

BK Series Control Transformer Manual

Product Overview

This product is manufactured using high-strength enameled wire and high-quality silicon steel laminations. The iron core features a shell-type structure, formed by stacking silicon steel sheets.

Applications and Technical Features

1. The BK series control transformers (hereinafter referred to as "transformer") are suitable for use in AC circuits with a frequency of 50 Hz to 60 Hz and a voltage of up to 500 V. In industrial and mining enterprises, they serve as power sources for local lighting; within electrical equipment, they function as power sources for control circuits, as well as for signal lights and indicator lamps.
2. This transformer is capable of continuous, long-term operation under rated load conditions.
3. The primary and secondary windings of this transformer are electrically isolated. When the secondary side consists of a single winding, it carries the transformer's entire rated capacity. If the secondary side incorporates separate windings for control, lighting, and indicator lamps, these windings are wound individually according to their respective capacity allocations. For single-winding transformers featuring intermediate taps, the capacity of each intermediate tap is lower than the transformer's total rated capacity; only the terminal corresponding to the maximum voltage output is capable of handling the full rated capacity.
4. Product Insulation Class: Class B.

Model description

| | | | | | | |
|-------------|---|-----------------|---|------------------------|---|----------------------|
| BK | - | □ | - | □ | - | □ |
| Design code | | Rated capacity: | | Input voltage | | Output voltage |
| | | 50VA: 50VA | | MV: 220VAC/380VAC | | 1: 6.3V 12V 24V 36V |
| | | 100VA: 100VA | | 220V: 220VAC | | 2: 6.3V 24V 36V 110V |
| | | ... | | 110-220V:110VAC/220VAC | | 3: 12V 24V 36V 110V |
| | | | | ... | | 4: 12V 24V 110V 220V |
| | | | | | | 12-24V: 12V 24V |
| | | | | | | ... |

Environmental Conditions

This transformer shall be operated under the following environmental conditions:

1. Altitude: Not exceeding 2,500 meters.
2. The ambient medium temperature shall not exceed +40°C nor fall below -25°C. At various altitudes, the maximum ambient medium temperature must remain below the limits specified in the table below:

| Altitude (h) | Maximum Medium Temperature |
|--------------------------------------|----------------------------|
| $h \leq 1000\text{m}$ | +40°C |
| $1000\text{m} < h \leq 1500\text{m}$ | +37.5°C |
| $1500\text{m} < h \leq 2000\text{m}$ | +35°C |
| $2000\text{m} < h \leq 2500\text{m}$ | +32.5°C |

3. The relative humidity of the ambient air shall not exceed 85%, provided that the average minimum temperature for the corresponding month does not exceed +25°C, and taking into account the potential for condensation to form on the product surface due to temperature fluctuations;
4. The installation site must be protected from rain and snow;
5. The location must be free from severe shaking or impact vibrations;
6. The product must be situated in an ambient medium free from explosion hazards, and the medium must not contain gases or dust (including conductive dust) capable of corroding metals or damaging insulation.

■ Precautions

1. Before use, verify that the operating voltage matches the product specifications; the input and output terminals must not be connected in reverse.
2. The connected load must be less than or equal to the rated capacity indicated on the product's nameplate. Do not operate under overload conditions.
3. Check all wiring terminals to ensure they are securely fastened and not loose.
4. Grounding of the product's secondary wiring is strictly prohibited.

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