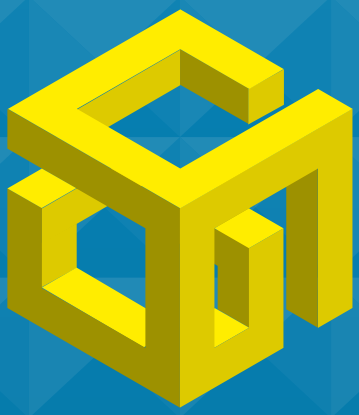
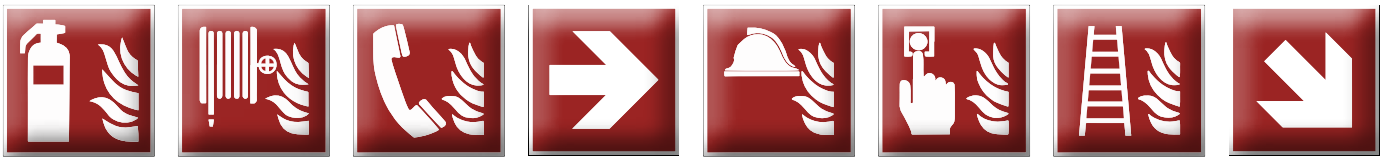


RELAY FOR PERMANENT CONTROL OF THE MCCB'S TRIPPING CIRCUIT AND ACTUATOR FOR SAFETY CIRCUITS

contrel elettronica

ITALIAN DESIGN




VACUATION PLAN
LEGENDS
ALARM Button
EXIT
FIRE
WATER dispenser
EXIT STAIRS
POMPIER
EXIT way
FIRE AXE
You are HERE
DON'T SMOKE
SWITCHBOARD

Permanent control of safety circuits

Always in sight and within reach, the emergency stop allows you to interrupt the power supply to a system in a safe and immediate manner. Its functionality must be guaranteed for the entire life of the system itself and must never give space to the unexpected. There are several technical solutions proposed by Contrel that allow you to carry out an emergency stop.

Rooms and types of systems in which the emergency command is provided:

- TOURIST RECEPTION (Hotels, Tourist Villages, Agritourisms, Alpine Refuges, etc.).
- LIFTS AND GOODS LIFTS
- GARAGES AND AUTOSILO
- CAR WORKSHOPS, BODY SHOPS, ELECTRICIANS, TIRES, ETC.
- LARGE COMPANIES AND OFFICES
- MV / LV ELECTRICAL CABINETS OF THE USER
- CONSTRUCTION SITES
- QUARRIES AND MINES
- GAS POWERED THERMAL CENTRAL UNITS AND HOT AIR GENERATORS
- SHOPPING CENTERS AND OTHER PREMISES USED FOR SALE
- DATA PROCESSING CENTERS
- LPG DEPOSITS
- DEPOSITS, FACTORIES, PLANTS AND RESALE OF FLAMMABLE LIQUIDS
- SHOPPING CENTERS AND OTHER PREMISES USED FOR SALE
- HISTORICAL BUILDINGS, MUSEUMS, LIBRARIES, ARCHIVES, ART GALLERIES, ETC.
- LARGE GAS COOKERS
- GENERATING SETS
- PUBLIC SHOW PREMISES
- UNDERGROUND
- HOSPITALS, NURSING HOUSES, CLINICS
- RESTAURANTS, CANTEENS, ETC.
- SCHOOLS AND UNIVERSITIES OF ALL ORDER AND GRADE

Index Page

RELAY FOR PERMANENT CONTROL OF THE MCCB'S TRIPPING CIRCUIT

Certification obtained: **EAC** | Compliant with standards: **CEI-EN 61010-1, CEI-EN 61551-1, CEI-EN 61326-1 CEI-EN 61326-2-4, CEI 64-8 (64-8/464.1, 64-8/465.5, 64-8/537.4.3)**

