






**Transferring Terminal Board of
Digital Signal Input
TUA711-DI32
User Manual
IM23H77-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.

Safety & Caution Symbols

The following table lists Safety & 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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TUA711-DI32

Section 1 Overview

TUA711-DI32 is a 32-channel transferring terminal board of digital signal input, which can transfer the digital signal of the field side equipment and input it to the system side DI modules. It coordinates with the MB745-S base to connect a non-redundant DI715-S11; when it coordinates with the MB746-S base, it can connect to a pair of redundant DI715-S11.

Terminal board connects to the transferring terminal board via DB37. Two-channel 24VDC input power terminals are built in the terminal board and can be configured redundant power supply. The power supply circuit is equipped with a changeable fast fuse; 64 input signal wiring terminals are on the terminal board and each channel contains 2 wiring terminals for receiving the field signal. For wiring details, refer to 3.4 Illustration for Wiring.

The terminal board adopts DIN rail installation method and supports wire entry from unilateral side .

Section 2 Technical Specifications

Table 2-1 Technical Specifications

Parameter		Description
Model		TUA711-DI32
Name		Transferring terminal board of digital signal input
Number of channels		32 channels
Power distribution		24VDC \pm 10%
Fuse specifications		2A /250V , replaceable fast fuse
Single channel current		12 mA (typical value for redundant configuration)
signal type		Passive contact
Contact type impedance index		ON: < 1 Kw, OFF: >100k Ω
temperature	Operating temperature	(-20 \sim 70) $^{\circ}$ C
	Storage temperature	(-40 \sim 85) $^{\circ}$ C
humidity	Working humidity	10% RH \sim 90% RH , no condensation
	Storage humidity	5% RH \sim 95% RH , no condensation
Module size (length \times width \times height)		200 mm \times 87mm \times 65mm

Section 3 Use Illustration

This section contains the appearance diagram of the terminal board, connector description, interface characteristics, terminal definition and wiring description.

3.1 Terminal Board Appearance

TUA711-DI32 terminal board's appearance is shown in Figure 3-1.

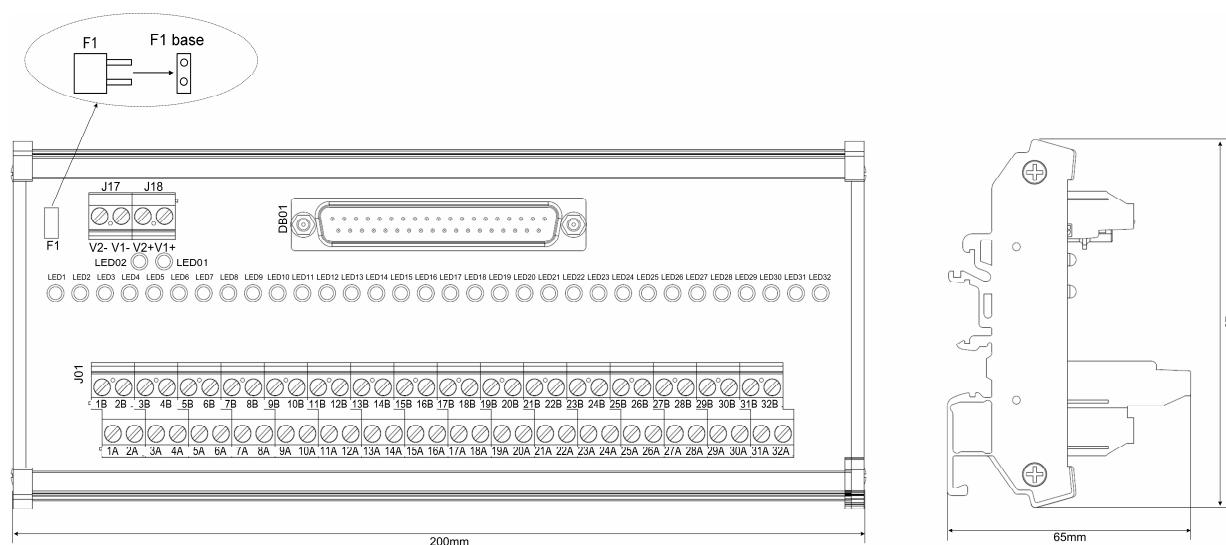


Figure 3-1 Appearance of Terminal Board

3.2 Connectors

Table 3-1 Illustration for connectors

Label	Description
DB01	DB37 interface (male) , can be connected to the adapter base to connect to the DI module
J 17 , J18	Power supply terminals for channel indicator , which can connect to two redundant 24VDC power
J 01	Field side signal input wiring terminal , corresponding to 32 channels of DI module
LED1~LED32	32-channel indicator (ON/OFF)
LED01 , LED02	V1 and V2 power indicator lights (on: normal , off: not powered on or power failure)
F1	Power supply fuse

3.3 Interface Features

TUA711-DI32 terminal board comprises a 32-channel DI signal input channels. Each signal input channel contains 2 terminals (A and B). Interface characteristics are shown in Figure 3-2.

