

Relay Input Terminal Unit






TUA711-DIR16

User manual

IM23H63-E

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Symbol Definition	
	WARNING: Indicates information that a potentially hazardous situation which, if not avoided, could result in serious injury or death.
	RISK OF ELECTRICAL SHOCK: Indicates information that Potential shock hazard where HAZARDOUS LIVE voltages greater than 30V RMS, 42.4V peak, or 60V DC may be accessible.
	ESD HAZARD: Indicates information that Danger of an electro-static discharge to which equipment may be sensitive. Observe precautions for handling electrostatic sensitive devices
	ATTENTION: Identifies information that requires special consideration.
	TIP: Identifies advice or hints for the user.

Security& Caution Symbols

The following table lists Security& Caution symbols used on equipments.














No.	Symbol	Description
1		Direct current (DC)
2		Alternating current (AC)
3		Ground (Earth) terminal
4		Protective earth (ground) terminal
5		Reference ground (Earth) terminal
6		Frame or chassis
7		Equipotentiality
8		On (power)
9		Off (power)
10		Caution, risk of electric shock
11		Caution, hot surface
12		Caution, risk of danger
13		Electrostatic sensitive devices (ESD)

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Relay Input Terminal Unit TUA711-DIR16

Section 1 Overview

TUA711-DIR16 is a relay input terminal unit of 16 channels, and mainly works with 1 non-redundant or a pair of redundant 16-channel digital input modules. The digital signal in field is sent to DI module after isolated by the relay of terminal unit. The terminal unit can work with the change-over bases MB745-S11 or MB746-S11 via the wire DB37.

TUA711-DIR16 can work with the module DI711-S11, DI713-S11 (do not support redundancy). Each channel of TUA711-DIR16 has 3 terminals, and supports inputting signals of passive contact and active contact. Every channel has changeable fuse and power indicator light, and the relay has socket. Therefore, user can change and maintain conveniently.

This terminal unit applies DIN rail installation and supports inlet wire of single side.

Section 2 Specifications

Table 2-1 Specifications

Parameter		Instruction
Model		TUA711-DIR16
Type		Relay Input Terminal Unit
Channel		16
Temperature	Work	(-20~70)°C
	Storage	(-40~85)°C
Humidity	Work	10%RH~90%RH, No Condensation
	Storage	5%RH~95%RH, No Condensation
Coil Power Supply		24V DC \pm 10%
Fuse	Field (16 Channels for Each Group)	3.15A Pluggable Fuse
	Field (Each Channel)	250mA Pluggable Fuse
ON/OFF	Contact Impedance Index	24V Index ON: <500 Ω OFF: >100k Ω
	Voltage-level Voltage Index	ON: >18VDC OFF: <1VDC
Dimension (L \times W \times H)		300mm \times 90mm \times 70mm

Section 3 Usage

3.1 Appearance

The appearance of TUA711-DIR16 is shown in Figure 3-1.

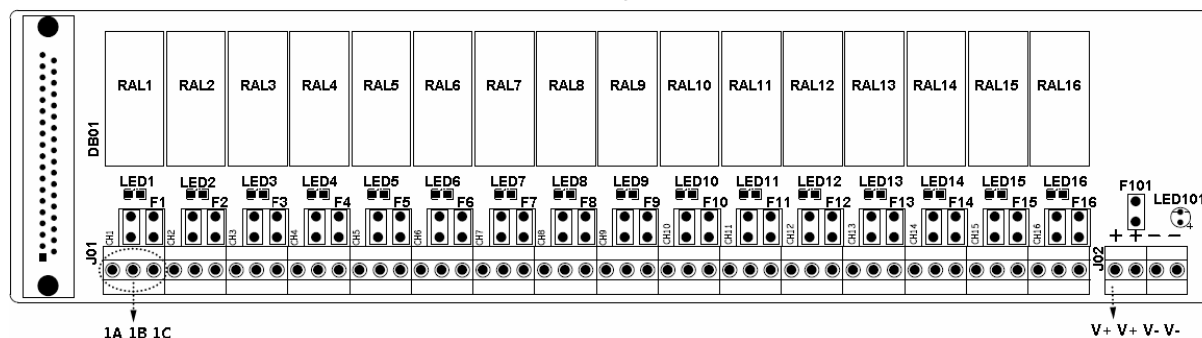


Figure 3-1 Appearance of TUA711-DIR16

3.2 Connectors

Table 3-1 Connectors

Sign	Instruction
DB01	Data Wire Socket of 16-Channel DI Module
J02	Terminal of Coil Power Supply
J01	Signal Terminal
F1~F16	Channel Fuse, For Jumper of Both Active and Passive (Model: T 250mA)
F101	Fuse of Coil Power Supply (Model: T 3.15A)
LED101	Power Indicator Light of Coil Power Supply
RAL1~RAL16	Pluggable Relay of 16-Channel (Model: RCL424024)
LED1~LED16	Indicator Light of 16-Channel (ON: have signal; OFF: No Signal)

3.3 Wiring of Signal Connection

Table 3-2 Wiring of signal connection

Signal	Active Contact Signal Input	Passive Contact Signal Input
Settings of F1~F16		
Wiring of CH1~CH16		



Attention:

Please make sure that the fuse settings in signal channel are correct before power on. Otherwise, damage for terminal board or module may be caused.

3.4 Interface Features

When the wiring is 24V passive contact input, plug F1~F16 in the left socket (as shown in Figure 3-2), and the terminal connects the former 2 of 3 terminals in each channel (terminals A and B). When the wiring is 24V active contact input, plug F1~F16 in the right socket (as shown in Figure 3-2), and the terminal connects the later 2 of 3 terminals in each channel (terminals B and C).