See dimensions and wiring diagrams at the end of chapter

TCS-1

TCS-2

TYPE		RATED AUXILIARY SUPPLY VOLTAGE	NETWORK TO MONITOR	ORDER CODE	PCS	WT
TCS-1	• Relay for permanent control of the mccb's tripping circuit • Modular 3 DIN	24-48 VAC/DC	13÷60 VAC/DC	**3TC01N**	1	0,200
TCS-2	• Relay for permanent control of the mccb's tripping circuit • Modular 3 DIN	110-230 VAC/DC 400 VAC	50÷260 VAC/DC 250÷440 VAC	**3TC02P**	1	0,240

GENERAL CHARACTERISTICS

The TCS-1 and TCS-2 relays are devices used for tripping circuit breaker control or safety circuit control. When an anomaly occurs on the release or emergency circuit, the red "ALARM" LED lights up and at the same time the relay is de-energized for a possible acoustic signal or remote repetition of the information.

- Green LED indicating system (OK)
- Red LED for alarm signaling (ALARM)
- Tripping delay:
- 0,4÷1 sec (TCS-1 only)
- 0,2÷0,5 sec (TCS-2 only)
- Reset delay:
- 0,6÷1 sec (TCS-1 only)
- 1,5÷2 sec (TCS-2 only)
- Front TEST button
- 2 relay outputs for any anomaly condition
- Modular DIN housing, 2 modules
- Degree of protection: IP20

RELAY FOR PERMANENT CONTROL OF THE MCCB'S TRIPPING CIRCUIT

Certification obtained: **EAC** | Compliant with standards: **CEI-EN 61010-1, CEI-EN 61551-1, CEI-EN 61326-1 CEI-EN 61326-2-4, CEI 64-8 (64-8/464.1, 64-8/465.5, 64-8/537.4.3)**

See dimensions and wiring diagrams at the end of chapter

TCS-3 TCS 4

TYPE		RATED AUXILIARY SUPPLY VOLTAGE	NETWORK TO MONITOR	ORDER CODE	PCS	WT
TCS-3	• Relay for permanent control of the mccb's tripping circuit • Flush mount 96x96 mm	24-48 VAC/DC	13÷60 VAC/DC	**3TC05N**	1	0,200
TCS-4	• Relay for permanent control of the mccb's tripping circuit • Flush mount 96x96 mm	110-230 VAC/DC 400 VAC	50÷260 VAC/DC 250÷440 VAC	**3TC06P**	1	0,240

GENERAL CHARACTERISTICS

The TCS-3 and TCS-4 relays are devices used for tripping circuit breaker control or safety circuit control. When an anomaly occurs on the release or emergency circuit, the red "ALARM" LED lights up and at the same time the relay is de-energized for a possible acoustic signal or remote repetition of the information.

- Green LED indicating system (OK)
- Red LED for alarm signaling (ALARM)
- Tripping delay:
- 0,4÷1 sec (TCS-3 only)
- 0,2÷0,5 sec (TCS-4 only)
- Reset delay:
- 0,6÷1 sec (TCS-3 only)
- 1,5÷2 sec (TCS-4 only)
- Front TEST button
- 2 relay outputs for any anomaly condition
- Flush mount 96x96mm housing with transparent cover
- Degree of protection: IP52

DEVICES FOR PERMANENT CONTROL OF SAFETY CIRCUITS WITH ACTIVATOR FOR SWITCH EMERGENCY OPENING

See dimensions and wiring diagrams at the end of chapter

Certification obtained: **EAC** | Compliant with standards: **CEI-EN 61010-1, CEI-EN 61551-1, CEI-EN 61326-1 CEI-EN 61326-2-4, CEI 64-8 (64-8/464.1, 64-8/465.5, 64-8/537.4.3)**

TCS-A5

TYPE		RATED AUXILIARY SUPPLY VOLTAGE	NETWORK TO MONITOR	ORDER CODE	PCS	WT
TCS-A5	• Device for permanent control of safety circuits with actuator for opening emergency switch with shunt trip opening coil and buttons or normally closed contacts • Modular 6 DIN	110-230 VAC	100÷250 VAC/DC	**3TC10V**	1	0,500
		110-230 VAC	20÷60 VAC/DC	**3TC12V**		
		110 VDC	100÷250 VAC/DC	**3TC10F**		
		110 VDC	20÷60 VAC/DC	**3TC12F**		
		20÷60 VAC/DC	100÷250 VAC/DC	**3TC10N**		
		20÷60 VAC/DC	20÷60 VAC/DC	**3TC12N**		

