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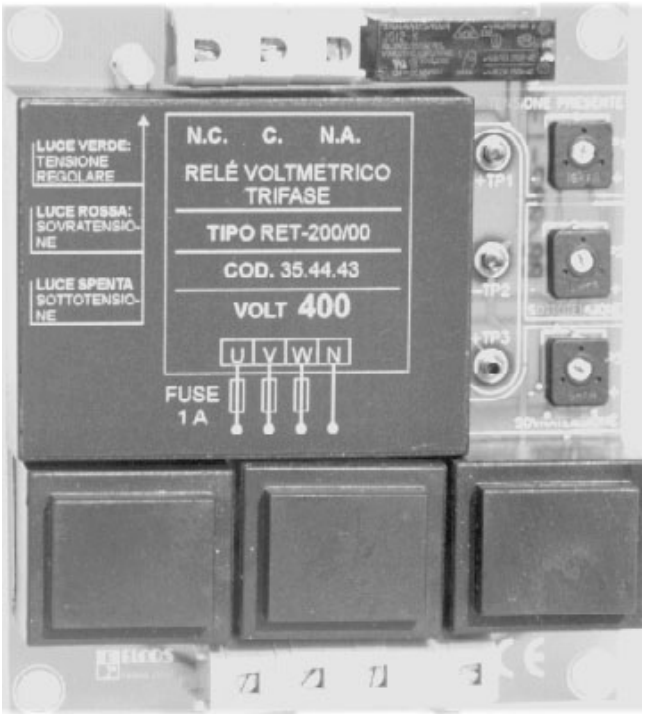
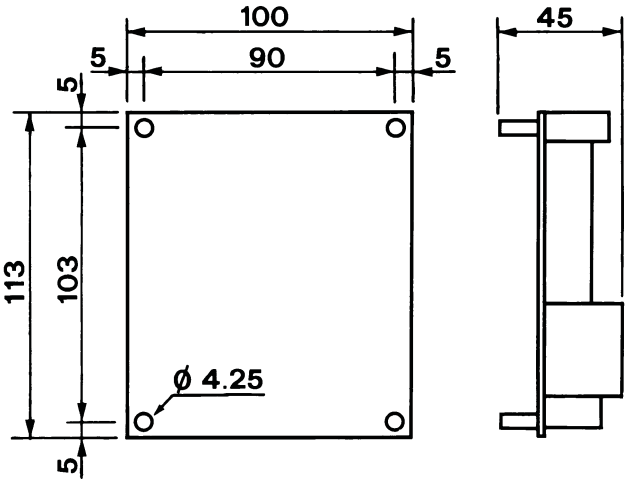
Технические характеристики на аксессуары, модули расширения, ключи для щитков, однофазные или трехфазные реле управления сетевым напряжением MDE-088, ADE-200, RET-200, REM-200 компании ELCOS

THREE-PHASE VOLTMETERIC RELAY

TYPE **RET-200/00**



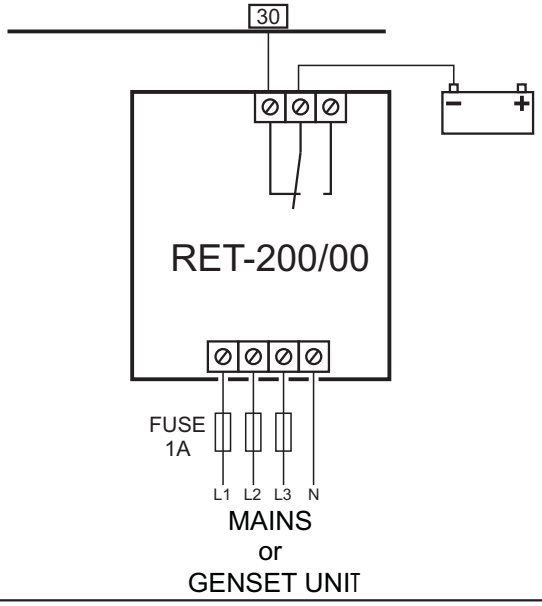
It controls the voltage of the mains or genset unit. This intervenes in situations of overvoltage, lack or lowering of voltage, even if only on one phase.



