Absolute encoder **ENA58S** Series

Features

- ◆ Encoder external diameter Φ58mm, thickness 36-40mm, diameter of shaft of Φ8mm, Φ10mm available;
- ◆ Adopt non-contact photoelectric reflection principle M-code principle;
- ◆ Interface: BiSS_C or SSI;
- ◆ Accuracy: ±80";
- ◆ Support multi-turn data recording without power failure.

Naming rules

EN	A	58	S8	—	R	B	1716	J	D	—	T	XXXX

- **EN** — Product category: EN: Encoder
- **A** — Encoder type: A: Absolute value type
- **58** — Size of outside diameter: 58：Outside diameter 58mm
- **S8** — Shaft diameter type: S8: solid shaft diameter 8mm; S10: solid shaft diameter 10mm
- **R** — Electrical interface: R: RS-485
- **B** — Communication format: B: Biss C (binary); S: SSI (binary)
- **1716** — Resolution: 17: Single turn 17Bit; 1716: Single turn 17Bit+multi turn16Bit
- **J** — Power supply voltage: J: 5V DC; H: DC 8-30V
- **D** — Protection level: None: IP50; D: IP65
- **T** — Connection method: T/T2/T5: Radial 1m/2m/5m cable; E: Radial socket M12-8P; C: Radial socket M16-8P; G: Radial socket M23-12P
- **XXXX** — XXXX: Four digit special number

Specification parameters

Name	Parameter
Scanning principle	Photoelectric
Accuracy	±80”
Response speed	Normal action:6000r/min
position data jitter	±2 @18 Bits/r
Communication	BiSS_C (Binary)
	SSI (Binary)
Communication clock frequency	≤10 MHz (BiSS) or ≤5 MHz (SSI)
Resolution	Single turn 17 bits, multi turn 16 bits
Starting time	Typical value: 13 ms
Absolute position sampling period	≤75 ns
Allowable speed	≤32200 r/min
Cable	Differential twisted-paired cable
Cable length	1m (Optional 1m, 2m and 5m)
Internal single-turn position update rate	15000kHz
Internal multi-turn position update rate	11.5kHz
Temperature alarm limit value	-40℃~95℃
Mechanical connection	Clamping flange or synchro flange
Diameter of shaft	φ8mm, φ10mm (D type, solid shaft)
Shaft material	Stainless steel
Starting torque	At +20℃ IP50<0.05 Nm; IP65<0.1 Nm
Inertia moment	Less than 3×10^{-6} kg·m²
Shaft load	Radial 60N; Axial 40N
Allowed speed	≤6000 rpm
Shell material	Aluminium alloy
Weight	About 420g
Environmental temperature	Operating: -40～95℃
	Storage: -40～+95℃
Environmental humidity	Operating and storage: 35～85%RH (Non-condensing)
Vibration	Amplitude 1.52mm, 5～55HZ, 2h for X, Y, Z direction individually
Shock	980m/s² 11ms three times for X, Y, Z direction individually
Protection	IP50; IP65
Supply voltage	5V DC; 8-30V DC
Supply current	120 mA

Interface definition

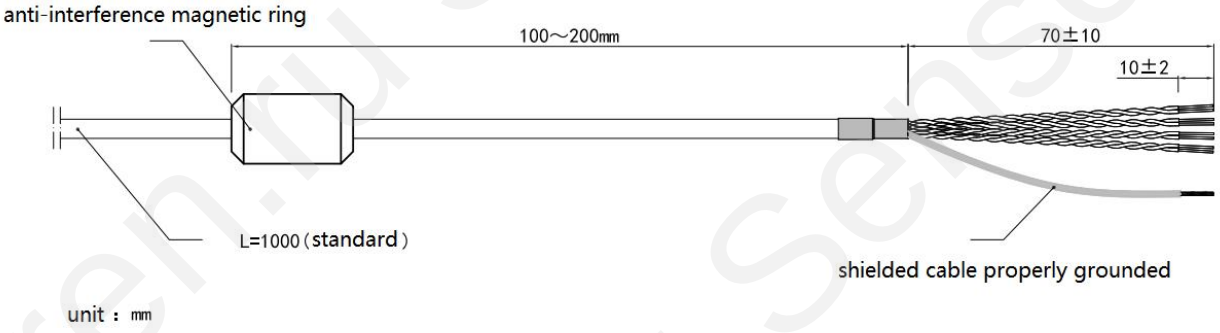
Socket pin definition
(M12 8-pin)