GENERAL CHARACTERISTICS

The TCS-A5 device is a command and control system for emergency stop through buttons and normally closed contacts. Unlike TCS products, the TCS-A5 is used to open the switches associated with shunt opening coil or in any case systems that can be activated with normally open contacts. The TCS-A5 actuator thus creates a controlled input line for normally closed buttons or contacts and the output with a normally open contact with continuity and circuit efficiency control.

In case of connection to TCS-R6 multiple trip modules, the Vc must be 20-60 VAC/DC.

- Buttons and contacts used normally closed with very low voltage power supply for greater safety and to avoid functional problems with long lines
- Active control with signaling of interruption or short circuit of the pushbutton line
- Ability to use multiple buttons with total control
- Outputs for switch control, alarm signal output and safety output
- Control of the output line to the opening coil with continuity check
- Insensitivity to mains interruptions without using batteries
- Selection of number of buttons or contacts with total control
- Selection of opening or alarm function in case of button line and / or coil line fault
- Insulated and stabilized power supply insensitive to micro-interruptions
- Auxiliary voltage presence check
- Green power supply signaling LED (ON)
- Red LED for signaling trip circuit anomaly (ALARM)
- Red LED for signaling input contacts anomaly (ALARM)
- Red LED indicating device ready for activation of the output in the absence of anomalies (READY)
- Red LED for signaling relay output activated (TRIP)
- TRIP output activation delay: 150 ms
- LED READY switch-on delay: 150 ms
- TRIP output pulse due to Vaux missing: 100 ms
- LED READY switch-on delay: 1 s
- TEST and RESET button on the front
- Number of self-controlled contacts selectable by microswitch
- Alarm signaling selectable by microswitch
- Relay outputs for any anomaly condition
- DIN modular container with transparent lid
- Degree of protection: IP20 terminals; IP40 front (with cover)

DEVICES FOR PERMANENT CONTROL OF SAFETY CIRCUITS WITH ACTIVATOR FOR SWITCH EMERGENCY OPENING

See dimensions and wiring diagrams at the end of chapter

Certification obtained: **EAC** | Compliant with standards: **CEI-EN 61010-1, CEI-EN 61551-1, CEI-EN 61326-1 CEI-EN 61326-2-4, CEI 64-8 (64-8/464.1, 64-8/465.5, 64-8/537.4.3)**

TCS-R6

TYPE		RATED AUXILIARY SUPPLY VOLTAGE	NR.TC	NETWORK TO MONITOR	ORDER CODE	PCS	WT
TCS-R6	• Multiple control and release of emergency circuits up to 5 circuits • Modular 6 DIN • Possibility of controlling subsequent modules	110-230 VAC	6	65÷150 VAC/DC	**3TC21V**	1	0,500
		110-230 VAC	6	150÷260 VAC/DC	**3TC20V**		
		110-230 VAC	6	20÷60 VAC/DC	**3TC22V**		
		110-230 VAC	5	65÷150 VAC/DC	**3TC26V**		
			1	24-48 VAC/DC			
		110-230 VAC	5	150÷260 VAC/DC	**3TC25V**		
			1	24-48 VAC/DC			
		110-230 VAC	5	48 VAC/DC	**3TC27V**		
			1	24-48 VAC/DC			
		110 VDC	6	65÷150 VAC/DC	**3TC21S**		
		110 VDC	6	150÷260 VAC/DC	**3TC20S**		
		110 VDC	6	20÷60 VAC/DC	**3TC22S**		
		110 VDC	5	65÷150 VAC/DC	**3TC26F**		
			1	24-48 VAC/DC			
		110 VDC	5	150÷260 VAC/DC	**3TC26F**		
			1	24-48 VAC/DC			
		110 VDC	5	230 VAC/DC	**3TC25F**		
			1	24-48 VAC/DC			
		24-48 VAC/DC	6	65÷150 VAC/DC	**3TC21N**		
		24-48 VAC/DC	6	150÷260 VAC/DC	**3TC20N**		
		24-48 VAC/DC	6	20÷60 VAC/DC	**3TC22N**		
		24-48 VAC/DC	6	24 VAC/DC	**3TC28N**		
		24-48 VAC/DC	5	65÷150 VAC/DC	**3TC26N**		
			1	24-48 VAC/DC			
		24-48 VAC/DC	5	150÷260 VAC/DC	**3TC25N**		
			1	24-48 VAC/DC			
		24-48 VAC/DC	5	48 VAC/DC	**3TC27N**		
			1	24-48 VAC/DC			