DATA FOR ORDERING

Type	RET-200/00	230V
Code	00354442	
Type	RET-200/00	400V
Code	00354443	

EXAMPLE OF CONNECTIONS FOR CAM SERIES GENSET CONTROLS



THREE-PHASE VOLTMETERIC RELAY Type RET-200/00

This is used to detect the minimum or maximum voltage values from the mains or from a genset unit. Preferably it should be used with our automatic controls of genset unit. It has been designed to be installed inside the electric panel only.

NOTICES

WARNING: LIVE COMPONENTS

Only assigned and suitably trained personnel have access to the inside of the panel. Maintenance operations are only permitted when the plant has been disconnected from the mains and from the battery. As an additional safety measure, the earth should be short-circuited and the plant phases should be earthed. Notwithstanding the above, only assigned and trained personnel can perform the following operations with the plant under tension:

- visual inspection of the equipment, connections and markings.
- measurements of voltage and/or current values.

These interventions must always be performed using equipment that ensures the appropriate electrical protection.

WARNING:
observe the following advice closely

- Install in such a way heat can always be adequately dispersed.
- Always install below other equipment producing or spreading heat.
- Handle and connect without mechanically stressing the electronic card.
- Prevent copper cuttings from connectors or other waste metal from falling onto the equipment.
- Follow the connections shown in the enclosed circuit diagram.
- Check that the load of the connected equipment is compatible with the enclosed technical characteristics.

THIS DEVICE IS NOT SUITABLE FOR OPERATING UNDER THE FOLLOWING CONDITIONS:

- Where the environmental temperature is outside the limits indicated in the enclosed technical sheet.
- Where the air pressure and temperature variations are so rapid as to produce exceptional condensation.
- Where there are high levels of pollution caused by dust, smoke, vapour, salts and corrosive or radioactive particles.
- Where there are high levels or heat from radiation caused by the sun, ovens or the like.
- Where attacks from mould or small animals are possible.
- Where there is the risk of fire or explosions.
- Where the panel can receive strong vibrations or knocks.
- Where not protected by barriers or casings with a degree of protection less than IP20.

ELECTROMAGNETIC COMPATIBILITY

This relay functions correctly only if inserted in plants which conform with the CE marking standards; it meets the exemption requirements of the standard EN50082-2 but it cannot be excluded that malfunctions could occur in extreme cases due to particular situations.
The installer has the task of checking that the disturbance levels are within the requirements of the standards.

CONDUCTION AND MAINTENANCE

The following maintenance operations should be performed every week:

- check that the indicators function;
- check that the conductors are tight, check the condition of the terminals.

UNLESS WE MAKE A WRITTEN DECLARATION STATING THE CONTRARY, THIS PANEL IS NOT SUITABLE FOR USE AS A CRITICAL COMPONENT IN EQUIPMENT OR PLANTS RESPONSIBLE FOR KEEPING PERSONS OR OTHER LIVING BEINGS ALIVE

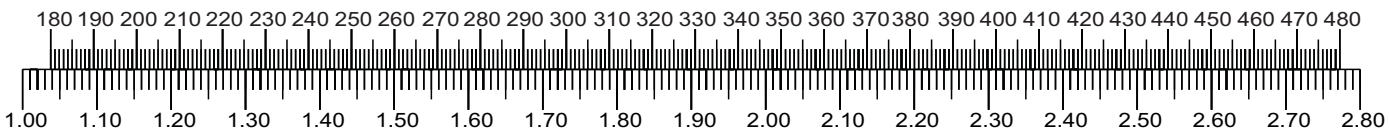
YOUR ELECTRICAL TECHNICIAN CAN ASK US ANYTHING ABOUT THIS RELAY BY TELEPHONING ONE OF OUR TECHNICIANS

FUNCTIONING

When voltage is detected on the three phases, with a value within the pre-set limits, after a delay of 3 seconds, the relay is excited and the green indicator light switches on. This situation (normality) persists until: the voltage falls (visual indicator off) or rises (red indicator light on) moving out of the pre-set normality range.

