



Local Area Networks (LAN)

Servers

Data centers

Internet centers (ISP/ASP/POP)

Industrial PLCs

EPOS (Electronic Point of Sale) Systems

Emergency devices (lights/alarms)

Electro-medical devices

Telecommunication devices



Multi DIALOG MDM/MDT

MDM 10-20kVA single/single-phase and three/single-phase
MDT 10-80kVA three/three-phase

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.

For technology, outstanding performance (selectable operating modes: On-line, Economy, Smart-Active, Standby/Off - for emergency lighting applications) and Automatic Voltage Stabiliser, advanced diagnostics (standard LCD display with 128 messages, RS232 interfaces with **PowerShield²** software included, EPO input contact, and a network interface slot), **MULTI DIALOG** provides maximum protection for vital 'mission-critical' networks and security applications (electromedical).

Additional battery extension packs allow the standard battery runtime to be extended up to several hours.

Note the simple installation: the 10-20kVA can be connected both to single-phase and three-phase mains supplies.

CHARACTERISTICS

- 0.8 power factor makes Multi Dialog suitable for powering ICT and industrial loads
- high level diagnostics: event log with 128 messages, states, measurements and alarms - available from the built-in LCD in several languages
- the UPS may be configured with the RS232 serial port (flash upgradable)
- power factor correction with sinusoidal input to ensure a low impact on the mains supply for the single-phase/single-phase series
- reduced noise levels: high frequency inverter bridge used
- Low power consumption up to 92% in On-line mode due to the use of IGBT technology and up to 98% in the other operating modes: "Economy Mode", Smart Active Mode, and Standby/Off Mode:
 - 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

NETWORK RANGE



LED remote mimic panel



1. Help/Language selection
2. Input/output measurements
3. Controls/settings/customisations
4. Event log
5. Buzzer reset
6. Time/date
7. Scroll back
8. Scroll forward

Buttons 7 and 8 are used to display detailed system control information.

- sinewave absorption: on MULTI DIALOG AF version (see page 14). The electronic digital rectifier ensures:
 - high efficiency (THDi <4%)
 - compact size (integrated in the UPS)
 - high reliability: with redundant control and protections
 - high performance: the AF version does not reduce performance
 - current harmonics reduction on the neutral
- simple to install:
 - capability to connect the UPS both to single-phase and three-phase mains supplies (MDM and MDM-AF series)
 - panel adjustment to offset voltage drop down long cable runs
- maximum reliability and power availability - connect up to 8 units in parallel or N+1 redundancy, of even different power ratings
- power factor correction (input power factor, close to 1)
- high level battery reliability:
 - automatic battery test
 - recharge compensated for temperature
- emergency operation: the UPS can be set to operate only when the mains fails (for emergency lighting)
- back feed protection standard: to avoid energy feeding back into the mains supply (in compliance with CEI 11-20; DK5600)

- by pass may be deactivated to allow operation as a frequency converter (at 50 or 60 Hz)
- easy to maintain: models 40-80kVA have slide out trays.

ADVANCED COMMUNICATION

- compatible with TeleGuard for remote maintenance (see p.11)
- advanced, multi-platform communication, for all operating systems and network environments: **PowerShield²** supervision and shut-down software included, with SNMP agent, for Windows 95, 98, NT 4.0, 2000, 2003, Me, XP, Mac OSx, 9.x, Linux, Novell operating systems. The UPS is supplied with a cable for direct connection to the PC (Plug and Play)
- double RS232 serial ports
- network adapter slot for SNMP agent
- Emergency Power Off (EPO) shutdown input contact
- remote control mimic panel.



LCD remote panel



Local Area Networks (LAN)

Servers

Data centres

Internet centres (ISP/ASP/POP)

Industrial PLC

Cash Registers

Emergency devices (lights/alarms)

Electromedical devices

Devices for Telecommunications



Multi DIALOG AF

MDM-AF 10-20kVA three/single-phase
MDT-AF 10-80kVA three/three-phase

The **MULTI DIALOG AF** series 10-80kVA models incorporate an active harmonic filter to ensure low harmonic distortion of the mains power supply.

This feature is necessary to ensure a low impact on the incoming mains supply and prevent possible disruption to upstream hardware including generators and transformers.

The **MULTI DIALOG AF** series active filter uses high frequency Isolated Gate Bipolar Transistor (IGBT) technology with Digital Signal Processor (DSP) control.

