BXUAN

Version 2022-04

Coal mine explosion-proof electrical components

Auxiliary transportation Core power

Explosion-proof liquid-cooled permanent magnet synchronous motor

Designed with a permanent magnet rotor structure, compliant with coal mine explosion-proof requirements, featuring high torque density, small size, high efficiency, etc., it can achieve infinite speed regulation, operates stably, has a wide speed range, and strong overload capacity. It conforms to the development trend of electrification drive in coal mining engineering machinery.

Brief technical parameters (standard series):

Basic type	Specifications	Rated speed [r/min]	Rated torque [Nm]	Peak torque [Nm]	Rated power [kW]	Peak power [kW]
BX132	L	1000	160	310	18	30
	M	1500	107	207	18	30
	H	2000	80	155	18	30
BX160	L	1000	290	630	30	61
	M	1500	190	420	30	61
	H	2000	145	320	30	61
BX200	L	1000	540	1200	60	113
	M	1500	390	870	60	113
	H	2000	300	695	60	113

Characteristics:

- High reluctance torque
- Efficiency up to 95%
- Designed for coal mining engineering machinery:
  - Environmental temperature: -25 / +80°C
  - Protection level: IP6 7
- Available in low-speed and high-speed versions
- Liquid-cooled by hydraulic oil
- Designed with a cylindrical shaft, external splined shaft, or internal splined shaft
- Non-standard customized connection ports:
  - Compatible with reducers, gearboxes, drive axles, etc.

Explosion-proof synchronous motor drive

Utilizing a highly integrated electronic control solution, it can drive up to 4 motors simultaneously with one controller, significantly increasing power density and meeting various hybrid power modes such as series, parallel, and mixed connection.

Technical parameters of the explosion-proof synchronous motor drive (per unit)

Basic Types	Operating Voltage [DC.V]	Rated Current [A]	Maximum Current [A]	Rated Power [kW]	Maximum Power [kW]
BX132-KZ	400-700	40	80	18	30
BX160-KZ	400-700	80	160	30	61
BX200-KZ	400-700	160	300	60	113

Note: If multiple motors need to be controlled, simply add the corresponding number of motors to the controller model, such as BX132-KZ/3, which indicates simultaneous control of 3 motors.

Features:

- Compliant with coal mine safety explosion-proof requirements
- High heat dissipation, high protection level
- Designed for coal mine engineering machinery:

  Environmental Temperature: -25/+80° C

  IP Rating: IP67
- Hydraulic oil cooling for heat dissipation
- Comprehensive fault diagnosis and protection strategies
- CAN 2.0 communication interface
- Operating Voltage: DC 400-700V

Remote Controller Main Technical Parameters

Remote Transmitter

Model: FYF50W (A)

Explosion-proof Type: Mining Intrinsically Safe Type

Rated Operating Voltage: DC 7.4V

Maximum Operating Current: ≤150mA

Wireless Signal Operating Frequency Range: 433MHz ±15MHz

Wireless Signal Transmission Power: -10dBm to 13dBm (0.1mW to 20mW)

Wireless Transmission Distance: 50m (open space without obstruction, with matching FYS50W mining intrinsically safe remote receiver)

Dimensions: (381×218×266)mm

Remote Transmitter

Model: FYF50W (B)

Explosion-proof Type: Mining Intrinsically Safe Type

Rated Operating Voltage: DC 7.4V

Maximum Operating Current: ≤150mA

Wireless Signal Operating Frequency Range: 433MHz ±15MHz

Wireless Signal Transmission Power: -10dBm to 13dBm (0.1mW to 20mW)

Wireless Transmission Distance: 50m (open space without obstruction, with matching FYS50W mining intrinsically safe remote receiver)

Dimensions: (198×70×30.5)mm

Remote Controller Main Technical Parameters

Remote Receiver

Model: FYS50W

Explosion-proof Type: Mining Intrinsically Safe Type

Rated Operating Voltage: DC 12V

Maximum Operating Current: ≤150mA

Wireless Signal Operating Frequency Range: 433MHz ±15MHz

Wireless Signal Transmission Power: -10dBm to 13dBm (0.1mW to 20mW)

Wireless Transmission Distance: 50m (open space without obstruction, with matching FYF50W (A), FYF50W (B) mining intrinsically safe remote transmitters)

