

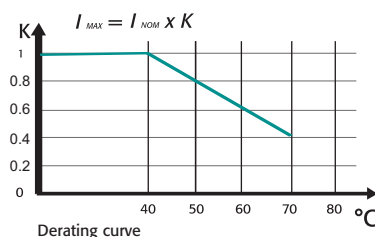


## GENERAL DESCRIPTION

- Revo S has been specifically designed to save space and labour
- These simple units can be connected with REVO PC to manage multizone system this minimize your energy cost by controlling synchronization and power limit on each zone
- All circuit board, fuses and Thyristor can be inspected just opening front door
- Input signal: SSR, Analog as an option
- Zero Crossing, Burst Firing available at 4, 8 or 16 Cycles at 50% Power demand
- Electronic circuit fully isolated from power with constant current drain on input.
- Heater Break alarm option to diagnose partial or total load failure and Thyristor Short circuit
- Internal fixed fuses are standard
- Current transformer integrated (with Heather Break option)
- Special design for Heat sink with very high dissipation value
- Comply with EMC, cUL (pending)
- Panel Mounting
- IP20 Protection

## TECHNICAL SPECIFICATION

<b>Voltage power supply</b>	24V minimum to 480V, 600V, 690V On request		
<b>Voltage Frequency</b>	50 or 60 Hz no setting needed from 47 to 70 Hz		
<b>Nominal Current</b>	280A, 400A, 450A, 500A, 600A, 700A		
<b>Input Signal</b>	SSR	4:30Vdc	5mA Max (On ≥ 4Vdc Off ≤ 1Vdc);
	Voltage input	0:10Vdc	impedance 15 K ohm;
	Current input	0:20/4:20mA	impedance 100 Ohm;
<b>Firing</b>	Zero Crossing, Burst Firing with analog input signal only		
<b>Auxiliary Voltage Supply</b>	90:130Vac	8VA Max	
	170:265Vac	8VA Max	(Standard)
	230:345Vac	8VA Max	
	300:530Vac	8VA Max	(Standard)
	510:690Vac	8VA Max	
	600:760Vac	8VA Max	
<b>Heather Break Alarm</b>	Microprocessor based with automatic setting Digital Input, Relay Output 0,5A at 110V		
<b>Mounting</b>	Panel Mounting		
<b>Operating Temperature</b>	40 °C without derating. Over this temperature see below derating curve		
<b>Storage temperature</b>	-25 °C to 70 °C Max		
<b>Altitude</b>	Over 1000 m of altitude reduce the nominal current of 2% for each 100m		
<b>Humidity</b>	From 5 to 95% without condense and ice		



## OPTION'S FEATURES AND SPECIAL DETAILS

### HEATER BREAK ALARM (HB)

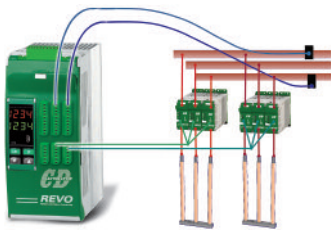
#### ON FRONT CABINET



FEW SECOND TO SET AND CALIBRATE ALL THE UNITS

- Microprocessor based circuit
- Capacity to diagnose the failure of one Resistance over five in parallel
- Load failure alarm with LED indication on front unit
- Thyristor short circuit alarm with LED indication on front unit
- Alarm output with free voltage relay contact
- Alarm reset function and possibility to auto reset if the alarm disappear
- Built in Current transformer when heater Break option has been selected
- Self Setting via external command or push button on front unit
- Common setting command can be given to many units and in a matter of second, the tuning is done, also by a non expert operator

### HOW TO ADD POWER LOAD MANAGEMENT AND FEATURES TO YOUR SIMPLE UNITS



APPLICATION WITH 8, THREE-PHASE LOADS

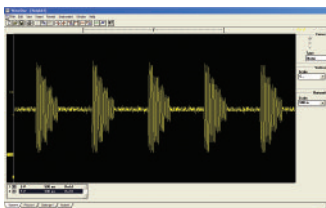
Use REVO-PC and you can add these Features

- Communication with different field bus
- Reading of current Voltage and Power
- Instantaneous power very close to average value, no pick power
- Power factor close to one no harmonics
- Prevents increase in energy supply tariffs imposed by your electricity supplier

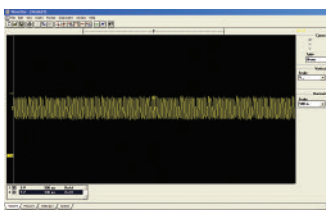
#### Synchronization

On all controlled zones, REVO-PC Synchronization is automatic resulting in superior performance:

- Total current is equal to a sinusoidal wave form.
- Power factor > 0,9.
- Instantaneous current close to average value.
- Cancellation of harmonics.
- Flickering effect removed.



