

SCR's Controlled Battery Charger



ISO-9001

Certified
IMNC RSC-022
Multielectrica Industrial

Single and Three Phase *K* & *iK* Series

MEI

MEI *K series Battery Charger*

Reliable Power for Utility AC distribution switchgear protection, power station control, petrochemical, industrial process, transportation, etc.

Basic Design

The **K & iK** Battery Charger uses SCR's switching design technology principle to achieve the desired DC Output Voltage . It basically consist of a transformer to set a suitable level to feed the rectifier bridge in order to get controlled DC output to the battery and load after being smoothened by the filter circuit.

The power output requirement is adjusted by using phase control technique which is provided by the control circuit. It is designed for low maintenance, remote monitoring, user friendly enable the users to quickly attend the equipment.



MEI have supplied more than 30,000 units of **K** SCR's Battery Chargers successfully since 1985



Units are operating in the most diverse conditions, in large Cities, rural areas, marine oil platforms ,etc in more than 15 countries.



The failures rate is very low with less than 0.1% and the MTBF is more than 200,000 Hrs.



Extensive range: Available on a wide range of standard and customized models. Can be supplied from 12 to 260 VDC and current outputs from 3 to 800 Amps.



Main Features

We customize rectifiers according to your specific needs such as, input/voltage ranges, type of enclosures, etc. **We have a big number of options to meet your power needs.**

AC Input features

K series Battery Chargers has a wide input voltage range from 120 VAC up to 480 VAC 50 or 60 Hz single or three phase input range: +10% -15%; dynamic response: no more than 5% of float voltage fully recovering in less than 200 mili seconds.

Single Phase: 12, 24 ,48, 130 & 260 VDC from 3 up to 100 Amps
Three Phase: 12, 24 ,48, 130 & 260 VDC from 12 up to 700 Amps
Frequency: 60 Hz std (50 Hz under request)
Ranges: 12V (9-15 VDC); 24V (20-28 VDC); 48V (45-60 VDC);
130V (110-149 VDC); 260V (220-298 VDC)
Output regulation: 0.5% steady state

DC output features

Battery Type

Compatible with all kind of batteries; flooded (open) sealed; Ni-Cd, Pb-Ca, Pb-Sb, etc. Automatic Float/Boost standard Control by one 24 hours timer and/or by sensing the sensing the battery current; Manual selector switch to select float/boost range.

Output Filter: Less than 32 dBrnC for 12, 24 or 48 VDC; less than 100 mVrms with a Battery connected with capacity of four times in amps/hours with respect to the Battery Charger for 130 or 260 VDC ranges.



Standard Version: DC Voltmeter; DC Ammeter analog or digital of 3 1/2" digits
Options: AC Voltmeter; AC Ammeter; VA Meter; PF meter; phase-selector switch; Frequency meter, etc.

Note: In the *iK* version the AC and DC measurements are on the LCD display.

INPUT PROTECTIONS: TM Circuit Breaker; Output: Fuse (STd); Breaker (Option);

OUTPUT PROTECTIONS: Current Limit (100 to 110 % of nominal output current); High output voltage shutdown.

Meters

& Protections

Alarm & Monitoring

Standard: Level 1: Basic alarms ;(3) (LED's & one general "C" type contact relay)

Options: Level 2: LEVEL 1 + additional alarms (6)(LED's & one "C" Type contact relay)

Level 3: RS232 port for local monitoring or remotely by modem.

(available only on **iK** models).

Level 4: Ethernet interface device with SNMP protocol and RS232 port

Note: There are other available options with more sophisticated features and other optional interfaces such as RS485, RS422, TCP/IP.

Standard: NEMA 1 Indoor service, stand alone or wall/rack mounting type

Options: We can meet the NEMA or IP standars for a diverse enviromental conditions indoor or outdoor service in aluminum, steel, stainless steel, etc

Enclosures

Enviromental ranges

Operation Temperature: -10 to 45°C Storage : -30 to 85°C

Cooling: Natural Convection; Humidity: 0-99% NC

Altitud: 0 to 3000 meters OSL

Available option to provide a means to limit the boost voltage on the load with drooping diodes for all type of batteries (flooded or sealed; Ni-Cd, Pb-Sb etc.)

Dropping Diodes

22 years of uninterrupted quality service

iK version Features

Rectifier Controlled by MICROPROCESSOR



Digital display for status indication and measurements of input-output voltages, output currents, alarms, automatic control of boost-equalize, dropping diodes, e t c.



