

# OPUS C DC Power Systems

## MRC Rectifiers

MRC24-1100  
MRC48-1600  
MRC60-1600  
MRC110-1600  
MRC125-1600  
MRC220-1600



POWER  
GENERATION &  
DISTRIBUTION



PROCESS  
INDUSTRY



DEFENCE &  
SECURITY



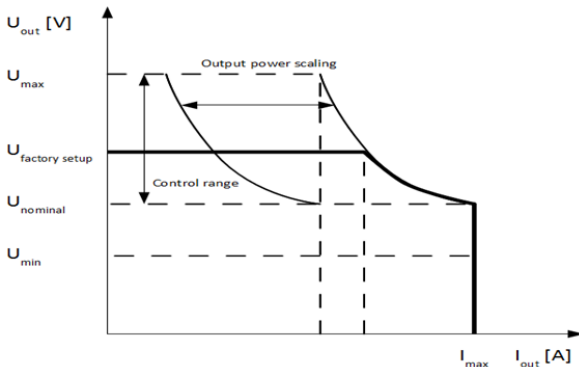
TELECOM

## Product Description

MRC rectifier modules are designed and optimised for demanding industrial and telecom applications.

Rectifier delivers 1600W output power at 48, 60, 110, 125 and 220 VDC and 1100W at 24 VDC. Rectifier input is single phase, 140-275 Vac. Rectifiers are convection cooled.

Rectifiers can be operated either with a system controller or as stand-alone modules with or without batteries in the output.



## Features

- Natural convection cooling
- Outputs 24, 48, 60, 110, 125, 220 VDC
- 1600W output power
- 1100W for 24VDC model
- Constant output power characteristics
- Nominal 230VAC input, 140-290 VAC
- Active load current sharing
- Internal overtemperature protection
- Digital communication over CAN bus with VID1 controller
- Flexible design with full front cabling
- EMC: EN 300 386
- Safety: IEC/EN 60950-1 CB certified



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## Technical Specifications

AC Input	MRC24-1100	MRC48-1600	MRC60-1600	MRC110-1600	MRC125-1600	MRC220-1600
Nominal input	230 VAC					
Input range	140 – 290 VAC (100% output power 180-275 VAC)					
Startup voltage	180 VAC					
Reduced output power	140 – 180 VAC, derating factor 1% / 1 VAC					
Input frequency range	45 to 65 Hz					
Maximum current (at 180 VAC, full load)	6.9 A	9.7 A	9.8 A	9.6 A	9.6 A	9.6 A
Power factor	0.99 (typical @ 230 VAC)					
Input protection	Mains fuse, Varistor and gas discharge tube for transient surge protection, Automatic shut-off above 290 VAC (restart at 280 VAC)					

DC Output	MRC24-1100	MRC48-1600	MRC60-1600	MRC110-1600	MRC125-1600	MRC220-1600
Voltage range	21-30 VDC	42-58 VDC	51-72 VDC	97-132 VDC	97-145 VDC	189-265 VDC
Voltage factory setting	27.3 VDC	54.5 VDC	68.1 VDC	123.6 VDC	136.8 VDC	245.3 VDC
Maximum current	45.8 A @24V	32.7A @ 48V	26.7A @ 60V	14.5 A @ 110 V	12.8 A @ 125 V	7.2 A @220 V
Constant output power	1100 W	1600 W				
Hold-up time	> 20 ms , at full load, output voltage from nominal to minimum					
Static voltage regulation	± 0.3 % (load, line, temperature)					
Dynamic load regulation	± 4.0 % for 10%-90% or 90%-10% load step, recovery time < 1.0 ms					
Ripple and noise	< 100 mVp-p					
Output protection	Overvoltage shutdown Current limit / short circuit protection Power limiting Internal overtemperature protection					

Features	MRC24-1100	MRC48-1600	MRC60-1600	MRC110-1600	MRC125-1600	MRC220-1600
Efficiency, typical (at 50-85% load)	90 %	92 %	91 %	> 92%	> 91%	> 91%
Load current share	± 5 % from true average current between the modules					
Rectifier alarms	Mains fault alarm (hig/low), Low output voltage alarm, Overvoltage shutdown alarm, Rectifier alarm, Temperature Alarm					
Visual Indications	LED: Green/Red/Yellow					
Energy save operation mode	See VID1 controller manual					

Mechanical	MRC24-1100, MRC48-1600, MRC60-1600, MCR 110-1600, MRC 125-1600, MRC 220-1600
Dimensions	230 x 83 x 350 mm
Weight	4.60 kg
Protection class	IP20 / IEC 529



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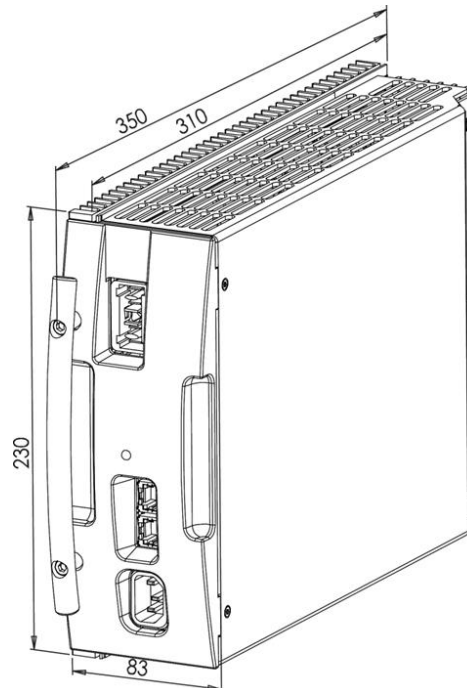
<b>Connections</b>		MRC24-1100, MRC48-1600, MRC60-1600, MCR 110-1600, MRC 125-1600, MRC 220-1600
Connector, AC	Appliance plug IEC 320 / 10 A male	
Connector, DC	FCI Twinblade TM Power IO connector	
Connector, PowerCAN	2 pcs RJ-45	

<b>Environmental</b>	
Cooling	Natural convection
Acoustic noise	< 40 dB
Operating temperature	-20 / +50 °C
Storage temperature	-40 / +70 °C
Humidity	95 % (relative humidity, non-condensing)
Altitude (max)	2000 m above sea level

<b>Applicable Standards</b>	
EMC	ETSI EN 300 386: 2005
Environment	Operation: ETS 300 019-2-3 cl T3.2 Storage: ETS 300 019-2-1 cl T1.2 Transportation: ETS 300 019-2-2 cl T2.3
Safety	IEC / EN 60950-1
Approvals	CE, CB certified
ROHS/WEEE	2002/95/EC
Quality	Manufacture and design conform to ISO 9001, ISO 14001

## Order Information

Description	Order number
MRC 24-1100	92G310
MRC 48-1600	92G340
MRC 60-1600	92G290
MRC 110-1600	92G300
MRC 125-1600	92H620
MRC 220-1600	92G320



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