



LOCAL AREA NETWORKS (LAN)



SERVERS



DATA CENTERS



INDUSTRIAL PLCS



CASH REGISTERS



ELECTRO-MEDICAL DEVICES



EMERGENCY DEVICES (Lights/Alarms)



TELECOM-MUNICATION DEVICES



E-BUSINESS (Servers Farms, ISP/ASP/POP)

# Multi Dialog MDM/MDT

## MDM 10-20 kVA

single/single-phase and three/single-phase

## MDT 10-80 kVA

three/three-phase

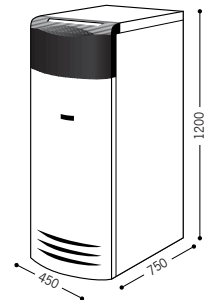
Multi Dialog MDM 10-20 kVA - MDT 10-80 kVA



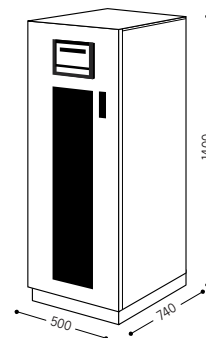
Dimensions (mm)

MDM 10 - AF  
MDM 15 - AF  
MDM 20 - AF

MDT 10 - AF  
MDT 15 - AF  
MDT 20 - AF  
MDT 30 - AF



MDT 40 - AF  
MDT 60 - AF  
MDT 80 - AF



**MULTI DIALOG** provides maximum protection for critical data processing networks and security applications, thanks to its advanced design, selectable operating modes and communications capabilities. Operating modes include: On-line, Economy, Smart-Active, Standby/Off and Voltage Stabilisation. Standard communications features include a front panel LCD with 128 potential messages, RS232 interfaces, EPO input, communications interface slot and **PowerShield<sup>3</sup>** management software.

The **MULTI DIALOG** series includes 10-15-20kVA single/single-phase, three/single-phase and 10-15-20-30-40-60-80 kVA three-phase models, and uses double conversion on-line technology (VFI).

The load is powered continuously by the inverter with a filtered, stabilised and regulated sinewave supply. The input and output filters considerably increase the immunity of the load to mains disturbances and surges, even on bypass.

**LOW POWER CONSUMPTION**

- **On-line Mode:** up to 92% efficiency can be achieved due to the use of IGBT technology, increasing to 98% in one of the other operating modes
- **Economy Mode:** uses Line Interactive (VI) technology to power less critical loads from the mains supply for certain periods
- **Smart Active:** if the mains supply is out of range, the UPS will power the load from the inverter as an On-line UPS. When the mains supply returns to within range again, the UPS will monitor this for a certain period before selecting Line Interactive operation

**SIMPLE TO INSTALL**

- Option to connect the UPS to single-phase or three phase mains supplies (MDM series)
- Panel adjustment to offset voltage drop down long cable runs

**MAXIMUM RELIABILITY AND AVAILABILITY**

- Connect up to 8 units in parallel or N+1 redundancy, of even different power ratings

**HIGH LEVEL BATTERY RELIABILITY**

- Automatic battery test
- Recharge compensated for temperature
- Automatic or manual rapid charge (boost) – duration programmable

**MAINTENANCE SIMPLICITY = LOW MTTR**

For the 40 to 80 kVA models, open the door and remove the protective panel (standards requirement) and the power components - mounted on a sliding tray - can be pulled out to provide easy access to all the electrical and electronic components for maintenance and repair work. This particular feature means that the MTTR (Mean Time To Repair) is much lower than traditional UPS designs with less easily reached assemblies.

A large amount of maintenance information is available from the front mimic panel and LCD. In addition system operating parameters are software configurable via a local PC to allow new functions to be added or adjustments to be made to operating specifications

**SENSITIVE SUPPLY COMPATIBLE**

For power supply sources that are particularly sensitive to harmonics (generator sets or transformers of low power with respect to that of the UPS) it is often a good idea to take action to limit the harmonics injected back into the supply by the UPS.

