

Please read the manual before installation and operation.

TCMK5260 Loop Isolator Installation and Operation Manual

Ver. 2.5

Yingkou Tiancheng Fire Protection Equipment Co., Ltd

1 General Introduction

TCMK5260 loop isolator, is mainly adopted for the connection of loop bus connected fire alarm system, whose partial short circuit may impact the whole system. The isolator is capable of isolating short circuited line from the system which ensures normal operation of other parts and locating isolated part.

2 Features

- 2.1 Polarized connection with peripheral devices and no need to transfer connection of input and output.
- 2.2 Delayed power supply to output terminal devices will avoid overload or strong transient current.
- 2.3 Plug-in structure.
- 2.4 Standard: EN54-17:2005

3 Technical Specifications

3.1 Operating voltage:

Signal loop voltage: loop 24V, ranging DC18.5V~DC26V

3.2 Operating current:

Loop polling current \leq 5.5mA, loop activate current \leq 25mA

Maximum IS max rated switch current (e.g. under short circuit condition): 1000mA

Maximum leaking current at IL max switch OFF status (e.g. isolated status): 24mA

Serial impedance at ZC max switch turnoff status: 0.8 Ω

3.3 Capacity: maximum 32 devices between two isolators; circular line resistance between two isolators shall be no larger than 18 Ω .

3.4 Indicator: yellow, flashes when polling and illuminates when isolated.

3.5 Addressing method: electronically coding, occupies one loop address ranging 1 to 255.

3.6 Wiring: polarized two bus connection.

3.7 Ingress protection: IP30

3.8 Operating environment:

Temperature:0 $^{\circ}$ C~+49 $^{\circ}$ C

Relative humidity \leq 95%, non-condensing

3.9 Dimensions: 86mm*86mm*41mm (with base)

3.10 Enclosure material and color: ABS, porcelain white

3.11 Weight: about 147g (with base)

3.12 Mounting hole distance: 60mm

4 Structure features and working principles

4.1 Module appearance sketch is shown as fig. 1.

Only the middle LED is used and the yellow light illuminate when isolated

4.2 Working principles

The built-in microchip allows the isolator and the control panel to receive and send information to each other, overload fault detection and status indicator control. After detecting overload fault of loop line, the micro-processor will cut loop connection and illuminate the indicator.

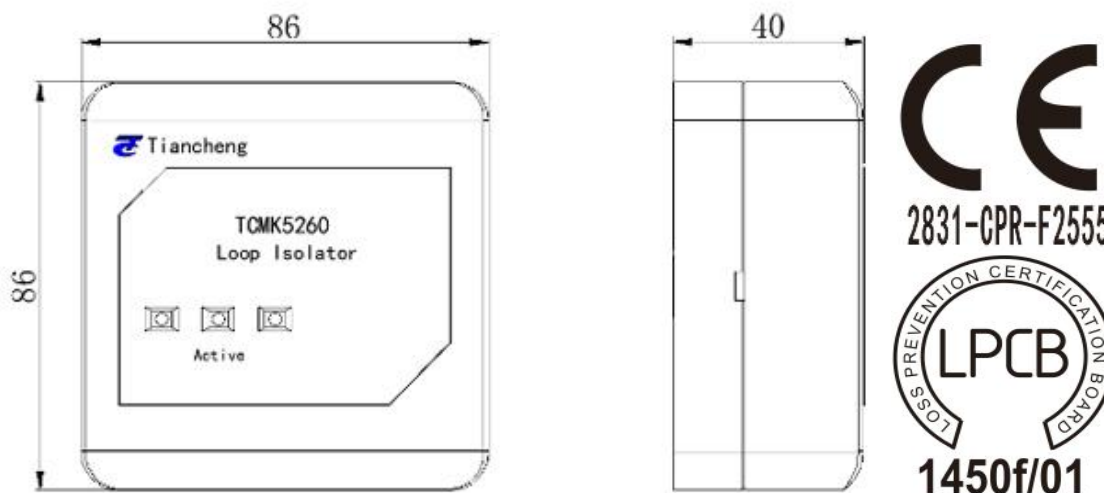


Fig. 1 appearance sketch

5 Installation and cabling

5.1 Warning:

Before installation, make sure loop power supply has been shut down, all bases firmly installed and all base connections' polarity connected correctly.