SITUATION	• NORMAL VOLTAGE	• UNDERVOLTAGE • NOT SUPPLIED (even on only one phase)	• OVERVOLTAGE (even on only one phase)
LED	GREEN LIGHT	LIGHT OFF	RED LIGHT
RELÈ	EXCITED	DEACTIVATED	DEACTIVATED
POTENTIO-METER	P1	P2	P3
TEST POINTS	TP1 (+) TP2 (-)	TP1 (+) TP2 (-)	TP3 (+) TP2 (-)
ADJUSTMENTS	The relay is equipped with a circuit which makes it easier to perform the adjustment operations: the set voltage values are measured on the test points using a digital tester (capacity 20VDC).		
	• Insert the points of the tester (capacity 20VDC) into the test points TO1 and TP2 • Supply the relay with only two phases and rotate the potentiometer P1 until the desired value, divided by 173, appears on the tester. For example, for a setting of 378V the reading on the tester would be: 378:173 = 2.18V (see also ABACO below) • Connect the third phase	• Perform the reading on the tester only with the green indicator light on • Rotate the potentiometer P2 until the desired value is reached	• Perform the reading on the tester only with the green indicator light on • Rotate the potentiometer P3 until the desired value is reached

Desired value



Value to be read on the tester

N. B.
THE THRESHOLD VALUES THAT CAN BE SET REFER TO PHASE-PHASE VOLTAGES

TECHNICAL DATA

SUPPLY VOLTAGE	RET 230 V 230 V ± 10%	
	RET 400 V 400 V ± 10%	
VOLTAGE REGULATION FIELD	RET 230 V 185 ÷ 230 V	factory calibration 205 V
	RET 400 V 315 ÷ 400 V	factory calibration 352 V
LOW VOLTAGE REGULATION FIELD	RET 230 V 80 ÷ 97%	factory calibration 195
	RET 400 V 80 ÷ 97%	factory calibration 338 V
	of set voltage value	
OVERVOLTAGE REGULATION FIELD	240 ÷ 330 V	factory calibration 255 V
	415 ÷ 570 V	factory calibration 445 V
MAXIMUM CIRCUIT LOADING	4,5 VA	
NOMINAL CONTACTS CAPACITY	5 A	
TEMPERATURE RANGE	0 ÷ +60 °C	
TERMINAL BOARD	7 SCREW POLES	
DEGREE OF PROTECTION	IP 00	
WEIGHT	400 g	

CONFORMITY DECLARATION

CE

The company Elcos s.r.l. assumes full responsibility for declaring that the equipment:

type: **RET-200/00**

installed and used in the ways and for the purposes described in the instruction and user manual, is in conformity with the directive:

- 2004/108/CE related to the electromagnetic compatibility and that repeals the directive 89/336/CEE,

because it is built and functions in accordance with the harmonized Standards:
EN61326-1, EN61326/A1, EN61000-4-2, EN61000-4-4, EN61000-4-6, EN60529.

INSTRUCTION AND USER MANUAL

EXPANSION MODULE

TYPE MDE-088

Manages 8 digital inputs and 8 outputs through the connection RS485.

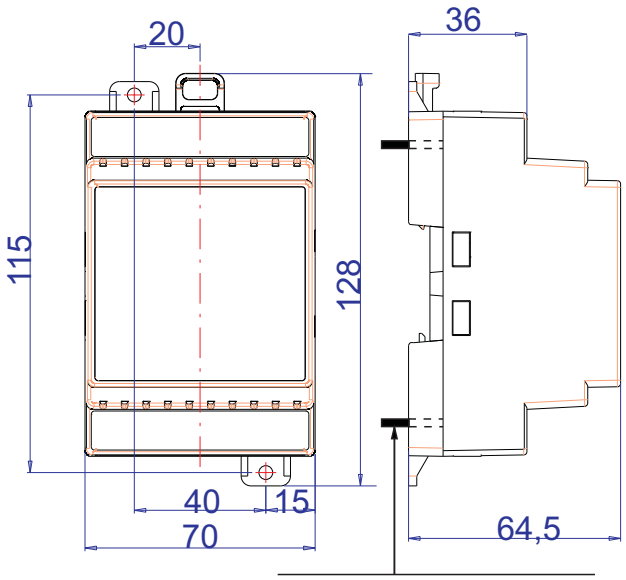
DIN bar hook
or with screws
assembly

- **8 INPUTS**
- **8 OUTPUTS**

} Two groups of 4 with common connected to negative or positive

• Continuous or alternate power

DIMENSIONS



Break the four supports when the mounting is on DIN h8 bar.