**MULTI DIALOG AF** series have an active filter and use high frequency Isolated Gate Bipolar (IGBT) Technology with Digital Signal Processor (DSP) control.

The Active Filter helps to reduce harmonics generated by the UPS into the supply which could disrupt the operation of upstream generators and transformers whose rating is closely matched to that of the UPS

• **Advanced technology**

Multi Dialog AF systems reduce harmonic distortion of the phase and

neutral currents. The Digital Signal Processor (DSP) and the “current mode” instantly control and monitor the input current to maintain a perfect sinewave with 4% harmonic distortion

• **Maximum efficiency**

Multi Dialog AF systems have low input distortion even at low loads and their overall efficiency is not affected by generator frequency variations or line impedance

• **Reduction of neutral current**

Multi Dialog AF systems reduce the input neutrals current by up to 3.5 times their nominal rating to help avoid oversizing input protections and conductors

• **Maximum reliability**

Multi Dialog AF systems are extremely reliable. Overall UPS performance is unaffected should the harmonic filter fail.

• **Excellent capabilities**

input distortion: (THDi) 4%  
input power factor: > 0.99  
performance: up to 93%

Multi Dialog can also be supplied without the Active Filter for installations less sensitive to current harmonics.

**OTHER CHARACTERISTICS**

- Suitable for powering capacitive loads such as blade servers, without any reduction of the active power, from 0.8 leading to 0.8 lagging
- High level diagnostics: event log with 128 messages, states, measurements and alarms - available from the built-in LCD in several languages
- Reduced noise levels: high frequency inverter bridge
- Back feed protection standard: to avoid energy feeding back into the mains supply (in compliance with CEI 11-20; DK5600)
- Power factor correction (input power factor, close to 1)
- By pass may be deactivated to allow operation as a frequency converter (at 50 or 60 Hz)
- Emergency operation: the UPS can be set to operate only when the mains fails (for emergency lighting)

**ADVANCED COMMUNICATION**

- Compatible with TeleNetGuard for remote maintenance
- Advanced, multi-platform communication for all operating systems and network environments: PowerShield<sup>3</sup> monitoring and shut-down software included, with SNMP agent, for Windows 9x, ME, NT 4.0, 2000, XP, Vista and 2003 server; Mac OS X, Linux, Novell and most popular Unix operating systems
- The UPS is supplied with a communications cable for ‘Plug and Play’ PC connection
- Double RS232 serial ports
- Network adapter slot for SNMP agent
- Emergency Power Off (EPO) shutdown input contact
- Remote control mimic panel

B.B. MODELS	BB 384-38M	BB 384-65M	BB 576-38M	BB 576-12M BB 576-14M	BB 576-26M	BB 576-36M	BB 576-65M	BB 576-80M	BB 576-100M
MDM MOD.	MDM 10	MDM 10	MDM 15-20	MDM 15-20	-	-	-	-	-
MDT MOD.	MDT 10	MDT 10	MDT 15-20-30	MDT 15-20-30	MDT 40-60	MDT 40-60-80	MDT 30-40-60-80	MDT 40-60-80	MDT 40-60-80
Dimensions (mm) h x w x d									

