REVO C 3PH

SIZE SR11

SIZE SR17

SIZE S14

Technical Specification

Dimensions:	See size and dimensions page 8-9
Load type:	Normal Resistance, Infrared Short, Medium and Long, Transformer Primary using Phase Angle, Cold resistance and SiC elements
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
Communication:	RS485 port. RTU Modbus® Protocol and other Field Bus available
USB:	port integrated for configuration in safety mode (No Load and Auxiliary Voltage needed) Unit Powered Through USB
Approvals:	Comply with EMC, cUL us® 508 listed and cUL® listed
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 diagnose 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
- CD Automation APP is also available free of charge to communicate via Wi-Fi

No option		Option selected (ex code 3: Logging + Totalizer)				

I LIMIT	HB	WIFI	LOGGING	TOTALIZER	CODE	NOTES
					Ø	
					1	
					2	
					3	**I LIMIT (CURRENT LIMIT)** This option is used to keep the overcurrent
					4	inside setted limit. It's necessary to drive primary transformers and cold
					5	resistance. This option is not available on 30-35-40A units.
					6	
					7	
					8	**HB** Alarm for partial or total load failure and Short Circuit on SCR
					9	(relay output).
					A	
					B	
					C	**WiFi** Option that allows communication with a smart phone. From your
					D	smart phone via the CD Automation App, direct to your thyristor unit in the
					E	cabinet to read current, voltage, power and energy totalization as well as the
					F	ability to change parameters to improve process and product quality without
					G	opening the cabinet door.
					H	
					I	
					J	**APP** Free of charge download it from Google Play or Apple Store.
					K	
					L	
					M	**DATA LOGGER** This feature is important to see the historical data of
					N	parameter like Current, Voltage and Power and can be useful to diagnose a
					O	fault.
					P	
					Q	
					R	**ENERGY TOTALIZER** This function totalize the energy consumption of the
					S	load allowing the calculation cost of heating treatment.
					T	
					U	
					V	

CONNECTIVITY
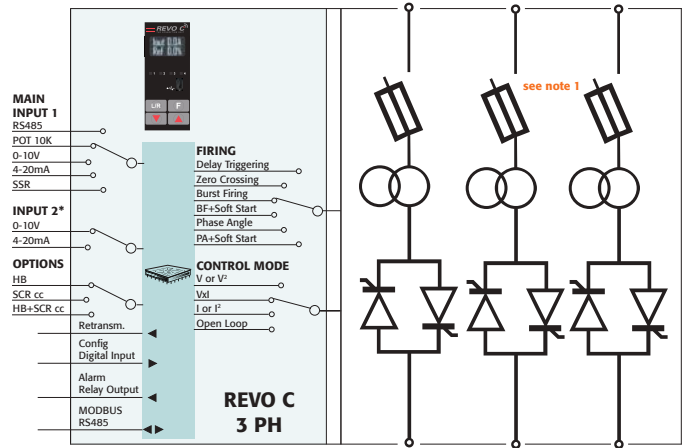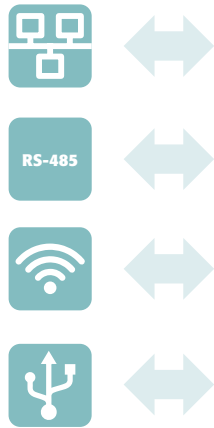
ORDER CODE:

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

CURRENT	FUSES	4	5	6	
description	description		code		note
30A	Fuse + Fuse Holder Included	0	3	0	2
35A	Fuse + Fuse Holder Included	0	3	5	2
40A	Fuse + Fuse Holder Included	0	4	0	2
60A	Fixed Fuses Included	0	6	0	
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	5
700A	Fixed Fuses Included	7	0	0	5
800A	Fixed Fuses Included	8	0	0	5

For Extended version (from 1100A to 2100A) see page 18

MAX VOLTAGE	7	
description	code	note
480V	4	
600V	6	
690V	7	1

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

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

FIRING	START OPTION	10	
description	description	code	note
Burst Firing	No Soft Start	B	
	Linear Soft Starter	J	
Phase Angle	No Soft Start	P	2
	Linear Soft Starter	E	2
Delayed Triggering	No Soft Start	D	2
Zero Crossing	No Soft Start	Z	
	Linear Soft Starter	R	

CONTROL MODE	11	
description	code	note
Open Loop	0	
Voltage	U	
Voltage Square	Q	
Current	I	
Current Square	A	
Power VxI	W	