TECHNICAL DATA

Supply voltage	8Vdc÷32Vdc or 8Vac÷24Vac
Max. absorbed current	325 mA at 12V, 195 mA at 24V
Max. voltage applied to inputs and outputs	38Vdc; 27Vac
Max. current at outputs	1A
Absorbed current from each input	12,5mA at 12V 15mA at 24V
Functioning temperature	-20°C ÷ +60°C
Humidity	5% ÷ 95% RH
Serial line RS-485 protected to	2kV ESD
Weight	170 g
Assembly	Panel interior
Degree of protection	IP00

CONNECTIONS

With the common C3 or C8 connected to the **NEGATIVE** it is necessary to connect the relevant inputs to the POSITIVE

example (−) (+) → C3 4

With the common C3 or C8 connected to the **POSITIVE** it is necessary to connect the relevant inputs to the NEGATIVE

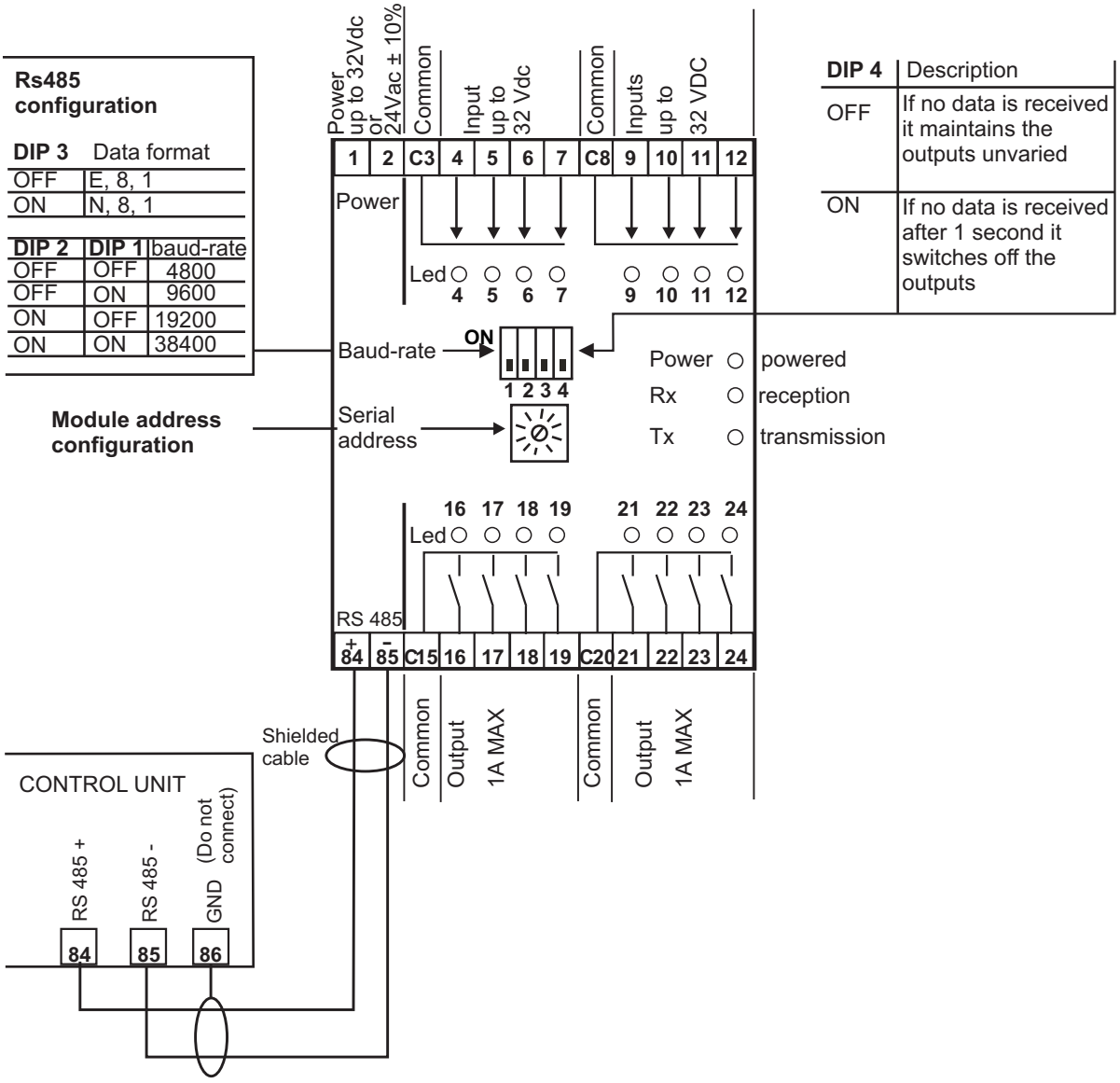
example (+) (−) → C8 9

Rs485 configuration

DIP 3	Data format
OFF	E, 8, 1
ON	N, 8, 1

DIP 2	DIP 1	baud-rate
OFF	OFF	4800
OFF	ON	9600
ON	OFF	19200
ON	ON	38400

DIP 4	Description
OFF	If no data is received it maintains the outputs unvaried
ON	If no data is received after 1 second it switches off the outputs



RS485 CONFIGURATION

The RS485 port is used to communicate with other RS485 devices and create a network that can be reconfigured to suit installation needs. The baud rate is set by two dip switches (1 and 2). It is possible to select (even) or no (none) parity from dip switch 3. Default settings are: 9600, e, 8, 1. The settings can be modified at any time, it is not compulsory to switch the module off.

