

INSTALLATION MANUAL

TIS RCU MODULE

Room Control Unit with 24 Outputs

Model: RCU-24R20Z



TIS
CONTROL EVERYTHING



PRODUCT INFORMATION

This product is a smart controller with 20 input and 24 output channels ideal for the automation of lights, sensors, FCU, curtains and motorized devices for maximum efficiency and user comfort.

PRODUCT SPECIFICATIONS

	Output Switching Voltage	Number of channels	24
		Nominal voltage	0 – 230 V AC 50/60 Hz
		Max. switching voltage	440VAC / 125VDC
	Output switching current	Nominal current per channel	Ch. 1-12: 10A, Ch. 13-24: 5A
		Maximum total channels load	180 A / 230
		Max switching current	Ch. 1-12: 16A, Ch. 13-24: 6A
		Max continues current	Ch. 1-12: 10A, Ch. 13-24: 5A
	Input	Number of channels	20
		Input Type	Digital input. Open / Close
		Length of connected wire	< 350 meter
	TIS Bus	Number of devices on 1 line	Max. 64
		Bus voltage	12-32 V DC
		Current consumption (Normal)	<45 mA / 24 V DC
		Current consumption (Peak)	<400 mA / 24 V DC
		Protection	Reverse polarity protection
	Operation	Programming button/LED	For assignment of the physical address
		2 buttons	Manually ON/OFF and programming
		By TIS bus	TIS protocol messages and commands
		Programming	Manual & via software
	Functions	Lighting control ON/OFF/Dimming	24 separately controllable channels
		Curtain control	Can set 12 groups of curtains open/close
		Fan speed control	Can set 8 groups of fan speed options (low, med, high)
		Scenes	12 different scenarios
		24 digital inputs	Programmable inputs to connect to normal wall switches and sensors
	Dimensions	Width x Length x Height	215mm x 76mm x 91mm
	Housing	Materials	Fireproof ABS
		Casing color	Black
		Button color	Silver
		IP rating	IP 20



BARCODE (UPC-A)



6 58921 79822 5



Read Instructions

We recommend that you read this Instruction Manual before installation.



Safety instructions

Electrical equipment should only be installed and fitted by electrically skilled persons.

Failure to observe the instructions may cause damage to the device and other hazards.

These instructions are an integral part of the product and must remain with the end customer.



Programming

Advanced programming requires TIS Device Search software. Advanced software programming knowledge should be obtained in the advanced training courses.



Simple Installation

DIN Rail mount facilitates installation. Fixing points are provided for installation without the use of DIN rail.



Mounting Location

Install in a dry, well-ventilated location. Controllers may emit some mechanical noise. Take this into account when deciding on a mounting location.



Data Cable

Use screened stranded RS485 data cable with four twisted pairs. Configure devices in a "Daisy Chain."

Do not cut or terminate live data cables.



Electrical Wires

The installer should adequately consider the total current consumption when selecting the wires.

Recommended wire size for load (light channels) and input wires is 2.5 - 4 mm.



Warranty

We provide a warranty as required by law. A hologram warranty seal and product serial number are provided on each device. Please send the description of the defect with Product S/N to our dealer network.





INSTALLATION STEPS

1

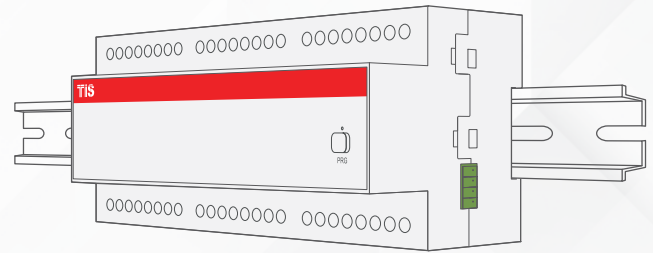
Turn off the main electrical source before installation.



WARNING! HIGH VOLTAGE

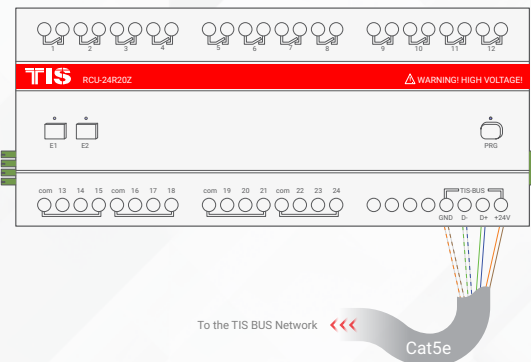
2

Mount the device on a DIN Rail inside an approved enclosure. The device can also be installed without the use of DIN Rail by two mounting screw holes.



