



**2MCH**

**CE**

## Introduction

Micro hollow shaft encoder (blind end hollow shaft)  
 Std. IP 64 (with IDC; IP 50)  
 Only 16mm in diameter and up to 5000 ppr. - True lines.  
 Up to 20000 Counts  
 Strong compact electronics

## MECHANICAL SPECIFICATIONS

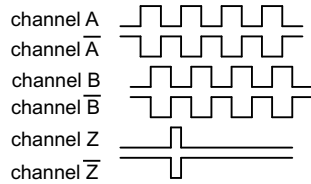
Weight, excl. Cable	About 15g
Material	Housing - Brass / Aluminum Shaft - Brass Bearings - Lifetime lubricated ball bearings Fixing clamp - Brass
H.-Shaft Loads	axial maximum = 10 N radial maximum = 10 N
Max. rev.	12,000 rev./min.
IP-rating	IP 64 (with IDC; IP 50)
Start Torque	< 0,005 Nm at 25° C
Mass Moment of Inertia	0,25 gcm <sup>2</sup>
Shock	maximum 100G / 11 ms
Bump	10G - 16 ms (1000 X 3 axis)
Vibration	(10-2000Hz)/ 10G

## ELECTRICAL SPECIFICATIONS

Output Waveform	Incremental (A, B)
Output Signals	Differential (RS-422A compatible)
Current No Load	35 mA
Maximum Load per Output	20 mA (Short circuit protected)
Supply Voltage	5 to 12 V (on request up to 24 Volts)
V <sub>out</sub> low	maximum 500 mV at I out low = 10 mA
V <sub>out</sub> high	minimum (V <sub>in</sub> -0.6) @ I = -10 mA minimum (V <sub>in</sub> -1.3) @ I = -25 mA
Operating Temp.	- 20°C to +70°C (at 5000ppr -20°C to + 50°C only)
Storage Temp.	- 20°C to +85°C

## OUTPUT WAVEFORM

Rotation: Clockwise (cw) from shaftside



X =  $180^\circ \pm 36^\circ e$  and Y =  $90^\circ \pm 18^\circ e$   
Z puls: Gated with A and B (standard)

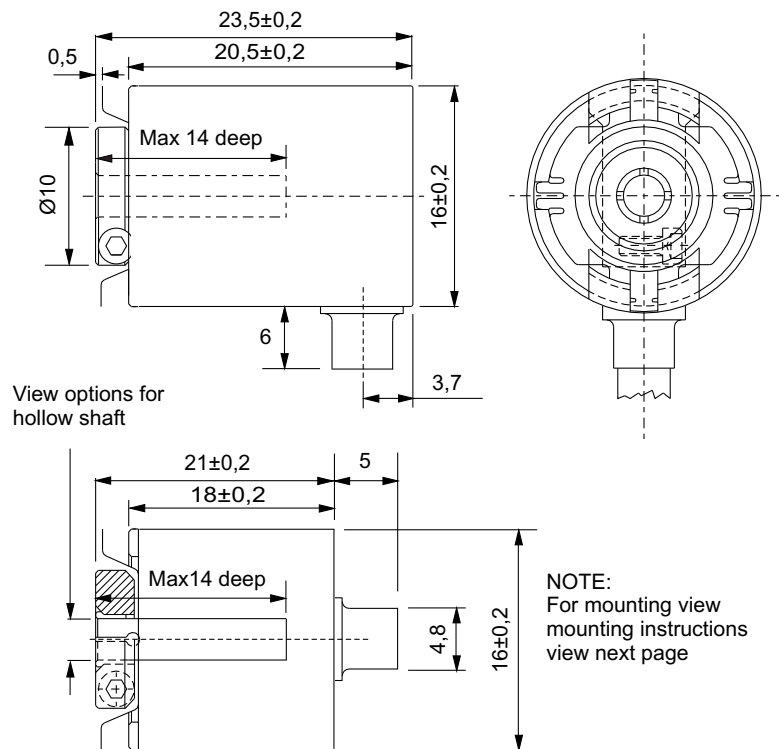
**Options:** Open Collector NPN or PNP  
Gated Z-puls or none-gated Z-puls.  
View more Output options in section 15 - page 1 to 2

