



EXDJ78B 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 $\Phi 78\text{mm}$
Blind hollow shaft $\Phi 12$ 、 $\Phi 14$ 、 $\Phi 16$ 、 $\Phi 25.4\text{mm}$
Number of steps 65536 /16Bit
Turns 16384 /14Bit
Interface: Modbus-RTU
Modbus-RTU+Incremental signal
Supply voltage 10-30VDC
Protection IP66

Mechanical characteristics

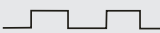
Shaft diameter (mm)	Blind hollow shaft $\Phi 12$ 、 $\Phi 14$ 、 $\Phi 16$ 、 $\Phi 25.4\text{mm}$
Protection	IP66
Speed	3000rpm
Maximum shaft load	Max. 60N Axial; max. 80N Radial
Shock resistance	100g, 6ms
Vibration resistance	10g, 10...2000Hz
Shaft Material	316L stainless steel
Body Material	Aluminum alloy anodizing/316L stainless steel
Housing 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

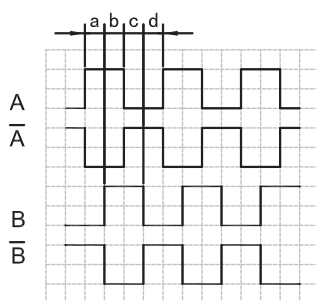
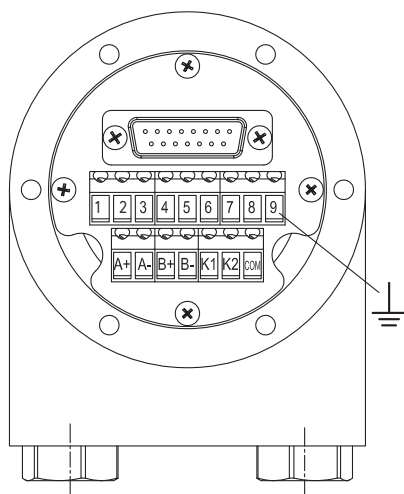
Terminal assignment

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-



 Shaft turning clockwise,
top-view of shaft.
a, b, c, d = $T/4 \pm T/10$

Ordering information

EXDJ X 78 B 16 B 12 13 XX S6 4 T N 10-30 R 2

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

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

② Shaft type
B: Blind hollow shaft

③ Shaft diameter
12: Φ 12mm
14: Φ 14mm
16: Φ 16mm
25.4: Φ 25.4mm

④ Resolution MT
00: Single-turn
12: 4096
14: 16384

⑤ Resolution ST
12: 4096
13: 8192
14: 16384
16: 65536

⑥ 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)

⑦ Baud rate
4: 19200
5: 9600

⑧ Parity Bit
None: Even Parity
N: No Parity

⑨ Supply voltage
10-30: 10-30VDC

⑩ Exit position
R: Radial direction
C: Axial direction

⑪ Connection type
Figure: Cable length(m)
D¹: 2 Cable Connectors
K: Cable connector 1 pc, Cable Gland Plug 1 pc
N: terminal box, 2 reserved M16×1.5mm threaded holes for cable connectors

Note: Printed in bold=standard items

Notes: 1、Corner mark¹: The reserved cable connector is designed for cables with 3–8 mm outer diameter. When 8–11 mm OD cable is needed, N-type connector is optional, supplied with accessory 8816B.

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

Ordering example: EXDJ78B16B1213S64T10-30R2, Counting direction of the factory is set to clockwise increasing.