Easy local monitoring trough a RS232 and RS485 ports with modbus protocol for remote access.



Battery Temperature Compensator Control to get the maximum life of sealed batteries



Local & Remote monitoring of status and Alarms

K and iK version

Standard Version :

Level 1: **Basic Alarms** included in all **K series** battery chargers (one LED for each alarm & one general dry relay contac “C” type (no-c-nc) to warning the following Alarm conditions:

- RFA (Rectifier failure or no AC Mains available)
- HVA (High output Voltage Alarm)
- LVA (Low output Voltage Alarm)
- HVSD (High Voltage Shutdown)

Optional Version :

Level 2: **Optional Alarms PC Board**

Each one of the following alarms is announced by an LED and by one dry relay contact “C” type “C”, (NO-NC):

- RFA (AC Mains not available)
- LVA (Low Output Voltage Alarm)
- LFA (Load Failure Alarm)
- PGA (Positive to Ground Alarm)
- NGA (Negative to Ground Alarm)
- SCA (Short Circuit Alarm)



Level 3 & 4

ik series Interface Alarm:

RS 232, RS 485 with modbus protocol

Single Phase **K** and **iK** Series

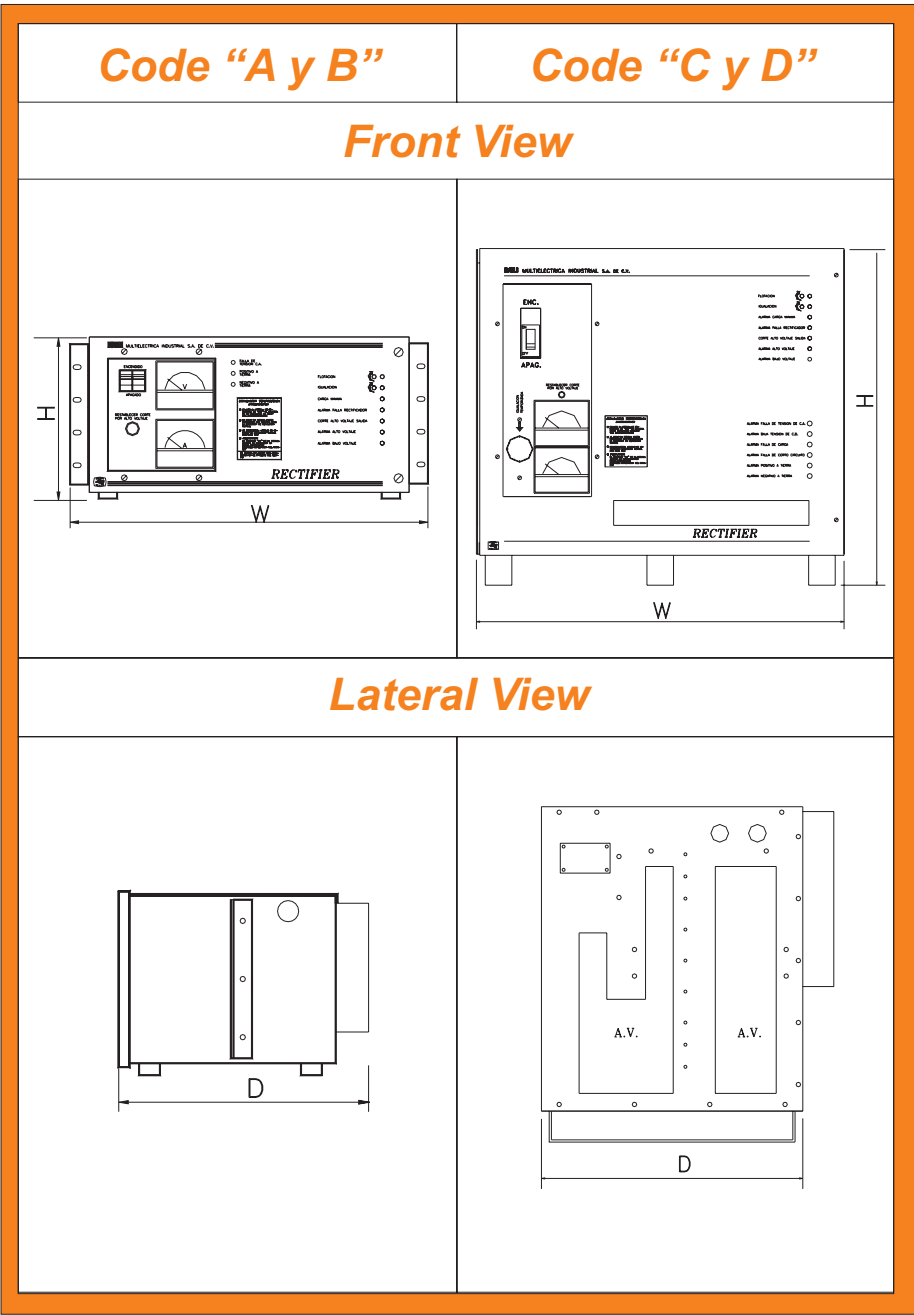
Basic Equipment	Input Voltage	DC Output Amps/Volts	Standard Cabinet	Weight Kg (aprox)	Standard Mounting
12 Volts Models					
3-12	110/220	3/12	A	18	Rack 19", 23" or Floor
6-12	110/220	6/12	A	20	Rack 19", 23" or Floor
12-12	110/220	12/12	A	24	Rack 19", 23" or Floor
20-12	110/220	20/12	B	27	Rack 19", 23" or Floor
25-12	110/220	25/12	B	28	Rack 19", 23" or Floor
30-12	110/220	30/12	B	29	Rack 19", 23" or Floor
50-12	110/220	50/12	C	51	Rack 19", 23" or Floor
60-12	110/220	60/12	C	59	Rack 19", 23" or Floor
75-12	110/220	75/12	C	66	Rack 19", 23" or Floor
100-12	110/220	100/12	C	75	Rack 19", 23" or Floor
24 Volts Models					
3-25	110/220	3/25	A	20	Rack 19", 23" or Floor
6-25	110/220	6/25	A	23	Rack 19", 23" or Floor