WITHOUT POWER CONTROL OPTIMISATION



WITH POWER CONTROL OPTIMISATION

#### Smart power limitation

- Smart power limitation works together with synchronization. If this function is enabled, REVO-PC makes a live calculation of power at each period and generates the output values for the next period. If the calculated power is below the power limit value, the previous values remain with each channel using full power.
- If the power is above the power limit value, the setpoint of each channel is reduced proportionally to restrict power overshoot. This function significantly reduces disturbances on the main network compared to a full power system, preventing any increase in energy tariffs imposed by the electricity supplier.
- This function can be activated/deactivated and the limit value changed at any time.

### ORDERING CODES REVOS PC

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<b>REVO-PC</b>	<b>R</b>	<b>P</b>	<b>C</b>	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	<b>0</b>	<b>0</b>

4,5 Channels		7 Communication		9 Firing		12 Manuals	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
8 Channels (for 8 Off one phase unit)	0 8	Ethernet	1	Half Cycle at 50% power demand	1	None	0
16 Channels (for 16 Off one phase unit)	1 6	ModBus Slave	2	One Cycle at 50% power demandModBus	2	Italian Manual	1
24 Channels (for 24 Off one phase unit)	2 4	ModBus Master	3			English Manual	2
8 Channels for 2-3PH	3 8	Profibus	4			German Manual	3
		Profinet	5			French Manual	4

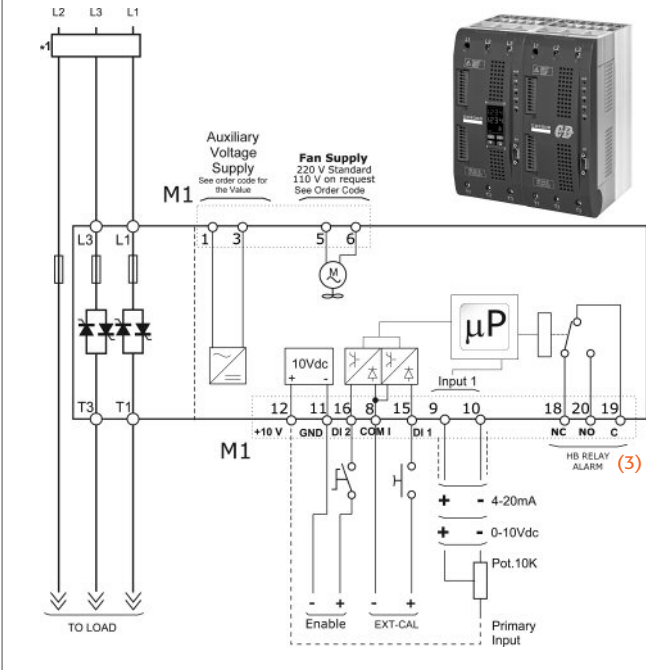
6 Current Sensor		8 Primary Voltage Aux. Transformer		10 Feed Back		13 Version	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
50/0,05 A	1	Transformer 24V	1	No feedback	1	Version 1	1
100/0,05 A	2	90:130V	2	Power	2		
150/0,005 A	3	170:265V	3				
200/0,05 A	4	230:345v	4				
250/0,05A	5	300:530V	5				
400/0,05A	6	510:690V	6				
80070,05A	7	600:760V	7				

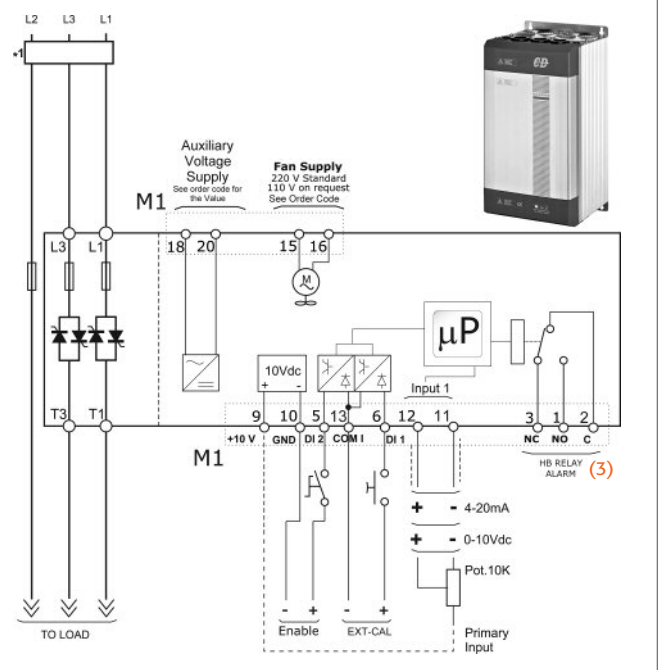
11 Approvals	
Description code	Numeric code
CE EMC	1