5.2 Before installation, make sure the enclosure is intact and mark complete.

5.3 Take surface installation for the isolator, install the base upward of the arrow direction, plug-in for the isolator to the base. Pull off the isolator, wear the cable through wiring hole on the base and connect correspondent terminal and plug in the isolator. Mounting hole distance is 60mm.

5.4 Isolator terminal sketch is shown as in fig. 2.

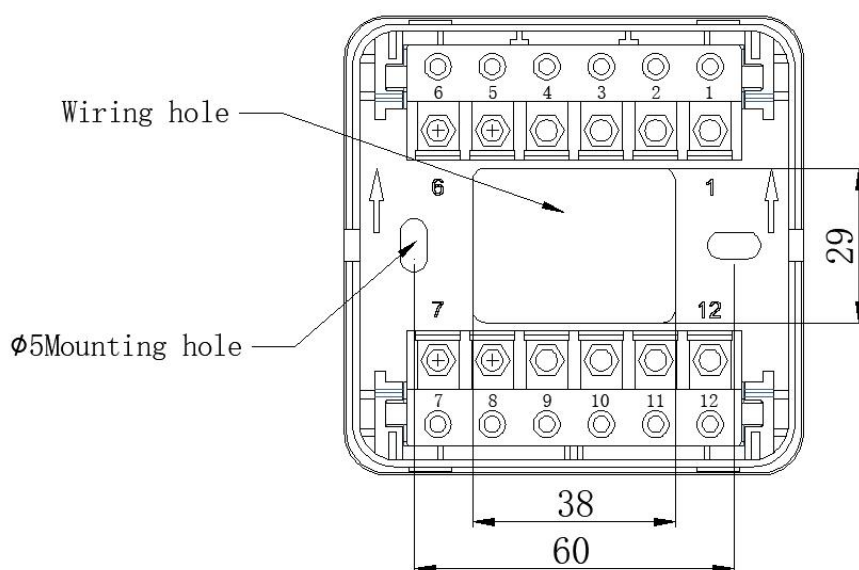


fig. 2 terminal sketch

5.5 Wiring instruction:

BS(pin 5), AS(pin 8): loop negative

BP(pin 6), AP(pin 7): loop positive

The positive cable enters from pin 7 and leaves from pin 6.

The cable negative enters from pin 8 and leaves from pin 5.

Please refer to control panel TC5109 terminal mark wiring.

5.6 Recommended Cabling :

1.0mm² or above fire cable, subject to local codes.

6 Test

6.1 At least once a month recommended.

6.2 Inform relevant management department before test, and handle the control panel properly to prevent any unexpected alarm linkage.

6.3 Test: after register complete and isolator functioning under polling status, run short circuit test to field loop line: two contiguous isolators act and indicator lit up, after short circuit removed, the isolator refunctions. All of above situations function indicate the isolators functioning well.

6.4 After test finished, reset isolator through reset module in the alarm panel and inform relevant department that system recovers.

6.5 During test, inspect disqualified isolator's connection and test again. If it still cannot pass the test, it shall be returned.

7 Utility and operation**7.1 Addressing**

The isolator adopts electronically coding which is easy and fast. It is available to code in field with TCBM5023 handheld encoder made by TC (separate order). Connect the encoder with isolator's terminal (non-polarized) then write in or read out.

7.1.1 Setting loop address method: press '2' on the main menu: 'operation menu' for '(2) mode setup', after entering submenu, choose '(1) TC5000' or '(5), (6) or (7)' for ascending, normal or descending coding. (Note: default, TC5000 and normal coding). After chosen complete, press 'erase/up' for coding interface or 'exist' for returning to main menu. Press #1 for '(1) read write add', connect the encoder with loop terminals L1 and L2, at standby status, input isolator's address (1 to 255), press 'Programme' key and the screen displays 'S' if succeed and 'F' if failed.

8 Faults and troubleshooting

faults	troubleshooting
Cannot register normally	loop open circuit or short circuit
Indicator illuminates	Check if the loop is short circuit

9 Packaging files

9.1 Packaging files:

Packaging list: 1

WEEE Information



2012/19/EU (WEEE directive):

Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points.

10. Limited Warranty

1. Tiancheng warrants that the product will be free of charge for repairing or replacing from defects in design, materials and workmanship during the warranty period. This warranty shall not apply to any product that is found to have been improperly installed or used in any way not in accordance with the instructions supplied with the product. Anybody, including the agents, distributors or employees, is not in the position to amend the contents of this warranty. Please contact your local distributor for products not covered by this warranty.

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