12-25	110/220	12/25	A	27	Rack 19", 23" or Floor
20-25	110/220	20/25	B	43	Rack 19", 23" or Floor
25-25	110/220	25/25	B	46	Rack 19", 23" or Floor
30-25	110/220	30/25	B	50	Rack 19", 23" or Floor
35-25	110/220	35/25	B	52	Rack 19", 23" or Floor
40-25	110/220	40/25	C	55	Rack 19", 23" or Floor
50-25	110/220	50/25	C	65	Rack 19", 23" or Floor
60-25	110/220	60/25	D	73	Rack 23" or Floor
75-25	220	75/25	D	81	Rack 23" or Floor
100-25	220	100/25	D	100	Rack 23" or Floor
48 Volts Models					
3-50	110/220	3/50	A	22	Rack 19", 23" or Floor
6-50	110/220	6/50	A	26	Rack 19", 23" or Floor
12-50	110/220	12/50	A	34	Rack 19", 23" or Floor
20-50	110/220	20/50	B	47	Rack 19", 23" or Floor
30-50	110/220	30/50	C	62	Rack 19", 23" or Floor
50-50	220	50/50	D	91	Rack 23" or Floor
75-50	220	75/50	D	105	Rack 23" or Floor
130 Volts Models					
6/130	110/220	6/130	C	42	Rack 19", 23" or Floor
12/130	110/220	12/130	C	48	Rack 19", 23" or Floor
20/130	220	20/130	C	65	Rack 19", 23" or Floor
25/130	220	25/130	C	79	Rack 19", 23" or Floor
30/130	220	30/130	D	91	Rack 23" or Floor
40/130	220	40/130	D	100	Rack 23" or Floor
50/130	220	50/130	D	120	Rack 23" or Floor

Available Options:

Dropping Diodes
 Cabinet Type NEMA 3, NEMA 12, etc.
 AC Mains Meter for current, Voltage, Hz
 Parallel Configurations
 Other Input Voltages and Frequencies
 Low Distortion Input Filters
 Distribution Panels



Single Phase Standard Cabinets



Dimensions

CODE	WIDE (W) mm (inches)	HEIGHT (H) mm (inches)	DEEP (D) mm (inches)
A	482 (19.000)	219 (8.656)	283 (11.125)
B	482 (19.000)	219 (8.656)	386 (15.187)

CODE	WIDE (W) mm (inches)	HEIGHT (H) mm (inches)	DEEP (D) mm (inches)
C	422 (16.625)	417 (16.437)	468 (18.437)
D	527 (20.750)	483 (19.000)	454 (17.875)

HOW TO SELECT THE Single Phase K SERIE'S RECTIFIER MODEL

SCR's Technology (Thyristors)

i K C S 25-130 (1+B+C)

