



EXDJ78S Series

Explosion-proof absolute encoder

Equipment Type Class II (gas), Class III (dust)

Explosion-proof form: flame-proof type

NEPSI: Ex db IIC T5/T6 Gb, Ex tb IIIC T95°C/T80°C Db

ATEX: Ex II 2GD Ex db IIC T5/T6 Gb, Ex tb IIIC T95°C/T80°C Db

IECEx: Ex db IIC T5/T6 Gb, Ex tb IIIC T95 °C/T80°C Db

Applicable danger Zone 1 (gas) / 21 (dust)

Induction principle: Magnetic

Function Principle: multiple turn

Multi-turn technology: mechanical gear sets without batteries

Housing size $\Phi 78\text{mm}$

Solid shaft $\Phi 10$ 、 $\Phi 12\text{mm}$

Number of steps 65536 /16Bit

Turns 16384 /14Bit

Interface: Modbus-RTU

Modbus-RTU+Incremental signal

Supply voltage 10-30VDC

Protection IP66

Mechanical characteristics

Shaft diameter (mm)	Solid shaft $\Phi 10$ 、 $\Phi 12\text{mm}$
Protection	IP66
Speed	3000rpm
Maximum shaft load	Max. 60N Axial; max. 80N Radial
Shock resistance	100g, 6ms
Vibration resistance	10g, 10...2000Hz
Materials	316L stainless steel
Spindle materials	Aluminum alloy anodizing/316L stainless steel
The shell material	Aluminum alloy anodizing/316L stainless steel
Working temperature	-40°C...+80°C
Storage temperature	-40°C...+80°C
Weight	≈1600g (Aluminium alloy shell) ; ≈3900g (316L stainless steel)
Cable Outlet	Radial direction; Axial direction

Electrical characteristics

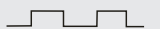
Interface	Modbus-RTU、Modbus-RTU+Incremental signal
No-load current	< 100mA
Operating voltage	10...30VDC
Baud rate	9600 19200 38400 57600 115200 bps
Address range	0-99
Data response	2ms
Code	Hexadecima
Immunity to Interference	EN61000-6-2
Emitted Interference	EN61000-6-4
Interface Circuit Protection	Surge protection, Reverse polarity protection, ESD protection

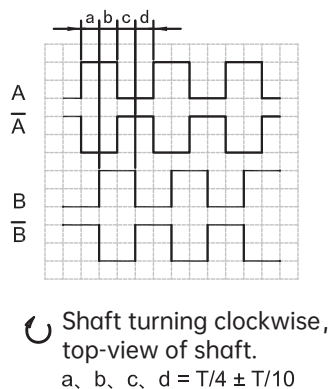
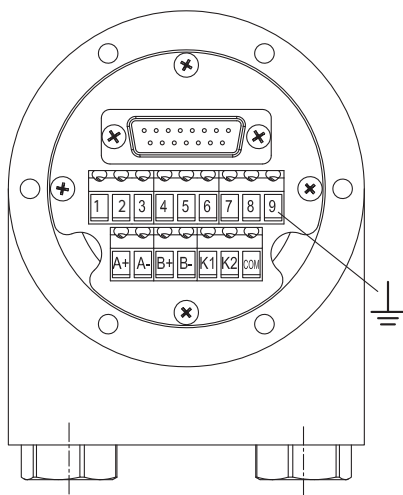
Terminal assignment

Modbus-RTU

Signal		GND	+Ub	485A	485B	P-SET	Set-Allow	485A	485B
Color		WH	BN	GN	YE	GY	PK	/	/
Terminal		1	2	3	4	5	6	7	8

Modbus-RTU+Incremental signal

Signal		GND	+Ub	485A	485B	P-SET	Set-Allow	485A	485B	A+	A-	B+	B-
Color		WH	BN	GN	YE	BK	PUR	/	/	GY	PK	RD/BU	GY/PK
Terminal		1	2	3	4	5	6	7	8	A+	A-	B+	B-



Ordering information

EXDJ X 78 XX S 12 B 12 13 XX S6 4 T N 10-30 R 2

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

① Shell material
None: Aluminium alloy
Z: 316L stainless steel

② Flange
None: Clamp flange
01: Synchronous flange

③ Shaft type
S: Solid shaft
SK¹: Solid keyway shaft

④ Shaft type
S: Solid shaft
10: Φ10mm
12: Φ12mm
SK: Solid keyway shaft
12: Φ12mm

⑤ Resolution MT
00: Single-turn
12: 4096
14: 16384

⑥ Resolution ST
12: 4096
13: 8192
14: 16384
16: 65536

⑦ Incremental signal
None: no increment signal
P1: 1024PPR, A+A- B+B- ,
Push-pull difference (HTL)
P3: 2048PPR, A+A- B+B- ,
Push-pull difference (HTL)

⑧ Baud rate
4: 19200
5: 9600

⑨ Parity Bit
None: Even Parity
N: No Parity

⑩ Supply voltage
10-30: 10-30VDC

⑪ Exit position
R: Radial direction
C: Axial direction

⑫ Connection type
Figure: Cable length(m)
D²: Reserve two cable connectors
K: Cable connector 1 pc
Cable Gland Plug 1 pc
N: terminal box, Reserve two M16 x 1.5mm
threaded holes for cable connectors

Note: Printed in bold=standard items

Notes: 1、Corner mark¹: For solid keyway shaft, shaft diameter is only available in Φ12mm.

