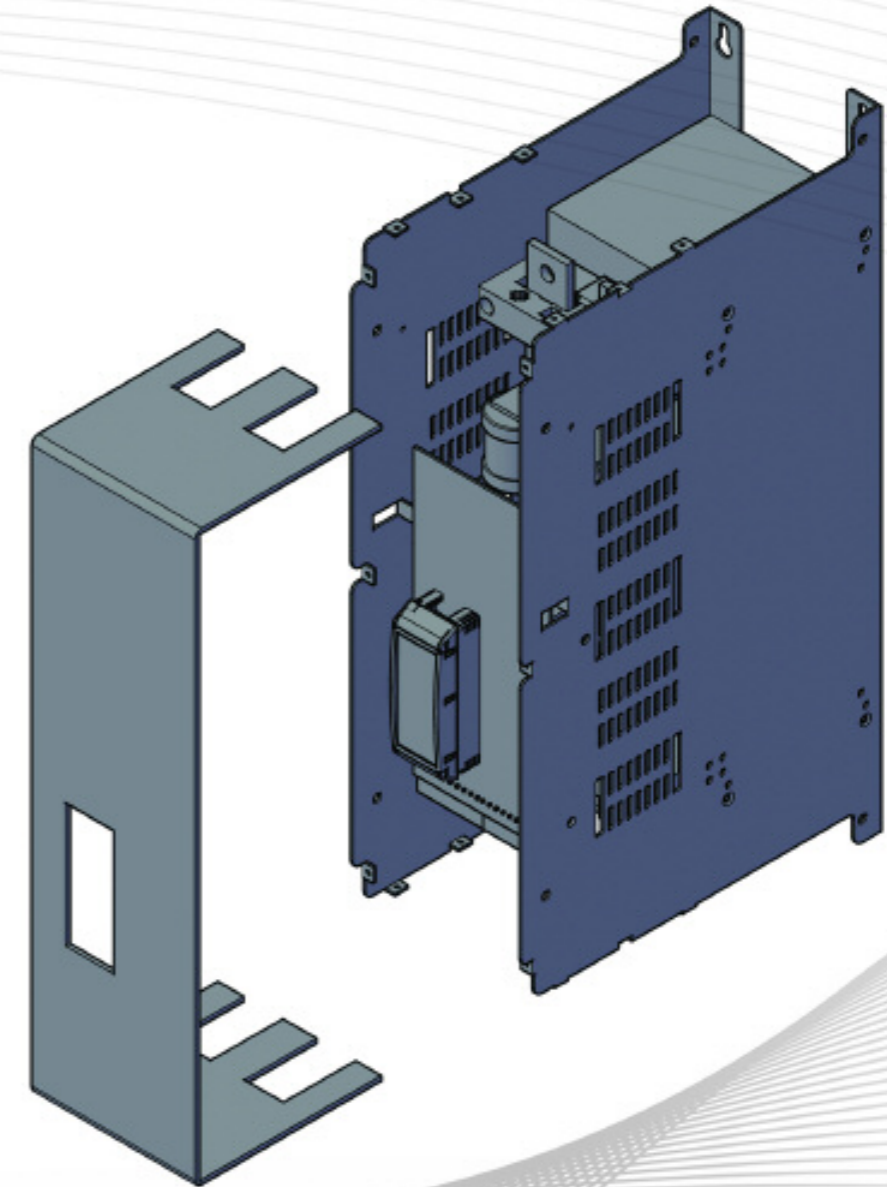




CUSTOM UNIT Solid State Relay



This products range has been designed with these targets

- Basic product able to satisfy OEM needs
- Basic Options like Analogue input and Heater Break Alarm
- Easy to be used rugged and very reliable
- Possibility to be customized with OEM logo
- Manuals available in neutral version without CD Automation Brand
- Plastic parts in light and dark grey for covers
- Competitive pricing where quantity are available