Explanation: EXDJ78B Series, Blind hollow shaft 16mm, 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: EXDJ78B16B1212S64TN10-30R1

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.*



Mounting bracket
Model: 8146A
**Suitable for use with EXDJ78B12/14*



Mounting bracket
Model: 8146B
**Suitable for use with EXDJ78B16/25.4*



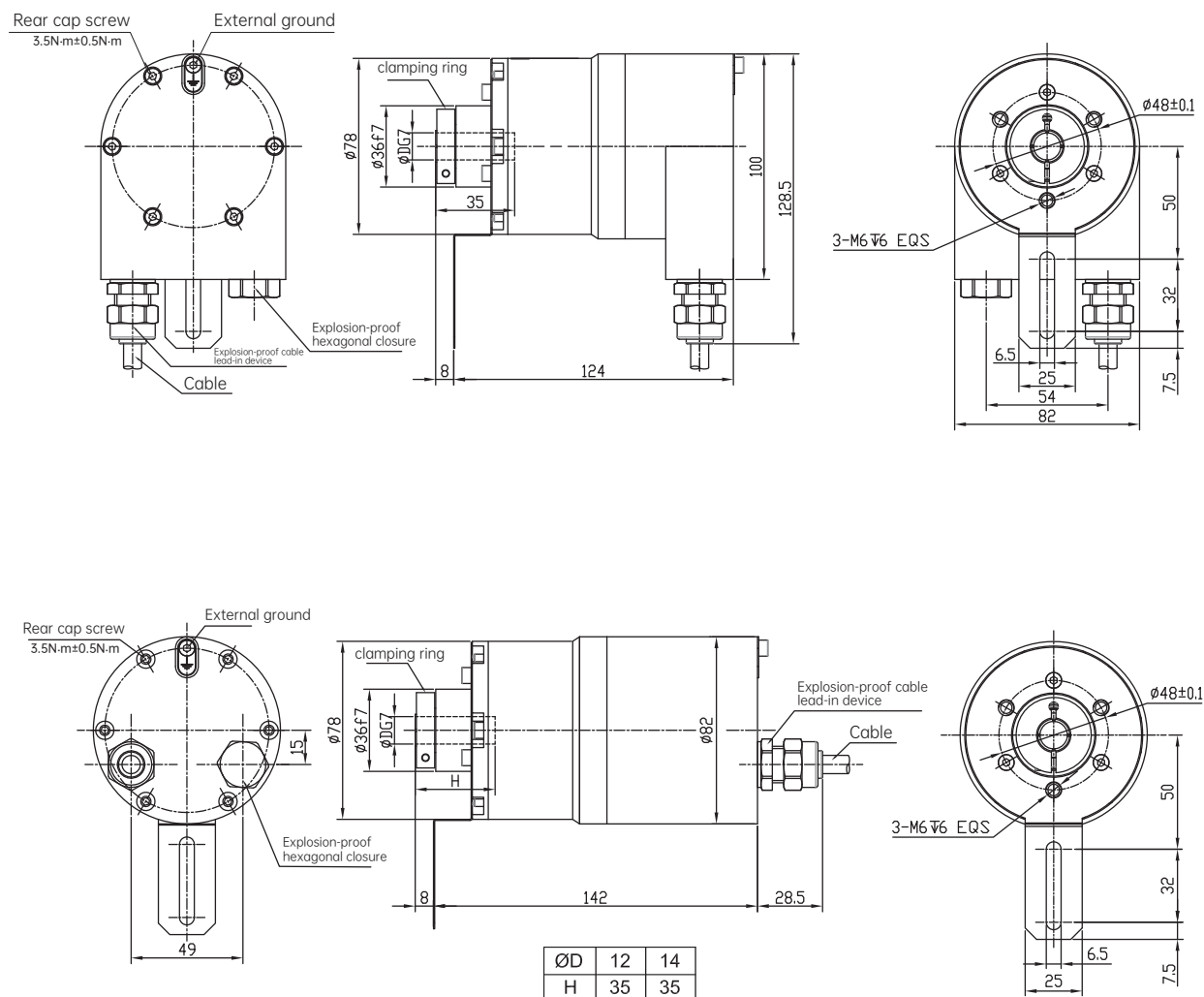
Signal cable
Model: 20.001
Bare wire ends, X m cable, Green, 4-core Ethernet cable, Ø6.5mm



Power cable
Model: 18.015
Bare wire termination, × m RVVP cable, 4×2×0.2 mm² twisted pair shielded cable, Ø6.8mm

