

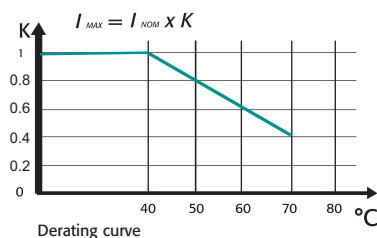


GENERAL DESCRIPTION

- 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, 690V On request | | |
| Voltage Frequency | 50 or 60 Hz no setting needed from 47 to 70 Hz | | |
| Nominal Current | 225A, 300A, 350A, 400A, 450A, 500A | | |
| Input Signal | 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 | | |
| Auxiliary Voltage Supply | 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 | |
| Heather 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)

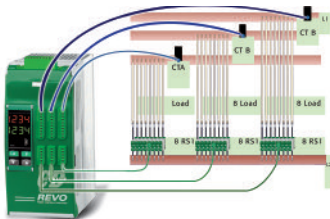
ON FRONT CABINET



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 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

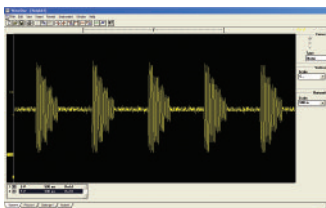
Use REVO-PC and you can add these Features

- 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

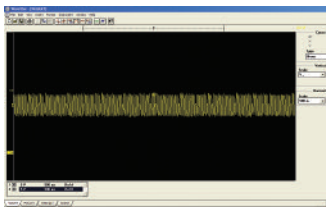
Synchronization

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

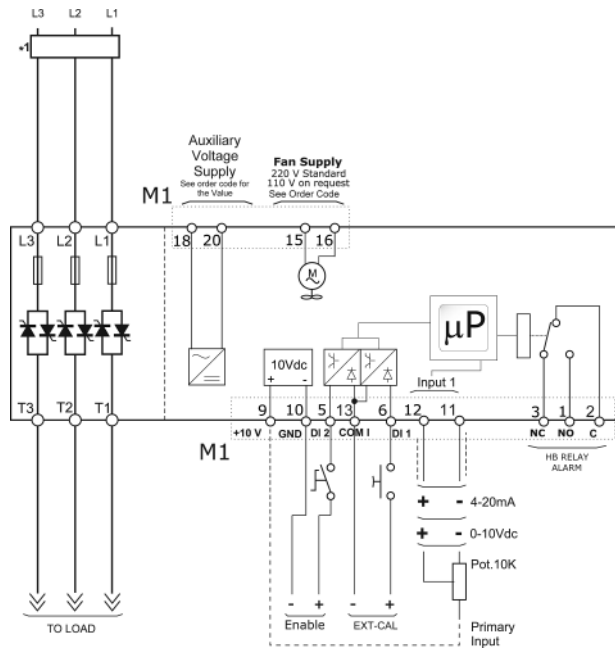
- Smart power limitation works together with synchronization. If this function is enabled, REVO-PC makes a live calculation of power at each period and generates the output values for the next period. If the calculated power is below the power limit value, the previous values remain with each channel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