GENERAL CHARACTERISTICS

The TCS-R6 device allows continuity and efficiency control of up to 5 distinct circuits with circuit inefficiency alarm signaling.

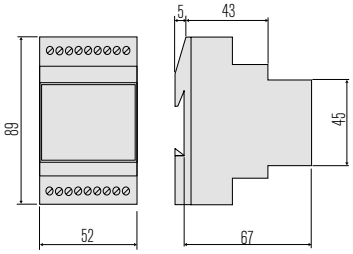
With the sixth output (TC1, always at 24-48 VAC/DC) of the TCS-R6 it is possible to control a subsequent TCS-R6 in order to expand the number of individually controlled circuits indefinitely. Obviously, the TC1 output can also be used to drive a 24-48 VAC/DC coil.

The TCS-R6 is therefore a device that includes a command input to be connected to the TCS-A5 output (or in any case a normally open contact) and five relay outputs to be used for opening switches, including a continuity check. for each output keeping the outputs isolated from each other, so that different power sources can also be used.

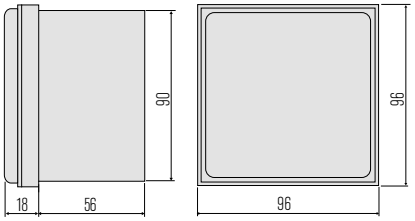
- Green power supply signaling LED (ON)
- Red LED for signaling output anomaly (TC1..6)
- TC output activation delay: 150 ms
- TEST button on the front
- Alarm signaling selectable by microswitch
- Manual reset by closing the remote or automatic contact
- Relay outputs for each fault condition of each controlled circuit (TC1..6)
- Relay output for any anomaly condition (ALARM)
- Modular DIN module, with transparent cover
- Degree of protection: IP20 terminals, IP40 on front with cover

DEVICES FOR PERMANENT CONTROL OF SAFETY CIRCUITS WITH ACTIVATOR FOR SWITCH EMERGENCY OPENING
dimensions (mm)