CHARACTERISTICS

- **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 sine wave with less than 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

- **high performance**

the performance of Multi Dialog AF system matches that of the standard Multi Dialog due to the advanced technology used including IGBTs

- **compact size**

Multi Dialog AF systems have the same physical size of the standard model and can house the same options and battery runtimes

- **reduction of neutral current**

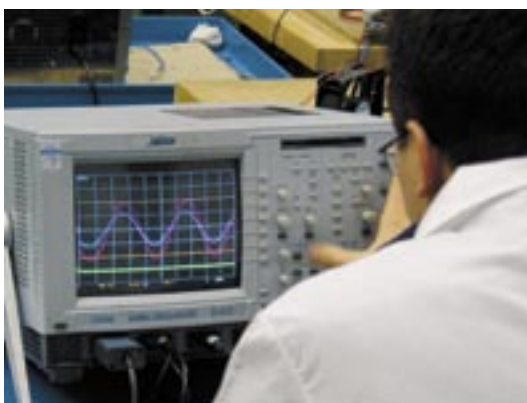
Multi Dialog AF systems reduce the input current on their neutrals by up to 3.5 times their nominal rating to help avoid oversizing input protections and conductors

- **maximum reliability**

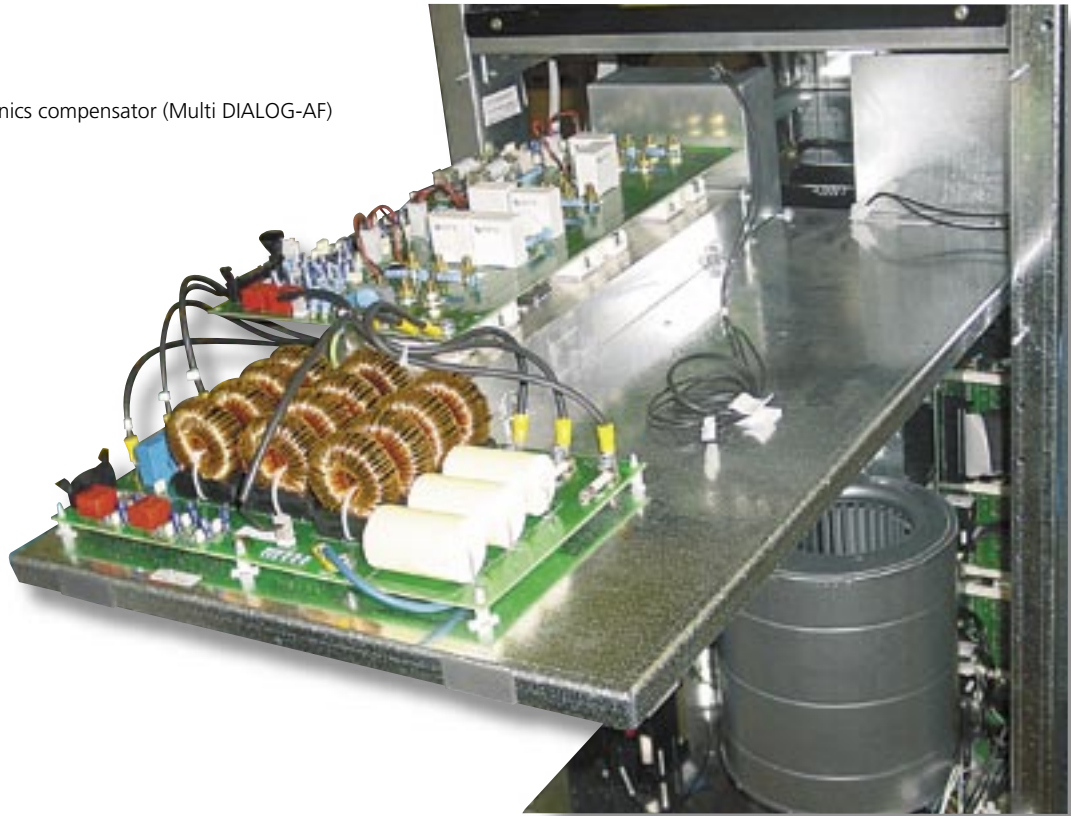
Multi Dialog AF systems are extremely reliable. If the active harmonic filter fails overall UPS performance is unaffected

- **excellent capabilities**

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



Special IGBT harmonics compensator (Multi DIALOG-AF)



ADVANCED COMMUNICATION

- compatible with TeleGuard (see page 11) for remote assistance
- advanced, multiplatform communications for all operating systems and network environments: PowerShield² monitoring and shutdown software included, with SNMP agent for Windows 95-OSR2, 98, NT 4.0, 2000, Me, XP, 2003, Mac OS X, 9.x, Linux, Novell operating systems. The UPS is supplied with a cable for direct connection to the PC (Plug and Play)
- double RS232 serial port
- slot for installing the network adapter
- Emergency Power Off (EPO) shutdown input contact
- LED or LCD mimic panel.





