

## 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 Heater Break option)
- Special design for Heat sink with very high dissipation value
- Comply with EMC, cUL (pending)
- Panel Mounting
- IP20 Protection

## TECHNICAL SPECIFICATION

**Voltage power supply** 24V minimum to 480V, 600V On request

**Voltage Frequency** 50 or 60 Hz no setting needed from 47 to 70 Hz

**Nominal Current** 225A, 300A, 350A, 400A, 450A, 500A

<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;

**Firing** 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

**Heater Break Alarm** Microprocessor based with automatic setting Digital Input, Relay Output 0,5A at 110V

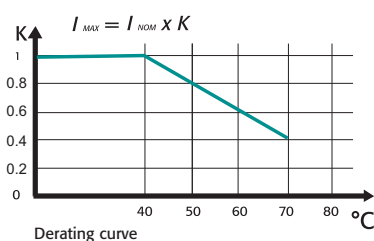
**Mounting** Panel Mounting

**Operating Temperature** 40 °C without derating. Over this temperature see below derating curve

**Storage temperature** -25 °C to 70 °C Max

**Altitude** Over 1000 m of altitude reduce the nominal current of 2% for each 100m

**Humidity** From 5 to 95% without condense and ice



## OPTION'S FEATURES AND SPECIAL DETAILS

### HEATER BREAK ALARM (HB)

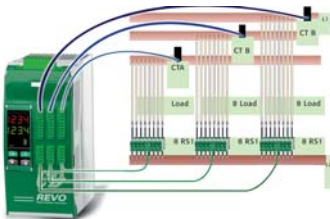
#### ON FRONT CABINET



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 heather 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, 16 OR 24 SINGLE PHASE LOADS

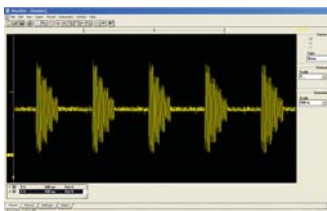
Use REVO-PC and you can add these Features

- 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

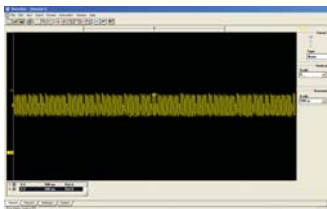
#### Synchronization

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 CODE REVO-PC

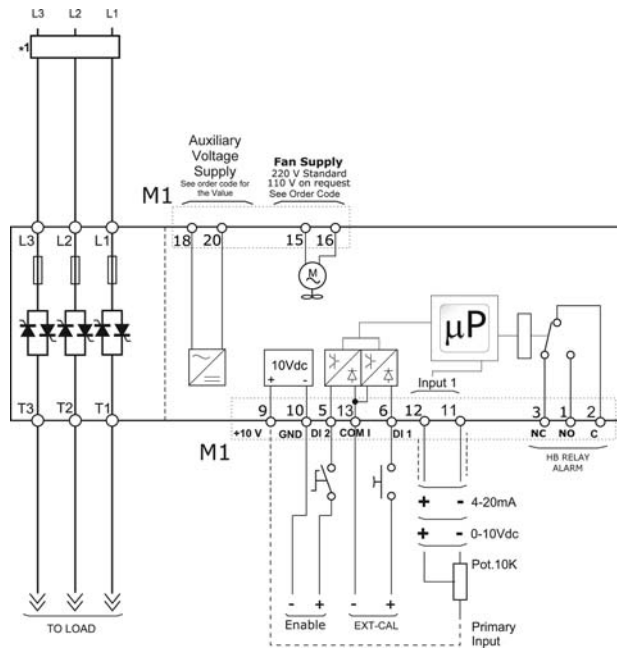
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>REVO-PC</b>	<b>R</b>	<b>P</b>	<b>C</b>	-	-	-	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>4,5</b> Channels	<b>6</b> Current Sensor		<b>7</b> Communication		<b>8</b> Transformer											
Description code	Description code		Description code		Description code		Description code									
Numeric code	Numeric code		Numeric code		Numeric code		Numeric code									
8 Channels	N. 1 CS 200 Amps		Ethernet		Transformer 24V											
16 Channels	N. 2 CS 200 Amps		ModBus Slave													
24 Channels	N. 3 CS 200 Amps		ModBus Master													
	N. 1 CS 400 Amps		Profibus													
	N. 2 CS 400 Amps		Profinet													
	N. 3 CS 400 Amps		CANopen													
	N. 1 CS 600 Amps		EtherCAT													
	N. 2 CS 600 Amps															
	N. 3 CS 600 Amps															

