

MASTERELITE MULTITEC MRM/MRT

MRM 10-20kVA single/single phase or three/single phase

MRT 10-30kVA three/three phase



The MasterElite MultiTec range uses advanced digital on-line (VFI) technology to support loads up to 30kVA (120kVA for the maximum parallel system). MRM models provide a single phase output from a single or three phase input. MRT models provide a three phase output.

The load is powered continuously by the inverter with an EMI filtered, stabilised and regulated sinewave supply. The MultiTec feature provides the UPS with three user selectable operating modes: On-line, Economy and Smart-Active to achieve high operating efficiencies up to 98%. In Economy mode the UPS mimics digital line interactive (VI) technologies used for less critical or sensitive loads. In Smart-Active mode the UPS monitors the stability of the mains supply and automatically selects whether to operate in on-line or line interactive mode. All modes can be set using the PowerShield² software supplied with each UPS. MasterElite is an outstanding long runtime solution for critical voice and data processing applications. Runtimes from several minutes to many hours can be achieved using battery extension packs (BEPs) with extra chargers to maintain reasonable recharge times, or local standby generators.



- 1 Language selection
- 2 Input/Output measurements
- 3 Controls/Settings/Customisation options
- 4 Event log
- 5 Alarm reset
- 6 Time/Date
- 7 Scroll down
- 8 Scroll up

Buttons **7** and **8** are used to display detailed operating information

FEATURES

- Advanced digital on-line (VFI) technology (EN50091-3)
- High reliability: microprocessor controlled static and manual bypass facility
- IGBT based power electronics
- Parallel and redundant (N+1) operation (up to 4 units)
- Dual input option
- High level diagnostics: states, modes, measurements and alarms
- Built-in front panel LCD with scroll function, RS232 and signal contact ports
- Power factor correction with sinusoidal input
- Low power consumption and maintenance costs (MTTR 30 minutes)
- Low cost and simplified installation including; castors for easy positioning, selection of the three phase or single phase input, and calibration of the output voltage from the front panel keypad to allow for voltage drop down long cable runs.
- High level surge immunity (6kV to IEC801-5)
- Auto restart on power up (programmable)
- Built-in battery test facility (automatic and manual), temperature compensating charger and deep battery discharge protection
- Cold-start facility to allow the UPS to power up without a mains supply for security applications such as emergency lighting

APPLICATIONS

- Local Area Networks (LANs)
- Servers
- Data centres
- Internet centres (ISP/ASP/POP)
- Industrial PLCs
- PoS (Point of Sale) systems
- Emergency applications (lights/alarms)
- Medical appliances
- Telecommunications devices



ADVANCED COMMUNICATION

- Advanced, multi-platform communication, for all operating systems and network environments: PowerShield² monitoring and control software included, with SNMP agent, for Windows 95, 98, 2000, Me, NT 4.0, Novell operating systems. The UPS is supplied with a cable for direct connection to a PC (Plug and Play)
- RS232 and modem serial ports
- IEC sockets for local plug in devices
- EPO (Emergency Power Off) contact for UPS shutdown using a remote panic button
- Remote control panel

TECHNICAL DATA

single phase output models MRM

MODEL	10KVA	15KVA	20KVA
RECTIFIER INPUT			
Rated power [kVA]	10	15	20
Rated voltage	400Vac three-phase+N or 230Vac single-phase		
Voltage range	±20%		
Frequency range	45-65Hz		
Power factor	0.95		
BATTERIES			
Type	Maintenance free sealed lead-acid		
Recharge time	8h		
INVERTER OUTPUT			
Rated power [kVA]	10	15	20
Active power [kW]*	8	12/10.5*	16/12*
Number of phases	1		
Rated voltage [V]	230		
Voltage regulation range	200-243V		
Crest factor (Ipeak/Irms)	3:1		
Waveform	Sinewave		
Distortion with non-linear load	2%		
Static stability	±1%		
Dynamic stability	±5% in 10ms		
Frequency	50 or 60Hz selectable		
Overload	125/150% of the rated current for 10'/1'		
BYPASS			
Rated voltage	230V		
Number of phases	1		
Permitted voltage range	±15% (selectable from ±5% to ±25%)		
Rated frequency	50/60Hz		
Permitted frequency range	±2% (selectable from ±1% to ±5%)		
INSTALLATION INFORMATION			
Input	Three-phase or single-phase		
Remote signaling	Volt-free contacts		
Remote controls	EPO and bypass		
Communication	RS232/C and modem ports		
Operating temperature	0-40°C		
Relative humidity	95% (non condensing)		
Colour	Light grey RAL 7035		
Audible noise	<56dBA		
Enclosure protection rating	IP20		
Efficiency	>92%		
Compliance	Safety EN 50091-1 EMC EN 50091-2 Lev. A Directives 73/23-93/68-89/336 EEC		
Air flow (m ³ /h) (for installations in a closed environment)	320	320	480
Bypass input current	45A	68A	91A
Maximum rectifier input current	18A	27A	36A
Differential input current**	100mA		
VALUE OF THE OUTPUT PROTECTIONS FOR SELECTIVITY***			
Normal fuses (G1)	In (Rated current)/7		
Normal switches (Curve C)	In (Rated current)/7		
Extra Fast fuses	In (Rated current)/2		

