

# REVO C 3PH



SIZE SR11



SIZE SR17



SIZE S14

## Technical Specification

- **Dimensions:** See size and dimensions page 6-7
- **Load type:** Normal Resistance, Infrared Short, Medium and Long, Transformer Primary using Phase Angle
- **Inputs:** 4:20mA , 0:10V, SSR and ModBus as std and different Field Bus Listed in the Product Coding
- **Firing mode:** Burst Firing , Delayed Triggering and Phase Angle with or without Soft Start
- **Control Mode:** Voltage, Current and Power or V2 and I2 with additional Transfer to VxI
- **RS485 port. RTU Modbus Protocol** and other Field Bus listed in Product Coding
- **USB:** port integrated for configuration in safety mode (No Load and Auxiliary Voltage needed) Unit Powered Through USB
- **Comply with EMC and cUL**
- **100 KA:** Short Circuit Current rating (SCCR) up to 600V
- **Dual Current Limit:** for peak and RMS value

## Option

- See below the types of options and their combination for Code generation
- Energy Totalizer
- Data Logging
- WiFi
- HB Alarm to diagnostic partial or Total Load Failure and Thyristor Short Circuit

## Tools

- A very easy and Powerful Configurator Software is available Free of Charge on [www.cdautomation.com](http://www.cdautomation.com)
- CD Automation APP is also available free of charge to communicate via Wi-Fi

I LIMIT	HB	WIFI	LOGGING	TOTALIZER	CODE	NOTES
					0	
					1	
					2	
					3	
					4	
					5	
					6	
					7	
					8	
					9	
					A	
					B	
					C	
					D	
					E	
					F	
					G	
					H	
					I	
					J	
					K	
					L	
					M	
					N	
					O	
					P	
					Q	
					R	
					S	
					T	
					U	
					V	

**I LIMIT (CURRENT LIMIT)** This option is used to keep the overcurrent inside setted limit. It's necessary to drive primary transformers and cold resistance. This option is not available on 30-35-40A units.

**HB** Alarm for partial or total load failure and Short Circuit on SCR (relay output).

**WiFi** Option that allow to communicate with a smartphone. From smartphone via a CD Automation App to read inside a cabinet the Current, Voltage, Power and Energy totalization and in addition is possible to charge parameter of Thyristor Unit without to open the cabinet door or to move on process and see the result of product quality changing parameters.

**APP** Free of charge download it from Google Play or Apple Store.

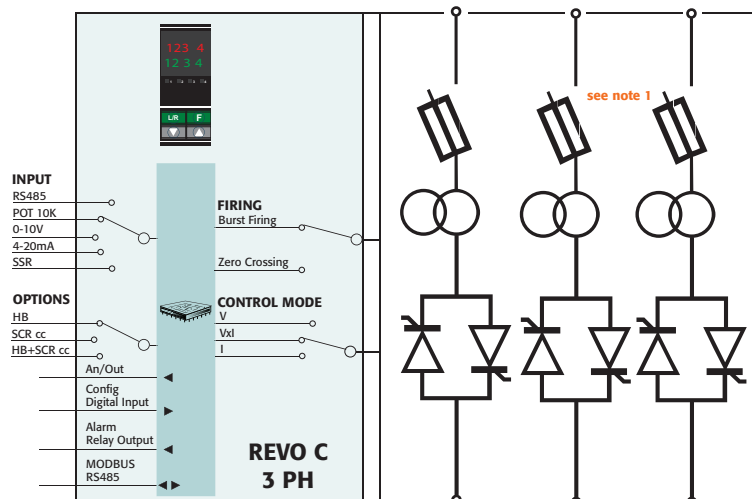
**DATA LOGGER** This feature is important to see the historical data of parameter like Current, Voltage and Power and can be useful to diagnostic a fault.

**ENERGY TOTALIZER** This function totalize the energy consumption of the load allowing the calculation cost of Heating Treatment.