Dimensions: (140×150×62)mm

Millimeter Wave Radar Main Technical Parameters

Millimeter Wave Radar

Model: GUR6

Explosion-proof Type: Mining Intrinsically Safe Type

Rated Operating Voltage: DC 5V

Maximum Operating Current: ≤150mA

Transmission Method: CAN bus communication

Radar Detection Distance: (0-6) m

Dimensions: (82×35×40)mm

Display Screen Main Technical Parameters

The 7-inch CAN bus touchscreen is equipped with independent serial and CAN bus interfaces, supporting CANopen and J1939_CAN protocols. The serial port supports various PLC protocols and the standard MODBUS protocol, allowing connection with various PLCs and smart meters. Additionally, it can communicate with microcontrollers and supports automatic switching with camera surveillance.

Display Size:

7-inch True Color TFT (154.0W×85.9Hmm)

Resolution: 800x480 Rated
Power: Less than 4W
Program Download: USB interface
Rated Voltage: DC12V

Communication Ports: CAN bus, Ethernet port (RJ45)

Mining Intelligent Display Screen

Camera Main Technical Parameters

Camera

Model: KBA12W

Explosion-proof Type: Mining Intrinsically Safe Type

Rated Operating Voltage: DC12V

Maximum Operating Current: ≤350mA

Number of Interfaces: 1 channel

Transmission Method: TCP/IP Ethernet Signal

Dimensions: (86×105×120)mm

Capable of real-time remote monitoring and memory card storage functions.

Sensor Main Technical Parameters

Temperature Sensor

Model: GWD130

Explosion-proof Form: Mining Sealed Type

Operating Temperature: (0-130)°C

Temperature-Resistance Characteristics:

Temperature	10	15	20	80	130
Standard resistance value	4890	3055	2500	327.0	90.0
Maximum resistance value	5120	3457	2817	357.1	101.1
Minimum resistance	4218	2706	2220	299.7	80.4

Pressure Sensor

Model: GPD1

Explosion-proof Type: Mining Sealed Type

Output: (0.5~4.5)V Protection Level: IP54 Housing Material: Stainless Steel

Power Supply Voltage: DC5V

Range: (0-1.0) MPa

Sensor Main Technical Parameters

Pressure Sensor
Model: GPD60
Explosion-proof Type: Mining Sealed Type
Output: (4~20) mA
Protection Level: IP54
Material: Stainless Steel
Range: (0-60) MPa
Power Supply Voltage: DC24V

Speed Sensor

Model: GH24
Explosion-proof Type: Mining Sealed Type
Operating Temperature: -40 to 150°C
Functional Air Gap: (0.3-2.0) mm
Speed Range: (0-3000) Hz
Power Supply Voltage: DC24V

Temperature Transmitter

Model: BWD200
Explosion-proof Type: Mining Sealed Type
Range: (-20~200)°C
Output: (0.5~4.5)V
Protection Level: IP54
Dimensions: 27×(50+L) (L=80~150)mm
Housing Material: Stainless Steel
Power Supply Voltage: DC24V

Float Ball Level Switch

Model: KMU350
Explosion-proof Type: Mining Sealed Type
Output: Passive Switching Quantity
Number of Switches: Up to 5 tongue switches, determined by the user
Installation Depth: (200~3000)mm
Protection Level: IP54
Dimensions: (90×3000)mm
Housing Material: Stainless Steel

Throttle Pedal Main Technical Parameters

Throttle Pedal

Model: KHT5

Explosion-proof Type: Mining Intrinsically Safe Type

Rated Operating Voltage: DC5V

Output: (1~4.2)V

Intrinsically Safe Parameters: Ui: 5.5V; Ii: 2A; Ci: 0μF; Li:0mH

Protection Level: IP54

Dimensions: (194×72×260)mm

Housing Material: Stainless Steel

Roller Type Throttle Pedal

Model: KHT5 (A)