* With single-phase input

** This value must be added to the differential current of the equipment. Special applications on request

*** Complying with these values, the UPS will be able to provide the power required to interrupt the output protection if a short-circuit occurs, without switching the load to the mains supply

TECHNICAL DATA

Model No	Power	Back-up at full load	Dimensions (W x D x H) mm	Weight Kg
MRM10KVA000	10kVA/8kW	0m	450 x 760 x 1200	105
MRM10KVA007		8m	450 x 760 x 1200	180
MRM10KVA009		11m	450 x 760 x 1200	190
MRM10KVA012	15kVA/12kW	15m	450 x 760 x 1200	230
MRM15KVA000		0m	450 x 760 x 1200	115
MRM15KVA007		8m	450 x 760 x 1200	230
MRM15KVA009	20kVA/16kW	11m	450 x 760 x 1200	240
MRM15KVA012		15m	450 x 760 x 1200	310
MRM20KVA000		0m	450 x 760 x 1200	120
MRM20KVA007	20kVA/16kW	7m	450 x 760 x 1200	245
MRM20KVA012		10m	450 x 760 x 1200	315

TYPICAL BATTERY EXTENSION PACKS

UPS Model No	Back-up at full load	Battery Extension Packs	Qty	Dimensions (W x D x H) mm	Weight Kg
MRM10KVA007	30m	BEP384012Y/01	1	285 x 805 x 735	180
MRM10KVA012	40m	BEP384012Y/01	1	285 x 805 x 735	180
MRM10KVA012	1h5	BEP384038AB/02*	1	555 x 720 x 1200	483
MRM15KVA007	28m	BEP576012AB/01	1	555 x 720 x 1200	302
MRM15KVA012	40m	BEP576012AB/01	1	555 x 720 x 1200	302
MRM15KVA000	1h5	BEP576038AC/02*	1	860 x 720 x 1200	720
MRM20KVA012	30m	BEP576012AB/01	1	555 x 720 x 1200	302
MRM20KVA007	1h	BEP576038AC/02*	1	860 x 720 x 1200	720

* Denotes that the battery pack has its own built-in charger

OPTIONS

- USB signal converter
- SNMP network slot-in adapter
- Remote status panel with LEDs
- Wall mounted maintenance bypass with manual and automatic transfer
- Isolation (Galvanic) pack for the bypass supply
- Voltage conversion pack (110/230 and 230/110V)
- Battery cabinets, cladded racks, internal trays and cables
- Parallel/redundant operation card
- 19" rackmount trays and PowerRak cabinet system
- PowerShield² UPS monitoring and control software, and SNMP solutions
- Service and maintenance plans
- StrikeSafe Transient Voltage Surge Suppressors (TVSS)