SOLID STATE POWER CONTROLLER

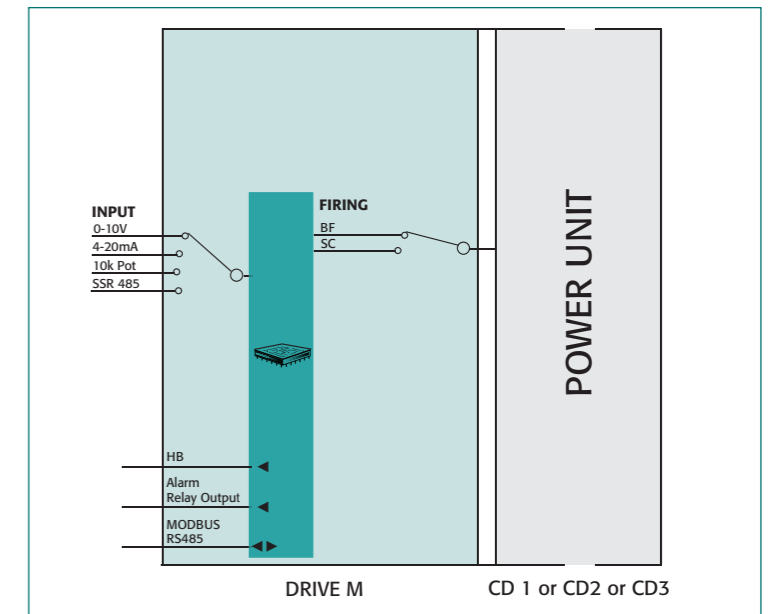
Stock only 8 units and you have 28 different solutions

CD3000S 1PH 2PH 3PH up to 90A

CD3000M 1PH 2PH 3PH Universal Thyristor Units up to 90A



Add Drive M to CD 1-2-3 PH and you have an Enhanced product



With the addition of the Module **DRIVE M** you can transform the Basic Units, for example CD3000S-1-2-3PH on page 62, and create a sophisticated universal unit for input and Firing. This capability means that you can satisfy applications where you need very fast firing by using Burst Firing and Single Cycle. With these features you are able to drive infrared short waveform and more general systems with low thermal inertia.

DRIVE M makes available RS485 with Modbus RTU protocol, giving the ability to read/write all configuration parameters and to read current and load status. The load status is available if Heater Break (HB) option has been selected. To use this option one current transformer for one phase load and three for 3 phase loads are required.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CD3000S	C	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,4,5,6 Current	Description code			Numeric code			Notes									
2x10A 1PH 610A ² sec	0 0 1 0															
25A 1PH 610A ² sec	1 0 2 5															
45A 1PH 2360A ² sec	1 0 4 5															
60A 1PH 19100A ² sec	1 0 6 0															
90A 1PH 19100A ² sec	1 0 9 0			Use CD1060 plus Fan												
10A 2PH 610A ² sec	2 0 1 0															
25A 2PH 610A ² sec	2 0 2 5			Use 2 off CD1025												
45A 2PH 2360A ² sec	2 0 4 5			Use 2 off CD1045												
75A 2PH 19100A ² sec	2 0 7 5															
90A 2PH 19100A ² sec	2 0 9 0			Use CD2075 plus Fan												
25A 3PH 610A ² sec	3 0 2 5			Use 3 off CD1025												
45A 3PH 2360A ² sec	3 0 4 5			Use 3 off CD1045												
60A 3PH 19100A ² sec	3 0 6 0															
90A 3PH 19100A ² sec	3 0 9 0			Use CD3060 plus Fan												
DRIVE M				Adding Drive M to above products you obtain M family												
7 Max Voltage	Description code			Numeric code												
480V	4															
8 Aux. Voltage supply	Description code			Numeric code												
No Aux. Voltage	0															
9 Input	Description code			Numeric code												
SSR	S															
10 Firing	Description code			Numeric code												
Zero Crossing ZC	Z															
11 Control Mode	Description code			Numeric code												
No Control Mode	0															
12 Option	Description code			Numeric code												
No Fuse	0															
13 Fan Voltage	Description code			Numeric code												
Without Fan unit <90A	0															
With fan 110V Unit 90A	1															
Fan 220V Unit 90A	2															
14 Approvals	Description code			Numeric code												
CE EMC For European Market	0															
cUL For American Market	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												
Version 1 Std.	1															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
DRIVE M	D	R	I	V	E	M	-	-	-	-	-	-	-	-	-	1				
7 Max Voltage	Description code		Numeric code				11 Control Mode		Description code		Numeric code		14 Approvals		Description code		Numeric code			
480V	4						No Control Mode		0				CE EMC For European Market		0		Version 1 Std.		1	
8 Load Voltage	Description code		Numeric code				12 Option		Description code		Numeric code		15 Manual		Description code		Numeric code			
170:265V (1)	2						No option		0				None		0					
300:530V (1)	5						HB Alarm		H				Italian Manual		1					
9 Input	Description code		Numeric code				13 Fan Voltage		Description code		Numeric code		English Manual		2					
0:10V	V						No Fan Voltage		0				German Manual		3					
4:20mA	A												French Manual		4					
10kPot	K																			
RS485	R																			
10 Firing	Description code		Numeric code																	
Zero Crossing ZC	Z																			
Single Cycle SC	C																			
Burst Firing BF	B																			