# CONNECTIVITY



RS-485



## ORDER CODE:

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

CURRENT	FUSES	4	5	6
description	description	code	code	note
30A	Fuse + Fuse Holder Included	0	3	0
35A	Fuse + Fuse Holder Included	0	3	5
40A	Fuse + Fuse Holder Included	0	4	0
60A	Fixed Fuses Included	0	6	0
75A	Fixed Fuses Included	0	7	5
90A	Fixed Fuses Included	0	9	0
120A	Fixed Fuses Included	1	2	0
150A	Fixed Fuses Included	1	5	0
180A	Fixed Fuses Included	1	8	0
210A	Fixed Fuses Included	2	1	0
300A	Fixed Fuses Included	3	0	0
400A	Fixed Fuses Included	4	0	0
450A	Fixed Fuses Included	4	5	0
500A	Fixed Fuses Included	5	0	0
600A	Fixed Fuses Included	6	0	0
700A	Fixed Fuses Included	7	0	0
800A	Fixed Fuses Included	8	0	0

MAX VOLTAGE	7
description	code
480 V	4
600 V	6
690V	7

VOLTAGE SUPPLY AUX	MAX OPERATION RANGE	8
description	description	code
100/120Vac	90 to 135V Vac	1
200/208/230/240Vac	180 to 265V Vac	2
277Vac	238 to 330V Vac	3
380/415/480Vac	342 to 528V Vac	5
600Vac	540 to 759V Vac	6
690Vac	540 to 759V Vac	7

INPUT	9
description	code
SSR	S
0:20mA	B
4:20mA	A
0:10V	V
10KPot	K

FIRING	START OPTION	10
description	description	code
Burst Firing	No Soft Start	B
	Linear Soft Starter	J
Phase Angle	No Soft Start	P
	Linear Soft Starter	E
Delayed Triggering	No Soft Start	D
	Linear Soft Starter	Z
Zero Crossing	No Soft Start	R

CONTROL MODE	11
description	code
Open Loop	O
Voltage	U
Voltage Square	Q
Current	I
Current Square	A
Power Vxl	W

OPTION	12
description	code
No Option	0
option code see previous page table	.....

FAN VOLTAGE	13
description	code
No Fan < 120A	0
Fan 110V >= 120A	1
Fan 220V >= 120A Std Version	2
Fan 24Vdc >= 120A Std Version	3

APPROVALS	14
description	code
CE EMC For European Market	O
CUL us + CE EMC For American & European Market	L

LOAD TYPE	15
description	code
Normal Resistive with 3 Phase Star Connection	0
Normal Resistive Load with three Phase Delta & Star Connection	1
IRSW Infrared Short wave with 3 Phase Star Connection	2
IRSW Infrared Short wave with 3 Phase Delta Connection	3

COMMUNICATION AND RETRANSMISSION	16
description	code
N°1 Modbus RTU	0
	1
	2
N°2 Modbus RTU	3
	4
	5
N°1 Profibus DP + N°1 Modbus RTU	6
	7
	8
N°2 Profinet DP + N°1 Modbus RTU	9
	A
	B
N°2 Modbus TCP + N°1 Modbus RTU	C
	D
	E

**Note (1):** Fixed Fuses over 40A

**Note (2):** No cUL approved 800A

**Note (3):** Available on unit ≥60A

**Note (4):** This unit is available with cUL US only

**Note (5):** This unit is available with CE only

**Note (6):** Phase Angle and Delayed Triggering not available on 30-35-40A

**Note (7):** cUL approval not available for 690V

# GENERAL FEATURES

## Display Software

0.1	OLED display on front Unit	This display give better operator interface and delivers use-friendly intuitive messages
0.2	Diagnostic	Powerfull Diagnostic has been implemented and when a alarm occurs the OLED Display give the messages in clear words
0.3	Fully Software Configurable	REVO C is fully Software configurable
0.4	Layer based Firmware	This is an important Feature because allows to add application software or customer software without to debug the existing one

