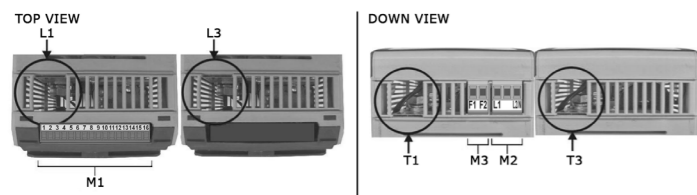


7.1. Terminal Positions



Warning: Before connecting or disconnecting the unit check that power and control cables are isolated from voltage sources.

7.2. Power Terminals

Terminal	Description
L1	Line Input Phase 1
T1	Load Output Phase 1
L3	Line Input Phase 3
T3	Load Output Phase 3

7.3. Control Terminals

Warning: Before connecting or disconnecting the unit check that power and control cables are isolated from voltage sources.

7.4. Terminal block M1

Terminal	Description
1	0V GND
2	COM I - Common Digital Input
3	DI 2 - Enable Digital Input
4	DI 1 - Configurable Input
5	+ Analog Input 1 (0-10Vdc/4-20mA Analog Setpoint)
6	- Analog Input 1 (0-10Vdc/4-20mA Analog Setpoint)
7	Output +10Vdc stabilized 1 mA MAX
8	+ Analog Input2 (0-10Vdc/4-20mA Reference/ext.feed-back)
9	Slave Output
10	Retransmission Output
11	RS485 A
12	RS485 B
13	0V GND
14	C - Common contact alarm relay output
15	NC - Normally Close contact alarm relay output (Thermal or SC/HB/CL)
16	NO - Normally Open contact alarm relay output (Thermal or SC/HB/CL)

7.5. Terminal block M2

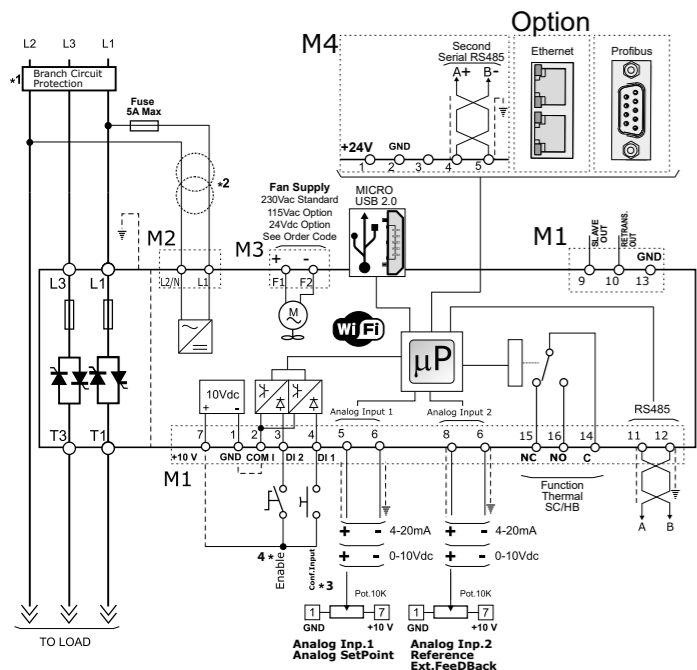
Terminal	Description
L1	Aux - Voltage Supply for electronic boards and synchronization (See order code for the Value)
-	Not Connected
L2/N	Aux - Voltage Supply for electronic boards and synchronization (See order code for the Value)

7.6. Terminal block M3 (only from 120 to 210A)

Terminal	Description
F1	Fan supply (230V Standard - 115 Option - for DC Fan Option +24Vdc)
F2	Fan supply (230V Standard - 115 Option - for DC Fan Option -24Vdc)

7.7. Schematic

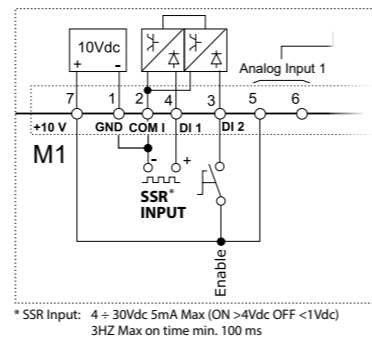
NOTE:



- *1 The user installation must be protecting by electromagnetic circuit breaker or by fuse isolator. The Fuse must be branch circuit protection. For UL any listed UL branch circuit fuse would be acceptable as an external fuse, following national electric code guide for resistive heating of 125% load current rating to protect external wires.
- *2 The auxiliary voltage supply of the Relay C unit must be synchronized with load voltage power supply. If the Auxiliary Voltage (written on the identification label) is different from Supply Voltage (to the load), use an external transformer as designated.
- *3 For SSR input connection follow next schematic.