### APPLICATIONS AND FOCUS ON:

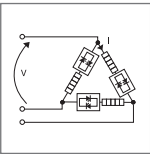
- Infrared lamp.
- Fournaces.
- Dryers
- Petrochemical
- Autoclaves.
- Chemical
- Climatic chambers

# Wiring connection REVO S 3PH from 225 to 500A

## REVO S 3PH from 225 to 500A

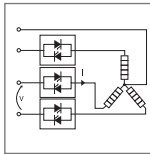


### LOAD TYPE



OPEN DELTA  
Resistive or  
Infrared Lamps  
Long and  
medium waves

### LOAD TYPE



STAR with neutral  
Resistive or  
Infrared Lamps  
Long and  
medium waves

### NOTE

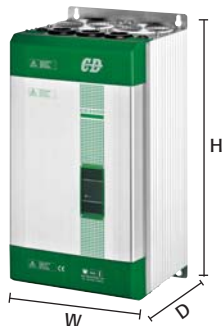
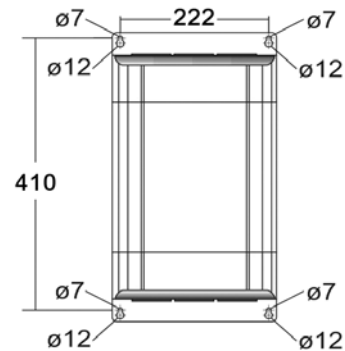
- (1) • A suitable device must ensure that the unit can be electrically isolated from the supply, this allows the qualified people to work in safety.
  - The user installation must be protecting by electromagnetic circuit breaker or by fuse isolator. The semiconductor fuses are classified for UL as supplementar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

## DIMENSION AND FIXING HOLES



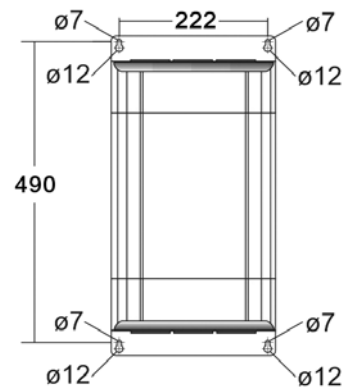
**S13** W 262 mm. - H 440 mm. - D 270 mm. - kg. 18

**225A**



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

**300A+500A**



## 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)	I <sup>2</sup> T value for fusing tp=10msec.	Frequency range (Hz)	Power loss I=Inom (W)	Isolation Voltage Vac
225A	24+600V	1200	1600	300	4800	15	108000	47+70	810	2500
300A	24+600V	1200	1600	300	5250	15	128000	47+70	1080	2500
350A	24+600V	1400	1600	200	7800	15	300000	47+70	1260	2500
400A	24+600V	1400	1600	200	8000	15	306000	47+70	1440	2500
450A	24+600V	1400	1600	1000	17800	15	1027000	47+70	1620	2500
500A	24+600V	1400	1600	1000	17800	15	1027000	47+70	1800	2500

## Fan Specification

Supply: 230V Standard

Input Power 17W

Supply: 115V Option

Input Power 14W

## ORDERING CODES REVOS 3PH

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

4, 5, 6 Current	
Description code	Numeric code
225A	2 2 5
300A	3 0 0
350A	3 5 0
400A	4 0 0
450A	4 5 0
500A	5 0 0

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

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

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 (3)
Burst Firing 8 Cycles On at 50% Power Demand	8 (3)
Burst Firing 16 Cycles On at 50% Power Demand	6 (3)

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

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

**Note (2):** Standard Value (other value on request)  
**Note (3):** Available only with Analog input

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

