

Series BM200 Isolated Safety Barrier

Installation and Operation Instruction V1.1

DECLARATION

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This company reserve power of revision of product specification described in this manual, without notice. Before ordering, please consult local agent for the latest specification of product.

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1 General

Series BM200 isolated safety barrier can transmit signals between the safe area and the dangerous area, and limit the energy transfer from the safe area to the dangerous area caused by the fault. The voltage, current, temperature, resistance signals generated by the equipment (transmitter) on the dangerous side are isolated and converted into corresponding linear voltage and current signals outputting to the safe area. The product requires independent power supply, and the input/output/power supply is isolated. It can be used in current source, two-wire, three-wire transmitter equipment.

2 Executive standard

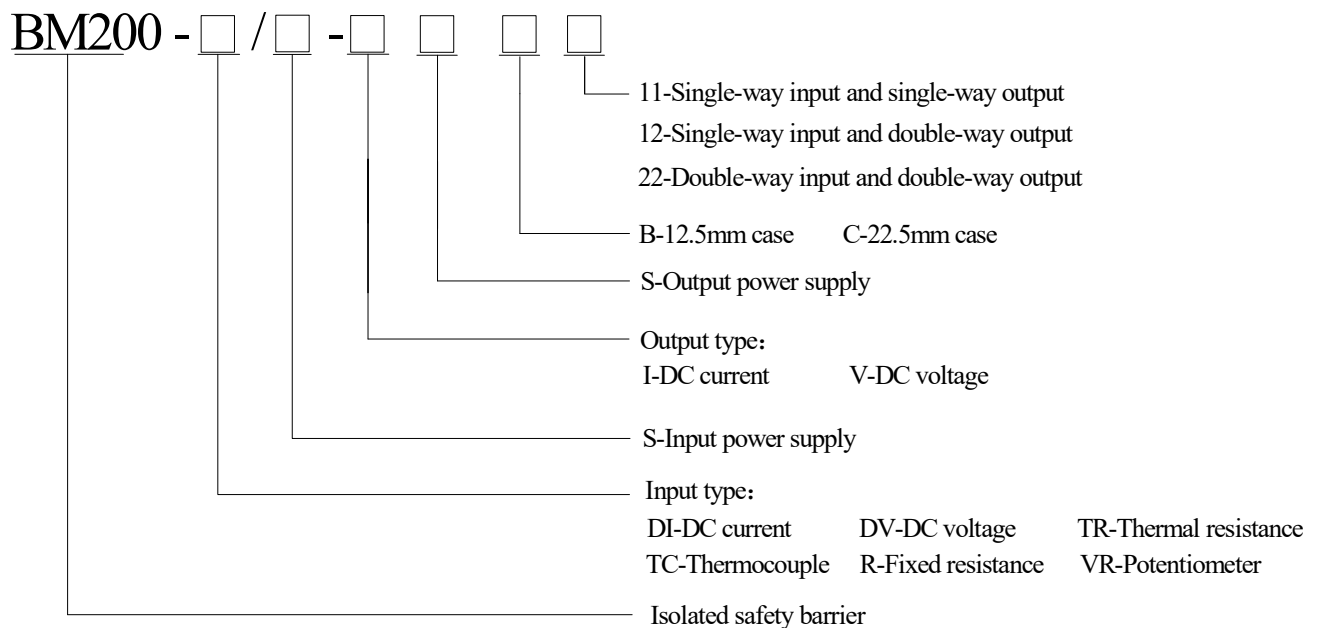
GB 3836.1-2010 “Explosive atmospheres—Part 1:Equipment—General requirements”

GB 3836.4-2010 “Explosive atmospheres—Part 4:Equipment protection by intrinsic safety i”

GBT 28471.1-2012 “Distributor for use in industrial-process measure and control systems—Part 1:General technical specification”

GBT 28471.2-2012 “Distributor for use in industrial-process measure and control systems—Part 2:Performance evaluation method”

