

ELECTRICAL SPECIFICATIONS

Multiturn resolution	24 bit
Singleturn resolution	18 bit
Power supply ¹	5 = 4,5 ... 5,5 V DC 7/12 = 7 ... 12,5 V DC
Current consumption without load	65 mA max (5V model) 55 mA max (7/12V model)
Electrical interface ²	SSI / BiSS: RS-422 RS-485 half duplex
Auxiliary inputs (RESET)	active high (+V DC) connect to GND if not used / RESET t _{min} 100 ms
Clock frequency	SSI: 100 kHz ... 2 MHz BiSS: 50 kHz ... 10 MHz RS-485: 2,5 / 5 / 10 MHz
Code type	binary
SSI monostable time (T _m)	20 μs
SSI pause time (T _p)	21 μs
RS485 frame	10 bit/frame jitter 100 ns
Temperature sensor BiSS / RS-485	resolution 1° calculation time 100ms
Start-up time	500 ms
Accuracy with electrical correction ³	± 0,087°
Electromagnetic compatibility	according to 2014/30/EC directive
RoHS	according to 2011/65/EU directive

MECHANICAL SPECIFICATIONS

Hub screw	M3 or M4
Enclosure rating	IP 00 (IEC 60529)
Max rotation speed ⁴	12000 rpm
Shock	200 G, 6 ms half sine (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Hub material	brass EN-CW614N / plastic
Operating temperature ⁵	-40° ... +115°C (-40° ... +239°F)
Storage temperature ⁵	-40° ... +115°C (-40° ... +239°F)
Relative air humidity non-condensing	90% RH T=+60°C (+140°F)
Shaft radial play allowed	± 0,2 mm
Shaft axial play allowed	± 0,2 mm
Weight	100 g (3,53 oz)

¹ as measured at the transducer without cable influences

² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section

³ under recommended magnetic shielding enclosure and calibration at ambient +25°C / +77°F

⁴ encoder works reliably up till this permissible speed

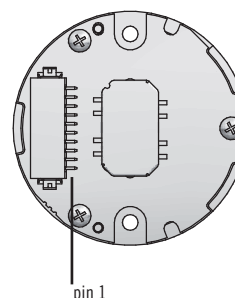
⁵ measured on the transducer flange

CONNECTIONS

Pin	SSI	BiSS C	RS-485
1	GROUND	GROUND	GROUND
2	+ V DC	+ V DC	+ V DC
3	CLOCK -	CLOCK (MA) -	/
4	CLOCK +	CLOCK (MA)+	/
5	DATA -	DATA (SLO) -	DATA -
6	DATA +	DATA (SLO) +	DATA +
7	UART RX ¹	/	/
8	UART TX ¹	/	/
9	RESET	/	/
10	GROUND	GROUND	GROUND

¹ used for calibration only

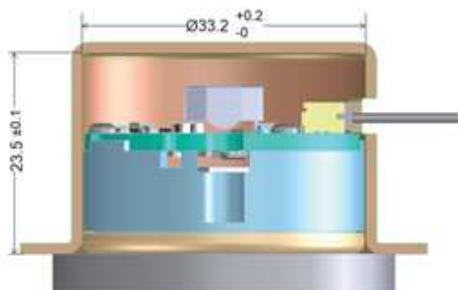
Recommended mating connector: Hirose Part No: DF13-10S-1.25C (CL No.536-0006-8) / Hirose (terminal pin for wire 26~30AWG): DF13-2630SCF (CL No.536-0300-5)



MAGNETIC SHIELD DESIGN GUIDELINES

In order to eliminate or minimize the influence of external magnetic field interference on encoder operation, use of shielding is mandatory.

A recommended design of shielding made of 1.2mm mild steel (SPCC) is given in figure below.



Note:

Please consider that external magnetic interference varies by the application and operating environment, a proper study of external magnetic field and appropriate shield design is needed. Please directly contact our offices for technical assistance.

Shield requirements

Minimun thickness: 1.2 mm / Material: ferro-magnetic