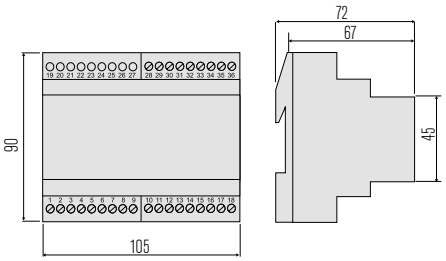
TCS-1 | **TCS-2**



TCS-3 | **TCS-4**

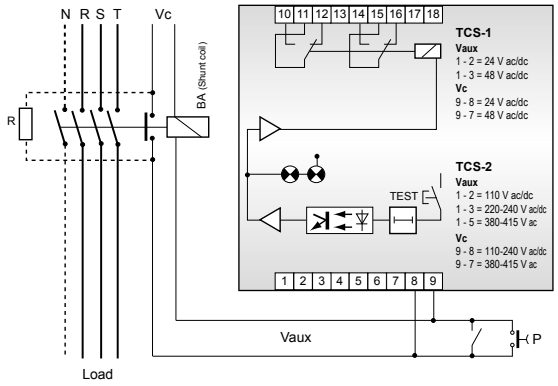


TCS-A5 | **TCS-R6**

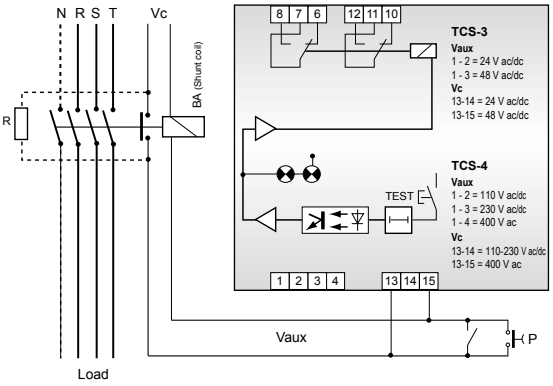


DEVICES FOR PERMANENT CONTROL OF SAFETY CIRCUITS WITH ACTIVATOR FOR SWITCH EMERGENCY OPENING