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

FAN VOLTAGE	13	
description	code	note
No Fan < 90A 480V/600V	0	
Fan 115Vac ≥ 90A 480V/600V - ≥ 60A 690V	1	
Fan 230Vac ≥ 90A 480V/600V - ≥ 60A 690V Std Version	2	
Fan 24Vdc ≥ 90A 480V/600V - ≥ 60A 690V	3	

APPROVALS	14	
description	code	note
CE EMC For European Market	0	
CUL us® + CE EMC For American & European Market	L	

LOAD TYPE	15	
description	code	note
Normal Resistive with 3 Phase Star Connection with neutral	0	
Normal Resistive with 3 Phase Delta or Star Connection	1	
IRSW Infrared Short wave with 3 Phase Star Connection with neutral	2	
IRSW Infrared Short wave with 3 Phase Delta or Star Connection	3	
3 Phase Transformer coupled with normal resistance	4	7
3 Phase Transformer coupled with cold resistance	5	7

COMMUNICATION AND RETRANSMISSION		16	
description	description	code	note
N°1 Modbus® RTU	No Retransmission	0	
	Retransmission 4:20mA	1	
	Retransmission 0:10V	2	
N°2 Modbus® RTU	No Retransmission	3	4
	Retransmission 4:20mA	4	4
	Retransmission 0:10V	5	4
N°1 Profibus® DP	No Retransmission	6	4
	Retransmission 4:20mA	7	4
	Retransmission 0:10V	8	4
N°1 Profinet® IO	No Retransmission	9	4
	Retransmission 4:20mA	A	4
	Retransmission 0:10V	B	4
N°1 Modbus® TCP	No Retransmission	C	4
	Retransmission 4:20mA	D	4
	Retransmission 0:10V	E	4
N°1 Ethernet IP + N°1 Modbus® RTU	No Retransmission	F	6
	Retransmission 4:20mA	G	6
	Retransmission 0:10V	H	6

Note (1): No cUL/UL approved **Note (2):** Phase Angle and Delayed Triggering not available on 30-35-40A
Note (3): Main Supply Voltage has to be included in Auxiliary Voltage range
Note (4): 24Vdc Backup Power for User Interface and Communications included
Note (5): Only CE and UL approved, not cUL **Note (6):** Available on unit ≥60A
Note (7): This configuration is possible only with Delayed Triggering or Phase Angle Firing

*Secondary Input can be configured for external current limit reference, external feedback or secondary input reference. See the manual for more informations.

FEATURES

View with IP20 protection

Standard Version with IP0

TECHNICAL SPECIFICATION

OPERATING TEMPERATURE	from 0 to +40°C, over this temperature see derating curve at page 23
MAX VOLTAGE POWER SUPPLY	480V, 600V or 690V
AUXILIARY VOLTAGE SUPPLY	90÷265V, 20 VA power consumption. Fan voltage supply: 230±15% as a standard and 110V on request
ANALOG INPUT	1 main reference, 4÷20mA, 0÷10V, 10KPOT, RS485 port
ANALOG INPUT 2	Secondary reference, 0÷10V, 10KPOT
DIGITAL INPUT	Two optoisolated digital input (12/24Vdc), for Start, Stop, Enable, Calibration, Reset Alarm and External Alarm or other function that can be implemented (ex. Switch from one firing to another)
RELAY OUTPUT	Three configurable relay output and one critical alarm
UNIVERSAL FIRING	One of these firing modes can be configured burst firing BF, delayed triggering and phase angle on 1-3 PH units (see on left page)
COMMUNICATION	RS485 port. Modbus communication plus different FieldBus (see Order Code)
UNBALANCED LOAD	This protection allow to have REVO C working up to 20% of unbalance on one phase
CONTROL MODE	Voltage (V), Current (I), Power (VxI), external feed-back, Voltage Square and Current Square
HEATER BREAK	Alarm to diagnose partial or total load failure and short circuit on thyristor
THERMAL PROTECTION	Thermal switch 1 for Overtemperature Alarms std Thermal switch 2 for Alarm and Trip std