3 Type of products



4 Technical parameter

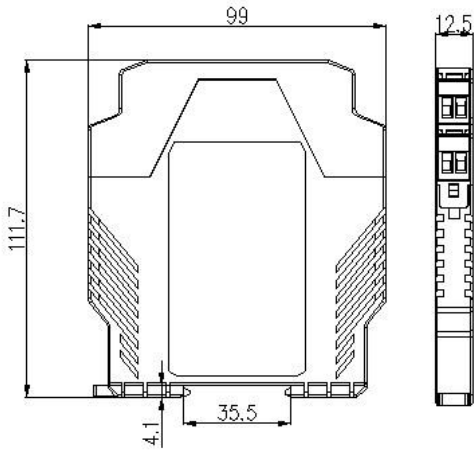
Channel type	Single-way input and single-way output, single-way input and double-way output, double-way input and double-way output
Input type	Current/Voltage/Thermal resistance Pt100/Resistance/Thermocouple
Input signal	0~20mA /4~20mA 0~5V /0~10V /1~5V (Distribution voltage: 12V/20mA) PT100 /0~10K/K、E、T、J、N、R、S、B
Output signal	0~20mA /4~20mA (Safe side input); Load resistance: $\leq 550\Omega$ 0~5V /1~5V (Safe side input); Load resistance: $\geq 330K$ 0~10V (Safe side input); Load resistance: $\geq 500K$
Transmission accuracy	0.2%
Temperature modulus	50ppm/°C (The output signal is current)
Response time	5ms to reach 90% of final value (RTD Pt100/resistance/thermocouple input: 1s to reach 90% of final value)
Power supply	20~35V DC
Work temperature	-20°C~+60°C
Fix mode	Rail installation
Dielectric strength	Intrinsically Safe and Non-Intrinsically Safe $\geq 2500V$ AC; Power supply and Non-Intrinsically Safe $\geq 500V$ AC Note: Intrinsically Safe is input, Non-Intrinsically is output

5 Install and wiring

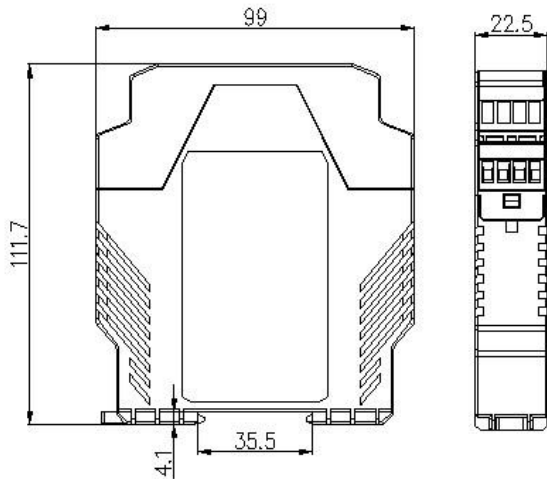
5.1 Outline dimension

Product category	Type of products	Outline dimension
BM200	BM200-□□/□-B11(single-way input and single-way output)	99mm*114.5mm*12.5mm
	BM200-□□/□-C□2 (single-way input and double-way output/double-way input and single-way output)	99mm*114.5mm*22.5mm