Note 1: On auxiliary power supply Transformer are available both voltage range. Selection is done via a solder pad.

CD1000 Thyristor Unit

Industrial Thyristor package



CD1000 is normally used where there are multiple zones: coextrusion, blow moulding and thermoforming machinery.

- Dramatic reduction of wiring.
- Wiring between Thyristor units achieved with flat cables and connectors to avoid to make traditional wiring for auxiliary voltage supply, RS485 comm. and HB alarm. Only input/output power cables has to be wired.
- All setup parameters and real-time information, such as load status and current value, are available via RS485. The power output of the Thyristor unit can be set using analog or RS485 command.

Specification

- CD1000 is a digital and universal Thyristor unit configurable via serial communication port for different types of input and firing modes.
- RS485 communication and HB alarm are standard features. Current transformer is mounted internally on 3.5A model, externally for other models.
- Universal input and firing are customer configurable via serial port. Single Cycle, Burst Firing, Phase Angle and Soft Start can be configured. Firing types can be changed 'live' via the serial port with CD1000 fully powered.
- Current rating: 3.5 - 25 - 35 - 45A
- DIN rail mounting side by side.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CD1000	C	D	K	-	-	-	-	-	-	-	-	-	-	-	-	-

4, 5, 6 Current		9 Input		11 Control Mode		14 Approvals	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
3,5A	003	0:10V	V	Drop Voltage	0	CE EMC For European Market	0
15A	015	4:20mA	A	Compensation with Analog Input			
25A	025	SSR	S				
35A	035	RS485	R				
45A	045						

7 Max Voltage		10 Firing		15 Manual	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
480V	4	Zero Crossing ZC	Z (3)	None	0
600V	6	Burst Firing		Italian Manual	1
690V	7	4 Cycles On at 50% Power Demand	4 (2)	English Manual	2
		Burst Firing		German Manual	3
		8 Cycles On at 50% Power Demand	8 (2)	French Manual	4
		Burst Firing			
		16 Cycles On at 50% Power Demand	6 (2)		

8 Aux. Voltage supply		13 Fan Voltage		16 Version	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
18:21V ac	8	No Fan	0	Std version	1

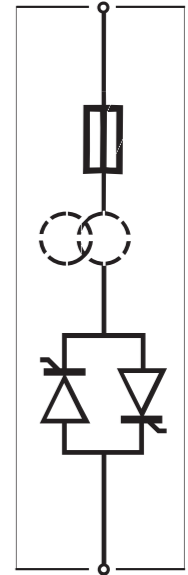
LEGEND
 CT = Current Transformer
 HB = Heater Break Alarm

CUSTOM - 1PH

FROM 300 to 800A



SIZE S28 W = 130 H = 478 D = 274



Technical Specification

- **Dimensions:** See dimensions above or page 12-13
- **Load type:** Normal resistance, infrared long and medium waveform
- **Inputs:** SSR Standard, 0:10V, 4:20mA and Heater Break alarm are options
- **Firing mode:** Zero Crossing, Burst Firing available with analogue input only
- **Operating temperature:** 0 to 40° C without derating
- **Comply with CE-EMC**
- **Data sheet:** More details on "CUSTOM-1PH" Bulletin