REVO C FEATURES AND DIMENSIONS

	DESCRIPTION	REVO C 1PH	REVO C 2PH	REVO C 3PH
	CODE	RC1	RC2	RC3
LOAD TYPE	Max voltage 480V	●	●	●
	Max voltage 600V	●	●	●
	Max voltage 690V	●	●	●
	Single phase	●		
	3 phase load star no neutral or delta		●	●
	3 phase load star with neutral			●
	3 phase load open delta	● (1)		
INPUT TYPE	SSR 4:30VDC	●	●	●
	4:20 mA	●	●	●
	0:10 Vdc	●	●	●
	Potentiometer	●	●	●
FIRING	Single Cycle	●		
	Half Cycle	●		
	Burst Firing	●	●	●
	Phase Angle	●		●
	Delayed Triggering	●		●
	Zero Crossing	●	●	●
CONTROL MODE	Open Loop	●	●	●
	Voltage	●	●	●
	Voltage square	●	●	●
	Current	●	●	●
	Current Square	●	●	●
	Power V x I	●	●	●
OPTIONS	Current Limit CL	O		O
	Heater Break Alarm + SCR Short Circuit	O	O	O
	WiFi	O	O	O
	Logging	O	O	O
	Totalizer	O	O	O
COMM.	Modbus® RTU	O	O	O
	ProfiBus® DP + 1 Modbus® RTU	O	O	O
	2 Profinet® IO + 1 Modbus® RTU	O	O	O
	2 Modbus® TCP + 1 Modbus® RTU	O	O	O

	CURRENT	SIZE		SIZE		SIZE	
		600V Max	690V	600V Max	690V	600V Max	690V
CURRENT	30	SR9		SR10		SR11	
	35	SR9		SR10		SR11	
	40	SR9		SR10		SR11	
	60	SR12	S11	SR13	S11	SR14	S11
	90	SR15	S11	SR16	S11	SR17	S11
	120	SR15	S11	SR16	S13	SR17	S13
	150	SR15	S11	SR16	S13	SR17	S13
	180	SR15	S11	SR16	S13	SR17	S13
	210	SR15	S11	SR16	S13	SR17	S13
	300	S12		S14	S14	S14	S14
	400	S12	S12	S14	S14	S14	S14
	450			S14	S14	S14	S14
	500	S12	S12	S14	S14	S14	S14
	600	S12	S12	S14	S14	S17*	S17
	700	S12	S12	S14	S14	S17*	S17
	800	S15*	S15	S16*	S16	S17*	S17
	1100	SR18*	SR18	SR19*	SR19	SR20*	SR20
	1400	SR21*	SR21	SR22*	SR22	SR23*	SR23
	1600	SR21*	SR21	SR22*	SR22	SR23*	SR23
	1800	SR21*	SR21	SR22*	SR22	SR23*	SR23
	2100	SR21*	SR21	SR22*	SR22	SR23*	SR23

● **Standard**   O **Option**   ■ CE standard + cUL® as an option   ■ CE Only - **Note (1):** Use n° 3 Revo-C 1PH   *UL approval as option

Agency Approval and Regulatory: cULus 508 Listed File E231578; cUL® Listed to C22.2 No. 14; CE EMC Directive 2014-30-EU, EN 60947-4-3 Class A Emissions; CE Safety Directive 2014-35-EU, EN 60947-4-1, -4-3; RoHS 2011-65-EU; W.E.E.E 2012-19-EU

REVO C FAMILY SIZE AND DIMENSIONS

REVO Connect is a fully universal product range based upon powerful microprocessor technology. Available from 30A to 2100A and single phase (1PH) plus 2PH & 3PH to drive 3 phase loads, its key benefit is its connectivity with the outside world, through Wi-Fi and the most popular Field Bus Protocols. Its universality allows inputs, all firing and control modes to be configured via Smart phone using CD Automation's Connect-APP or via your personal computer and CD Automation's Configurator Software.
CD Automation's APP and Configurator Software are available free of charge.
When you buy REVO-C, you also buy CD Automation's experience and know-how to drive your application.

SR9 H 121 x W 72 x D 185 - 1,15kg.

SR10 H 121 x W 108 x D 185 - 1,76kg.

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

SR12 H 269 x W 93 x D 170 - 3,4kg.
SR15 H 273 x W 93 x D 170 - 3,6kg.

SR13 H 269 x W 186 x D 170 - 6,8kg.
SR16 H 273 x W 186 x D 170 - 7,0kg.

SR14 H 269 x W 279 x D 170 - 10,2kg.
SR17 H 273 x W 279 x D 170 - 10,6kg.

S11 H 440 x W 137 x D 270 - 10,5kg.

S12 H 520 x W 137 x D 270 - 15kg.

S13/S14 H 440/520 x W 262 x D 270 - 18/22kg.

S15 H 560 x W 137 x D 270 - 17,2kg.

S16 H 560 x W 275 x D 270 - 34,4kg.

S17 H 560 x W 411 x D 270 - 51,6kg.

SR18 H 550 x W 329 x D 347 - 27kg.

SR19 H 550 x W 523 x D 347 - 49kg.

SR20 H 550 x W 717 x D 347 - 72kg.

SR21 H 730 x W 329 x D 347 - 34kg.

SR22 H 730 x W 523 x D 347 - 65kg.

SR23 H 730 x W 717 x D 347 - 98kg.