Control Type

Blank: Standard Control
i: Microprocessor Controlled

Filter Type

F Filter.- Designed to have less than 100mV when is connected to a battery bank which it's capacity is at least four times the rectifier capacity in Amperes-Hour for 130 VCD or 260 VDC

C Electric noise is less than 32 dBmC when is connected to a battery bank which capacity is at least four times the rectifier capacity in Amperes-Hour for output voltages of 12, 24 or 48 VDC

G Special Filter. Customized

Output Amperers / Voltage

Input Voltage

S 127 VAC $\pm 10\%$ 1F 60 Hz
I 208 VAC $\pm 10\%$ 1F 60 Hz
R 110/220 VAC $\pm 10\%$ 1F 60 Hz
J VOLTAGE/FREQUENCY CUSTOMIZED

Level of Alarms

1,2,3,4 Monitoring of Status & Alarm Level.

This option describes the level of monitoring required:

- 1) **Level 1:** Basic Alarms (Std)
- 2) **Level 2:** Level 1 + Additional Alarms
- 3) **Level 3:** Level 2 + RS232 or RS485 options
- 4) **Level 4:** Level 3 + SNMP TCP/IP protocols

B Floor cabling access, please indicate this in your purchase order. This is at no charge.

C Output Circuit Breaker

D Temporized Boost 24 hours

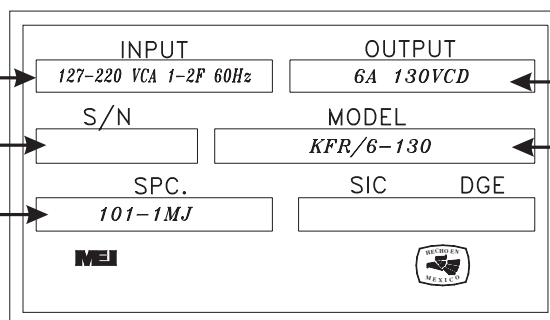
E Analog output meters

DATA PLATE

AC INPUT VOLTAGE AND CURRENT, PHASES AND FRQUENCY

SERIAL NUMBER

PART NUMBER



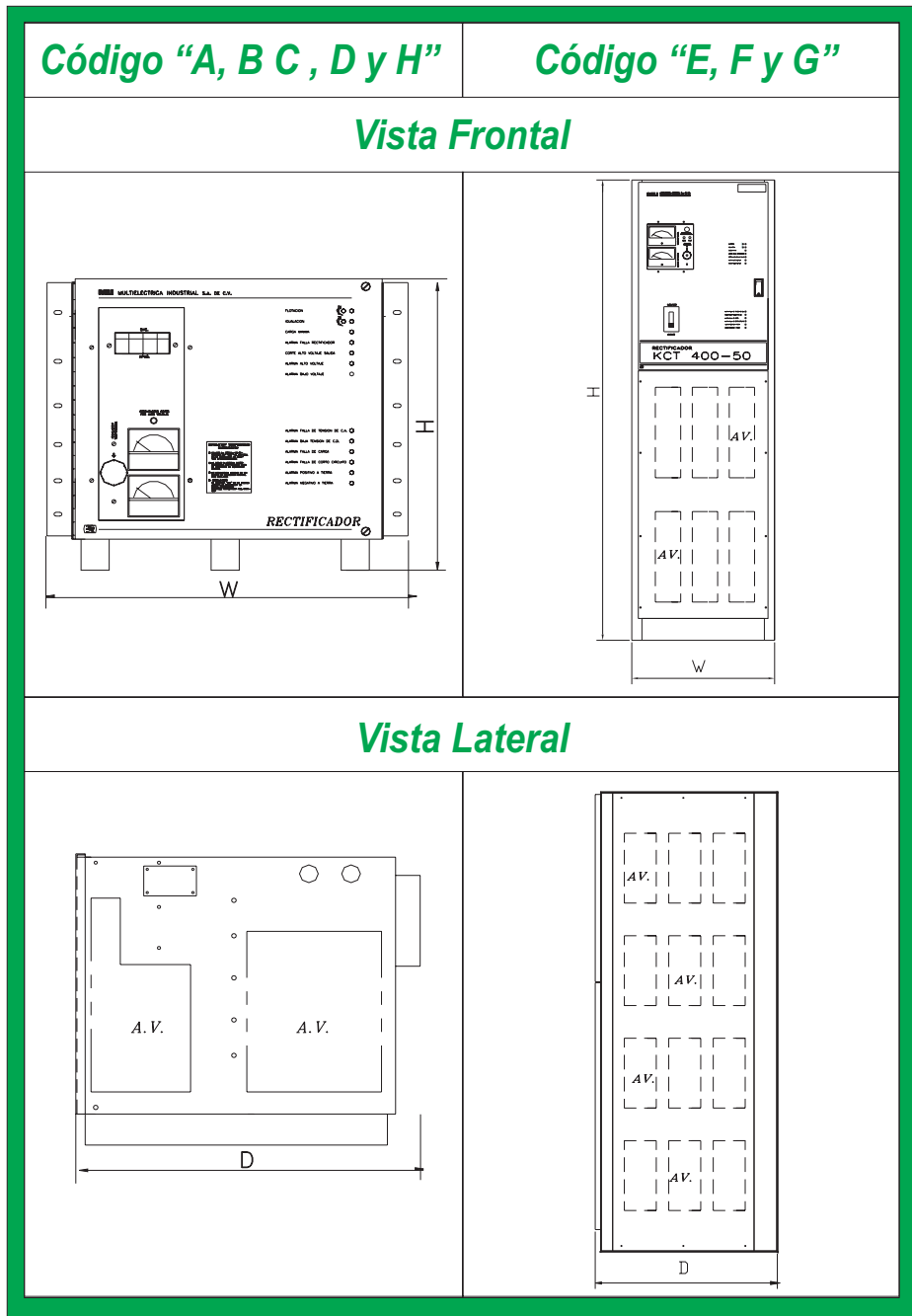
OUTPUT VOLTAGE AND CURRENT

RECTIFIER MODEL

Three Phases **K** and **iK** Series

Model No.	Input Voltage		DC Output Amps/Volts	Standard Cabinet	Weight (Kgs) (aprox)	Standard Mounting
24 volts Models						
50-25	220/440	240/480	50/24	B	65	Rack 23" or Floor
75-25	220/440	240/480	75/24	B	75	Rack 23" or Floor
100-25	220/440	240/480	100/24	C	100	Rack 23"
125-25	220/440	240/480	125/24	H	120	Floor
150-25	220/440	240/480	150/24	H	150	Floor
200-25	220/440	240/480	200/24	E	175	Floor
250-25	220/440	240/480	250/24	F	200	Floor
300-25	220/440	240/480	300/24	F	250	Floor