TECHNICAL DATA

three phase output models MRT

MODEL	10KVA	15KVA	20KVA	30KVA
RECTIFIER INPUT				
Rated power [kVA]	10	15	20	30
Rated voltage	400Vac three-phase+N			
Voltage range	±20%			
Frequency range	45-65Hz			
Power factor	0.95			
BATTERIES				
Type	Maintenance free sealed lead-acid			
Recharge time	8h			
INVERTER OUTPUT				
Rated power [kVA]	10	15	20	30
Active power [kW]	8	12	16	24
Number of phases	3			
Rated voltage [V]	400			
Voltage regulation	Adjustable from 346-42 V			
Crest factor (Ipeak/Irms)	3:1			
Waveform	Sinewave			
Distortion with non-linear load	2%			
Static stability	±1%			
Dynamic stability	±5% in 10ms			
Frequency	50 or 60Hz selectable			
Overload	125/150% of the rated current for 10'/1'			
BYPASS				
Rated voltage	400V			
Number of phases	3			
Permitted voltage range	±15% (selectable from ±5% to ±25%)			
Rated frequency	50/60Hz			
Permitted frequency range	±2% (selectable from ±1% to ±5%)			
INSTALLATION INFORMATION				
Input	Three-phase+N			
Remote signaling	Volt-free contacts			
Remote controls	EPO and bypass			
Communication	RS232/C and modem ports			
Operating temperature	0-40°C			
Relative humidity	95% (non condensing)			
Colour	Light grey RAL 7035			
Noise	<56dBA			
Enclosure protection rating	IP20			
Efficiency	>92%			
Compliance	Safety EN 50091-1 EMC EN 50091-2 Lev. A Directives 73/23-93/68-89/336 EEC			
Air flow (m ³ /h) (for installations in a closed environment)	320	320	480	480
Bypass input current	15A	23A	30A	46A
Maximum rectifier input current	18A	27A	36A	54A
Differential input current*	100mA			
VALUE OF THE OUTPUT PROTECTIONS FOR SELECTIVITY**				
Normal fuses (GI)	In (Rated current)/7			
Normal switches (Curve C)	In (Rated current)/7			
Extra Fast fuses (EF)	In (Rated current)/2			

* This value must be added to the differential current of the equipment. Special applications on request

** Complying with these values, the UPS will be able to provide the power required to interrupt the output protection if a short-circuit occurs, without switching the load to the mains supply

TECHNICAL DATA

Model No	Power	Back-up at full load	Dimensions (W x D x H) mm	Weight Kg
MRT10kVA000	10kVA/8kW	0m	450 x 760 x 1200	110
MRT10kVA007		8m	450 x 760 x 1200	185
MRT10kVA009		11m	450 x 760 x 1200	195
MRT10kVA012		15m	450 x 760 x 1200	235
MRT15kVA000	15kVA/12kW	0m	450 x 760 x 1200	120
MRT15kVA007		8m	450 x 760 x 1200	235
MRT15kVA009		11m	450 x 760 x 1200	245
MRT15kVA012		15m	450 x 760 x 1200	315
MRT20kVA000	20kVA/16kW	0m	450 x 760 x 1200	125
MRT20kVA007		7m	450 x 760 x 1200	250
MRT20kVA012		9m	450 x 760 x 1200	320
MRT30kVA000	30kVA/24kW	0m	450 x 760 x 1200	135
MRT30kVA014		6m	450 x 760 x 1200	260

TYPICAL BATTERY EXTENSION PACKS

UPS Model No	Back-up at full load	Battery Extension Packs	Qty	Dimensions (W x D x H) mm	Weight Kg
MRT10kVA007	30m	BEP384012Y/01	1	285 x 805 x 735	180
MRT10kVA012	40m	BEP384012Y/01	1	285 x 805 x 735	180
MRT10kVA012	1h5	BEP384038AB/02*	1	555 x 720 x 1200	483
MRT15kVA007	28m	BEP576012AB/01	1	555 x 720 x 1200	302
MRT15kVA012	40m	BEP576012AB/01	1	555 x 720 x 1200	302
MRT15kVA000	1h5	BEP576038AC/02*	1	860 x 720 x 1200	720
MRT20kVA012	30m	BEP576012AB/01	1	555 x 720 x 1200	302
MRT20kVA007	1h	BEP576038AC/02*	1	860 x 720 x 1200	720

* Denotes that the battery pack has its own built-in charger

OPTIONS

USB signal converter
 SNMP network slot-in adapter
 Remote status panel with LEDs
 Wall mounted maintenance bypass with manual and automatic transfer
 Isolation (Galvanic) pack for the bypass supply
 Voltage conversion pack (110/230 and 230/110V)
 Battery cabinets, cladded racks, internal trays and cables
 Parallel/redundant operation cards
 19" rackmount trays and PowerRak cabinet system
 PowerShield² UPS monitoring and control software and SNMP solutions
 Service and maintenance plans
 StrikeSafe Transient Voltage Surge Suppressors (TVSS)