

ARRESTER

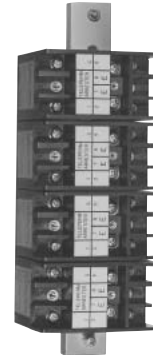
DATA SHEET

PXC

At places such as water purification plants, sewage treatment plants and dams, there are often cases where instruments are damaged due to lightning.

This arrester is used for protecting transmitters and receiving instruments from surge voltage induced in transmission lines due to lightning etc. Two types of arresters, field-mount type and panel-mount type, are available.

The arrester, using FUJI's Z-trap, offers high performance and reliability, and is optimum for protecting semiconductor circuits in instruments from surges.



Panel-mount type (PXC)

FEATURES

- Used as the arrester element is the Z-trap, which was developed at FUJI's central research laboratory and is already being widely used in products. The Z-trap is a gapless arrester made from a sintered body which consists mainly of zinc oxide, and offers the following remarkable features.
 - An excellent voltage limiting characteristic.
 - A large surge absorption capacity despite its small size.
 - Can absorb rapidly pulsating surge because of its fast response.
 - Voltage and current characteristics are symmetrical, so surges of both positive and negative polarity are equally absorbed.
 - Stable against repetitive surge.
 - High reliability.
- Performance is boosted by adding secondary and tertiary protective circuits made up of resistors and zener diodes as back-up circuit elements together with the Z-trap. This provides excellent protection for semiconductors.
- This is the panel-mount type (PXC) for receiving instrument protection.
The panel-mount type can be wired systematically at the bottom of the instrument panel together with external wiring and junction terminal board.
- Being an exclusive arrester for FUJI instruments the anti-surge characteristic of the system instruments and the excellent protection afforded by the arrester combine to allow utilizing the system with no worry whatever.
The arrester can also be used with 4 to 20mA signal circuits of other manufacturers instruments.

SPECIFICATIONS

Construction:

Housing	Synthetic resin, junction terminal strip structure
Arrester element	FUJI-Z trap
Secondary protective cct.	Resistors, zener diodes
Tertiary protective cct.	Zener diodes

- Working voltage:** 27V DC or less (for 4 to 20mA DC)
- Wiring method:** 2 wire system
- Internal resistance:**
Between terminals 1-2, 5-6;
10Ω each ... total 20Ω (max. 24Ω)
- Discharge starting voltage:**
85V DC ±15%
- Protective performance:**
Limiting voltage; 50V or less between transmission line and ground or another transmission line (at 100A discharge)
Operation delay; nearly 0 μs
Impulse discharge withstand current;
2000A with 8 x 20 μs impulse wave
No. of repetitive discharges;
400 times with 8 x 20 μs impulse wave,
100A discharge current and 15 sec. repeating interval.

Note: Although this is a highly effective arrester, there are no devices that guarantee 100% protection against any type of lightning. From the data collected so far it can be said that the surge voltage induced by most lightning is done in (10x200) μs with crest value 5kV. In certain regions it is said to strike over a hundred times every year. It is probable that protection might be insufficient against impulses generated due to high voltages in direct lightning.

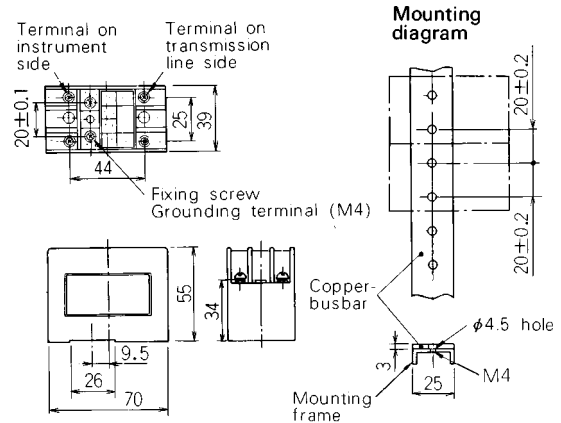
- Error due to addition of arrester:**
Less than 0.1%
- Grounding system:**
Grounding in coupled condition with instrument
Grounding construction JIS class 1 or special class 3
- Ambient temperature:**
0 to 45°C
- Mounting method:**
On copper busbar with two M4 screws
- External dimensions (HxWxD):**
55 x 70 x 39mm
- Mass(weight):** Approx. 250g
- Finish color:** Synthetic resin (black)

CODE SYMBOLS

Panel-mount type

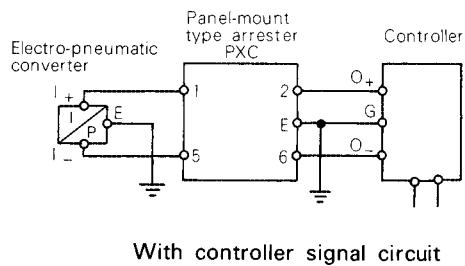
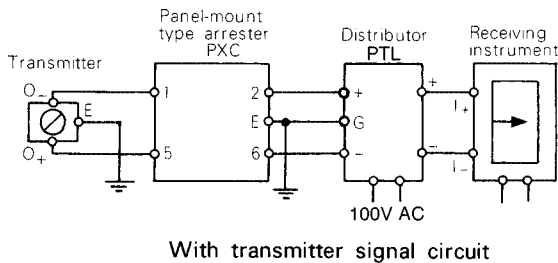
1	2	3	4	5	6	7	8	Description
P	X	C	1	0	0	0	2	
1								Working voltage/signal current 24V DC 4 to 20mA 2-wire system

OUTLINE DIAGRAM (Unit:mm)



Panel-mount type (PXC)

CONNECTION DIAGRAM



Cautions on use

- (1) PXC has an internal resistance of $20\ \Omega$, so when both arresters are used the wiring resistance becomes $40\ \Omega$.
- (2) PXC is intended for signal circuits, but if an arrester for a power supply circuit is necessary, we recommend FUJI's Z-trap.
- (3) Be sure to perform grounding correctly. The protected instrument and arrester should be grounded together, while keeping the grounding resistance as low as possible.
- (4) If the commercial frequency induced potential (common mode) to ground exceeds 35V AC, measuring error may result. Perform wiring so as to avoid as much as possible any induction from power sources or the like.
- (5) Before carrying out withstand voltage and insulation resistance tests on instruments or wiring, disconnect the arrester from the circuit.

ORDERING INFORMATION

1. Product name and code symbol

⚠ Caution on Safety

*Before using this product, be sure to read its instruction manual in advance.

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