MDM MODELS	MDM 10 - AF	MDM 15 - AF	MDM 20 - AF
<b>INPUT</b>			
Rated voltage	230 Vac single-phase or 400 Vac three-phase + N		
Voltage range	± 20%		
Frequency range	45 ÷ 65 Hz		
Power factor	> 0.99		
Current distortion	Sinewave absorption THDI 4%		
<b>BY PASS</b>			
Rated voltage	230 Vac		
Number of phases	1		
Permitted voltage range	± 15% (selectable from ± 5% to ± 25%)		
Rated frequency	50/60 Hz		
Permitted frequency range	± 2% (selectable from ± 1% to ± 5%)		
<b>OUTPUT</b>			
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 ÷ 243 V		
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	3 : 1		
Waveform	Sinewave		
Distortion with linear load	2%		
Static stability	± 1%		
Dynamic stability	± 5% in 10 ms		
Frequency	50 / 60 Hz selectable		
Overload	110% 125% 150% of the rated current for 5 h/10'/1'		
<b>BATTERIES</b>			
Type	Lead, flooded and VRLA AGM / GEL; NiCd		
Recharge time	6 h		
<b>ENVIRONMENTAL</b>			
Weight (kg)	from 105 to 243	from 110 to 330	from 125 to 345
Dimensions (hwd) (mm)	1200 x 450 x 750		
Input	Single-phase or three-phase input + neutral		
Remote signalling	volt free contacts		
Remote controls	EPO and bypass		
Communication	Double RS232/C + remote contacts + communication interface slot		
Operating temperature	0°C - 40°C		
Relative humidity	< 95% non condensing		
Colour	Light grey RAL 7035		
Noise	<56 dBA at 1 m		
Protection rating	IP20		
Efficiency	> 92% in On-Line Mode, > 98% in Economy Mode/Smart Active Mode/Standby-Off Mode/AVS Mode		
Compliance	EN 62040-1 EMC EN 62040-2 Directives 73/23 - 93/68 - 2004/108 EC EN 62040-3		

\*Version with single phase input

MDT MODELS	MDT 10 - AF	MDT15 - AF	MDT 20 - AF	MDT30 - AF	MDT 40 - AF	MDT60 - AF	MDT80 - AF
<b>INPUT</b>							
Rated voltage	400 Vac three-phase + N						
Voltage range	± 20%						
Frequency range	45 ÷ 65 Hz						
Power factor	>0.99						
Current distortion	Sinewave absorption THDI 4%						
<b>BY PASS</b>							
Rated voltage	400 Vac						
Number of phases	3 + N						
Permitted voltage range	± 15% (selectable from ± 5% to ± 25%)						
Rated frequency	50/60 Hz						
Permitted frequency range	± 2% (selectable from ± 1% to ± 5%)						
<b>OUTPUT</b>							
Rated power (kVA)	10	15	20	30	40	60	80
Active power (kW)	8	12	16	24	32	48	64
Number of phases	3 + N						
Rated voltage (V)	380 - 400 - 415 selectable						
Voltage regulation range	346 ÷ 422 V						
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	3 : 1						
Waveform	Sinewave						
Distortion with linear load	2%						
Static stability	± 1%						
Dynamic stability	± 5% in 10 ms						
Frequency	50/60 Hz selectable						
Overload	110% 125% 150% of the rated current for 5h/10'/1'				125% 150% of the rated current for 10'/1'		
<b>BATTERIES</b>							
Type	Lead, flooded and VRLA AGM / GEL; NiCd						
Recharge time	6 h				4-8 h		
<b>ENVIRONMENTAL</b>							
Weight (kg)	from 110 to 258	from 115 to 335	from 130 to 350	from 144 to 370	160	180	192
Dimensions (hwd) (mm)	1200 x 450 x 750				1400 x 500 x 740		
Input	Three-phase + N						
Remote signalling	Volt free contacts						
Remote controls	EPO and Bypass						
Communication	Double RS232/C + remote contacts + communication interface slot						
Operating temperature	0°C - 40°C						
Relative humidity	< 95% non condensing						
Colour	Light grey RAL 7035						
Noise	< 56 dBA at 1 m					< 60 dBA at 1 m	
Protection rating	IP20						
Efficiency	> 92% in On-Line Mode, > 98% in Economy Mode/Smart Active Mode/Standby-Off Mode/AVS Mode						
Compliance	EN 62040-1 EMC EN 62040-2 Directives 73/23 - 93/68 - 2004/108 EC EN 62040-3						