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Installation guide
RE22D02_01
Issue 1, 13th January 2009

RE22 series rotary encoders

EMC compliance

CE

This encoder system conforms to the relevant harmonised European standards for electromagnetic compatibility as detailed below.

BS EN 61326

Further information

For further information relating to the installation of RE22 encoders see also the RE22 data sheet (part number RE22D01). This can be downloaded from our website www.rls.si and is also available from your local representative.

Disclaimer

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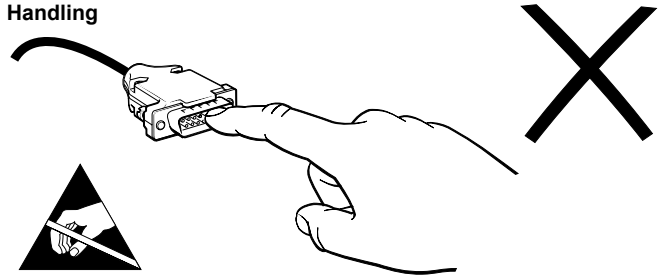
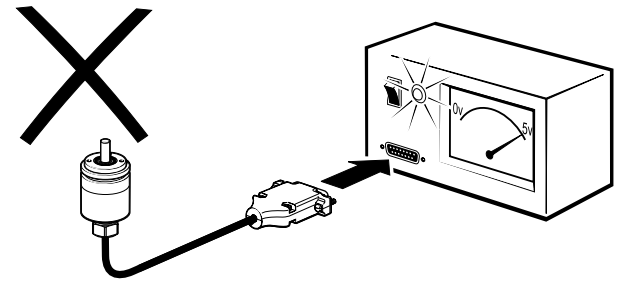
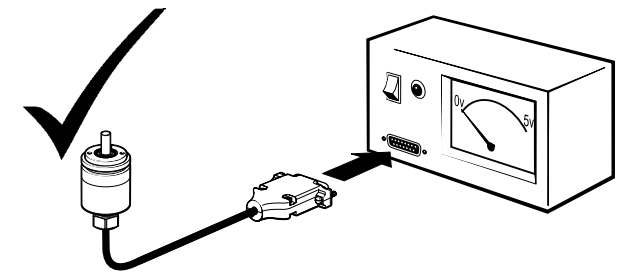
Handling







IMPORTANT: Power to RE22 encoders must be supplied from a DC SELV supply complying with the essential requirements of EN (IEC) 60950 or similar specification.

The RE22 series encoders have been designed to the relevant EMC standards, but must be correctly integrated to achieve EMC compliance. In particular, attention to shielding arrangements is critical.

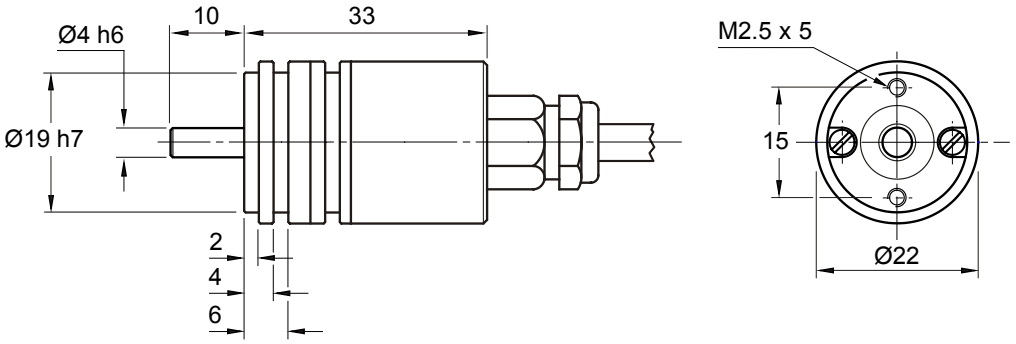
General specifications

Power supply	5 V ± 5%	RE22 A/B/P/V 20 mA RE22 I/S 23mA - 9bit, 35mA for all other resolutions **NOTE:** Current consumption figures refer to unterminated encoders. When terminated with 120 Ω, RE22S will draw an additional 25 mA, while RE22I will draw an additional 25 mA per channel pair (A+, A-).
Sealing		IP53 (IP64/68 option available)
Operating temperature		-25 °C to +85 °C
Humidity	storage	95% maximum relative humidity (non-condensing) (BS EN 61010-1)
	operating	80% maximum relative humidity (non-condensing) (BS EN 61010-1)
Acceleration	operating	500 m/s^2 BS EN 60068-2-7:1993 (IEC 68-2-7:1983)
Shock	non-operating	1000 m/s^2, 6 ms, ½ sine BS EN 60068-2-27:1993 (IEC 68-2-27:1987)
Vibration	operating	100 m/s^2, 55 Hz to 2000 Hz BS EN 60068-2-6:1996 (IEC 68-2-6:1995)
Mass		RE22 inc. 1 m cable no connector IP53-axial cable 68 g IP53-radial cable 60 g IP64/68-axial cable 73 g
Cable		Outside diameter 5 mm Maximum cable length 3 m (RE22 A), 20 m (RE22B), 20 m (RE22V) 30 m (RE22 P), 50 m (RE22 I), 100 m (RE22 S at 1MHz).

