



## GENERAL DESCRIPTION

- This unit is available in three version as in drawing on next pages
- Each unit includes Fuse and Fuse Holder, thyristor and heat sink with its own Firing circuit
- Zero Crossing Firing
- Insulated input
- LED for On Off Status indication
- LED for fuse failure indication
- Plug in connection for auxiliary and power terminations
- Small dimensions Width: 36 Depth: 86 Height:121
- Din rail mounting or screw mounting
- Can be used in applications with many zones and low power as thermoforming, blow Moulding and Hot Runners
- Total load failure alarm is available as standard on 480V version

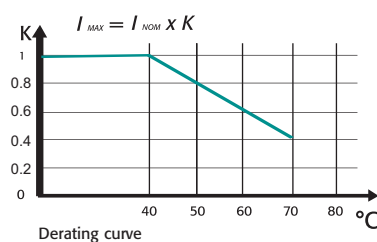
## TECHNICAL SPECIFICATION

### GENERAL FEATURES

<b>Cover and Socket material</b>	PolymericV2
<b>Mounting</b>	DIN bar (thickness type 1mm Max)
<b>Nominal voltage range Ue:</b>	24 ÷ 480V
<b>Delay switch ON time</b>	0,5 period Max
<b>Delay switch OFF time</b>	0,5 period Max

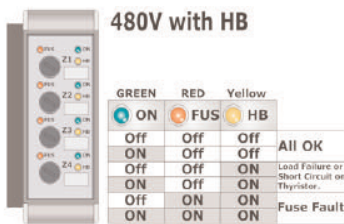
### INPUT FEATURES

<b>Logic input SSR</b>	4 ÷ 30Vdc 5mA Max (ON ≥ aVdc OFF < 1Vdc)
<b>Firing</b>	Zero Crossing or Random
<b>Mounting</b>	Side by side 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 1000m 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

### TOTAL LOAD FAILURE ALARM OR SHORT CIRCUIT ON THYRISTOR



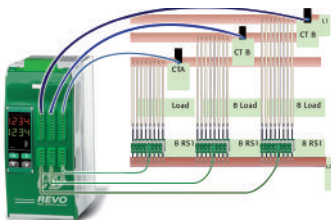
The alarm circuit checks if the load is connected to the unit and the health state of the semiconductor used for switching (SCR short circuit). The alarm is active only when the unit is in OFF status. This unit don't need calibration. The anomalies are indicated by the yellow Led HB corresponding to the zone in alarm and relay switching contact HB (terminals 9 - 10). The diagnostic circuit also checks the fuse, if the fuse is interrupted a red Led is ON showing the blown fuse, also in this case the relay switching contact HB is active. The alarm is stored, to reset the alarm you have to remove the auxiliary power supply (terminals 11 -12).

#### Total Load Failure Alarm Contact

The Revo unit with this option, is supplied with Total Load Failure Alarm Contact normally opened (NO):

- In normal conditions (without alarm) and with auxiliary power supply, the contact to the terminals has opened.
- In alarm condition the contact to the terminals is closed (relay coil energized). On request is possible to have the alarm contact normally closed (NC).

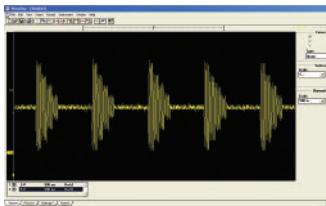
### HOW TO ADD POWER LOAD MANAGEMENT AND FEATURES TO YOUR SIMPLE UNITS



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
- Istantaneous 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

