

Datasheet

- Encoder: Ø16mm
- Hollow Bore: Ø1,5mm - Ø1/8 inch
- Resolution up to 5.000ppr
- IP50



Mechanical Data

Dimension	Ø16 mm	
Material:	Housing	Aluminium/ Brass
	Shaft	Aluminium
	Cap	Brass
Wight	Encoder	~15 g
	Cable	50 g/ meter
Resolutions (pulses per revolution)	> 25; 100; 125; 160; 256; 300; 360; 500; 1.000; 1.024; 2.000; 2.500; 3.600; < 5.000* (other options on request)	
<small>*operating temperature: -20°C to +50°C</small>		
Accuracy	± 0,26 arc-min.	
Shaft Speed	< 12.000 rpm (revolutions per min)	
Bearing Life	>1,9 x 10 ¹⁰ revolutions at rated load	
Hollow Shaft Loads	axial:	< 10 N
	radial:	< 10 N
Bearing Pre-Load	1 to 3.600 ppr 4.000 to 5.000 ppr	
Starting Torque	< 0,005 Nm at 25°C	
Mass Moment of Inertia	0,25 gcm ²	
Operating Temp.	-20°C to +70°C	
Storage Temp.	-20°C to +85°C	
Shock	100 G / 11 ms	
Vibration	10- 2.000 Hz / 10 G	
Bump	10 G / 16 ms (1.000 x 3 axis)	
Humidity	98% RH without condensation	
IP-Rating	IP50	

Electrical Data

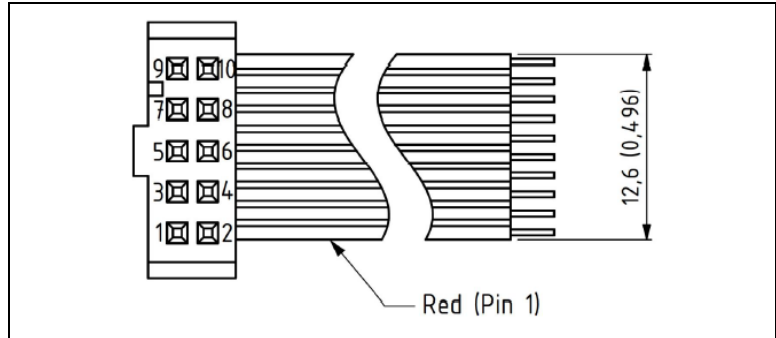
Code	Incremental	
Power Supply	4.5 VDC to 30 VDC (< 35 mA no load)	
Output Voltage	High	V _{in} - 0,6 at - 10 mA
	Low	V _{in} - 0,6 at - 10 mA < 500 mV at 10 mA
Load	< 20 mA load per output channel	
Frequency Response	< 200 kHz	
Output Format	Two channel (A, B) quadrature with Index (Z) and optional complementary (\bar{A} , \bar{B} , \bar{Z}) outputs	
Phase Sense	A leads B clockwise from the mounting end of the encoder	
Index	Gated with Channels A and B high	
Outputs	ASIC differential or Inverted	
Electrical Protection	Reverse polarity and output short circuit protected	
Noise Protection	EN 61000-6-2 (2005) EN 61000-6-3 (2007)	

Datasheet

Cable

Standard Cable	8 leads (0,05 mm ² , 30 AWG); twisted pairs, shielded
Flat Cable	10 lead flat cable
Connector	IDC connector
Cable Length	0,5; 1,0; 2,0 meter

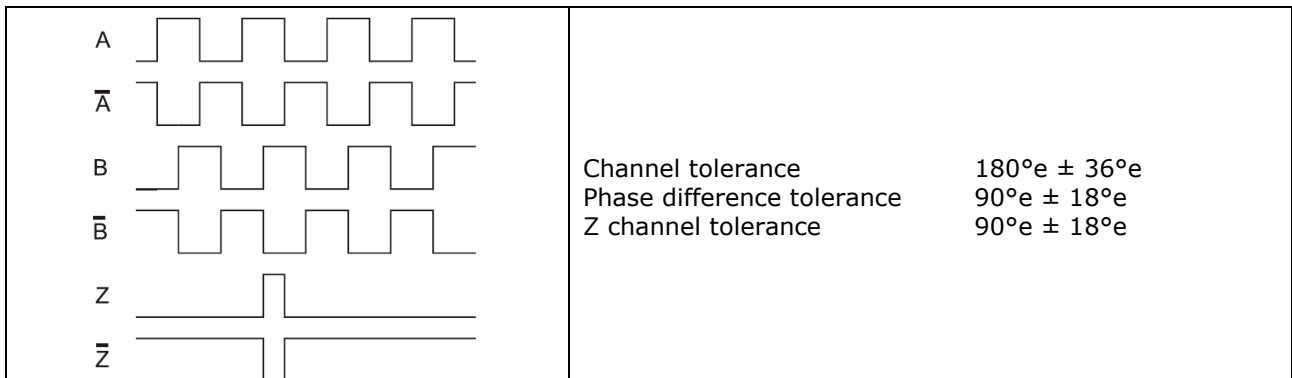
Assignment



Standard Cable			Flat Cable with IDC Connector	
Channel	Wire Color	Position	Differential Output*	Inverted Output
A	pink	1	NC	\bar{A}
\bar{A}	grey	2	V	NC
B	green	3	GND	NC
\bar{B}	yellow	4	NC	NC
Z	white	5	A	NC
\bar{Z}	brown	6	\bar{A}	GND
V _{sup}	red	7	B	NC
GND GND = Circuit Ground	blue	8	\bar{B}	\bar{B}
		9	Z	V _{sup}
		10	\bar{Z}	Z