MODELS	MDM 1000 MDM 1000-AF	MDM 1500 MDM1500-AF	MDM 2000 MDM 2000-AF
INPUT			
Rated voltage	230 Vac single-phase or 400 Vac three-phase + N		
Voltage range	± 20%		
Frequency range	45 ÷ 65 Hz		
Power factor	0.95		
Current distortion	sinewave absorption (for three phase input Multi DIALOG AF version with THDi<4%)		
BYPASS			
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%)		
BATTERIES			
Type	Maintenance-free sealed lead-acid		
Recharge time	6 h		
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 ÷ 243 V		
Crest factor (I _{peak} /I _{rms})	3 : 1		
Waveform	Sinewave		
Output current	43A	65A	87A
Distortion with linear load	2%		
Static stability	± 1%		
Dynamic stability	± 5% in 10ms		
Frequency	50/60 Hz selectable		
Overload	125% 150% 200% of the rated current for 10'/1'/'7"		

*Version with mono phase input

Product characteristics can be customised to meet client specifications.



MODELS	MDM 1000 MDM 1000-AF	MDM 1500 MDM 1500-AF	MDM 2000 MDM 2000-AF
ENVIRONMENTAL			
Input	Single-phase or three-phase input + neutral		
Remote signaling	volt free contacts		
Remote controls	EPO and bypass		
Communication	Double RS232/C plus network adapter slot for SNMP agent		
Operating temperature	0 ÷ 40 °C		
Relative humidity	95% (non condensing)		
Colour	Light grey RAL 7035		
Noise	<56 dBA at 1m		
Protection rating	IP20		
Efficiency	> 92%		
Compliance	EN 62040-1 EMC EN 62040-2 Directives 73/23-93/68-89/336 EEC EN 62040-3		
OPTIONS (see p.23)			
Weight (kg)	from 90 to 218	from 95 to 285	from 110 to 300
Dimensions (hwd) (mm)	1200x450x750	1200x450x750	1200x450x750
Back-up (min)	from 0 to 15	from 0 to 15	from 0 to 10

10 year design life batteries available - contact the sales team for a quotation.
 Product characteristics can be customised to meet client specifications.



MODELS	MDT 1000 MDT 1000-AF	MDT 1500 MDT 1500-AF	MDT 2000 MDT 2000-AF	MDT 3000 MDT 3000-AF
INPUT				
Rated voltage	400 Vac three-phase + N			
Voltage range	± 20%			
Frequency range	45 ÷ 65 Hz			
Power factor	0.95			
Current distortion	sinewave absorption (for three phase input Multi DIALOG AF version with THDi<4%)			
BYPASS				
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%)			
BATTERIES				
Type	Maintenance-free sealed lead-acid			
Recharge time	8 h			
OUTPUT				
Rated power (kVA)	10	15	20	30
Active power (kW)	8	12	16	24
Number of phases	3+N			
Rated voltage (V)	400			
Voltage regulation range	346 ÷ 422 V			
Crest factor (I _{peak} /I _{rms})	3 : 1			
Output current	15A	22A	29A	43.5A
Waveform	Sinewave			
Distortion with linear load	2%			
Static stability	± 1%			
Dynamic stability	± 5% in 10ms			
Frequency	50/60 Hz selectable			
Overload	125% 150% 200% of the rated current for 10'/1'/'7"			

Product characteristics can be customised to meet client specifications.



MODELS	MDT 1000 MDT 1000-AF	MDT 1500 MDT 1500-AF	MDT 2000 MDT 2000-AF	MDT 3000 MDT 3000-AF
ENVIRONMENTAL				
Input	Three-phase + N			
Remote signaling	volt free contacts			
Remote controls	EPO and Bypass			
Communication	Double RS232/C plus network adapter slot for SNMP agent			
Operating temperature	0 ÷ 40 °C			
Relative humidity	95% (non condensing)			
Colour	Light grey RAL 7035			
Noise	<56 dBA at 1m			
Protection rating	IP20			
Efficiency	> 92% in On-Line Mode, > 98% in Economy Mode/Smart Active Mode/Standby-Off Mode/AVR Mode			
Compliance	EN 62040-1 EMC EN 62040-2 Directives 73/23-93/68-89/336 EEC EN 62040-3			
OPTIONS (see p.23)				
Weight (kg)	from 95 to 223	from 100 to 290	from 115 to 305	from 120 to 310
Dimensions (hwd) (mm)	1200x450x750	1200x450x750	1200x450x750	1200x450x750
Back-up (min)	from 0 to 15	from 0 to 15	from 0 to 10	from 0 to 6

10 year design life batteries available - contact the sales team for a quotation.
 Product characteristics can be customised to meet client specifications.