400-25	220/440	240/480	400/24	G	330	Floor
48 volts Models						
30-50	220/440	240/480	30/48	A	70	Rack 23" or Floor
50-50	220/440	240/480	50/48	B	80	Rack 23" or Floor
60-50	220/440	240/480	60/48	B	100	Rack 23" or Floor
75-50	220/440	240/480	75/48	C	110	Rack 23"
100-50	220/440	240/480	100/48	C	120	Rack 23"
125-50	220/440	240/480	125/48	H	135	Floor
150-50	220/440	240/480	150/48	H	200	Floor
175-50	220/440	240/480	175/48	E	255	Floor
200-50	220/440	240/480	200/48	E	300	Floor
250-50	220/440	240/480	250/48	F	350	Floor
300-50	220/440	240/480	300/48	F	400	Floor
400-50	220/440	240/480	400/48	G	455	Floor
130 volts Models						
12-130	220/440	240/480	12/125	A	65	Rack 23" or Floor
15-130	220/440	240/480	15/125	B	70	Rack 23" or Floor
25-130	220/440	240/480	25/125	D	90	Floor
30-130	220/440	240/480	30/125	D	100	Floor
35-130	220/440	240/480	35/125	D	110	Floor
40-130	220/440	240/480	40/125	D	125	Floor
50-130	220/440	240/480	50/125	D	155	Floor
60-130	220/440	240/480	60/125	H	170	Floor
70-130	220/440	240/480	70/125	H	200	Floor
75-130	220/440	240/480	75/125	E	274	Floor
100-130	220/440	240/480	100/125	E	305	Floor
125-130	220/440	240/480	125/125	E	350	Floor
150-130	220/440	240/480	150/125	F	417	Floor
175-130	220/440	240/480	175/125	F	470	Floor
200-130	220/440	240/480	200/125	F	500	Floor
250-130	220/440	240/480	250/125	F	700	Floor
300-130	220/440	240/480	300/125	F	800	Floor
260 volts Models						
12-260	220/440	240/480	12/250	D	100	Floor
15-260	220/440	240/480	15/250	D	120	Floor
20-260	220/440	240/480	20/150	D	150	Floor
25-260	220/440	240/480	25/250	H	180	Floor
30-260	220/440	240/480	30/250	H	250	Floor
40-260	220/440	240/480	40/250	E	300	Floor
50-260	220/440	240/480	50/250	E	350	Floor
60-260	220/440	240/480	60/250	E	420	Floor
75-260	220/440	240/480	75/250	F	470	Floor
100-260	220/440	240/480	100/250	F	500	Floor
125-260	220/440	240/480	125/250	F	600	Floor
150-260	220/440	240/480	150/250	F	700	Floor

