1. Overview

FBCGQ-4 explosion-proof sensor (hereinafter referred to as the sensor) the explosion-proof performance in line with the GB3836.1-2000 "electrical apparatus for explosive gas atmospheres - Part 1: General requirements", GB3836.2-2000 "explosive atmosphere of electrical equipment - Part second: Flameproof Enclosures" d "rules, made of explosion-proof, explosion-proof mark for the ExdIIBT4. Suitable for containing IIA, IIB, automatic measurement and automatic control temperature classes for T1~T4 group explosive gas mixture zone 1, zone 2 locations. Installed in the inside of the product.

2. Product models and explosion-proof mark significance

2.1 Product models

FBCGQ — 4

- 4 — Design of serial number
- FBCGQ — Sensor

2.2 Explosion-proof mark significance

Ex d II B T4

- T4 — The highest surface temperature group
- II B — An explosive mixture level
- d — Flameproof
- Ex — Explosion-proof mark

3. Basic parameters

Working voltage：DC 5V

Working current：30mA

Structure size：132.5 X 73 X 48 (mm)

The coupling hole diameter：ф10+0.022 0

Maximum permissible speed (r/min) (r/min)：300 r/min

Output channel：2

Waveform rise, fall time：4s

Signal waveform: Square

Each output pulse number: 200

4. The structure and working principle

The principle of sensor to sensor using circular grating, by photoelectric conversion, the shaft angle

displacement is transformed into electric pulse signal.

The sensor shell is made of magnesium content of not more than 6%, the tensile strength of not less than 120Mpa into ZL104, the impact energy can withstand the test of 7J. Hydraulic test finishing can bear GB3836.2-2000 provisions, introducing device with Ex cable GB3836.1-2000 provisions of the lead-in device, is provided with a grounding, flameproof joint parameters in accordance with GB3836.2-2000, the surface of the shell by using the grey spray, structure diagram shown in figure 1.

5. Installation and maintenance

5.1 Before installation, check whether basic parameter list check sensor on the nameplate in line with the actual conditions of use.

5.2 product use environmental conditions

5.2.1 Altitude：≤2000m

5.2.2 Environment temperature：-20℃～+40℃

5.2.3 Ambient relative humidity：≤95%(+25℃)

5.2.4 Can withstand the vibration, impact resistance, vibration resistance： 70m/s2(10~200HZ，X,Y,Z three direction of each 2h), impact resistance：30m/s^2(11ms，X,Y,Z three direction of each 2h)

5.3 Installation wiring note

5.3.1 comply with national electrical installation requirements

5.3.2 sensor output signal line, not with the power line winding together or the same pipe transmission, it is not in the switchboard used near. Sensor outlet line as the test line, should press the explosion-proof requirements cable wiring, should ensure the cable diameter of not less than 6mm. Tighten lock screw, press the rubber sealing ring, to ensure the sealing performance.

