

AMERICAN CRS EQUIPMENT



RECTIFIERS FOR SURFACE TREATMENTS

- DC – Direct Current (forward)
- DCR – Direct Current Reverse (forward and reverse)
- PP – Pulse Plating (forward)
- PPR – Pulse Plating Reverse (forward and reverse)
- AC – Sinus operation mode



- Single phase rectifier
- 750W or 1500W per unit
- Desktop and Wall versions
- Manual or automatic controlled
- Ah counter, ramp software and more
- Ease of service
- Expandable for more power



TECHNICAL SPECIFICATION		S075 - DESKTOP & WALL
Main voltage (Single Phase)		120 - 230 VAC ± 10% / 50-60 Hz
Max. output voltage		5 - 160 VDC
Max. output current		125A DC (750W) / 250A DC (1500W)
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		0.70 @ rated load (standard) >0.95 @ rated load (with optional PFC)
Efficiency		up to 92% @ rated load
Color		RAL 3004
Cooling		Air
Degree of protection	Air cooled	IP31
Weight		Max. 11 kg
Ambient temperature		40°C



(Desktop - Back view)



(Wall - Bottom view)



OPTIONS

COMMUNICATION ADAPTERS



Profibus-DP ^(a)



Devicenet ^(b)



Profinet ^(c)
Ethernet-IP ^(c)
Modbus/TCP ^(c)



Modbus-RTU ^(d)
Computer port ^(e)

ANALOGUE INTERFACE



Provides digital and analogue I/O to control the rectifier. Ready for 0-10V or 4-20mA signal.

MULTI-TOWER INTERCONNECTION



Adapter for a multi-tower system. Towers of different model, type and size can be mixed together. Towers are inter-connected via daisy-chain, by an RJ45 cable.

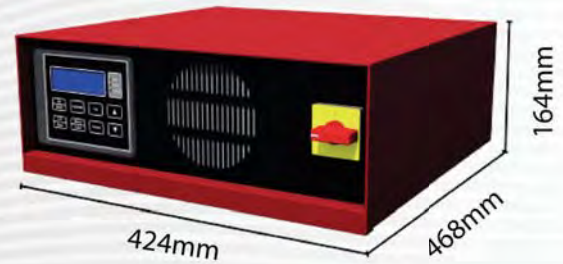
REMOTE CONTROL



Small optimized remote controls with Ah counter, ramp function, time control and more.



- Space saving
- Manual or automatic controlled
- Rack installation possible
- Ah counter, ramp software and more
- Ease of service
- Upgradable



TECHNICAL SPECIFICATION		Q100
Main voltage (3 Phase)		208 - 230 - 400 - 440 - 480 - 575 VAC ± 10% / 50-60 Hz
Max. output voltage		5 - 160 VDC
Max. output current		10 - 500 A DC
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		>0.95 @ rated load
Efficiency		>89% @ rated load
Color		RAL 3004
Cooling		Air and Water
Degree of protection	Air cooled	IP31
	Water cooled	IP42
Weight		Max. 25 kg
Ambient temperature		40°C (up to 50°C on request)
Input water cooling temperature		19 - 28°C (up to 35°C on request)



OPTIONS

COMMUNICATION BOX



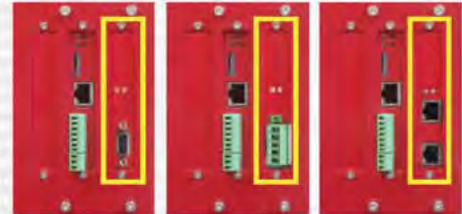
Small and easy access communication box. Cover can be removed to work on cables and interfaces.

REMOTE CONTROL



Small optimized remote control with Ah counter, ramp function, time control and more.

COMMUNICATION ADAPTERS



Profibus-DP, Devicenet, Profinet, Ethernet-IP, Modbus/TCP networks and more

ANALOGUE INTERFACE



Provides digital and analogue I/O to control the rectifier. Ready for 0-10V or 4-20mA signal.

INPUT/OUTPUT SCREW INTERFACE



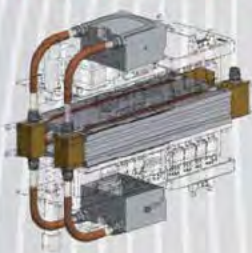
Screw terminal for Modbus RS485 and CPU connection.