The protocol used is ModBus / RTU.

MODULE ADDRESS CONFIGURATION

The module address can be simply configured by moving the rotating selector to the position corresponding to the required address. The default address is 1. The module address can be modified at any time.

ModBus address map.

Reading/Writing outputs (Functions 1, 5, 15)

Address	Data type	Outputs description	
0x0000	1 bit	Terminal 16	0:off 1:on
0x0001	1 bit	Terminal 17	0:off 1:on
0x0002	1 bit	Terminal 18	0:off 1:on
0x0003	1 bit	Terminal 19	0:off 1:on
0x0004	1 bit	Terminal 21	0:off 1:on
0x0005	1 bit	Terminal 22	0:off 1:on
0x0006	1 bit	Terminal 23	0:off 1:on
0x0007	1 bit	Terminal 24	0:off 1:on

Reading inputs (Functions 2)

Address	Data type	Inputs description	
0x0000	1 bit	Terminal 4	0:off 1:on
0x0001	1 bit	Terminal 5	0:off 1:on
0x0002	1 bit	Terminal 6	0:off 1:on
0x0003	1 bit	Terminal 7	0:off 1:on
0x0004	1 bit	Terminal 9	0:off 1:on
0x0005	1 bit	Terminal 10	0:off 1:on
0x0006	1 bit	Terminal 11	0:off 1:on
0x0007	1 bit	Terminal 12	0:off 1:on

ORDERING INFORMATION

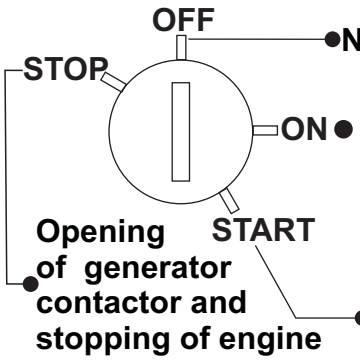
TYPE	
MDE-088	Code 00242269

KEY FOR EMERGENCY MANUAL STARTING

TYPE ADE-200

THE KEY ALLOWS:
- Start up
- Stop
- Mains-generator contactor switching.