3

Connect RS485 data cable to the TIS-BUS port as per the connection diagram. No need to loop the TIS-bus cable if 2 DIN Rail modules are connected together from the side bus train terminal.



4

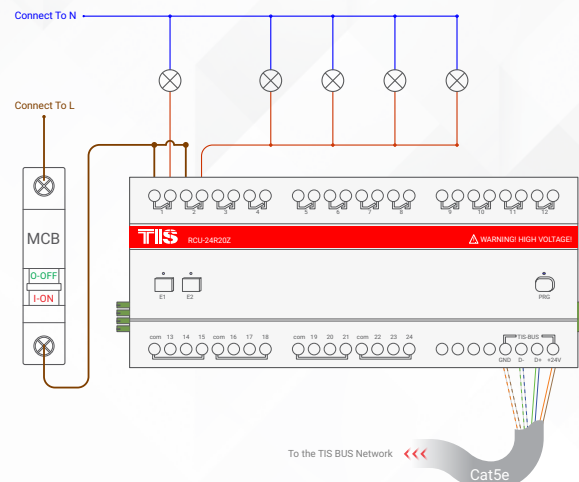
Complete the load connection, light, floor heating, and shutter, and FCU as per the following steps:



LIGHTS / APPLIANCES / FLOOR-HEATING CONNECTION

Connect the load electrical wires to outputs 1-24. Each channel from 1-12 can control a maximum of 10A loads, and each channel from 13-24 can control a maximum of 5A loads. The installer should make sure not to overload the channels.

Load neutral wire should be linked to the neutral connection in DB enclosure.





INSTALLATION STEPS

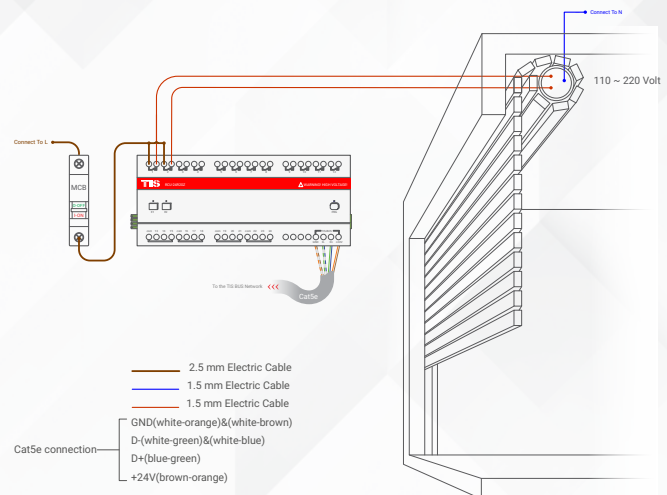


SHUTTER / CURTAIN CONNECTION

Once you combine any 2 channels as shutter/curtain, then connect the shutter-open wire to the first channel and the shutter-close wire to the second channel. The shutter neutral wire should be linked to the neutral connection in DB enclosure.



WARNING: Do not connect curtain motor wires before combining (interlocking) 2 relay channels together as curtain mode to avoid causing damage to motors. Please read about how to manually program shutter/curtain pairing in this manual.

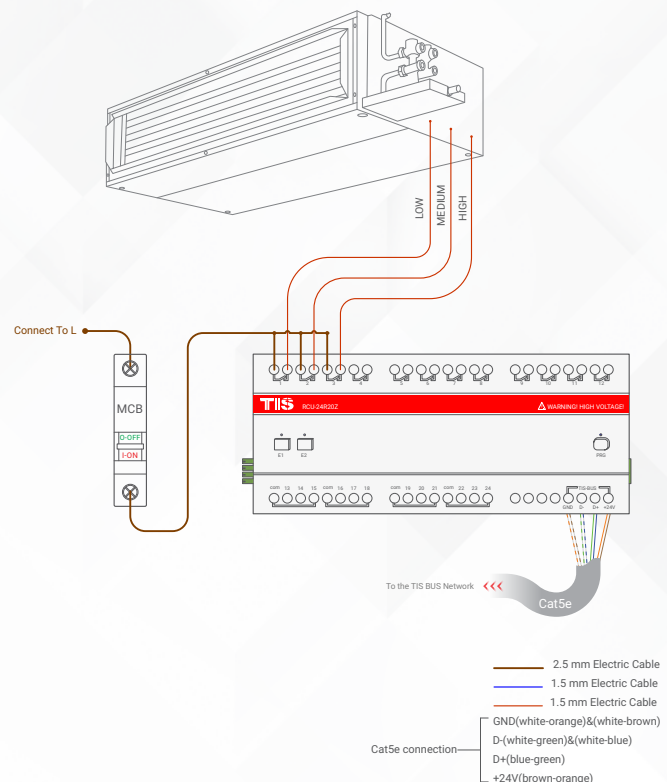


FCU Connection

Once you combine any 3 channels as FCU, then connect the FCU (Low, Medium, High) wires to the first, second, and third channels, consecutively. The FCU neutral wire should be linked to the neutral connection of the same section.