Option

Analog Input

HB + CT : Current transformer plus HB Alarm

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

4, 5, 6 Current		9 Input		11 Control Mode		14 Approvals	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
300A	0 3 0 0	SSR	S	Open Loop	0	CE EMC	0
550A	0 5 5 0	0:10V dc	V				
800A	0 8 0 0	4:20mA	A				

7 Max Voltage		10 Firing		15 Manual	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
480V	4	Zero Crossing ZC	Z (3)	None	0
600V	6	Burst Firing		Italian Manual	1
690V	7	4 Cycles On at 50% Power Demand	4 (2)	English Manual	2
		Burst Firing		German Manual	3
		8 Cycles On at 50% Power Demand	8 (2)	French Manual	4
		Burst Firing			
		16 Cycles On at 50% Power Demand	6 (2)		

8 Aux. Voltage supply		13 Fan Voltage		16 Version	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
90:130V (1)	1	Fan 110V	1	Std version	1
170:265V (1)	2	Fan 220V Standard	2		
300:530V (1)	5				
510:690V (1)	6				
600:760V (1)	7				

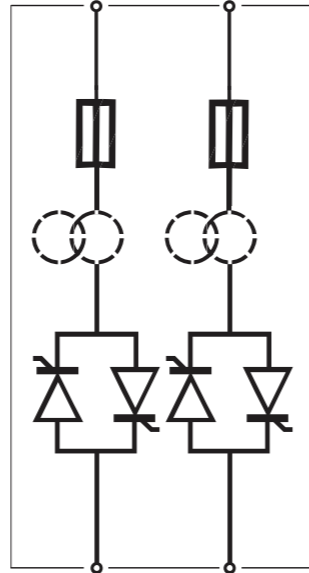
LEGEND
 IF = Internal Fixed Fuse
 CT = Current Transformer
 HB = Heater Break Alarm

Note (1): Load voltage must be included in Selected Auxiliary Voltage Range
 Note (2): Available only with Analog input
 Note (3): WITH 690V the firing is random

CUSTOM - 2PH

FROM 150 to 300A

FROM 450 to 800A



W = 130 H = 478 D = 274

SIZE S29 W = 260 H = 478 D = 274

Technical Specification

- **Dimensions:** See dimensions above or page 12-13
- **Load type:** Normal resistance, infrared long and medium waveform
- **Inputs:** SSR Standard, 0:10V, 4:20mA and Heater Break alarm are options
- **Firing mode:** Zero Crossing, Burst Firing
- **Heater Break Alarm**
- **Operating temperature:** 0 to 40° C without derating
- **Comply with CE-EMC**
- **Data sheet:** More details on "CUSTOM-2PH" Bulletin

Option

Analog Input

HB + CT : Current Transformer plus HB Alarm

CUSTOM - 2PH		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,5,6	Current	8 Control Mode		10 Firing		13 Fan Voltage		14 Approvals		15 Manual		11 Control Mode		12 Fuse & Option		16 Version	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
150A	0 1 5 0	90:130V (1)	1	Zero Crossing ZC	Z	Fan 110V	1	CE EMC	0	None	0	Open Loop	0	Fixed Fuses Standard	F	Std with Fuses	1
210A	0 2 1 0	170:265V (1)	2	Burst Firing		Fan 220V Standard	2	Italian Manual	1	Italian Manual	1	Fixed Fuses + CT	Y	Fixed Fuses + CT	Y	English Manual	2
300A	0 3 0 0	300:530V (1)	5	4 Cycles On at 50% Power Demand	4 (2)			German Manual	3	English Manual	2	Fixed Fuses + CT + HB	H	Fixed Fuses + CT + HB	H	German Manual	3
450A	0 4 5 0	510:690V (1)	6	8 Cycles On at 50% Power Demand	8 (2)			French Manual	4	French Manual	4					French Manual	4
550A	0 5 5 0	600:760V (1)	7	Burst Firing													
800A	0 8 0 0			16 Cycles On at 50% Power Demand	6 (2)												