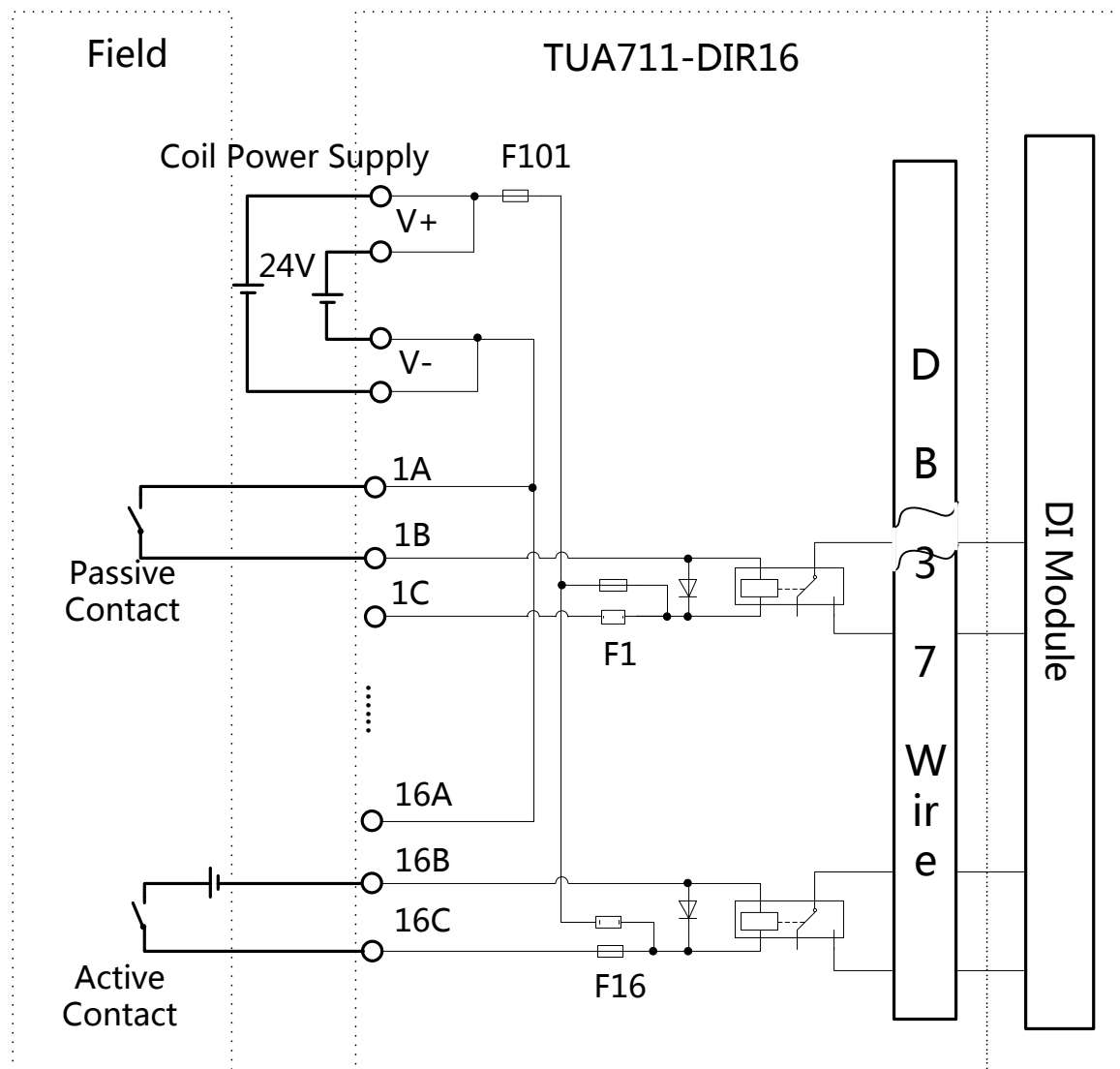


Figure 3-2 Circuit

The maximum section of wire allowed to connect the terminal in TUA711-DIR16 is 2.5mm^2 . The wires with sections of 1mm^2 or 1.5mm^2 , the wire stripping length of 8mm and the tightening torque of (0.5~0.6)Nm are recommended.

3.5 Terminal Definition and Wiring

In the figures below, “n” refers to 1~16 and numbers the channels. For example, the 3 terminals of the 16th channel are 16A, 16B and 16C.

Table 3-3 Wiring

Wiring	CH1~CH8	Terminal	CH9~CH16	Terminal
<div><div>Coil Power</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></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Section 4 Engineering Application

4.1 Note

When the input signal in TUA711-DIR16 is active contact, the terminal J02 will not be powered, and the indicator light LED101 will be off.

4.2 Troubleshooting

When the input power of J02 is normal but the LED101 is off, the power loop has fault. Please check the fuse F101.

Section 5 Revision

Table 5-1 Retrofit list of the version

Document Version	Applicable Product Version	Remarks
V1.0(20131012)	TUA711-DIR16 V10.00.00 and later versions	The first version.
V1.1(20140428)	TUA711-DIR16 V10.00.00 and later versions	Add the attention and modify relay model
V1.2(20151022)	TUA711-DIR16 V10.00.00 and later versions	Modify the wiring
V1.3(20160503)	TUA711-DIR16 V10.00.00 and later versions	Add the information of DI713-S
V1.4(20161116)	TUA711-DIR16 V10.00.00 and later versions	Add wire specifications Add code