MULTI-TOWER INTERCONNECTION



Small kit to be connected to the CPU to turn the rectifier in a tower of a multi-tower system. Towers of different model, type and size can be mixed together. Towers are connected in a daisy-chain way, with a RJ45 cable going from tower to tower.

WATER COOLING SYSTEM IN COPPER



Water cooling system without aluminum parts. Enhanced reliability and robustness of the cooling circuit



- Space saving
- Manual or automatic controlled
- Rack installation possible
- Ah counter, ramp software and more
- Ease of service
- Upgradable



TECHNICAL SPECIFICATION		Q150D - DESKTOP
Main voltage (3 Phase)		208 - 230 - 400 - 440 - 480 - 575 VAC ± 10% / 50-60 Hz
Max. output voltage		5 - 160 VDC
Max. output current		10 -1000 A DC
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		>0.95 @ rated load
Efficiency		>89% @ rated load
Color		RAL 3004
Cooling		Air and Water
Degree of protection	Air cooled	IP31
	Water cooled	IP42 / IP54
Weight		Max. 35 kg
Ambient temperature		40°C (up to 50°C on request)
Input water cooling temperature		19 - 28°C (up to 35°C on request)



OPTIONS

COMMUNICATION BOX



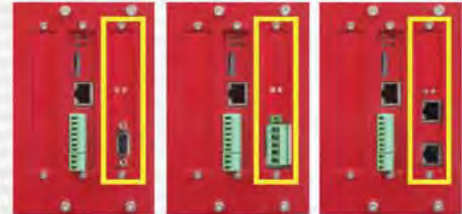
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REMOTE CONTROL



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COMMUNICATION ADAPTERS



Profibus-DP, Devicenet, Profinet, Ethernet-IP, Modbus/TCP networks and more

ANALOGUE INTERFACE



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INPUT/OUTPUT SCREW INTERFACE



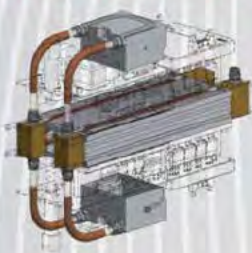
Screw terminal for Modbus RS485 and CPU connection.

MULTI-TOWER INTERCONNECTION



Small kit to be connected to the CPU to turn the rectifier in a tower of a multi-tower system. Towers of different model, type and size can be mixed together. Towers are connected in a daisy-chain way, with a RJ45 cable going from tower to tower.

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Water cooling system without aluminum parts. Enhanced reliability and robustness of the cooling circuit



- Space saving
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- Ease of service
- Upgradable



TECHNICAL SPECIFICATION		Q150R - RACK
Main voltage (3 Phase)		208 - 230 - 400 - 440 - 480 - 575 VAC ± 10% / 50-60 Hz
Max. output voltage		5 - 160 VDC
Max. output current		10 - 1000 A DC
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		>0.95 @ rated load
Efficiency		>89% @ rated load
Color		RAL 3004
Cooling		Air and Water
Degree of protection	Air cooled	IP31
	Water cooled	IP42 / IP54
Weight		Max. 35 kg
Ambient temperature		40°C (up to 50°C on request)
Input water cooling temperature		19 - 28°C (up to 35°C on request)



OPTIONS

COMMUNICATION BOX



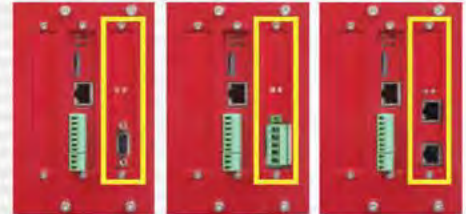
Small and easy access communication box. Cover can be removed to work on cables and interfaces.

REMOTE CONTROL



Small optimized remote control with Ah counter, ramp function, time control and more.

COMMUNICATION ADAPTERS



Profibus-DP, Devicenet, Profinet, Ethernet-IP, Modbus/TCP networks and more

ANALOGUE INTERFACE



Provides digital and analogue I/O to control the rectifier. Ready for 0-10V or 4-20mA signal.

INPUT/OUTPUT SCREW INTERFACE



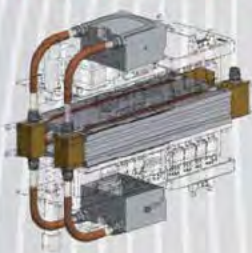
Screw terminal for Modbus RS485 and CPU connection.

