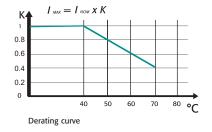




GENERAL DESCRIPTION

- Revo M has been specifically designed to be an Universal Unit
- RS485 Comm. MODBUS Protocol Standard
- Frontal Key Pad to configure the unit and to read V, I and Power
- Configurablity via RS485, USB Port and frontal Key Pad
- Microprocessor based electronic circuit fully isolated from power
- Universal input signal: RS485,Pot, Analog and SSR
- Firing Mode: Zero Crossing and Burst Firing Mode with programmable cycle time
- Configurable Control Mode: V and VxI
- Heather Break alarm to diagnose partial or total load failure and Thyristor Short circuit
- Digital input configurable
- Fuse and Fuse Holder Standard
- Current transformer integrated in Fuse Holder
- Comply with EMC, cUL pending
- IP20 Protection
- Panel mounting

TECHNICAL SDE	CLEICATION	
TECHNICAL SPECIFICATION		
Voltage power supply	From 24V to 480V Max (Std) or 600V on request	
Voltage Frequency	50 or 60 Hz no setting needed from 47 to 70 Hz	
Nominal Current	30A, 35A, 40A	
Input Signal	SSR (logic) 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;	
Digital input	4:30V dc 5 mA Max (On > 4Vdc Off < 1Vdc)	
Firing	Burst Firing and Zero Crossing with possibility to set number of Burst and cycle time	
Control Mode	Voltage Current and Power selectable via frontal Key Pad, and RS485 or via Digital input to transfer from one control mode to another one to estabilish a control strategy.	
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	
Heater Break Alarm	HB alarm setting on front unit or RS485 with possibility to set sensitivity. Relay output 0,5A at 110V	
Mounting	DIN RAIL Mounting or 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 MINUTES TO SET AND **CALIBRATE ALL THE UNITS**

The Heather Break circuit diagnostic partial or total load failure. It reads load resistance with an internal voltage transducer and current transformer to calcolate the resitance value V/I.

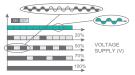
The Heather Break circuit is compensated for voltage fluctuation, infact a voltage variation has no influence on resistance value because V/I ratio remain constant.

On this unit is possible to set the nominal resistance value and the alarm sensitivity.

HB alarm in addition diagnostic the thyristor in short circuit

A normaly open contact gives the alarm condition and an indication of the alarm type appears on display.

BURST FIRING BF



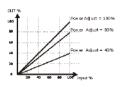
This firing is performed digitally within the thyristor unit at zero volts, producing no EMC interference. Analogue input is necessary for BF and the number of complete cycles must be specified for 50% power demand. This value can be between 1 and 255 complete cycles, determining the speed of firing. When 1 is specified, the firing mode becomes Single Cycle (SC).

FIELD BUS MODULE



CD-RS Used to convert RS232 to RS422 TU-RS485-PDP Used to convert RS485 Modbus to Profibus DP TU-RS485-ETH Used to convert RS485 Modbus to Ethernet For more informations see "Field Bus Module" Bulletin

POWER SCALING



It's a scaling factor of the input command signal and limit the output of Thyristor unit. This parameter can be adjusted from 1 to 99% via RS485 or by the front of the unit If this parameter is setted at 50% and the input signal is 100% the output become 50% This feature is very useful to reduce the power when a zone has been oversized or when a temperature controller gives same reference to more unit along a furnace.

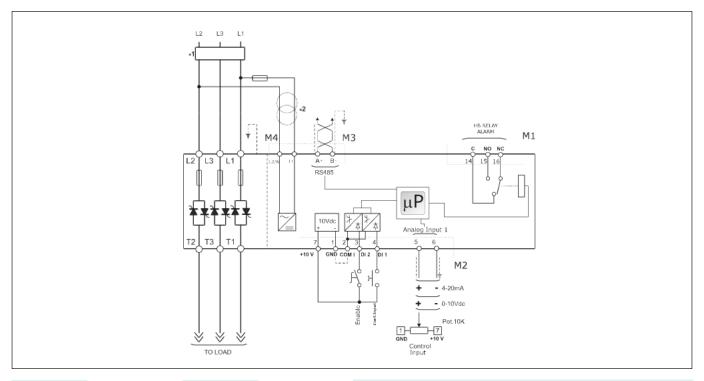
Imagine 3 zones with left and right one close to the doar where in acontinuos furnace the material come into and flow out. The profile of temperature along furnace is higher in central zone because there is less dispersion but if we scale its input we can have a flat profile.