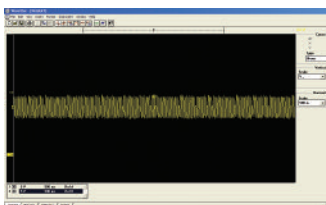


WITHOUT POWER CONTROL OPTIMISATION

#### 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.



WITH POWER CONTROL OPTIMISATION

#### Smart power limitation

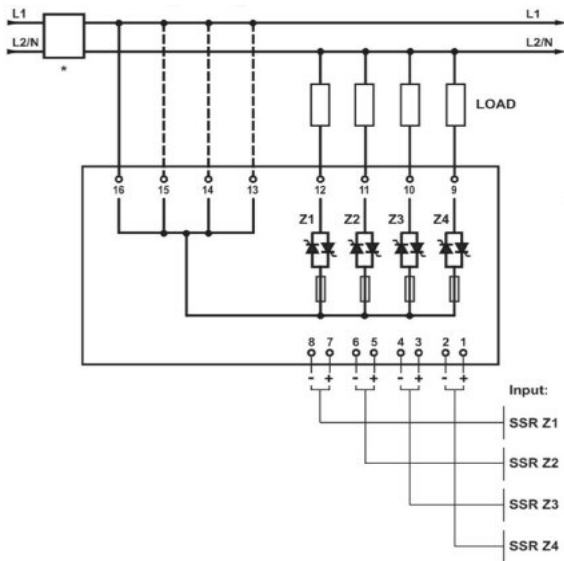
- Smart power limitation works together with synchronization. If this function is enabled, REVO-PC makes a live calculation of power at each period and generates the output values for the next period. If the calculated power is below the power limit value, the previous values remain with each channel 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.

### APPLICATIONS AND FOCUS ON:

- Chiller application.
- Autoclaves.
- Thermoforming
- Dryers
- Chemical
- Infrared lamp.
- Furnaces.
- Extrusion line.
- Climatic chambers
- Pharmaceutical

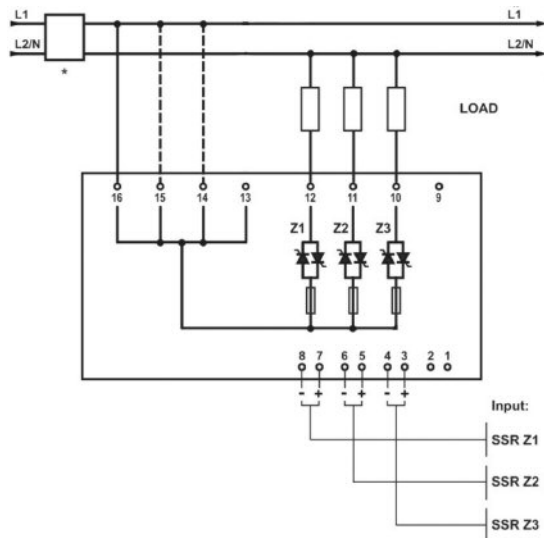
# WIRING CONNECTION REVO SX 230V

Diagram of control connection 4x3,5A 230V



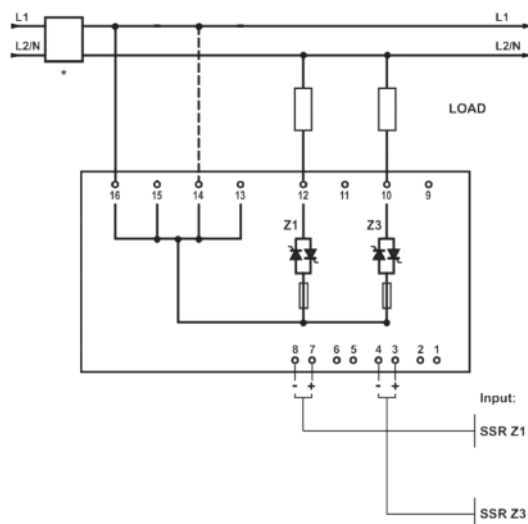
- 4 OFF Channels 3,5A each
- 4 OFF Fuse and Fuse Holder
- 4 OFF Solid State Relays
- 4 OFF Input Signal
- Indication Fuse Failure
- Indication ON-OFF status
- Internal Heat Sink

Diagram of control connection 3x4,5A 230V



- 3 OFF Channels 4,5A each
- 3 OFF Fuse and Fuse Holder
- 3 OFF Solid State Relays
- 3 OFF Input Signal
- Indication Fuse Failure
- Indication ON-OFF status
- Internal Heat Sink

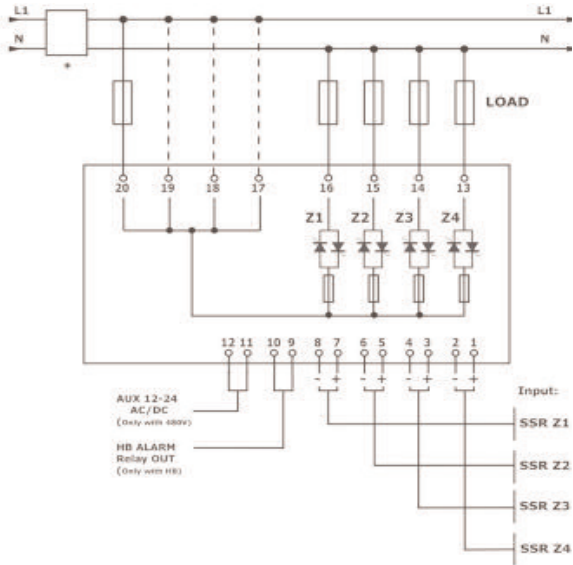
Diagram of control connection 2x7A 230V



- 2 OFF Channels 7A each
- 2 OFF Fuse and Fuse Holder
- 2 OFF Solid State Relays
- 2 OFF Input Signal
- Indication Fuse Failure
- Indication ON-OFF status
- Internal Heat Sink