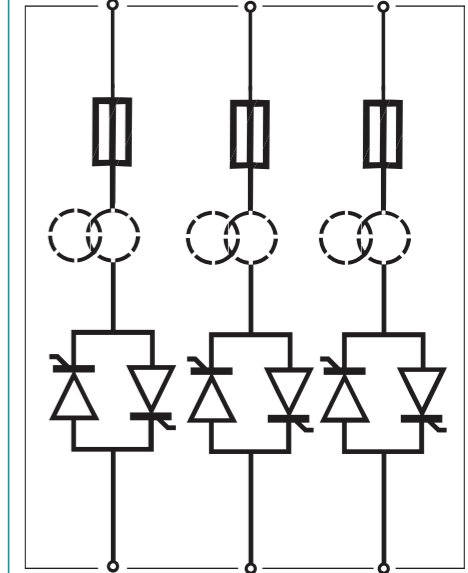
LEGEND
 IFH = Integrated Fuse + Fuse Holder
 IF = Internal Fixed Fuse
 CT = Current Transformer
 HB = Heater Break Alarm

Note (1): Load voltage must be included in Selected Auxiliary Voltage Range
 Note (2): Available only with analog input

CUSTOM - 3PH

150A

FROM 300 to 800A



W = 260 H = 478 D = 274

SIZE S30 W = 390 H = 478 D = 274

Technical Specification

- **Dimensions:** See dimensions above or page 12-13
- **Load type:** Normal resistance, infrared long and medium waveform
- **Inputs:** SSR Standard, 0:10V, 4:20mA and Heater Break alarm are options
- **Firing mode:** Zero Crossing, Burst Firing
- **Heater Break Alarm**
- **Operating temperature:** 0 to 40° C without derating
- **Comply with CE-EMC**
- **Data sheet:** More details on "CUSTOM-3PH" Bulletin

Option

Analog Input

HB + CT : Current Transformer + HB alarm

CUSTOM - 3PH		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C		3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,5,6	Current	8 Control Mode		10 Firing		13 Fan Voltage		14 Approvals		15 Manual		11 Control Mode		12 Fuse & Option		16 Version	
Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code	Description code	Numeric code
150A	0 1 5 0	90:130V (1)	1	Zero Crossing ZC	Z	No Fan 110V	1	CE EMC	0	None	0	Open Loop	0	Fixed Fuses Standard	F	Std with Fuses	1
300A	0 3 0 0	170:265V (1)	2	Burst Firing		Fan 220V Standard	2	Italian Manual	1	Italian Manual	1	Fixed Fuses + CT	Y	Fixed Fuses + CT	Y	English Manual	2
550A	0 5 5 0	300:530V (1)	5	4 Cycles On at 50% Power Demand	4 (2)			German Manual	3	English Manual	2	Fixed Fuses + CT + HB	H	Fixed Fuses + CT + HB	H	German Manual	3
800A	0 8 0 0	510:690V (1)	6	8 Cycles On at 50% Power Demand	8 (2)			French Manual	4	French Manual	4						
		600:760V (1)	7	Burst Firing													
				16 Cycles On at 50% Power Demand	6 (2)												

LEGEND
 IF = Internal Fixed Fuse
 CT = Current Transformer
 HB = Heater Break Alarm

Note (1): Load voltage must be included in Selected Auxiliary Voltage Range
 Note (2): Available with Analog input only

DIN-RAIL MOUNT SEMICONDUCTOR FUSING

Protection for your CD 1-2-3PH SOLID STATE POWER CONTROLLERS

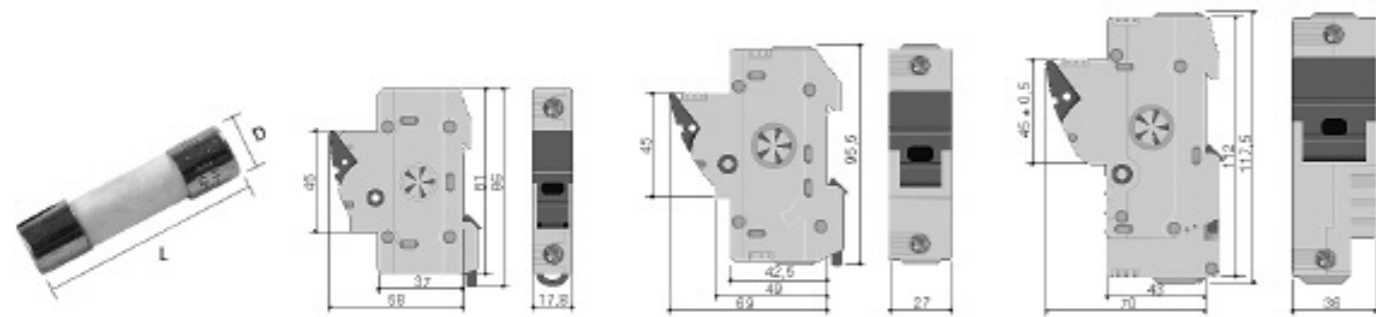
For efficient protection of your **CD 1-2-3PH** (page 62) solid state power controller, use semiconductor fuses to ensure a long life.