MULTI-TOWER INTERCONNECTION



Small kit to be connected to the CPU to turn the rectifier in a tower of a multi-tower system. Towers of different model, type and size can be mixed together. Towers are connected in a daisy-chain way, with a RJ45 cable going from tower to tower.

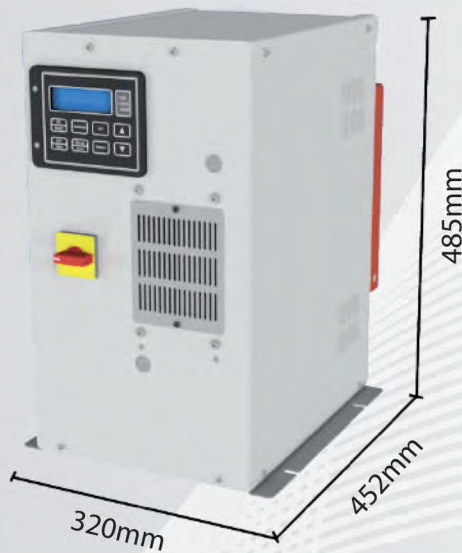
WATER COOLING SYSTEM IN COPPER



Water cooling system without aluminum parts. Enhanced reliability and robustness of the cooling circuit



- Space saving
- Manual or automatic controlled
- Steel and aluminum version
- Ah counter, ramp software and more
- Ease of service
- Upgradable



TECHNICAL SPECIFICATION		Q150V - VERTICAL
Main voltage (3 Phase)		208 - 230 - 400 - 440 - 480 - 575 VAC ± 10% / 50-60 Hz
Max. output voltage		5 - 160 VDC
Max. output current		10 - 1000 A DC
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		>0.95 @ rated load
Efficiency		>89% @ rated load
Color		RAL 3004
Cooling		Air and Water
Degree of protection	Air cooled	IP31
	Water cooled	IP42 / IP54
Weight		Max. 35 kg
Ambient temperature		40°C (up to 50°C on request)
Input water cooling temperature		19 - 28°C (up to 35°C on request)



OPTIONS

COMMUNICATION BOX



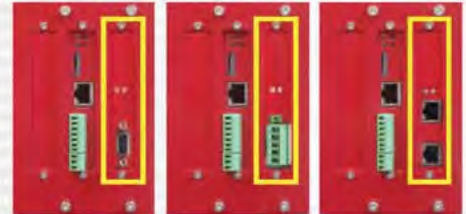
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REMOTE CONTROL



Small optimized remote control with Ah counter, ramp function, time control and more.

COMMUNICATION ADAPTERS



Profibus-DP, Devicenet, Profinet, Ethernet-IP, Modbus/TCP networks and more

ANALOGUE INTERFACE



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INPUT/OUTPUT SCREW INTERFACE



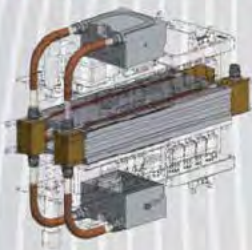
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MULTI-TOWER INTERCONNECTION



Small kit to be connected to the CPU to turn the rectifier in a tower of a multi-tower system. Towers of different model, type and size can be mixed together. Towers are connected in a daisy-chain way, with a RJ45 cable going from tower to tower.

WATER COOLING SYSTEM IN COPPER



Water cooling system without aluminum parts. Enhanced reliability and robustness of the cooling circuit



- Space saving
- Manual or automatic controlled
- Wall installation for better space use
- Ah counter, ramp software and more
- Ease of service
- Upgradable



TECHNICAL SPECIFICATION		Q150W - WALL
Main voltage (3 Phase)		208 - 230 - 400 - 440 - 480 - 575 VAC ± 10% / 50-60 Hz
Max. output voltage		5 - 160 VDC
Max. output current		10 - 1000 A DC
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		>0.95 @ rated load
Efficiency		>89% @ rated load
Color		RAL 3004
Cooling		Air and Water
Degree of protection	Air cooled	IP31
	Water cooled	IP42 / IP54
Weight		Max. 35 kg
Ambient temperature		40°C (up to 50°C on request)
Input water cooling temperature		19 - 28°C (up to 35°C on request)



OPTIONS

COMMUNICATION BOX



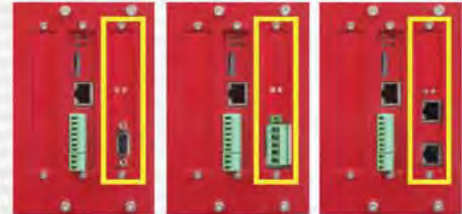
Small and easy access communication box. Cover can be removed to work on cables and interfaces.

