

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



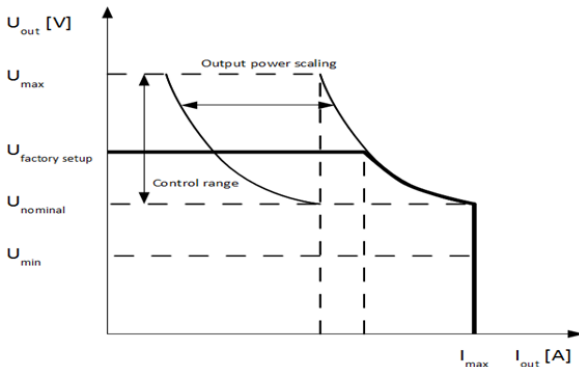
TELECOM

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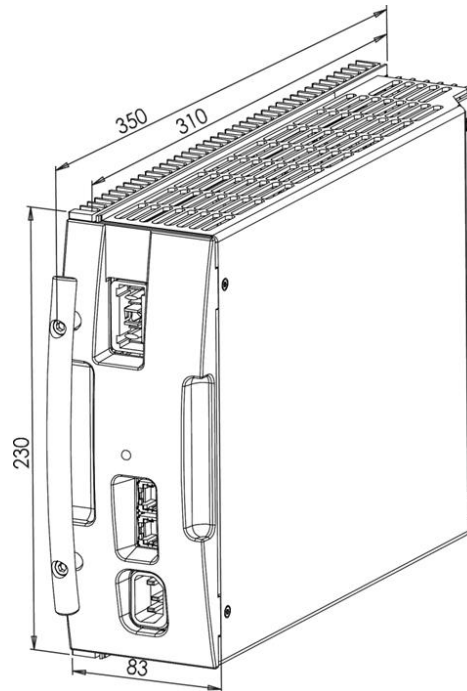
| Connections | | MRC24-1100, MRC48-1600, MRC60-1600, MCR 110-1600, MRC 125-1600, MRC 220-1600 |
|---------------------|-------------------------------------|---|
| Connector, AC | Appliance plug IEC 320 / 10 A male | |
| Connector, DC | FCI Twinblade TM Power IO connector | |
| Connector, PowerCAN |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

| Environmental | |
|-----------------------|--|
| 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 |

| Applicable Standards | |
|-----------------------------|---|
| 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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