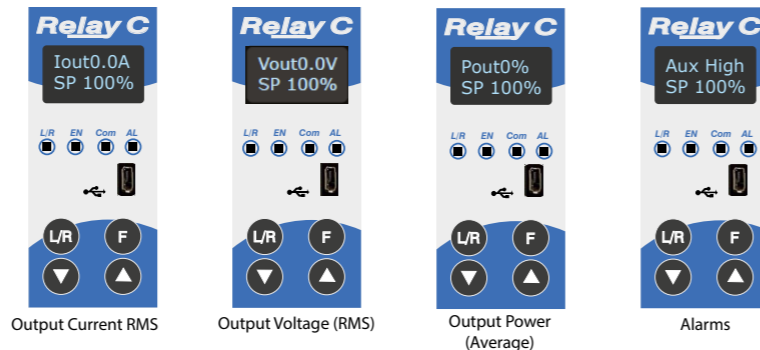
7.8. SSR Control Input schematic

For SSR input use follow the schematic and configure Digital Input 1 as Fast Enable.



8. Control Panel

The Control Panel is placed on the front of the thyristor unit, on his display you can visualize the alarms, the input and output signals and all the configuration parameters.



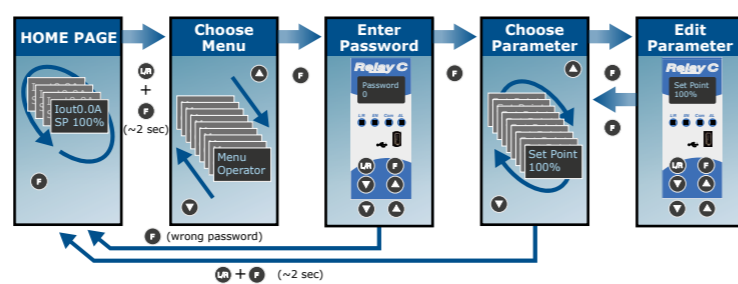
On the home page the keys are used as follows:

Press...	to...
F	Function: Scroll through the parameters on the home page
L/R	Local/Remote: Switch between local and remote set point for power demand
▲	Up: Increment power demand set point when set to local
▼	Down: Decrement power demand set point when set to local
F + L/R	Press and hold for about two seconds to access the menus

To view the status parameters:
Press Function (F) once to advance from one parameter to the next
To set the set point locally:
Press Local/Remote (L/R) (Note: indicator 1 flashes steadily when set point is set locally)
Use Down (▼) and/or Up (▲) to set the local set point.

8.1. Menu navigation

The menus are accessible using the control panel keypad and display.



- To access a menu and edit a setting:
- Press and hold Local/Remote and Function together (L/R + F) until the upper display flashes Menu.
 - Press Up (▲) to choose the menu. (Press down (▼) if you overshoot the menu you want).
 - Press function (F) to advance to the password prompt.
 - Use Up (▲) and/or down (▼) to set the password (see the table).
 - Press function (F) to enter the password and advance to the first parameter of the menu.
 - Press Up (▲) to advance to the next parameter and repeat to reach the desired parameter.
 - Press function (F) to start editing the parameter. The parameter name flashes in the upper display.
 - Use Up (▲) and/or down (▼) to edit the parameter setting.
 - Press function (F) to enter the new setting. The parameter name stops flashing.
 - Press and hold local/remote and function together (L/R + F) for about two seconds to exit the menus.

Menu	Password	Parameter used to...
Operator	0	View measured values and basic settings including current, voltage and set point
Setup	2	Configure the power controller for the load
Adv Setup	10	Configure the operation and performance of the power controller in the application
Hardware	5	Configure the functions of the analog and digital inputs and outputs, and the re-transmission parameters
Comm	3	Configure field bus communicating parameters
Monitoring	0	View measured and calculated values and other read-only parameters

8.2. Control Panel Led

The four indicators on the control panel show the general state of the power controller.

Indicator	State	Description
1 Local/Remote	Flashing	Power output set locally or via communications
	Off	Power output set remotely (via analog input)
2 Enable	On	Output enabled
	Off	Output disabled
3 Communications	Flashing	Active communications
	Off	No alarm
4 Alarm	On	Active alarm
	Off	No alarm

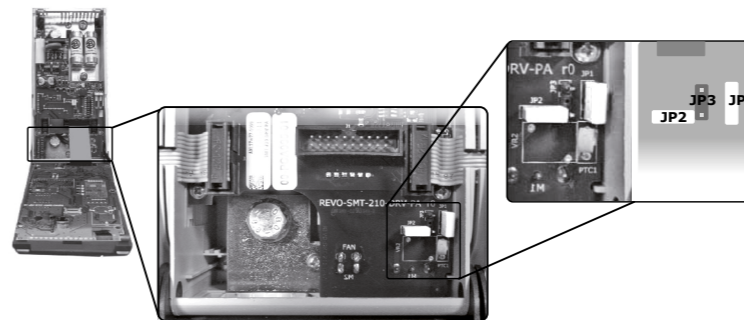
9. Supply the electronic board

The Relay C thyristor unit, to work, requires a voltage supply for the electronic boards. The Max consumption is 10VA. The voltage supply for the electronic boards is configured in line with customer requirements that are defined in the Order Code. The Order Code is written on the identification label.

Warning: Before connecting or disconnecting the unit check that power and control cables are isolated from voltage sources.