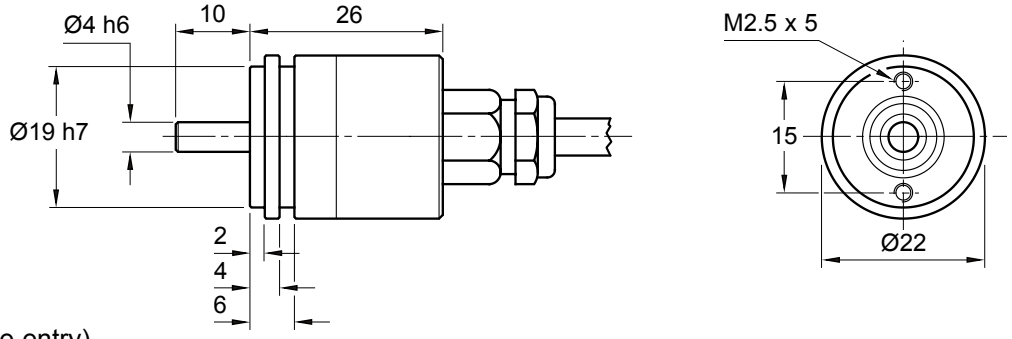
RE22 dimensions

Dimensions and tolerances in mm

IP64/68



IP53



IP53 (alternative side cable entry)

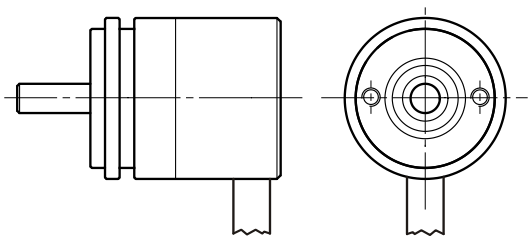
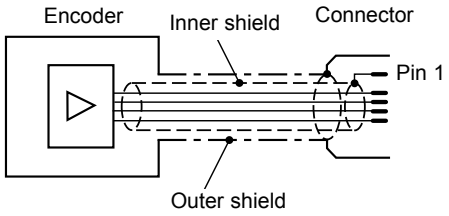


Table of expected bearing life rating in hours

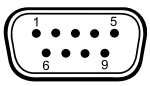
Speed (rpm)	Rad. load 5N	Rad. load 10N	Rad. load 15N	Rad. load 20N
500	205,401	98,455	54,569	33,333
1,000	102,700	49,227	27,285	16,667
2,000	51,350	24,613	13,642	8,333
5,000	20,540	9,845	5,457	3,333
10,000	10,270	4,923	2,728	1,667
15,000	6,847	3,282	1,819	1,111
20,000	5,135	2,461	1,364	833

Maximum recommended shaft loads: radial 20N, axial 10N

Connections

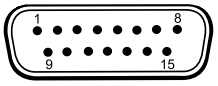


RE22 S/I/A



9 pin D plug

RE22 P



15 pin D plug

Pin Nr.	Function	Wire colour	Pin Nr.	Function	Wire colour
1	Shield - see connection diagram		9	D2	Black
2	D8	White	10	D1	Violet
3	D7	Brown	11	D0	Orange
4	D6	Green	12	NC	–
5	D5	Yellow	13	NC	–
6	D4	Grey	14	LE	Clear
7	D3	Pink	15	GND	Blue
8	V_{dd}	Red			

Pin Nr.	RE22 S		RE22 I		RE22 A		RE22 B		RE22 V	
	Function	Wire colour	Function	Wire colour	Function	Wire colour	Function	Wire colour	Function	Wire colour
1	Shield - see connection diagram		Shield - see connection diagram		Shield - see connection diagram		Shield - see connection diagram		Shield - see connection diagram	
2	Clock	White	Z	White	V_A	Green	V_A+	Green	NC	–
3	Clock -	Brown	B	Green	V_B	Brown	V_B+	Brown	V_{out}	Green
4	NC	–	A	Grey	NC	–	NC	–	NC	–
5	V_{dd}	Red	V_{dd}	Red	V_{dd}	Red	V_{dd}	Red	V_{dd}	Red
6	Data	Green	Z-	Brown	NC	–	V_A-	Yellow	NC	–
7	Data -	Yellow	B-	Yellow	NC	–	V_B-	White	NC	–
8	NC	–	A-	Pink	NC	–	NC	–	NC	–
9	GND	Blue	GND	Blue	GND	Blue	GND	Blue	GND	Blue