Three Phase Stándar Cabinets



Dimensions

CODE	WIDE (W) mm (inches)	HEIGHT (H) mm (inches)	DEEP (D) mm (inches)
A	586 (23.000)	417 (16.437)	468 (18.437)
B	586 (23.000)	398 (15.687)	443 (17.437)
C	586 (23.000)	437 (17.187)	485 (19.125)
D	586 (23.000)	373 (14.687)	544 (21.437)

CODE	WIDE (W) mm (inches)	HEIGHT (H) mm (inches)	DEEP (D) mm (inches)
E	770 (30.312)	1300 (51.187)	635 (25.000)
F	770 (30.312)	1651 (65.000)	648 (25.500)
G	2140 (84.250)	625 (24.625)	775 (30.5)
H	671 (26.437)	900 (35.687)	590 (23.250)

HOW TO SELECT THE Three Phase K SERIE'S RECTIFIER MODEL

SCR's Technology (Thyristors)

i K C T 100-130 (1+B+C)

Control Type

Blank: Standard Control
i: Microprocessor Controlled

Filter Type

F Filter.- Designed to have less than 100mV when is connected to a battery bank which its capacity is at least four times the rectifier capacity in Amperes-Hour for 130 VCD or 260 VDC

C Electric noise is less than 32 dBrn C when is connected to a battery bank which capacity is at least four times the rectifier capacity in Amperes-Hour for output voltages of 12, 24 or 48 VDC.

G Special Filter. Customized

Output Amperers / Voltage

Input Voltage

W 208/240 VAC $\pm 10\%$ 3F 60 Hz
T 220/440 VAC $\pm 10\%$ 3F 60 Hz
V 240/480 VAC $\pm 10\%$ 3F 60 Hz
U VOLTAGE/FREQUENCY CUSTOMIZED

Level of Alarms

1,2,3,4 Monitoring of Status & Alarm Level.

This option describes the level of monitoring required:

- 1) **Level 1:** Basic Alarms (Std)
- 2) **Level 2:** Level 1 + Additional Alarms
- 3) **Level 3:** Level 2 + RS232 or RS485 options
- 4) **Level 4:** Level 3 + SNMP TCP/IP protocols

B Floor cabling access, please indicate this in your purchase order. This is at no charge.

C Output Circuit Breaker

D Temporized Boost 24 hours

E Analog output meters

DATA PLATE

AC INPUT VOLTAGE AND CURRENT, PHASES AND FRQUENCY

SERIAL NUMBER

PART NUMBER

INPUT		OUTPUT	
127-220 VCA 1-2F 60Hz		6A 130VCD	
S/N		MODEL	
		KFR/6-130	
SPC.		SIC	DGE
101-1MJ			
MEI		MEXICO	

OUTPUT VOLTAGE AND CURRENT

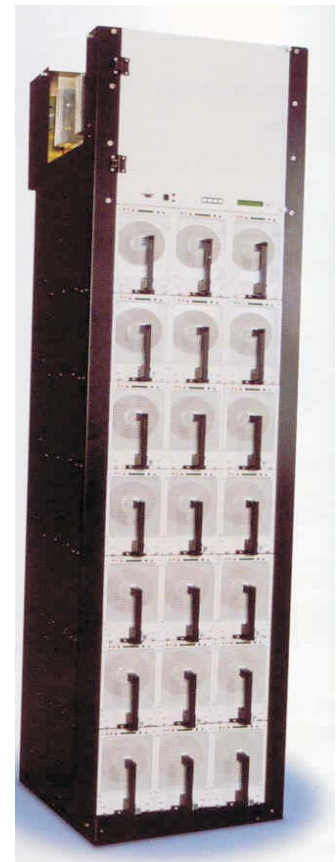
RECTIFIER MODEL



Customized DC Power Equipment



MEI has a flexible and versatile line of **DC Power products** that includes DC distribution cabinets, protections, measuring, monitoring, dc-ac inverters, dc-dc converters, etc. We will fit your power needs. Our engineers will bring you nothing else but only what you are really looking for in cost and performance **NO MORE NO LESS**



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