Explosion-proof Type: Mining Intrinsically Safe Type

Rated Operating Voltage: DC5V

Output: (1~4.2)V

Intrinsically Safe Parameters: Ui: 5.5V; Ii: 2A; Ci: 0μF; Li: 0mH

Protection Level: IP54

Dimensions: (194×72×277)mm

Housing Material: Q235

Electromagnet Main Technical Parameters

DC Electromagnet

Model: DTBZ-37
Explosion-proof Type: Mining Explosion-proof Type
Rated Operating Voltage: DC24V
Operating Current: ≤1A
Rated Holding Force: 37N
Weight: <1kg
Dimensions: (105×45×98)mm

Proportional Electromagnet

Model: DTBZ-75
Explosion-proof Type: Mining Explosion-proof Type
Rated Operating Voltage: DC24V
Operating Current: 0.8A
Rated Holding Force: 75N
Weight: <1kg
Dimensions: (120×45×98)mm

National III Emission Mining Explosion-proof Electronic Fuel Injection Engine

The National III emission mining explosion-proof electronic fuel injection engine adopts a combination of explosion-proof single-pump fuel supply technology and integrates ECU control and protection systems to meet emission requirements, making it particularly suitable for coal mining environments.

Types and Power:

Inline 6-cylinder four-stroke water-cooled turbocharged diesel engine: 160 kW / 135 kW

Inline 6-cylinder four-stroke water-cooled turbocharged diesel engine: 105 kW / 85 kW

Inline 4-cylinder four-stroke water-cooled turbocharged diesel engine: 65 kW / 45 kW

Features:

- Low requirements for fuel cleanliness, with fuel filtration precision comparable to mechanical pumps.
- Control and protection systems are centrally controlled by ECU, ensuring simplicity, safety, and high reliability.
- High-efficiency cooling system with a cooling reserve coefficient ensures heat balance.
- Long piston stroke and high intake efficiency ensure sustained and strong power.
- High torque, with large torque at low speeds, comprehensively improving starting and acceleration performance.
- Dedicated characteristic curves with large torque reserves to meet various industrial and mining requirements.

Explosion-proof Diesel Engine 160kW / 135kW

Model:	BX6104DZLY(Q)FB
Type:	Inline Direct Injection, Water-cooled, Turbocharged, Intercooled
Number of Cylinders × Cylinder Diameter (mm) × Stroke (mm)	6×104×130
Engine Displacement (L)	6.7
Starting Method	Hydraulic or Air Start
Rated Power / Speed (kW/rpm)	190 (pre-explosion-proof power) /2200rpm
Maximum Torque / Speed (N.m/rpm)	850/1600
Rated Total Power Consumption (g/kW.h)	≤250
Emission Standards	Off-road National III
Engine Dimensions with intake and exhaust manifolds, turbocharger, fan, generator: Length × Width × Height (mm)	1352×820×996

Explosion-proof Diesel Engine 105kW / 85kW

Model:	BX6100DZLY(Q)FB
Type:	Inline Direct Injection, Water-cooled, Turbocharged, Intercooled
Number of Cylinders × Cylinder Diameter (mm) × Stroke (mm)	6×100×127
Engine Displacement (L)	6.0
Starting Method	Hydraulic or Air Start
Rated Power / Speed (kW/rpm)	130 (pre-explosion-proof power)/ 2200
Maximum Torque / Speed (N.m/rpm)	490/1600
Rated Total Power Consumption (g/kW.h)	≤250
Emission Standards	Off-road National III
Engine Dimensions with intake and exhaust manifolds, turbocharger, fan, generator: Length × Width × Height (mm)	1352×820×996

1000-hour endurance

Explosion-proof Diesel Engine 65kW / 45kW

Model:	BX4100DZLY(Q、D)FB
Type:	Inline Direct Injection, Water-cooled, Turbocharged, Intercooled
Number of Cylinders × Cylinder Diameter (mm) × Stroke (mm)	4×100×127
Engine Displacement (L)	4.0
Starting Method	Hydraulic, Air, or Electric Start
Rated Power / Speed (kW/rpm)	75 (pre-explosion-proof power) / 2200
Maximum Torque / Speed (N.m/rpm)	270/1600
Rated Total Power Consumption (g/kW.h)	≤250
Emission Standards	Off-road National III
Engine Dimensions with intake and exhaust manifolds, turbocharger, fan, generator: Length × Width × Height (mm)	988×610×900

1000-hour endurance

WeChat Official Account

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Translator Statement:

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