OPERATION



Normal operation of the control unit

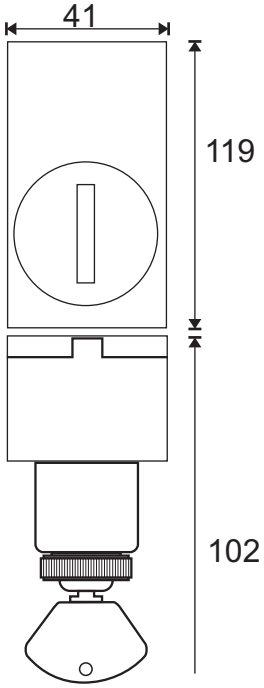
Controls the opening of the mains contactor. Prepares the closing of the generator contactor that will close after starting and when generator voltage is present.

Starting of generator

DURING OPERATION, THE PROTECTION DEVICES OF THE GENERATOR SET ARE NOT ACTIVE.

TYPE **ADE-200/OS** FOR ELECTROMAGNET EXCITED WHILE RUNNING AND DE-ENERGIZED WHILE STOPPED
TYPE **ADE-200/ON** FOR ELECTROMAGNET EXCITED WHILE STOPPED AND DE-ENERGIZED WHILE RUNNING

DIMENSIONS



TECHNICAL DATA

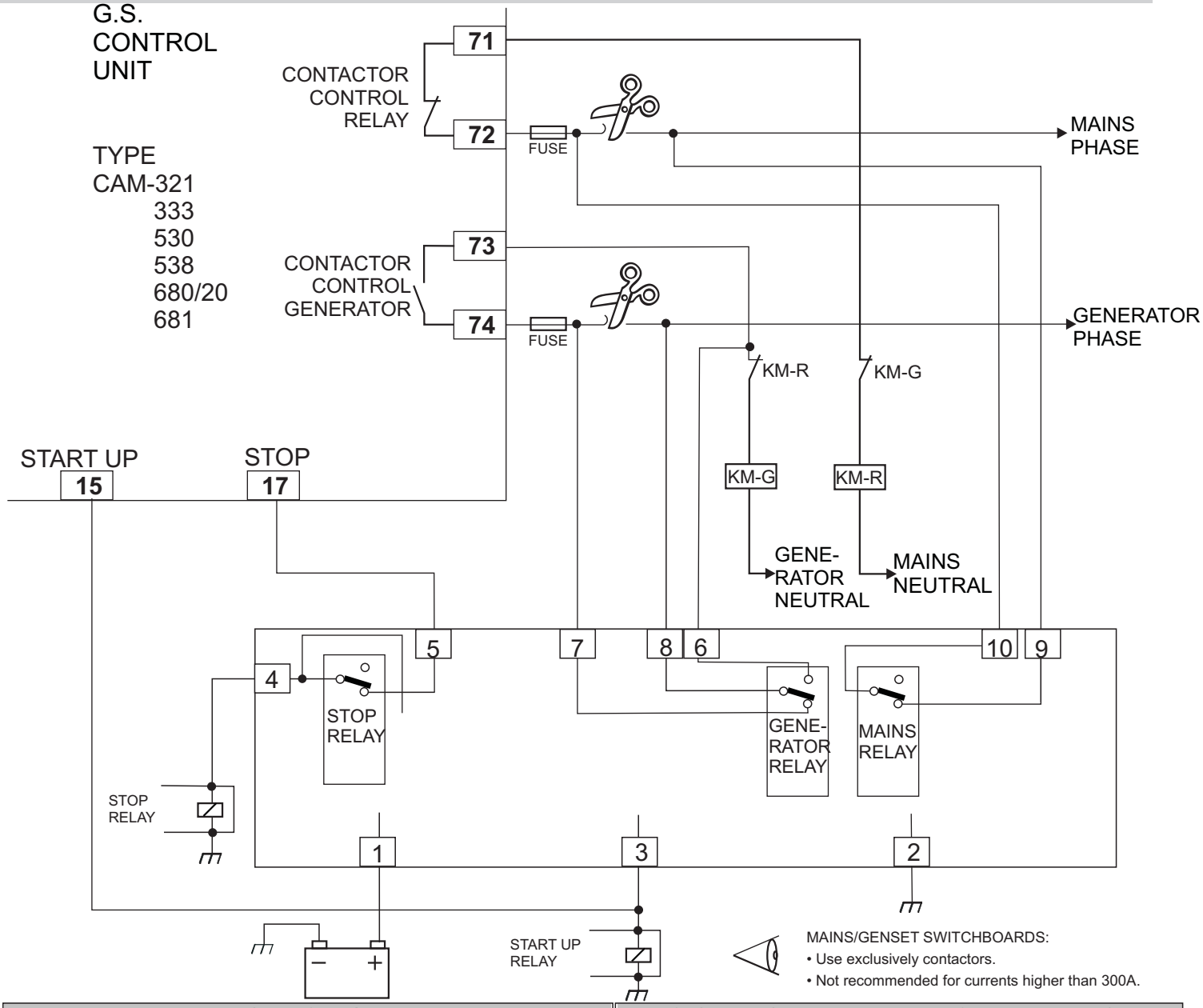
- BATTERY SUPPLY VOLTAGE	12 VDC (MAX 16 VDC) 24 VDC (MAX 32 VDC)	
- CAPACITY OF CONTACTS		
3 (START UP)	40A	
4 - 5 (STOP)		MAX 3A 250 VAC
6 - 7- 8 (CONTACTOR GENERATOR)		
9 - 10 (CONTACTOR MAINS)		
- TEMPERATURE RANGE -		10 + 50
- DEGREE OF PROTECTION		IP 20
- MOUNTING ON DIN BAR		200 gr.