## CONNECTIONS

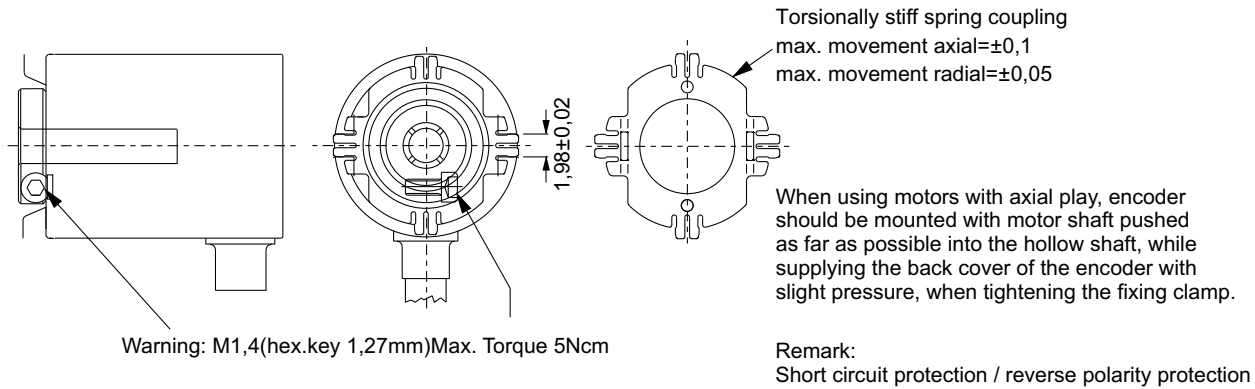
### 8 leads cable

Color code	Differential
Pink	Ch A
Grey	Ch A inv
Green	Ch B
Yellow	Ch B inv
White	Ch Z
Brown	Ch Z inv
Red	Vcc
Blue	0-Volt

## MECHANICAL DIMENSIONS



**Mounting instructions**



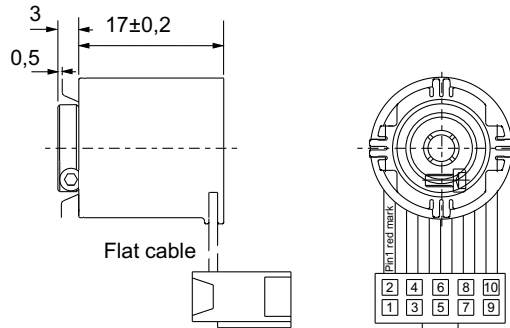
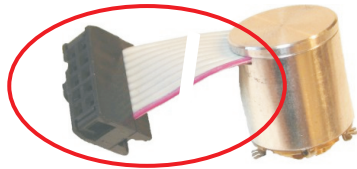
**WARRANTY**

Scancon A/S warrants against manufacturing defects for a period of 12 months from the date of manufacture. Product dimensions, weights and all product illustrations are approximate and may be modified without prior notice.