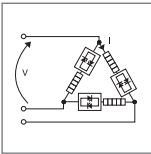
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | |
|---|---|----------|---------------------|-----|---|---|---|---|---|----|----|----|----|----|----------|----------|----------|
| REVO-PC | R | P | C | - | - | - | - | - | - | - | - | - | - | - | 0 | 0 | 0 |
| 4,5 Channels | Description code | | Numeric code | | | | | | | | | | | | | | |
| | 8 Channels (for 8 Off one phase unit) | | | 0 8 | | | | | | | | | | | | | |
| | 16 Channels (for 16 Off one phase unit) | | | 1 6 | | | | | | | | | | | | | |
| | 24 Channels (for 24 Off one phase unit) | | | 2 4 | | | | | | | | | | | | | |
| | 8 Channels for 2-3PH | | | 3 8 | | | | | | | | | | | | | |
| 6 Current Sensor | Description code | | Numeric code | | | | | | | | | | | | | | |
| | 50/0,05 A | | | 1 | | | | | | | | | | | | | |
| | 100/0,05 A | | | 2 | | | | | | | | | | | | | |
| | 150/0,005 A | | | 3 | | | | | | | | | | | | | |
| | 200/0,05 A | | | 4 | | | | | | | | | | | | | |
| | 250/0,05A | | | 5 | | | | | | | | | | | | | |
| | 400/0,05A | | | 6 | | | | | | | | | | | | | |
| | 80070,05A | | | 7 | | | | | | | | | | | | | |
| 7 Communication | Description code | | Numeric code | | | | | | | | | | | | | | |
| | Ethernet | | | 1 | | | | | | | | | | | | | |
| | ModBus Slave | | | 2 | | | | | | | | | | | | | |
| | ModBus Master | | | 3 | | | | | | | | | | | | | |
| | Profibus | | | 4 | | | | | | | | | | | | | |
| | Profinet | | | 5 | | | | | | | | | | | | | |
| 8 Primary Voltage Aux. Transformer | Description code | | Numeric code | | | | | | | | | | | | | | |
| | Transformer 24V | | | 1 | | | | | | | | | | | | | |
| | 90:130V | | | 2 | | | | | | | | | | | | | |
| | 170:265V | | | 3 | | | | | | | | | | | | | |
| | 230:345v | | | 4 | | | | | | | | | | | | | |
| | 300:530V | | | 5 | | | | | | | | | | | | | |
| | 510:690V | | | 6 | | | | | | | | | | | | | |
| | 600:760V | | | 7 | | | | | | | | | | | | | |
| 9 Firing | Description code | | Numeric code | | | | | | | | | | | | | | |
| | Half Cycle at 50% power demand | | | 1 | | | | | | | | | | | | | |
| | One Cycle at 50% power demand | | | 2 | | | | | | | | | | | | | |
| 10 Feed Back | Description code | | Numeric code | | | | | | | | | | | | | | |
| | No feedback | | | 1 | | | | | | | | | | | | | |
| | Power | | | 2 | | | | | | | | | | | | | |
| 11 Approvals | Description code | | Numeric code | | | | | | | | | | | | | | |
| | CE EMC | | | 1 | | | | | | | | | | | | | |
| 12 Manuals | Description code | | Numeric code | | | | | | | | | | | | | | |
| | None | | | 0 | | | | | | | | | | | | | |
| | Italian Manual | | | 1 | | | | | | | | | | | | | |
| | English Manual | | | 2 | | | | | | | | | | | | | |
| | German Manual | | | 3 | | | | | | | | | | | | | |
| | French Manual | | | 4 | | | | | | | | | | | | | |
| 13 Version | Description code | | Numeric code | | | | | | | | | | | | | | |
| | Version 1 | | | 1 | | | | | | | | | | | | | |

WIRING CONNECTION REVO S 3PH from 225A to 500A

REVO S 3PH from 225 to 500A

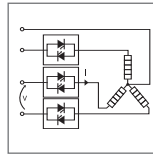


LOAD TYPE



OPEN DELTA
Resistive or
Infrared Lamps
Long and
medium waves

LOAD TYPE



STAR with neutral
Resistive or
Infrared Lamps
Long and
medium waves

NOTE

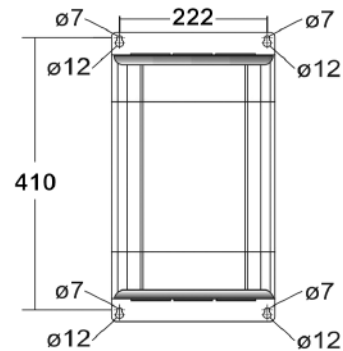
- (1) • A suitable device must ensure that the unit can be electrically isolated from the supply, this allows the qualified people to work in safety.
 - The user installation must be protecting by electromagnetic circuit breaker or by fuse isolator. The semiconductor fuses are classified for UL as supplementary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

DIMENSION AND FIXING HOLES



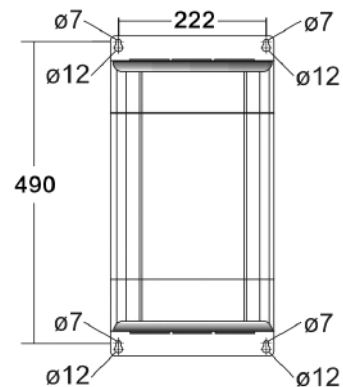
S13 W 262 mm. - H 440 mm. - D 270 mm. - kg. 18

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 ² 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 |
|---------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|
| REVO S - 3PH | 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 |
| 690V | 7 |

| 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 |
| 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 (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 |