Terminal M2-M4	Description
L1	Aux - Voltage Supply for electronic boards and synchronization (See order code for the Value)
-	Not Connected
L2/N	Aux - Voltage Supply for electronic boards and synchronization (See order code for the Value)

To change auxiliary supply voltage sold the correct link-jumper on Relay C board. The type of mounted transformer depends of the chosen Voltage in the order code.



Order Code	As ordered		Change to	
	Jumper JP1 + JP2 are linked	Line voltage	Link only Jumper JP3	Line voltage
RC2___-1	90:135V	100/120V	180:265V	200/208/220/230/240V
RC2___-2	180:265V	200/208/220/230/240V	342:528V	380/400/415/440/480V
RC2___-3	238:330V	277V	540:759V	600/690V
	Only Jumper 3 is linked		Link Jumper JP1 + JP2	
RC2___-5	342:528V	380/400/415/440/480V	180:265V	200/208/220/230/240V
RC2___-6	540:759V	600V	238:330V	277V
RC2___-7	540:759V	690V	238:330V	277V

If the Auxiliary Voltage (written on the identification label) is different from Supply Voltage (to the load), use an external transformer with primary equal to load voltage and secondary equal to the Auxiliary Voltage.

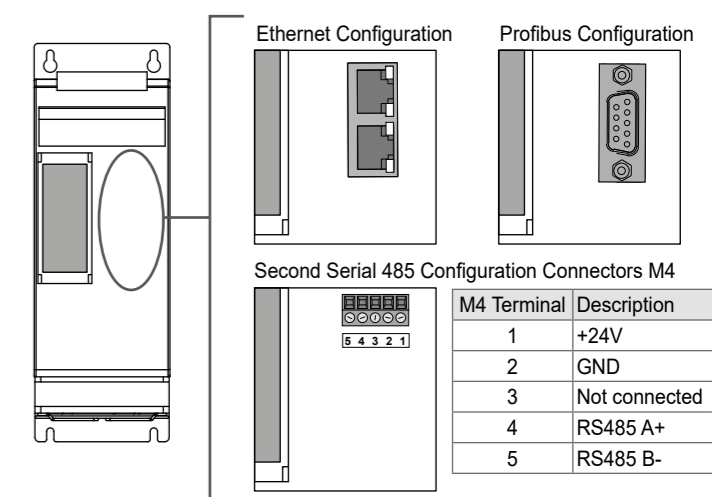
Attention! never link all the jumpers JP1+JP2+JP3 at the same time or jp3 + any other jumper, JP3 must be always alone, follow only the configuration shown.

10. RS485 Serial port

Terminal M1	Description	The serial communication port RS485 is available on the Command Terminal. On this port may be done a network up to 127 Relay C.
11	RS485 A+	
12	RS485 B-	

11. Fieldbus communication option

Other serial communication port are available as option, see Communication Manual for details.

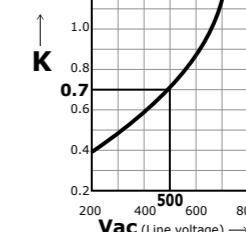


12. Internal Fuse

The thyristor unit have internal fuse extrarapid at low I²t for the thyristor protection of against the short-circuits. The Fuses must have I²t 20% less than thyristor's I²t. The warranty of thyristor is null if no proper fuses are used.

Type	Fuse Code Spare Part	Current (ARMS)	Vac	FUSE I2T value Suggested A2s (at500V)*	FUSE I2T value Suggested A2s (at660V)
060	20 559 20.160	160	660	10780	15400
090	20 559 20.160	160	660	10780	15400
120	20 559 20.180	180	660	14280	20400
150	20 559 20.200	200	660	17500	25000
180	20 559 20.250	250	660	30800	44000
210	20 559 20.315	315	660	53900	77000

*I²T are multiplied for K value in function of Vac at 500V K is equal to 0,7 (ex:15400 X 0,7 = 10780). At 660Vac K is equal to 1.



- Caution:** High speed fuses are used only for the thyristor protection and can not be used to protect the installation.
- Caution:** The warranty of thyristor is null if no proper fuses are used. See tab.
- Warning:** When it is supply, the Thyristor unit is subject to dangerous voltage, don't open the Fuse-holder module and don't touch the electric equipments.

12.1. Fuses Replacement

Open the cover and remove the screws, then replace it with the correct fuse, use the screws with a proper suggested torque indicated below:

Type	Screw	Torque Lb-in (N-m)	Screw	Torque Lb-in (N-m)	
60-120A	M6	44.2 (5.0)	+	M5	31 (3.5)
150-210A	M6	44.2 (5.0)			

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www.west-cs.co.uk

Contact

UK	Germany
Email: enquiries@west-cs.com	Email: de@west-cs.com
Website: www.west-cs.co.uk	Website: www.west-cs.de
Telephone: +44 (0)1273 606271	Telephone: +49 561 505 1307

France
Email: fr@west-cs.com
Website: www.west-cs.fr
Telephone: +33 171 84 1732

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