REMOTE CONTROL



Small optimized remote control with Ah counter, ramp function, time control and more.

COMMUNICATION ADAPTERS



Profibus-DP, Devicenet, Profinet, Ethernet-IP, Modbus/TCP networks and more

ANALOGUE INTERFACE



Provides digital and analogue I/O to control the rectifier. Ready for 0-10V or 4-20mA signal.

INPUT/OUTPUT SCREW INTERFACE



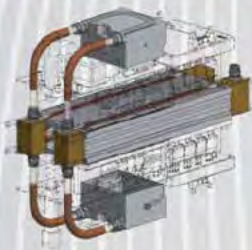
Screw terminal for Modbus RS485 and CPU connection.

MULTI-TOWER INTERCONNECTION



Small kit to be connected to the CPU to turn the rectifier in a tower of a multi-tower system. Towers of different model, type and size can be mixed together. Towers are connected in a daisy-chain way, with a RJ45 cable going from tower to tower.

WATER COOLING SYSTEM IN COPPER



Water cooling system without aluminum parts. Enhanced reliability and robustness of the cooling circuit



- Space saving
- Wall installation for better use of space
- Manual or automatic controlled
- Ah counter, ramp software and more
- Ease of service
- Expandable for more power

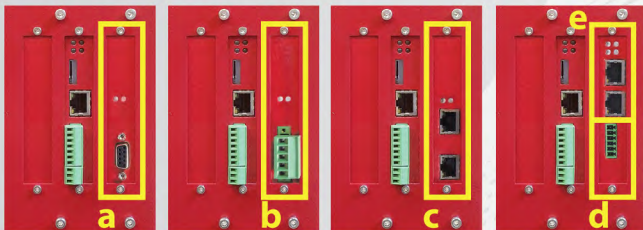


TECHNICAL SPECIFICATION		Q150W - WALL - STAINLESS STEEL
Main voltage (3 Phase)		208 - 230 - 400 - 440 - 480 - 575 VAC ± 10% / 50-60 Hz
Max. output voltage		5 - 160 VDC
Max. output current		10 - 1000 A DC
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		>0.95 @ rated load
Efficiency		>89% @ rated load
Color		RAL 3004
Cooling		Air and Water
Degree of protection	Air cooled	IP31
	Water cooled	IP42 / IP54
Weight		Max. 35 kg
Ambient temperature		40°C (up to 50°C on request)
Input water cooling temperature		19 - 28°C (up to 35°C on request)



OPTIONS

COMMUNICATION ADAPTERS



Profibus-DP^(a), Devicenet^(b), Profinet^(c), Ethernet-IP^(c), Modbus/TCP^(c), Modbus-RTU^(d) networks and more. On the Modbus-RTU adapter there is a dual RJ45 port^(e) log bus, to interface a computer.

MULTI-TOWER INTERCONNECTION



Small kit to be connected to the CPU to turn the rectifier in a tower of a multi-tower system. Towers of different model, type and size can be mixed together. Towers are connected in a daisy-chain way, with a RJ45 cable going from tower to tower.

WATER FLOW SENSOR AND SOLENOID



The internal adjustable flow sensor assures minimum required flow rate and report low water flow rate alarm. The external solenoid can be used to stop circulation of cold water when rectifier is in stand-by, thus reducing potential condensation.

ANALOGUE INTERFACE



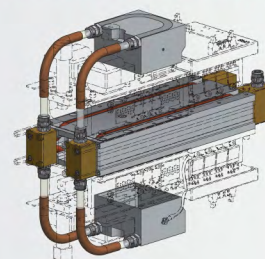
Provides digital and analogue I/O to control the rectifier. Ready for 0-10V or 4-20mA signal.

REMOTE CONTROL



Small optimized remote control with Ah counter, ramp function, time control and more.