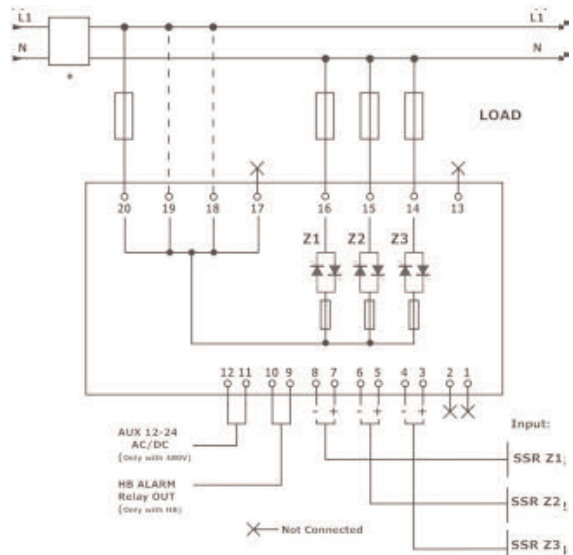
# WIRING CONNECTION REVO SX 480V Total Load Failure Alarm or Short Circuit on Thyristor

**Diagram of control connection 4x3,5A 480V**



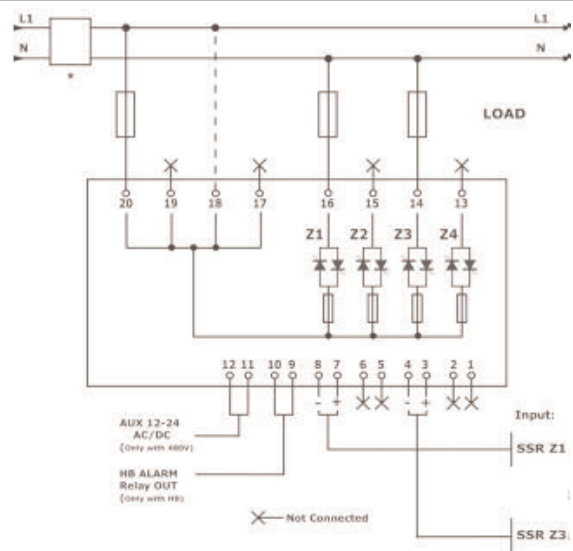
- 4 OFF Channels 3,5A each
- 4 OFF Fuse and Fuse Holder
- 4 OFF Solid State Relays
- 4 OFF Input Signal
- Indication Fuse Failure
- Indication ON-OFF status
- Indication of total load failure
- Internal Heat Sink

**Diagram of control connection 3x4,5A 480V**



- 3 OFF Channels 4,5A each
- 3 OFF Fuse and Fuse Holder
- 3 OFF Solid State Relays
- 3 OFF Input Signal
- Indication Fuse Failure
- Indication ON-OFF status
- Indication of total load failure
- Internal Heat Sink