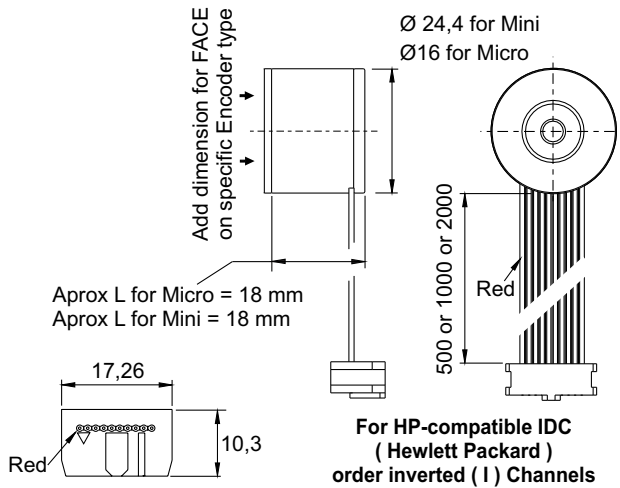
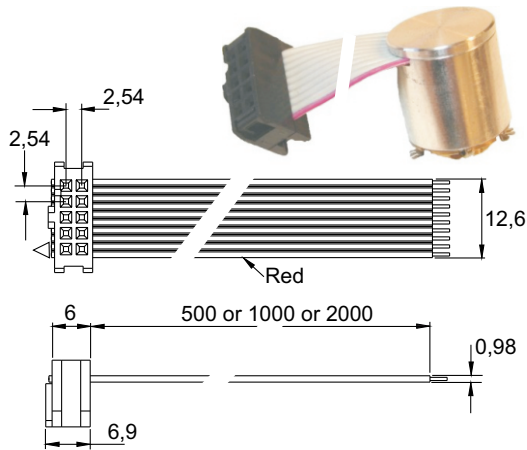
This warranty does not cover problems or consequences due to common usage (wear and tear) for which the product was designed. Nor does it cover product failures caused by improper installation or use, overloading, incorrect maintenance, or operation outside the product's specifications.

Detailed warranty information can be found in Scancon's Terms & Conditions

## Flat Ribbon Cable and / or Connector



## IDC CONNECTORS — MECHANICAL DIMENSIONS

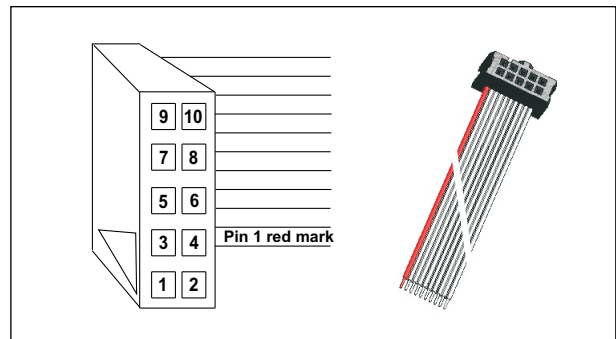


## CONNECTIONS


IDC PIN NO.	Differential Output; D	Inverted Output; I (HP-compatible)
1	NC	A inv
2	Vcc	NC
3	0 volt (GND)	NC
4	NC	NC
5	A inV	NC
6	A	0-Volt
7	B inv	NC
8	B	B inv
9	Z inv	VCC
10	Z	Z

NOTE: Inverted also called HP-Standard (Hewlett Packard)

## CABLE AND PIN OUT



## CHARACTERISTICS

- IP-rating: IP-50
- CE-marking not available 
- Cable take out only side wise
- Only available with 0,5 meter, 1 meter and 2 meter
- Output signal Differential D or Inverted I only

## ORDERING CODES

### Ordering Codes System Incremental Hollow Shaft Encoder — 2MCH

Ordering Codes: 2MCH    XXXX    —    X    —    XXX    —    XX    —    XX    —    X

Pulses pr. rev:	No. of pulses 100 160 300 500 2000 3600 125 256 360 1024 2500 Special: 1520 PPR / 19 Z-pulses 5000ppr -20°C to + 50°C only	XXXX						
Output signal:	TP-Differential, 6 channel A, B, Z and A-inv, B-inv, Z-inv		D					
H.-Shaft dimensions:	Ø 1,5mm Ø 2,0mm Ø 3,0mm 1/8"			1,5 2,0 3,0 1/8"				
IP-rating:	IP 64 Standard				64			
Cable Length:	Standard 1 meter No. of meters						01 XX	
Cable take out:	Side Back							S B
Anti rotation spring coupling    View Section 4 page 1 to 5 Or Flange / Plate:								
Flat Ribbon Cable +IDC: View Section 14 page 7 to 11								