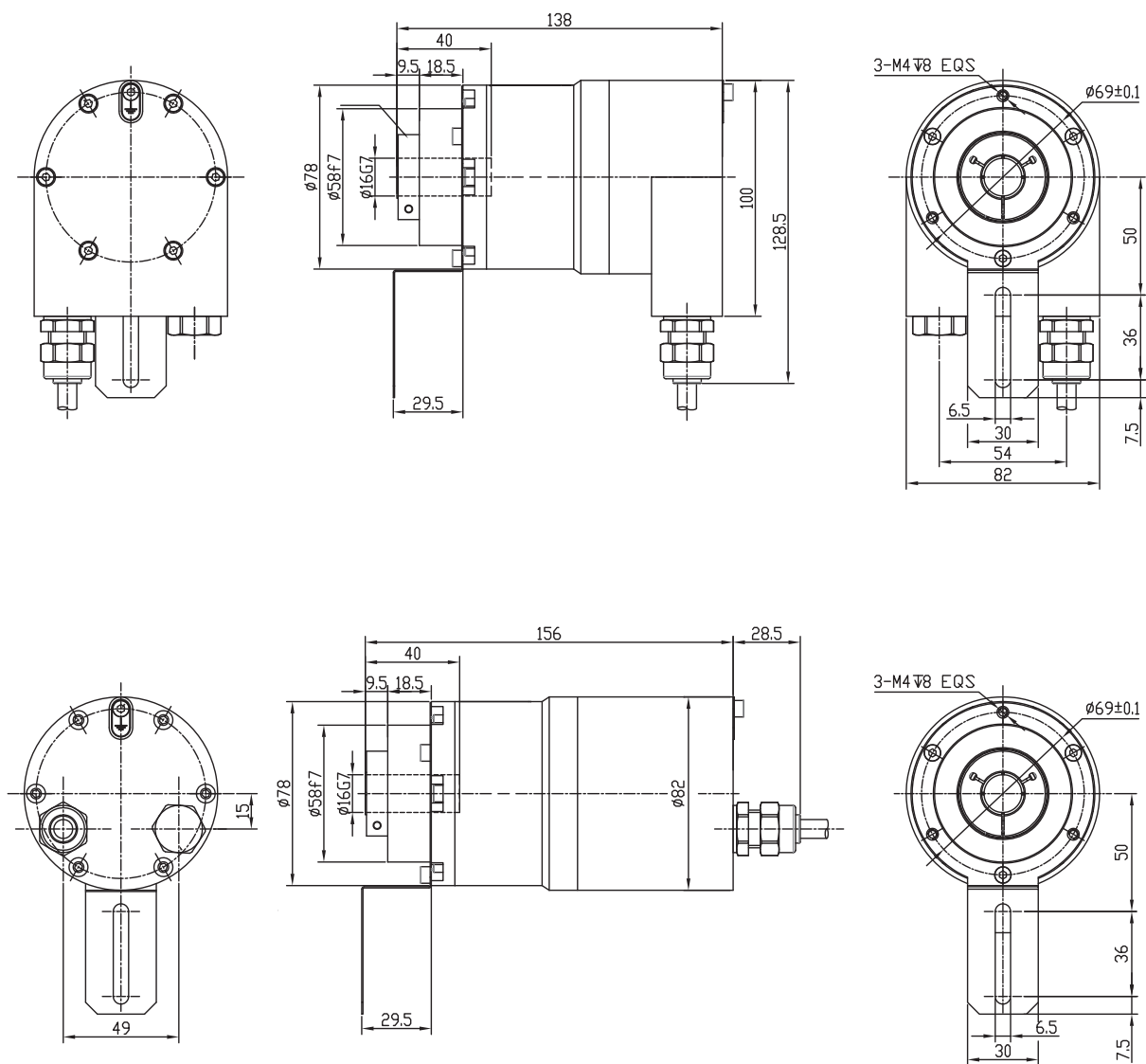
Dimensions

EXDJ(Z)78B12/14



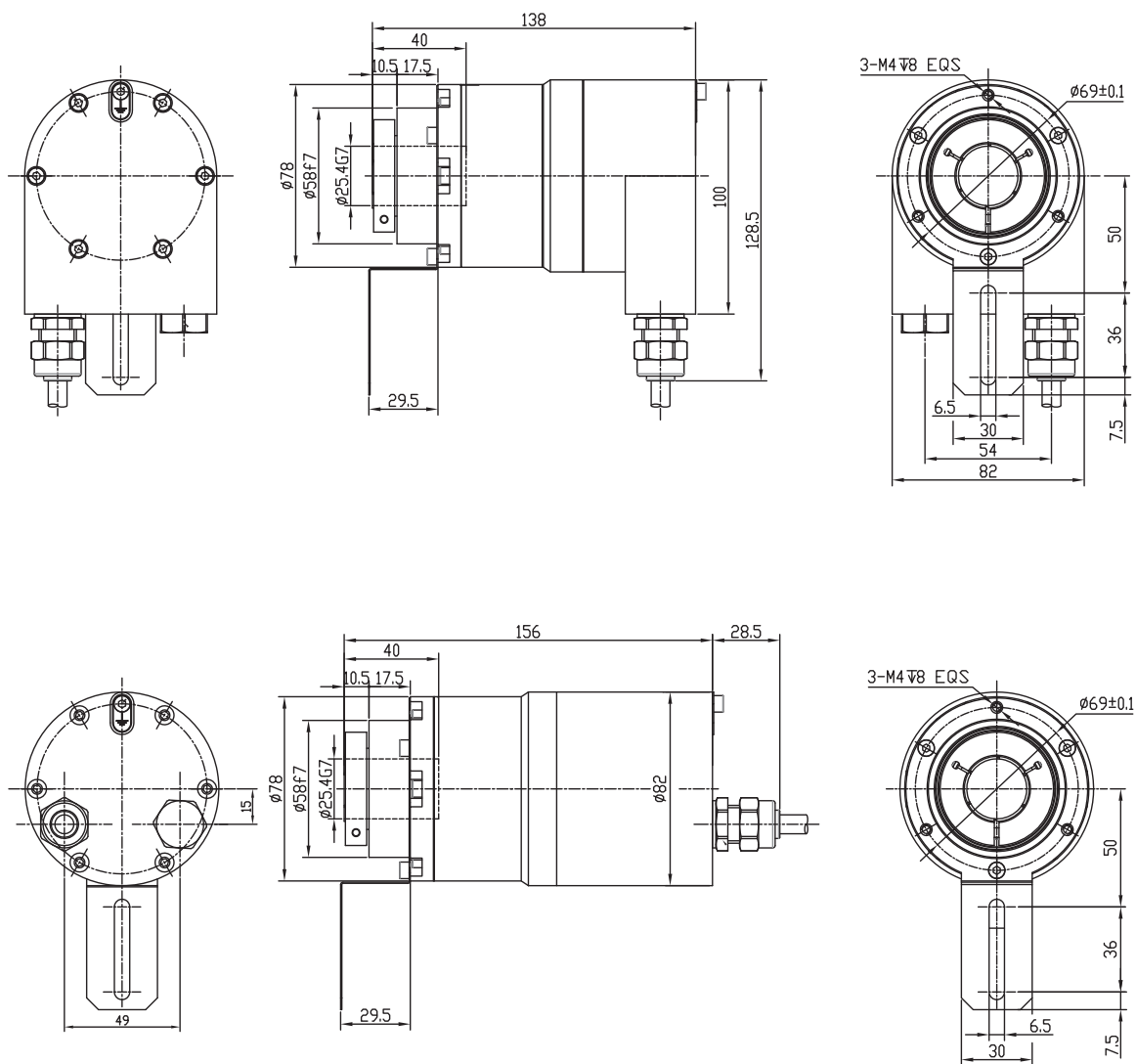
Dimensions

EXDJ(Z)78B16



Dimensions

EXDJ(Z)78B25.4



Dimensions

EXDJ78B (client)