**Diagram of control connection 2x7A 480V**

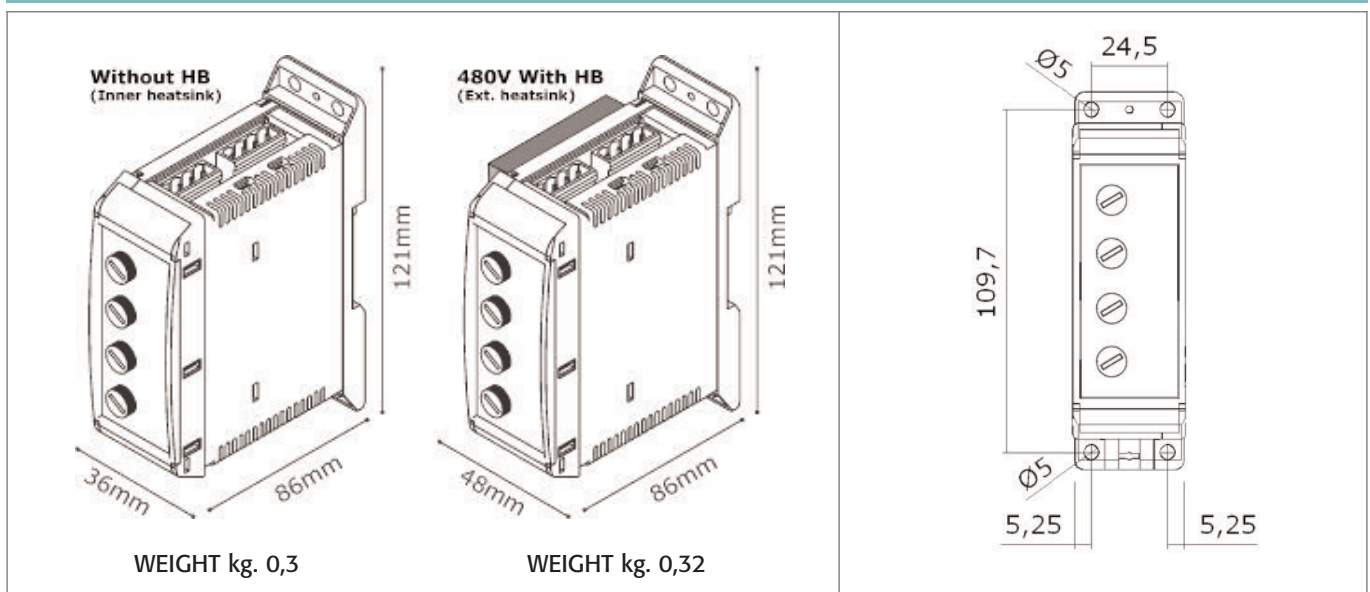


- 2 OFF Channels 7A each
- 2 OFF Fuse and Fuse Holder
- 2 OFF Solid State Relays
- 2 OFF Input Signal
- Indication Fuse Failure
- Indication ON-OFF status
- Indication of total load failure
- Internal Heat Sink

## POWER OUTPUT FEATURES

<b>Nominal current in continuous service:</b>	4x3,5A - 3x4,5A - 2x7A
<b>Voltage range:</b>	24 ÷ 480V
<b>Repetitive peak reverse voltage Uimp</b>	1200 (480V)
<b>Latching current:</b>	250mA
<b>Max peak one cycle (10ms):</b>	230A
<b>Leakage current:</b>	15mA eff
<b>I<sup>2</sup>T Thyristor value tp=10msec:</b>	610 A <sup>2</sup> S
<b>Frequency range:</b>	47 ÷ 70Hz
<b>Power loss (I=Inom):</b>	4x4,2W - 3x5,4W - 2x8,4W
<b>Isolation Voltage Ui:</b>	2500Vac

## DIMENSION AND FIXING HOLES



WEIGHT kg, 0,3

WEIGHT kg, 0,32

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>REVO - SX</b>	<b>R</b>	<b>S</b>	<b>X</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>4,5,6</b> Number of Zones x Current Rating	<b>9</b> Input		<b>12</b> Fuse and Options		<b>15</b> Manuals											
<b>Description code</b>	<b>Description code</b>	<b>Numeric code</b>	<b>Description code</b>	<b>Numeric code</b>	<b>Description code</b>	<b>Numeric code</b>	<b>Description code</b>	<b>Numeric code</b>								
4 Zones 3,5A each	SSR	S	Fuse and Fuse Holder	F	None	0										
3 Zones 4,5A each	<b>10</b> Firing		Total Load Failure with latching	L (1)	Italian Manual	1										
2 Zones 7A each	<b>Description code</b>	<b>Numeric code</b>	Zero Crossing	Z	English Manual	2										
<b>7</b> Main Supply Voltage	<b>11</b> Control Mode		Random (used with REVO-PC)	R	<b>13</b> Fan Voltage	<b>14</b> Approvals										
<b>Description code</b>	<b>Description code</b>	<b>Numeric code</b>	<b>Description code</b>	<b>Numeric code</b>	<b>Description code</b>	<b>Numeric code</b>	<b>Description code</b>	<b>Numeric code</b>								
230V	Open Loop	0	No fan Voltage	0	CE EMC For European Market	0										
480V	<b>8</b> Auxiliary Voltage		<b>16</b> Version													
<b>Description code</b>	<b>Description code</b>	<b>Numeric code</b>	<b>Description code</b>	<b>Numeric code</b>												
No Auxiliary Voltage with 230V	12-24V ac-dc with 480V	4	Version 1	1												

Note (1): This option is available only on 480V version

Note (2): The 480V version have the dimensions: Width: 48 Height: 121 Depth: 86 mm