WATER COOLING SYSTEM IN COPPER



Water cooling system without aluminum parts. Enhanced reliability and robustness of the cooling circuit



- Space saving
- Manual or automatic controlled
- Medium power for production lines
- Ah counter, ramp software and more
- Ease of service
- Upgradable - more power and options

TECHNICAL SPECIFICATION		Q300
Main voltage (3 Phase)		208 - 230 - 400 - 440 - 480 - 575 VAC ± 10% / 50-60 Hz
Max. output voltage		5 - 450 VDC
Max. output current		22 - 1800 A DC
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		>0.95 @ rated load
Efficiency		>89% @ rated load
Color		RAL 3004
Cooling		Air
Degree of protection	Air cooled	IP21
Weight		45 - 89 kg
Ambient temperature		40°C (up to 50°C on request)



OPTIONS

COMMUNICATION BOX



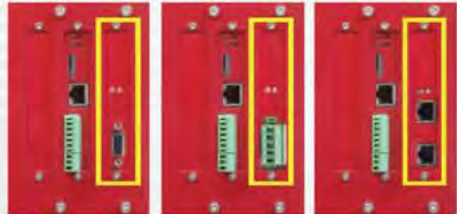
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REMOTE CONTROL



Small optimized remote control with Ah counter, ramp function, time control and more.

COMMUNICATION ADAPTERS



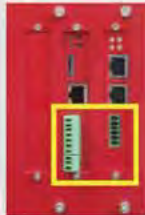
Profibus-DP, Devicenet, Profinet, Ethernet-IP, Modbus/TCP networks and more

ANALOGUE INTERFACE



Provides digital and analogue I/O to control the rectifier. Ready for 0-10V or 4-20mA signal.

INPUT/OUTPUT SCREW INTERFACE



Screw terminal for Modbus RS485 and CPU connection.

MULTI-TOWER INTERCONNECTION



Small kit to be connected to the CPU to turn the rectifier in a tower of a multi-tower system. Towers of different model, type and size can be mixed together. Towers are connected in a daisy-chain way, with a RJ45 cable going from tower to tower.



- Space saving
- Manual or automatic controlled
- High power for production lines
- Ah counter, ramp software and more
- Ease of service
- Upgradable - more power and options

TECHNICAL SPECIFICATION		Q500B
Main voltage (3 Phase)		208 - 230 - 400 - 440 - 480 - 575 VAC ± 10% / 50-60 Hz
Max. output voltage		5 - 450 VDC
Max. output current		22 - 8000 A DC
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		>0.95 @ rated load
Efficiency		>89% @ rated load
Color		RAL 3004
Cooling		Air and Water
Degree of protection	Air cooled	IP32 / IP52 / IP54
	Water cooled	IP42 / IP54 / IP65
Weight		79 - 308 kg
Ambient temperature		40°C (up to 50°C on request)
Input water cooling temperature		19 - 28°C (up to 35°C on request)



OPTIONS

COMMUNICATION BOX



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REMOTE CONTROL



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COMMUNICATION ADAPTERS



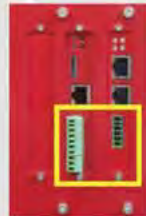
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INPUT/OUTPUT SCREW INTERFACE



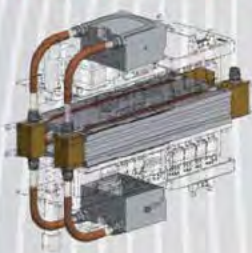
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MULTI-TOWER INTERCONNECTION



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WATER COOLING SYSTEM IN COPPER



Water cooling system without aluminum parts. Enhanced reliability and robustness of the cooling circuit



- Space saving
- Manual or automatic controlled
- The highest power for production lines
- Ah counter, ramp software and more
- Ease of service
- Upgradable - more power and options



TECHNICAL SPECIFICATION		V700
Main voltage (3 Phase)		208 - 230 - 400 - 440 - 480 - 575 VAC ± 10% / 50-60 Hz
Max. output voltage		6 - 50 VDC
Max. output current		1200 - 10500 A DC
Current ripple		<2% (<1% on request)
Operation mode		Current or voltage control
Current regulation range		2 - 100%
Voltage regulation range		5 - 100%
Accuracy		1% of full scale
Power factor		>0.95 @ rated load
Efficiency		>89% @ rated load
Color		RAL 3004
Cooling		Air and Water
Degree of protection	Air cooled	IP32
	Water cooled	IP42 / IP54
Weight		79 - 450 kg
Ambient temperature		40°C (up to 50°C on request)
Input water cooling temperature		19 - 35°C



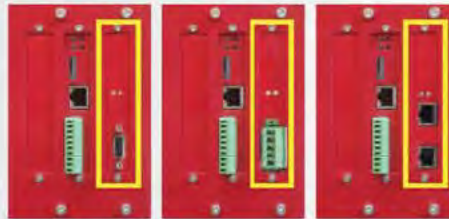
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