To safeguard your Power Controllers CD Automation offers Fuse and Fuse Holder correctly sized to protect the Thyristors.

All Fuses should be rated at 25% more than Power Controller rating.

The semiconductor I²t should be 20% less than Power Controller I²t.

Semiconductor Fuses are classified for UL as additional protection for semiconductor. They are not approved for branch circuit protection.



CE VERSION										
Amp Rating	I ² t (A ² Sec)	FUSE			FUSE HOLDER			FUSE HOLDER		
		Code	Diameter D	Length L	Code	CD1	CD2	CD3	CD3	
32	600	FU1038/32A	10,3	38	FFH1038/32A	CD1025	CD2025	CD3025		
50	2000	FU1451/50A	14	51	FFH1451/50A	CD1045	CD2045	CD3045		
80	6550	FU2258/80A	22	58	FFH2258/80A	CD1060		CD3060		
100	13500	FU2258/100A	22	58	FFH2258/100A		CD2075			
125	14000	FU2258/125A	22	58	FFH2258/125A	CD10090	CD2090	CD3090		

CUL VERSION										
Amp Rating	I ² t (A ² Sec)	FUSE			FUSE HOLDER			THYRISTOR UNIT TYPE		
		Code	Diameter D	Length L	Code	CD1	CD2	CD3	CD3	
32	600	FWC32A10F	10,3	38	FFH1038/32A	CD1025	CD2025	CD3025		
50	1800	FWP50A14F	14	51	FFH1451/50A	CD1045	CD2045	CD3045		
80	6600	FWP80A22F	22	58	FFH2258/100A	CD1060		CD3060		
100	6970	CPURQ27x60/125	22	58	FFH2258/125A	CD10090	CD2075-CD90	CD3090		

CUSTOM FUSES TABLE



Fig. 1 W = 36 H = 93 D = 23.5



Fig. 2 W = 36 H = 93 D = 47



Fig. 3 W = 38 H = 113 D = 84



Fig. 4 W = 38 H = 113 D = 42

Current	CUSTOM-1PH			CUSTOM-2PH			CUSTOM-3PH		
	SPARE FUSES	FUSES	FUSES DIM. mm	SPARE FUSES	FUSES	FUSES DIM. mm	SPARE FUSES	FUSES	FUSES DIM. mm
	Model	A ² Sec	Figure	Model	A ² Sec	Figure	Model	A ² Sec	Figure
110 A	FUURB250	52000	Figure 1	FUURB250	52000	Figure 1	FUURB250	52000	Figure 1
150 A	FUURB250	52000	Figure 1	FUURB250	52000	Figure 1	FUURB250	52000	Figure 1
210 A	FUURB315	82000	Figure 1	FUURB315	82000	Figure 1	FUURB315	82000	Figure 1
300 A	2XFURB250	208000	Figure 2	2XFURB250	208000	Figure 2	2XFURB250	208000	Figure 2
550 A	FU700FMM	420000	Figure 3	FU700FMM	420000	Figure 3	FU700FMM	420000	Figure 3
800 A	2XFMM550	860000	Figure 4	2XFMM550	860000	Figure 4	2XFMM550	860000	Figure 4

For efficient protection of your Custom power controller, use semiconductor fuses to ensure the protection of Thyristor. To safeguard your Power Controllers CD Automation offers Fuse correctly sized to protect the Thyristors. All Fuses should be rated $\geq 25\%$ than Power Controller Current rating. The semiconductor Fuses I²t should be $\leq 20\%$ than Thyristor I²t.