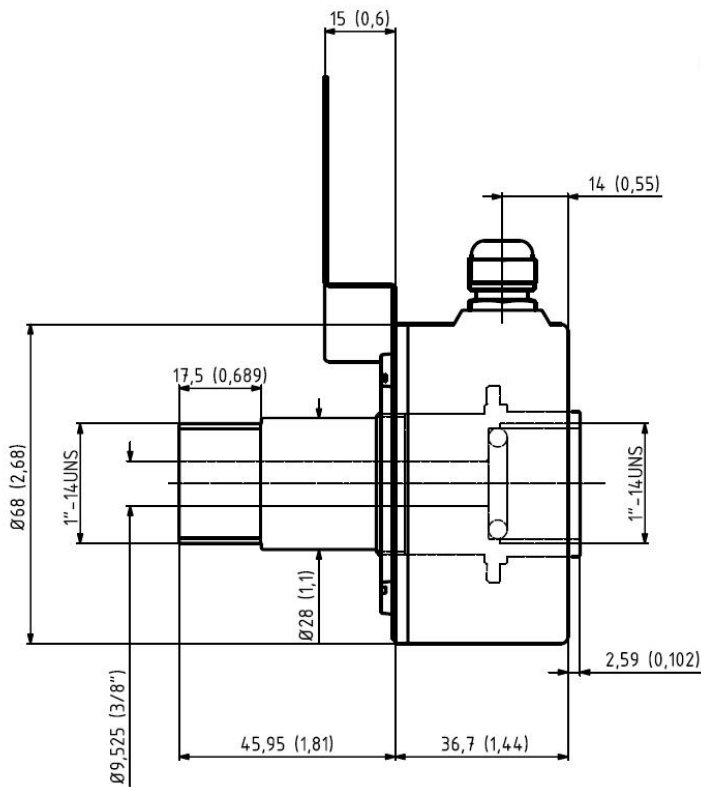
mm (inches)



Standard Cable Gland
Hollow Shaft Type 02

mm (inches)

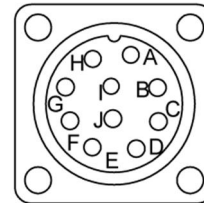
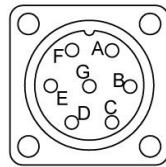




Standard Cable Gland
Hollow Shaft Type 03

mm (inches)

Output Terminations



Pin	7-pin Mil Connector			10-pin Mil Connector	
	Standard Output	Optional Standard Output *	Differential Output	Differential Output	Optional Differential Output *
	Channel	Channel	Channel	Channel	Channel
A	Ch. A	Ch. A	Ch. A	Ch. A	Ch. A
B	Ch. B	Ch. B	Ch. B	Ch. B	Ch. B
C	Ch. Z	NC	Ch. A -	Ch. Z	Ch. A -
D	Vsup	Vsup	Vsup	Vsup	Vsup
E	NC	NC	Ch. B -	NC	Ch. B -
F	0 volt	0 volt	0 volt	0 volt	0 volt
G	Shield	Shield	Shield	Shield	Shield
H				Ch. A -	NC
I				Ch. B -	NC
J				Ch. Z -	NC

* ID number required

GND = Circuit Ground

Shield = Case Ground

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

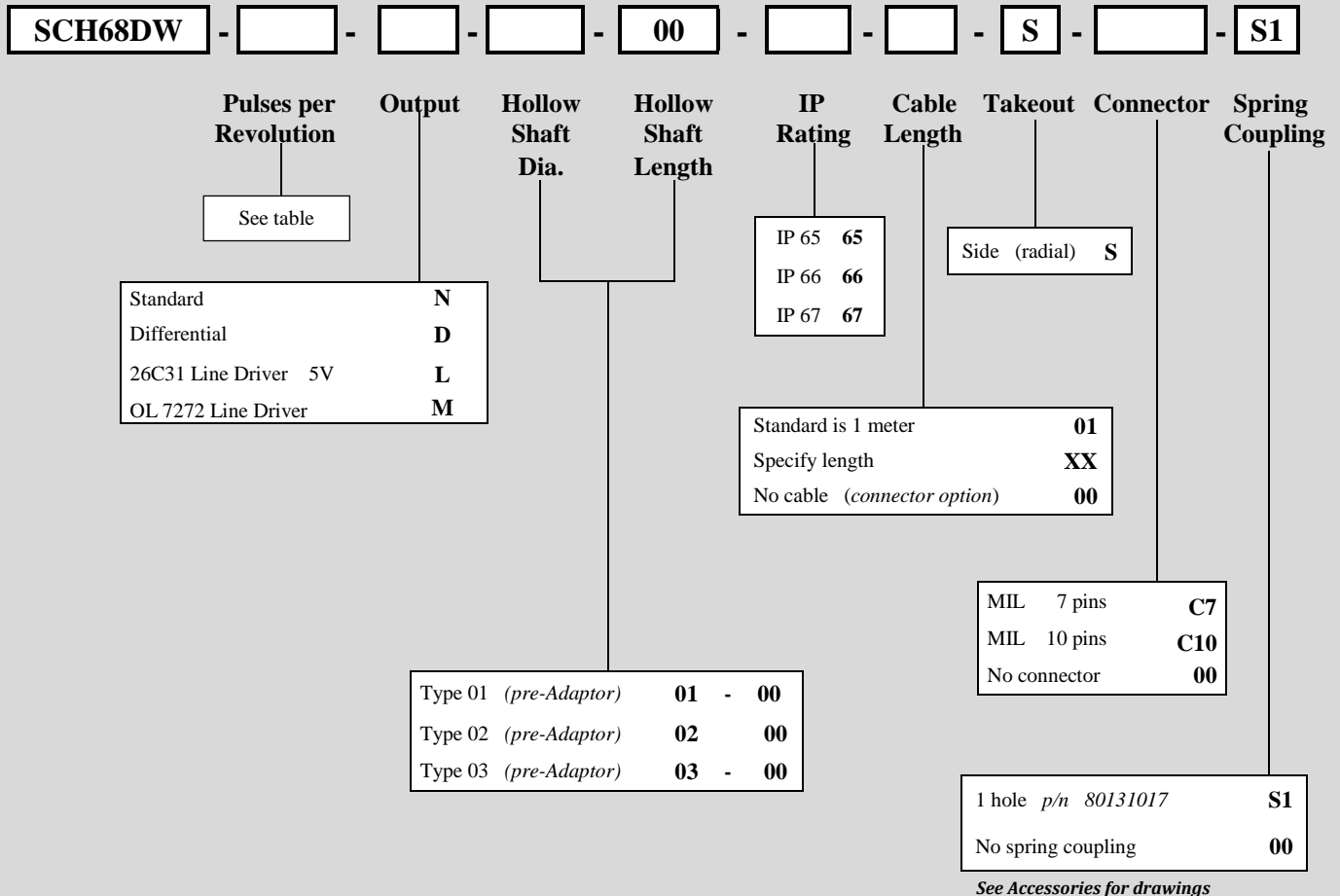
* Internally connected as Ground

GND = Circuit Ground

Ordering Code

Example: SCH68DW - 100 - D - 1/1 - 00 - 67 - 00 - S - C7 - S1

Type



Other options on request:
Please contact Scancon A/S