wiring diagrams

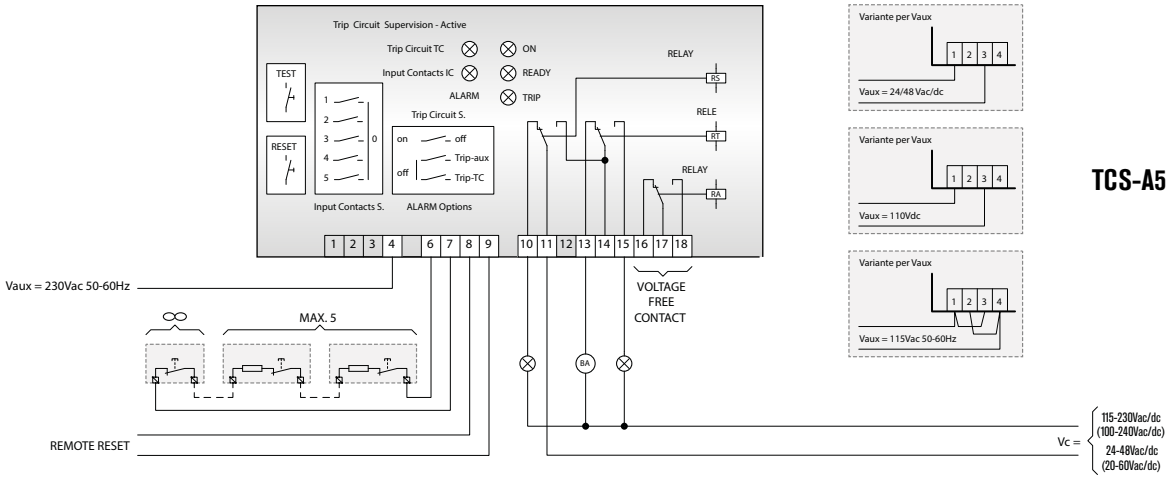
TCS-1 | **TCS-2**



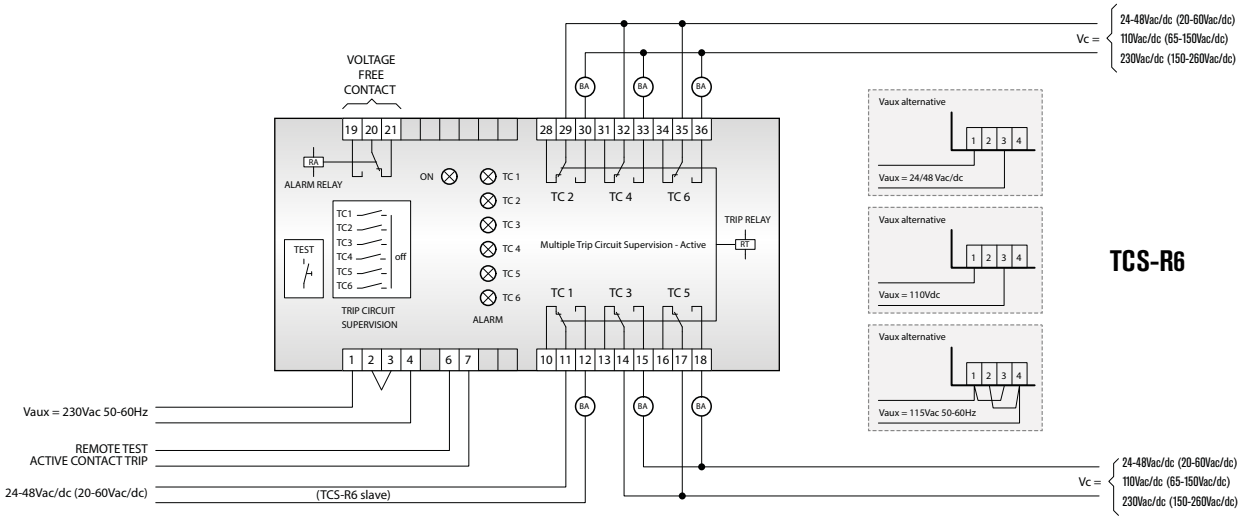
TCS-3 | **TCS-4**



TCS-A5

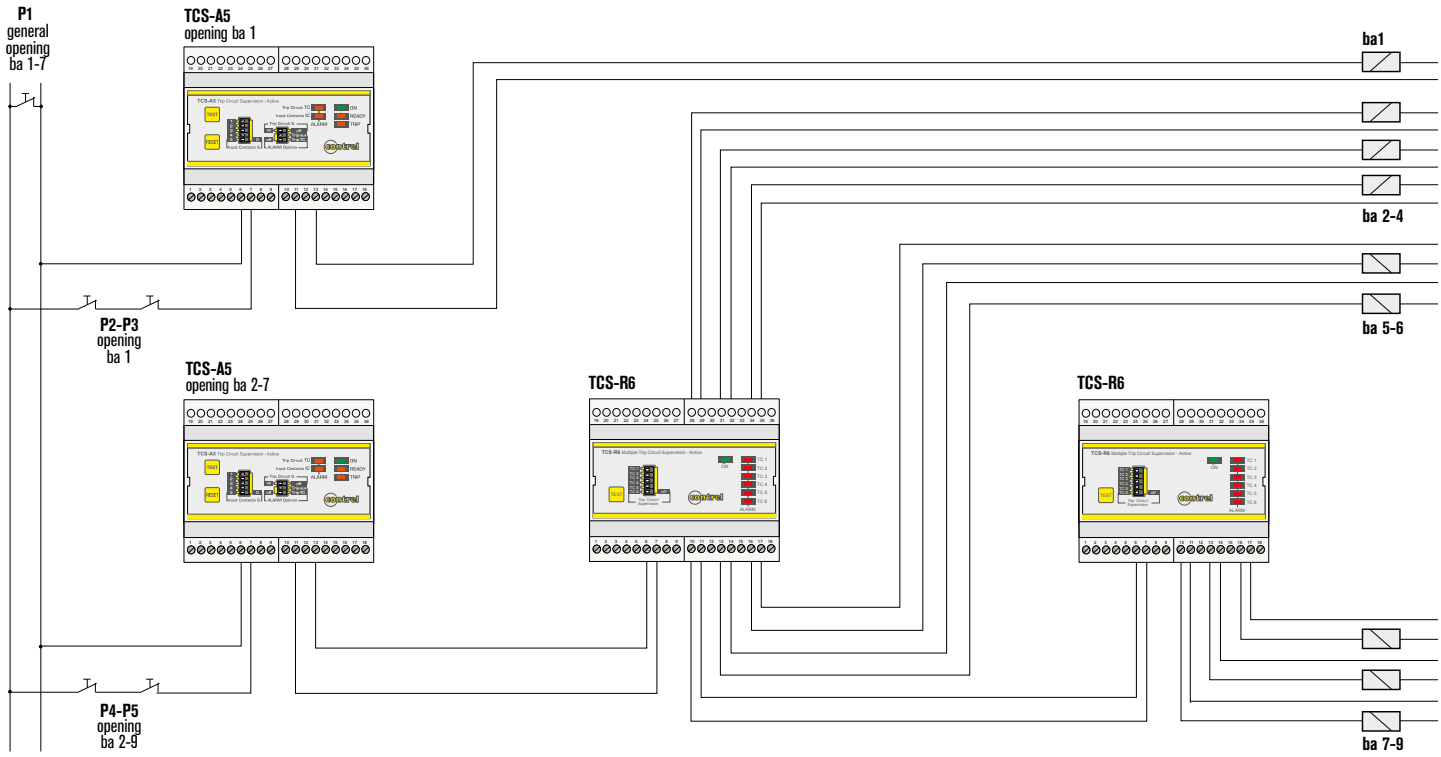


TCS-R6

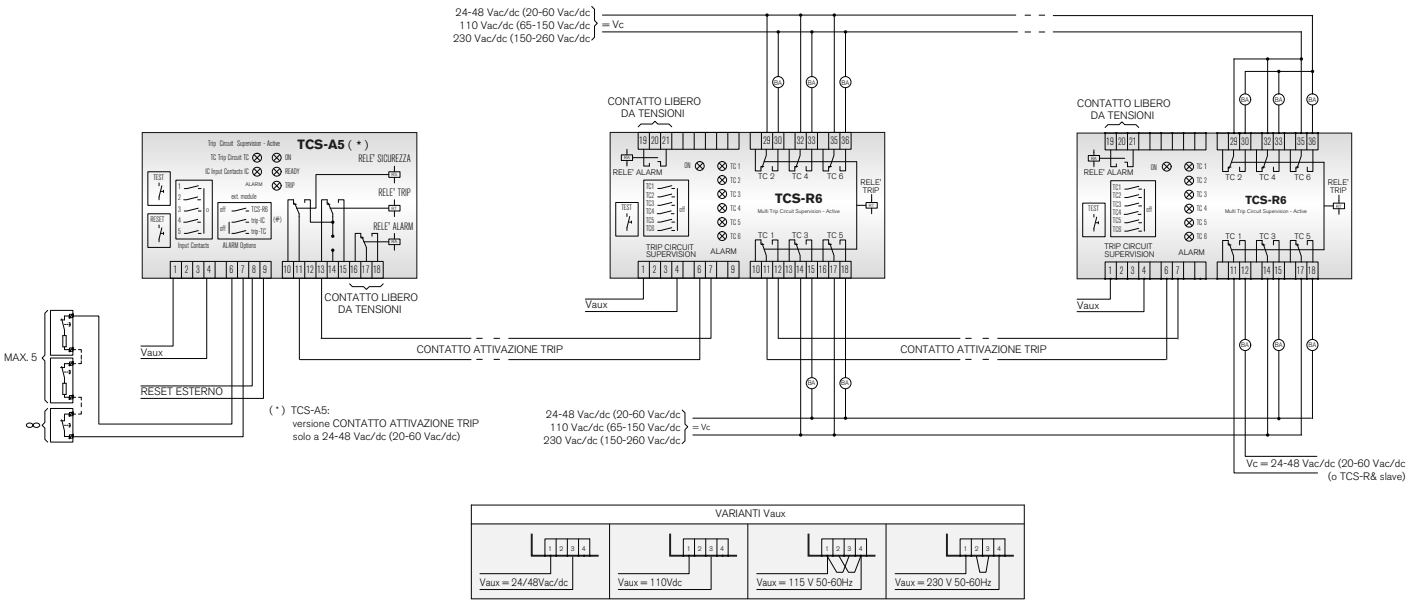


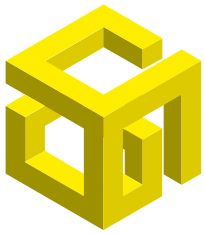
wiring diagrams

Example of circuit breaker opening system with TCS-A5 and TCS-R6 modules



Example of circuit breaker opening system with TCS-A5 and TCS-R6 modules





GRAPHIC PROJECT STUDIO MASSIMO COVATI

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