5.3.3 Red --- +5V（DC） Black --- Negative

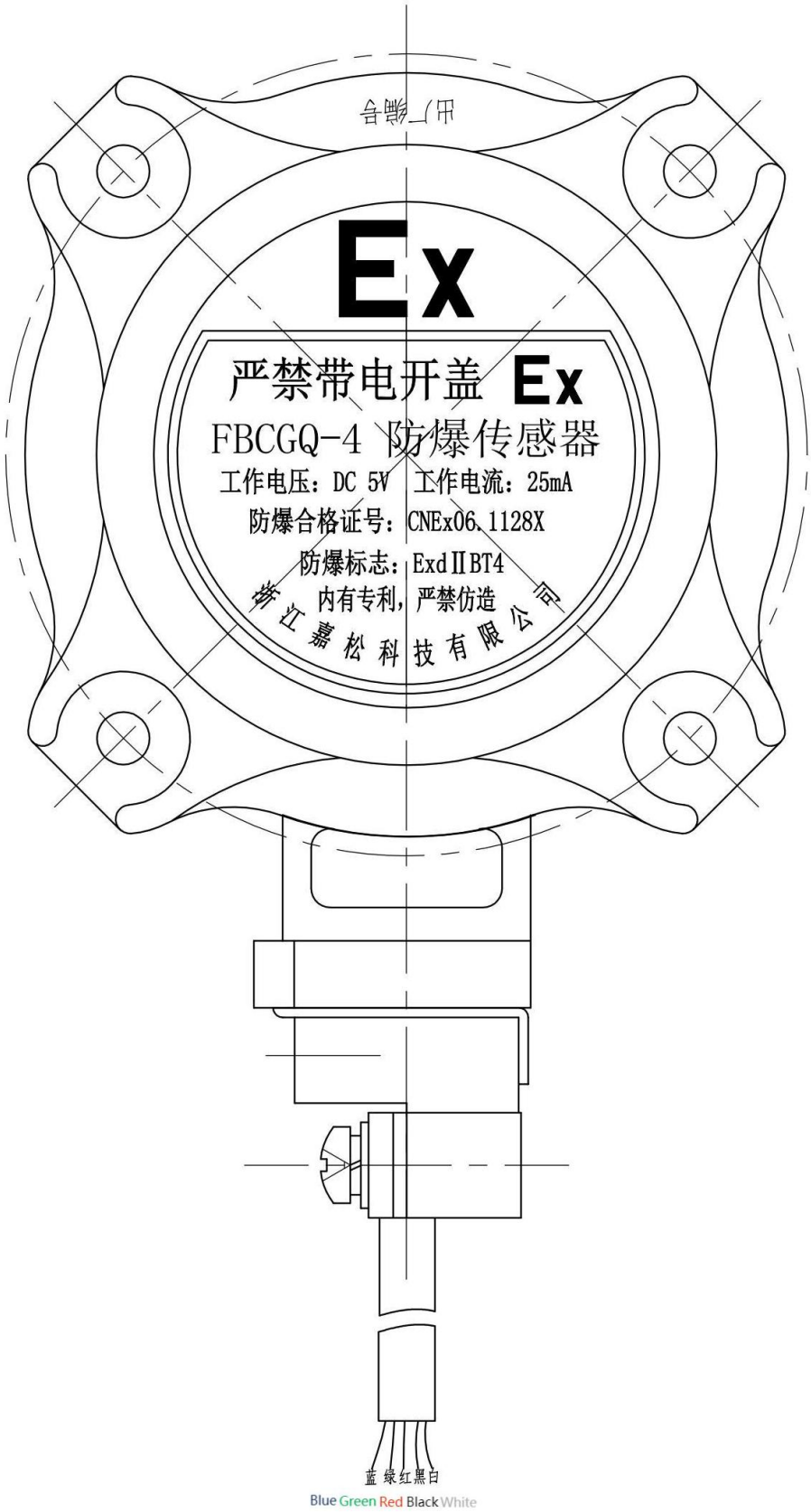
White --- Channel 1 Green --- Channel 2 Blue --- Detection line

5.4 The sensor should be reliable grounding.

5.5 Repair should ensure that the "strictly charged to open".

5.6 Introduction device sealing ring is made of XH-50 rubber material, in the repair process such as the discovery of aging deterioration should change in time, ensure the explosion-proof performance, spare parts can be purchased from our company.