APPLICATIONS AND FOCUS ON:

- Infrared lamp.
- Fournaces.
- Petrochemical
- Drvers
- Pharmaceutical

- Autoclaves.
- Chemical
- Extrusion line.
- Climatic chambers

WIRING CONNECTION REVO M 3PH from 30A to 40A



LOAD TYPE



OPEN DELTA Resistive or Infrared Lamps Long and medium waves

LOAD TYPE

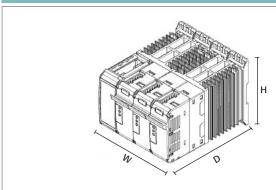


STAR with neutral Resistive or Infrared Lamps Long and medium waves

NOTE

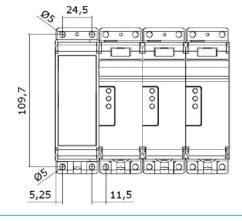
- (1) The user installation must be protected by electromagnetic circuit breaker or by fuse isolator.
 - The Fuse 12t should be 20% less than 12t of power controller. Semiconductor fuses are classified for UL as supplemetar protection for semiconductor. They are note approved for branch circuit protection.
- (2) The auxiliary voltage supply of the Revo M unit must be synchronized with loadvoltage power supply. If the Auxiliary Voltage (written on the identification label) is different from Supply Voltage (to the load), use an external transformer as designated.

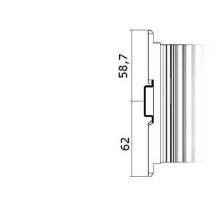
DIMENSION AND FIXING HOLES



SR11 W 144 mm. - H 121mm. - D 185mm. - kg. 2,4

30A ÷ 45A





OUTPUT FEATURES (POWER DEVICE)		
Nominal current in continuos service:	30 - 35 - 40A	
Max peak current (10ms)	400A for unit type 030 600A for unit type 035 800A for unit type 040 24÷600V	
Voltage range:	480V; 600V	
Repetitive peak reverse voltage:	1200V (480V), 1600V (600V)	
Latching current:	15mA eff	
Leakage current:	15mA eff	
I²t value tp=10msec:	780A ² /S for unit type 030 1750A ² /S for unit type 035 3110A ² /S for unit type 040	
Frequency range:	47÷70Hz	
Power loss (I=Inom):	114W for unit type 030 135W for unit type 035 150W for unit type 040	
Isolation Voltage:	2500Vac	

ORDERING CODES REVO M 3PH Note 1 3 4 5 6 7 8 9 10 11 12 13 14 15 16 2 **REVO M - 3 PH** R M 3 Aux. Voltage supply 4,5,6 Approvals Control Mode **Description code Numeric code Description code Numeric code Description code** Numeric code **Description code Numeric code** 30A 0 3 0 90:130V (2) CE EMC For European Open Loop 0 35A 0 3 5 170:265V (2 Market Voltage Feed Back V U 40A 0 4 0 230:345V (2) cUL For American Power Feed Back VxI W L 300:530V (2) Market, Pending Current Feed Back I 7 Max Voltage 510:690V (2) 6 15 12 **Description code Numeric code Description code** 480V **Description code Numeric code** Numeric code **Description code Numeric code** 600V None Fuse + Fuse Holder SSR Italian Manual Fuse + Fuse Holder +C1 0:10V dc V **English Manual** Fuse + Fuse Holder Н 4:20mA Α +CT +HB German Manual 10KPot French Manual RS485 R 13 Fan Voltage 16 10 **Description code** Numeric code **Description code** Numeric code No Fan 0 **Description code Numeric code** Version Std with 3 fuses Zero Crossing ZC LEGEND CT = Current Transformer HB = Heater Break Alarm Burst Firing BF В

Note (1): After 16th digit write current and voltage of load inside brackets Ex. (40A-400V) Note (2): Load voltage must be included in Selected Auxiliary Voltage Range