# WIRING CONNECTION REVO S 2PH from 280A to 700A

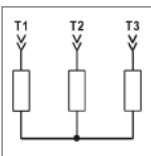
## REVO S 2PH 280A



## REVO S 2PH from 400 to 700A

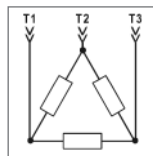


### LOAD TYPE



STAR without neutral  
Resistive or  
Infrared Lamps  
Long and  
medium waves

### LOAD TYPE

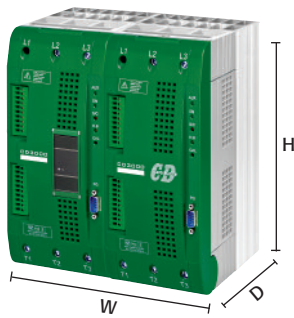


DELTA  
Resistive or  
Infrared Lamps  
Long and  
medium waves

### NOTE

- (1) • A suitable device must ensure that the unit can be electrically isolated from the supply, this allows the qualified people to work in safety.
  - The user installation must be protecting by electromagnetic circuit breaker or by fuse isolator. The semiconductor fuses are classified for UL as supplementer protection for semiconductor.
- (2) • The heat-sink must be connected to the earth.
- (3) • Only for the HB option

## DIMENSION AND FIXING HOLES



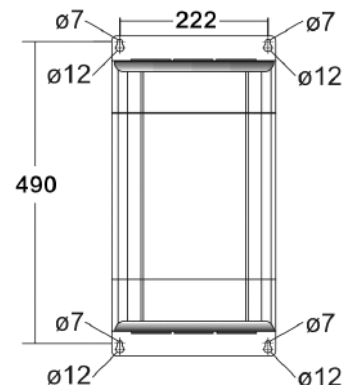
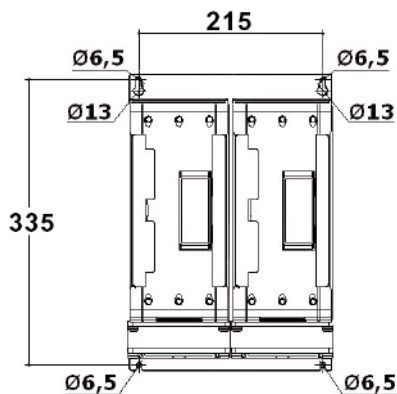
**S10** W 240 mm. - H 350 mm. - D 230 mm. - kg. 11

**280A**



**S14** W 262 mm. - H 520 mm. - D 270 mm. - kg. 22,5

**400A ÷ 700A**



## OUTPUT FEATURES (POWER DEVICE)

Current A	Voltage range (V)	Ripetitive peak reverse voltage (480V) (600V)		Latching current (mAeff)	Max peak one cycle (10msec.)	Leakage current (mAeff)	I2T value for fusing tp=10msec.	Frequency range (Hz)	Power loss I=Inom (W)	Isolation Voltage Vac
280A	24+600V	1200	1600	300	4800	15	108000	47+70	623	2500
400A	24+600V	1200	1600	200	7800	15	300000	47+70	875	2500
450A	24+600V	1200	1600	200	7800	15	300000	47+70	1021	2500
500A	24+600V	1200	1600	200	8000	15	306000	47+70	1061	2500
600A	24+600V	1200	1600	1000	17800	15	1027000	47+70	1178	2500
700A	24+600V	1200	1600	1000	17800	15	1027000	47+70	1425	2500

## Fan Specification

Supply: 230V Standard	Input Power 17W
Supply: 115V Option	Input Power 14W

## ORDERING CODES REVOS 2PH

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>REVO S - 2PH</b>	<b>R</b>	<b>S</b>	<b>2</b>	-	-	-	-	-	-	-	-	-	-	-	-	-

4, 5, 6 Current	
Description code	Numeric code
280A	2 8 0
400A	4 0 0
450A	4 5 0
500A	5 0 0
600A	6 0 0
700A	7 0 0

7 Max Voltage	
Description code	Numeric code
480V	4
600V	6
690V	7

8 Aux. Voltage supply (1)	
Description code	Numeric code
90:130V	1
170:265V (1)	2
230:345V	3
300:530V (1)	5
510:690V	6
600:760V	7

9 Input	
Description code	Numeric code
SSR	S
0:10V dc	V
4:20mA	A

10 Firing	
Description code	Numeric code
Zero Crossing ZC	Z
Burst Firing 4 Cycles On at 50% Power Demand	4 (2)
Burst Firing 8 Cycles On at 50% Power Demand	8 (2)
Burst Firing 16 Cycles On at 50% Power Demand	6 (2)

11 Control Mode	
Description code	Numeric code
Open Loop	0

12 Fuse & Option	
Description code	Numeric code
Fixed Fuses (IF)	F
Fixed Fuses +CT	Y
Fixed Fuses +CT +HB	H

13 Fan Voltage	
Description code	Numeric code
Fan 110V	1
Fan 220V Std Version	2

14 Approvals	
Description code	Numeric code
CE EMC For European Market	0
cUL For American Market, (pending)	L

15 Manual	
Description code	Numeric code
None	0
Italian Manual	1
English Manual	2
German Manual	3
French Manual	4

16 Version	
Description code	Numeric code
Std with fixed Fuses	1

### LEGEND

IF = Internal Fixed Fuse  
CT = Current Transformer  
HB = Heater Break Alarm

Note (1): Standard Value (other value on request)  
Note (2): Available only with Analog input