WARNING: Do not connect FCU wires before combining (interlocking) 3 relay channels together as FCU mode to avoid causing damage to FCU. Please read about how to manually program FCU pairing in this manual.

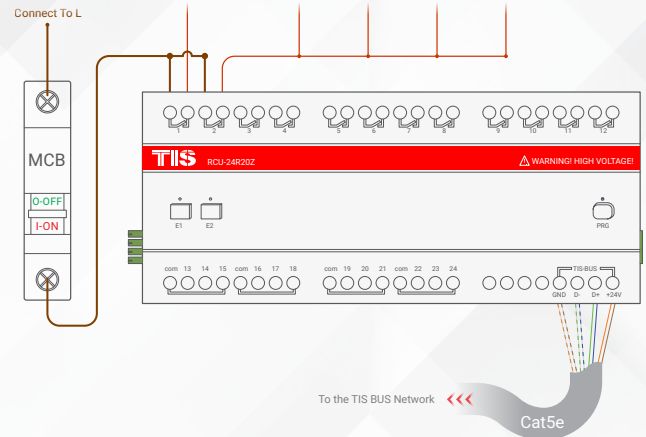




INSTALLATION STEPS

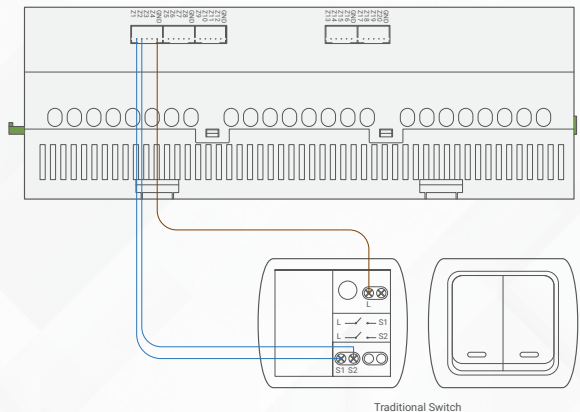
5»

Connect the live (supply) wire to inputs. All inputs must have an appropriate voltage source and an MCB to protect that load circuit.



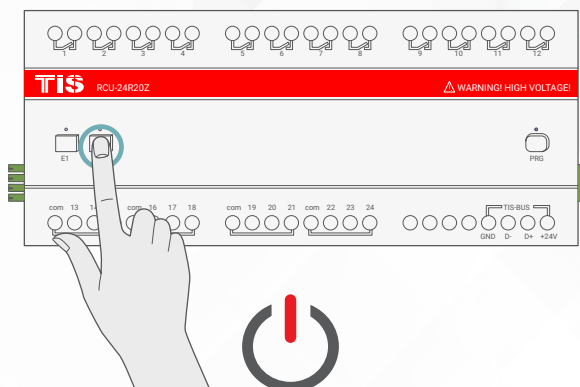
6»

Connect digital inputs (dry contacts) GND terminal, and zone number (z1-z20) terminal to mechanical switches without any voltage supply. Then test it by pressing the wall switch up/down, z1-z20 inputs will trigger relay ch1-ch20 consecutively as default setting.



7»

Turn on the power source, and then test the loads by short pressing on the device's local override buttons E1-E2.





TROUBLESHOOTING



PRG Button Blinks Red Color Rapidly

Reason: The Module address conflicts with other device in TIS network, you need to press and hold the PRG button for 6 seconds so the module can get new address



Device PRG LED is not Blinking; Device not Powered

Reason: Device is not powered on; no TIS-BUS 24V supply connected to the device.



Device E1, E2 Button LED ON but lights not ON

Reason 1: Lights' neutral wire not connected

Reason 2: E1.E2 default setup in software has changed



Wall Panels can't Control the Device Channels

Reason 1: TIS-BUS connection has a problem; check the wires and make sure there's not a short in the connection.

Reason 2: Programming address is wrong.



Dry input is not turning the RCU lights ON/OFF

Reason: Either the default setting in software or the RCU address has changed.



Channel is turning off by itself after few seconds

Reason: It is programmed as shutter / curtain combination, and running time is enabled in the software.