6. Product wiring diagram

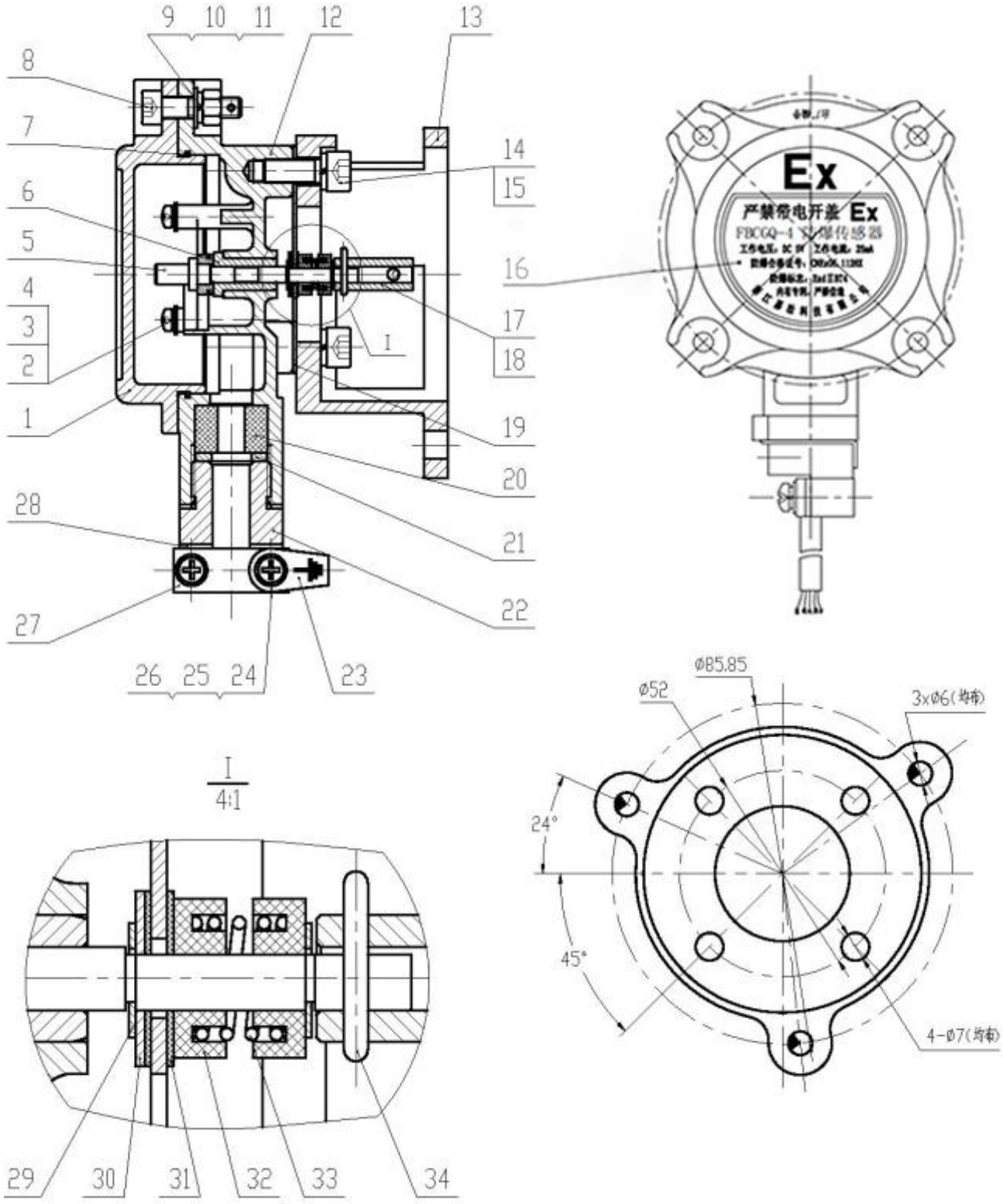


Red --- +5V（DC） Black --- Negative

White --- Channel 1 Green --- Channel 2

Blue --- Detection line

7. Product structure diagram



(Fig.1)

Name of main part and material

Number	Name	Material	Quantity
1	Cross recessed pan head screw	ZL104	1
2	The elastic washer	The performance of steel grade 4.8	4
3	Flat washer	65Mn	4
4	Drive shaft assembly	The performance of steel grade HV100	4
5	Copper sleeve	Assembly	1
6	Retaining ring	FZ2270 (oil)	1
7	Sealing screws	1Cr18Ni9	1
8	Flat washer	The performance of steel grade 5.8	4
9	The elastic washer	The performance of steel grade 100HV	4
10	The six hexagon nuts	65Mn	4
11	The sensor body	The performance of steel grade 8	4
12	The sensor bracket	ZL104	1
13	Inner six angle screw	ZL104	1
14	The elastic washer	The performance of steel grade 5.8	4
15	Label	65Mn	4
16	Coupling	Plastic light paper	1
17	Cylindrical pin	H59	1
18	Sensor plate	35	1
19	Clamping pad	1Cr18Ni9	1
20	Shim	Ding Jing rubber	1
21	The compression nut	Q235-A	1
22	Grounding mark	ZZnAl4-1	1
23	Cross recessed pan head screw	H62	1

24	The elastic washer	The performance of steel grade 5.8	2
25	Flat washer	65Mn	2
26	The wire clamp	The performance of steel grade 100HV	2
27	A check washer	ZZnAl4-1	1
28	Open retaining ring	Q235-A	1
29	The sliding pad	65Mn	2
30	Sliding phenolic gasket	1Cr18Ni9	1
31	The spring fixing base	Phenolic laminate	2
32	The pressing spring	Polyoxymethylene	2
33	Cotter pin	65Mn	1
34	Cross recessed pan head screw	Q235-A	1