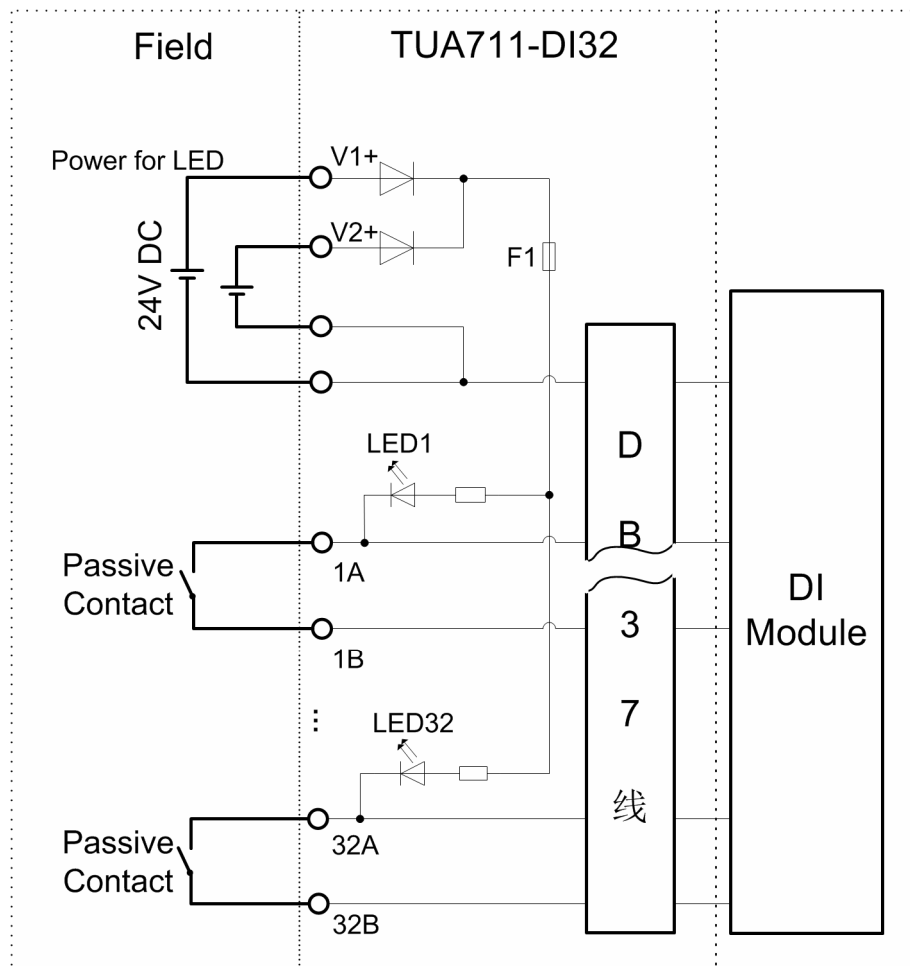


Figure 3-2 Circuit wiring diagram

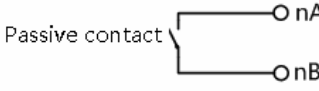
3.4 Illustration for Wiring

TUA711-DI32 terminal board comprises two groups of terminals and a DB37 connector. The wiring terminals are power wiring terminals and input signal wiring terminals.

- Supply terminals: marked as V2- , V1- , V2+ , V1+ , respectively connecting to two redundant 24VDC power supplies.
- Input signal wiring terminals: identified as 1A , 1B ,2A , 2B , and so on, a total of 32 channels as shown in Table 32 below. In the diagram, n is a number from 1 to 32 , indicating the channel number.
- DB37 connector (male): Use the standard DB37 cable to connect to the I/O module adapter base.

The connection terminal of TUA711-DI32 transferring terminal board allows the maximum cross-section of the wire to be 2.5mm^2 , it is recommended to use 1mm^2 or 1.5mm^2 cross-section wire, stripping length 8mm , tightening torque (0.5~0.6)Nm.

Table 3-2Field signal input wiring illustration

Wiring diagram	The first 16 channels	Terminal	The last 16 channels	Terminal
	CH1	1A	CH17	17A
		1B		17B
	CH2	2A	CH18	18A
		2B		18B
	CH3	3A	CH19	19A
		3B		19B
	CH4	4A	CH20	20A
		4B		20B
	CH5	5A	CH21	21A
		5B		21B
	CH6	6A	CH22	22A
		6B		22B
	CH7	7A	CH23	23A
		7B		23B
	CH8	8A	CH24	24A
		8B		24B
	CH9	9A	CH25	25A
		9B		25B
	CH10	10A	CH26	26A
		10B		26B
	CH11	11A	CH27	27A
		11B		27B
	CH12	12A	CH28	28A
		12B		28B
	CH13	13A	CH29	29A
		13B		29B
	CH14	14A	CH30	30A
		14B		30B
	CH15	15A	CH31	31A
		15B		31B
	CH16	16A	CH32	32A
		16B		32B

Section 4 Accessory List

Accessory Name	Model
Fuse F1	MSF002
DB37 Cable	LE37011

Section 5 Illustration for Engineering Application

5.1 Application Precautions

When replacing the fuse, please be aware of cutting off the power supplier in advance to ensure the electricity safety.

5.2 Troubleshooting

When modules are under the power-on status, if the power indicators of LED01 and LED02 are still off, check whether the power supply and connection is normal.

Section 6 Revision

Retrofit List of the Version

Manual Version	Applicable Model Version	Remarks
V1.0 (20201118)	TUA711-DI32 V 10.00.00 and above	First Edition
V1.1 (20210330)	TUA711-DI32 V 10.00.00 and above	Optimization