2、Corner mark²: The reserved cable connector is suitable for cables with an outer diameter of 3 ~ 8 mm. For cables with outer diameter 8 ~ 11 mm, an N-type connector fitted with 8816B accessory may be selected.

3、Lease contact us for further electrical parameter Settings and requirements.

Ordering example: EXDJ78S12B1213S64T10-30R2, Counting direction of the factory is set to clockwise increasing.

Explanation: EXDJ78S Series, Solid shaft 12mm, Binary code, Multiturn resolution 4096, Singleturn resolution 8192, no Incremental signal, Modbus-RTU, Baud rate 19200, Even check, no increment signal, 10-30V, 10-30VDC, Radial direction 2m.

Recommended model: EXDJ78S10B1212S90T10-30R1

Accessories (Sold separately) Note: For other options, please refer to the Accessory Selection Table.



Flameproof cable gland

Model: 8816B

*Suitable for 8-11 mm OD cable; N-type connector optional, model 8816B.



Signal cable

Model: 20.001

Bare wire ends, X m cable, Green, 4-core Ethernet cable, Ø6.5mm



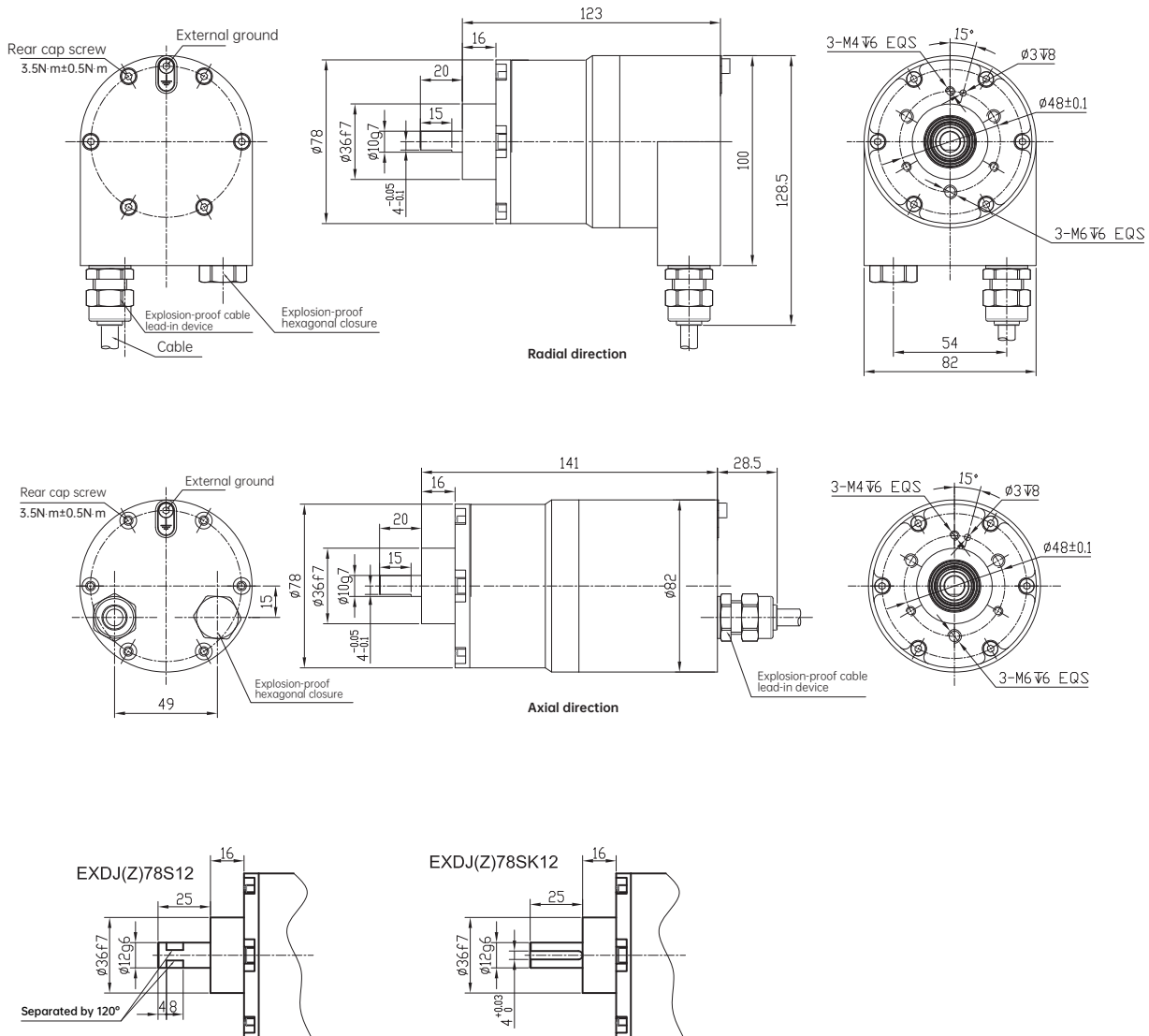
Power cable

Model: 18.015

Bare wire termination, × m RVVP cable, 4×2×0.2 mm² twisted pair shielded cable, Ø6.8mm

Dimensions

EXDJ(Z)78S



Dimensions

EXDJ(Z)7801S