*Hewlett Packard (HP) compatible

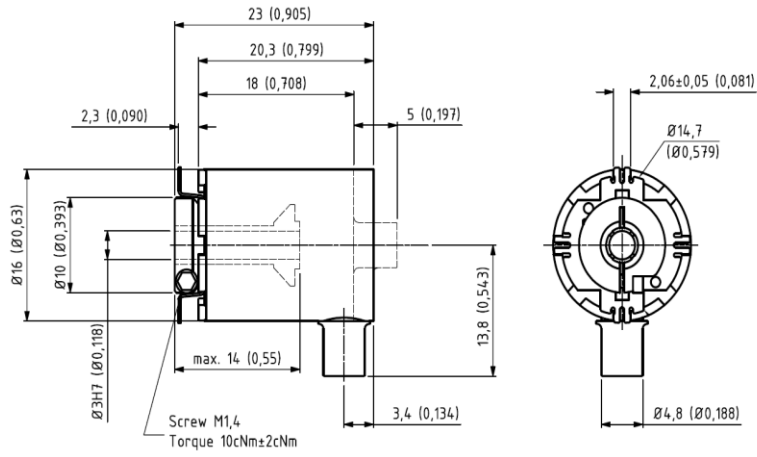
Output Signal



Datasheet

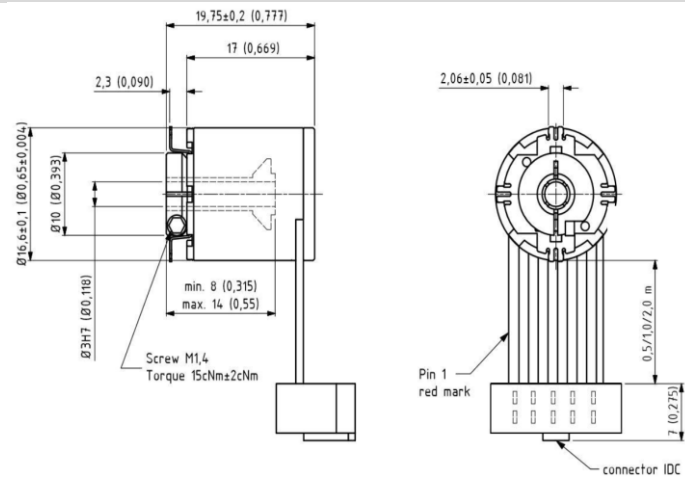
Dimensions

Standard Cable Gland - Cable Output radial (S); axial (B)



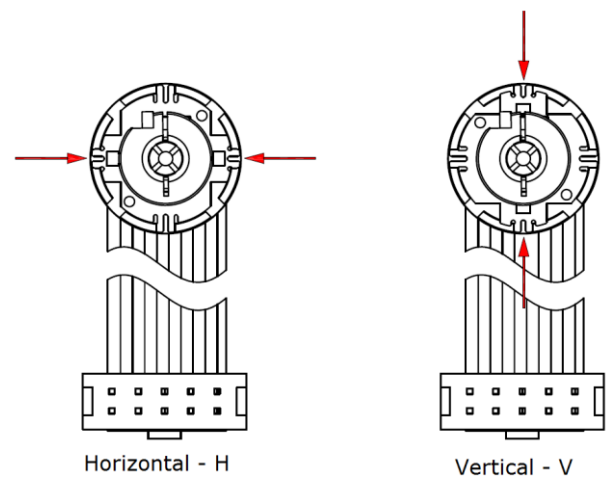
mm (inch)

Flat Ribbon Cable



mm (inch)

Spring Coupling Orientation



Datasheet

Cable Tolerances

	Cable Length	Tolerances
Flat Cable	0,5 = 0,5 m	± 10 mm
	01 = 1 m	± 15 mm
	02 = 2 m	± 20 mm
Round Cable	01 = 1 m	min. XX -15 mm
	XX= specified length	
	XX ≤ 500 mm with connector	min. XX -10 mm
	500 ≤ XX ≤ 1.000 mm with connector	min. XX -15 mm
	xx > 1.000 mm with connector	min. XX -20 mm

Ordering Example

Type **SCH16F** - **100** - **D** - **1,5-14** - **50** - **01** - **B** - **00** - **S1**

Resolution [ppr]

see table

Output

D = differential
I = inverted

Hollow Shaft Dia./ Length

1,5-14 = 1,5mm x 14mm
02-14 = 2mm x 14mm
03-14 = 3mm x 14mm
1/8-14 = 1/8 inch x 14 mm

IP-Rating

50 = IP 50

Cable Length

Standard Cable

01 = 1 m
xx = specify length
00 = no Cable

Flat Cable with IDC

0,5 = 0,5 m
01 = 1 m
02 = 2 m

Takeout

S = radial
B = axial
SF = Flat Cable

Connector

IDC = Flat Cable
00 = no connector

Spring Coupling

S1 = 80149061 0,25mm V
S3 = 80149061 0,25mm H
S7 = 80142773 0,25mm V
S8 = 801427730 0,25mm H
00 = no spring coupling

*only with Flat Ribbon Cable