## Electrical Features

1.1	Current rating	30 to 800A for 1-2-3 Phase unit
1.2	Voltage	480-600-690V only available => 60 A
1.3	Integrate Fuse	This reduce labor and space and gives the possibility to use a part of fan cooling air to reduce the temperature of semiconductor fuses and reduce the mounting space inside the cabinet (see the comparison at page 9)
1.4	Quick and easy access to Fuses	When open the frontal door Fuses and Thyristors are on front
1.5	100 KA Short Circuit Current rating (SCCR) up to 600V	Enable greater protection in case of Short Circuit (on request we can supply the test)

## Firing & Control Mode

2.1	Universal firing mode	Half Cycle, Single Cycle, Burst Firing, Delayed Triggering Phase Angle and Soft Start
2.2	Current Control	This feature is always available for both RMS and pick Control
2.3	Voltage Control	Normally used when Voltage Control Mode is selected
2.4	Power Control	Normally used when Power Control Mode is selected
2.5	Universal Input	The std analog inputs 4:20mA and 0:10V and SSR Configurable via Software
2.6	Universal Control Mode	REVO C can be configured for Current, Voltage Power feed back or open loop
2.7	External Feed Back	An external signal 0:10v can be the requested control mode

## Communication

3.1	Wide range of communication protocols	Control board has been engineered to plug on it different Field Bus boards
3.2	Wi Fi	This is low cost option and we suggest to use it to make possible the Smart Phone support because you can have many functions like Alarm Overview, Configuration via Icon. Remote Service and read out for each REVO C inside the cabinet Voltage, Current and Power
3.3	Modbus RTU	Standard

# GENERAL FEATURES

3.4 Ethernet TCP	Option
3.5 Profibus	Option
3.6 Profinet	Option
3.7 USB device on front unit for configuration	Standard easily and safely normally used to configure the REVO C. Eliminate the user having to work in a high voltage environment because the unit is powered through USB connection

## Extra Features

4.1 Integrated Data Logging	Storage: 16GB SD Memory Card with programmable Logging Intervals It's also available at extra price 40GB SD memory
4.2 Energy Counter Totalizer	This is available as an option and can be useful to define the cost per hour of heating system
4.3 Special Algorithm for Short Wave form IR Lamp	Using half cycle to minimize the flickering. In addition a special soft start curve.
4.4 Remote service	This feature is available when Wi-Fi and Smart Phone are available. Use it and "You will never be alone,"
4.5 Automatic Selection of the configuration as a function of wiring and load type	This feature is a big help for operator because we give you a recipe suggestion based on wiring and type of load. The selection is done via Icon available on Smart Phone or on Configuration Software
4.6 HB and SC Alarm	Alarm for Partial or Total Load Failure and Short Circuit on SCR with Electromechanical Relay output 1A at 30 Vdc or 0,5A at 125 Vac
4.7 Heater Bakeout	Protect the Heaters on Start Up and eliminate labor and time to control wet heater
4.8 High precision measurement (True RMS Value for V <sub>I</sub> and V <sub>XL</sub> )	≤1%
4.9 Integrate Load Analyzer	This is an important Feature that can help the operator for troubleshooting problems. This is a Real Wave Form Load Monitoring
4.10 Free configuration Software	A very easy and Powerful Configurator Software is available Free of Charge on <a href="http://www.cdautomation.com">www.cdautomation.com</a>

## General Features and Approvals

5.1 Industry-leading and Serviceability	Generous sizing of Thyristors and Thermal Parts using high efficiency Heatsink
5.2 Enable troubleshooting with helpful thermal system diagnostics	Temperature sensor is mounted inside the units and when overcurrent occurs or there is high temperature inside the cabinet an alarm message appears. If the Heat Sink temperature rises a second High limit alarm switches Off the Unit
5.3 Fully compatible with REVO M and REVO CL series	This is an important Feature because allows to substitute old REVO with REVO C. The number of terminal blocks is the same to facilitate the substitution
5.4 Approvals	CE-EMC and cUL 508 Listed for 1-2 Phase up to 700A and 500A for 3 Phase CE-EMC for 800A 1-2-3 Phase Unit