Socket pin definition
(M16 8-pin)

Socket pin definition
(M23 12-pin)

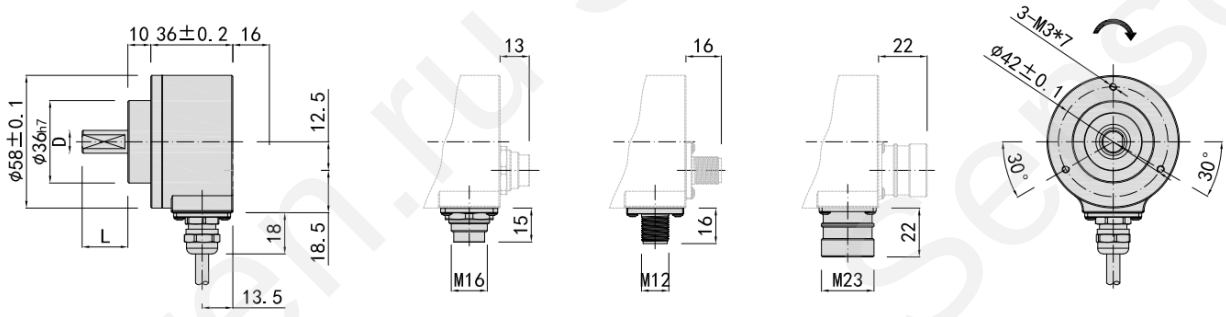
Wire color	PIN NO.	Signal				Function	Twisted-paired cable
		BISS_C ST	BISS_C MT	SSI ST	SSI MT		
Red	1	Up	Up	Up	Up	Power positive	
Black	2	Un	Un	Un	Un	Power negative	
White	3	SL-	SL-	DATA-	DATA-	Data signal	
White/BK	4	SL+	SL+	DATA+	DATA+	Data signal	
Green	5	MA-	MA-	CLOCK-	CLOCK-	Clock signal	
Green/BK	6	MA+	MA+	CLOCK+	CLOCK+	Clock signal	
Yellow	7	N.C.	Vbat	N.C.	Vbat	Backup power supply	
Yellow/BK	8	N.C.	0V	N.C.	0V	0V	
-	9	N.C.	N.C.	N.C.	N.C.	Unallocated	-
-	10	N.C.	N.C.	N.C.	N.C.	Unallocated	-
-	11	N.C.	N.C.	N.C.	N.C.	Unallocated	-
-	12	N.C.	N.C.	N.C.	N.C.	Unallocated	-
GND	No encoder body connected.						

Cable End Diagram



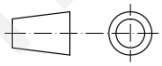
unit：mm

Dimensional drawing



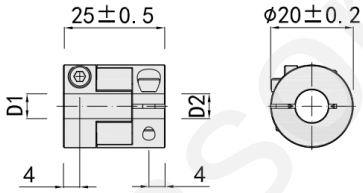
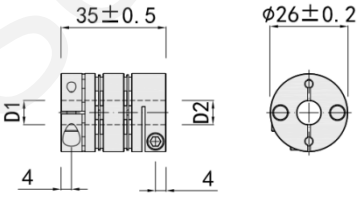
D (Shaft diameter)	$\Phi 8_{h7}(^{0}_{-0.015})$	$\varphi 10_{h7}(^{0}_{-0.018})$
L	20	20

Unit：mm



= Direction of shaft rotation for signal output

Accessories

Coupler	Dimensions	D1	D2	Model
Cross type: M series 	 Main body material: aluminum alloy	Φ6mm	Φ8mm	LB-M0608
		Φ8mm	Φ8mm	LB-M0808
		Φ8mm	Φ10mm	LB-M0810
Diaphragm type: W series 	 Main body material: aluminum alloy	Φ6mm	Φ8mm	LB-W0608
		Φ8mm	Φ8mm	LB-W0808
		Φ8mm	Φ10mm	LB-W0810