5.1.1 BM200-□□/□-B11 outline dimension:

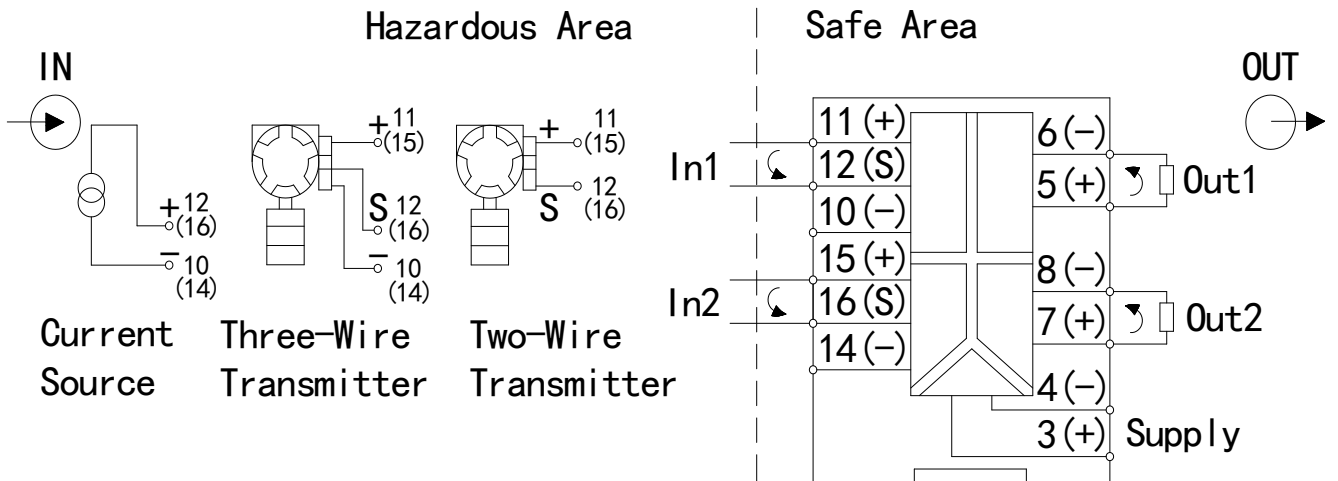


5.1.2 BM200-□□/□-C□2 outline dimension:

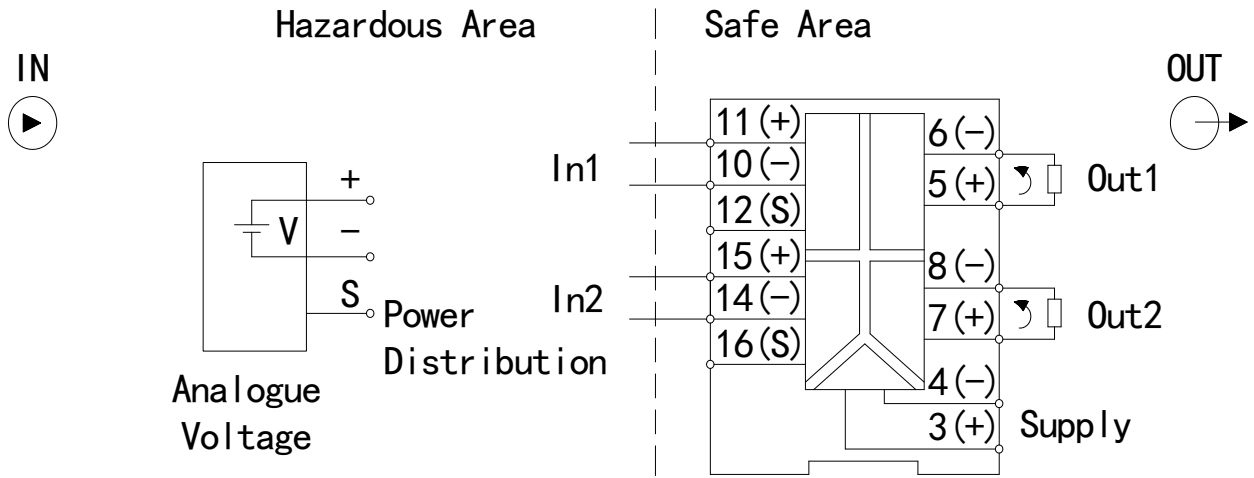


5.2 Wiring

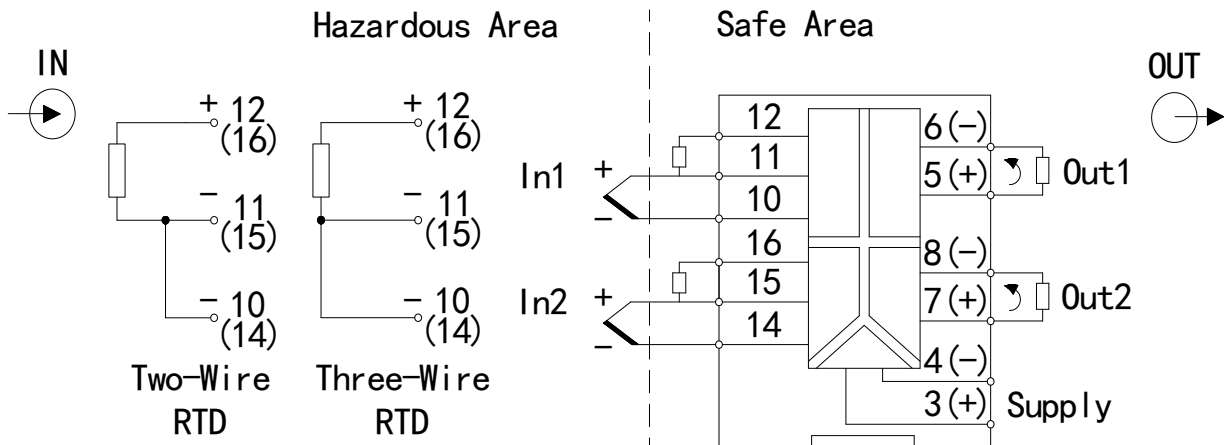
5.2.1 BM200-DI/I-□□□□:



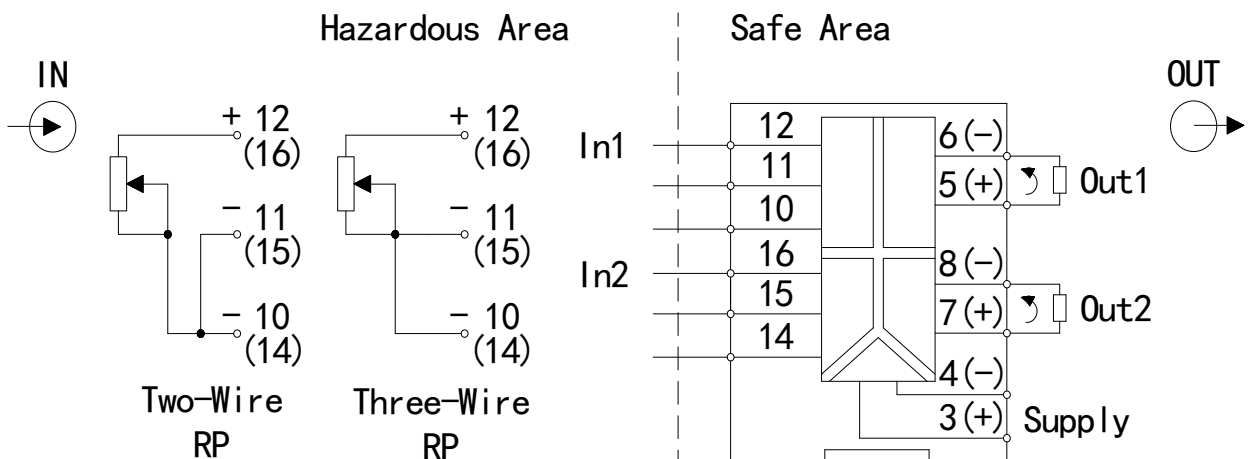
5.2.2 BM200-DV/□-□□□:



5.2.3 BM200-T□/□-□□□:



5.2.4 BM200-VR/□-□□□:



6 Precautions

6.1 This product complies with GB3836.1-2010 “Distributor for use in industrial-process measure and control systems—Part 1:General technical specification ”and GB3836.4-2010 “Explosive atmospheres—Part 4:Equipment protection by intrinsic safety i ”standards, and installation, operation and maintenance should be carried out under the requirements of corresponding standard.

6.2 This product must be installed in a safe area, and the surrounding air does not contain any medium that is corrosive to chromium, nickel and silver plating.

6.3 All instruments connected to the safety barrier must be instruments with explosion-proof certificate. When the safety barrier and a primary instrument form an intrinsically safe explosion-proof system, they must be approved by the state-specified explosion-proof inspection.

6.4 When the wiring is not completely disconnected, it is strictly forbidden to use a megohmmeter to directly test the insulation parameters between the terminals, otherwise the internal fast fuse will be blown.

6.5 The wiring of the intrinsically safe side power supply of the safety barrier should not be mixed with other non-intrinsically safe side circuits. Any wrong wiring may cause danger. The circuit wiring of the intrinsically safe and non-intrinsically safe of this product should be laid separately in the line groove.

7 Application examples

E.g.1 Input: single-way 4-20mA , output: double-way 4-20mA , auxiliary power supply: 24V DC

Type: BM200-DI/I-C12

E.g.2 Input: double-way 0-5V, output: double-way 0-20mA , auxiliary power supply: 24V DC

Type: BM200-DV/I-C22

E.g.3 Input: single-way Pt100, output: double-way 0-20mA , auxiliary power supply: 24V DC

Type: BM200-TR/I-C22