ORDERING DATA

TYPE **ADE-200/OS**	12 V	CODE 00242217
ADE-200/ON	12 V	CODE 00242220
ADE-200/OS	24V	CODE 00242218
ADE-200/ON	24V	CODE 00242221

INSTRUCTION AND USER MANUAL

WIRING DIAGRAM



NOTICES

Carries out the emergency function only, and sends a command for:
- opening the mains contacto
- closing the start relay of the generator set
- closing the generator contactor
- the stop relay of the diesel engine.

It is made to be installed solely on a DIN bar in an Elcos electric cabinet. Suitable for operating with the following control units CAM-321, CAM-333, CAM-530, CAM-538,CAM-680/20, CAM-681.

Warning: Components carrying dangerous voltage levels

Only assigned and suitably trained personnel are allowed access to the emergency key . No maintenance operations are permitted unless the plant is disconnected from the mains and the battery. As an additional safety measure, the plant phases should be short-circuited and earthed.Not withstanding the above, only assigned and trained personnel can perform the following operations with the plant on:

- make a visual inspection of the emergency key, the connections and their markings;
- measure the voltage and/or current values;

These interventions, however, must be performed using equipment which ensures appropriate levels of electrical protection.

Warning:
strictly comply with the instructions regarding the switchboard or the device to which the emergency key is connected.
UNLESS WE MAKE A WRITTEN DECLARATION STATING THE CONTRARY, THIS EMERGENCY KEY IS NOT SUITABLE FOR USE AS A CRITICAL COMPONENT IN EQUIPMENT OR PLANTS RESPONSIBLE FOR KEEPING PERSONS OR OTHER LIVING BEINGS ALIVE.

YOUR ELECTRICAL TECHNICIAN CAN ASK ANY QUESTIONS ABOUT THIS EMERGENCY KEY BY TELEPHONING OUR TECHNICIAN

CONFORMITY DECLARATION

CE

The company Elcos s.r.l. assumes full responsibility for declaring that the emergency key:

Type **ADE-200/OS**
ADE-200/ON

used in the ways and for the purposes described in this instruction and user manual is in conformity with the following directive:

- 2006/95/CE related to the electrical materials destined to be used within certain voltages limits
- 2004/108/CE related to the electromagnetic compatibility and that repeals the directive 89/336/CEE,

because it is built and functions in accordance with the harmonized Standards: EN61010-1,EN61326-1, EN61326/A1, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN60529.

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