



Local Area Networks (LAN)

Servers

Data centers

Internet centers (ISP/ASP/POP)

Industrial PLCs

Emergency devices (lights/alarms)

Electro-medical devices

Telecommunication devices

Industrial applications



## Master DIALOG

RM 8-20kVA three-phase/single-phase  
RT 10-40kVA three-phase/three-phase  
RT 60-80kVA three-phase/three-phase  
RT 100-200kVA three-phase/three-phase

INDUSTRY RANGE

The **MASTER DIALOG RM/RT** series includes the 8-10-15-20kVA three/single-phase, 10-15-20-30-40-60-80-100-160-200 kVA three-phase models and uses double conversion on-line technology (VFI) with an isolation transformer on the inverter output.

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

**MASTER DIALOG** provides maximum protection for vital 'mission-critical' networks, security applications (electromedical) and industrial applications thanks to its outstanding mechanical and electrical design.

**MASTER DIALOG** is supplied with **PowerShield<sup>2</sup>** software as standard and can be remotely monitored using the Teleguard system from anywhere in the world. Additional battery extension packs allow the standard battery runtime to be extended up to several hours.

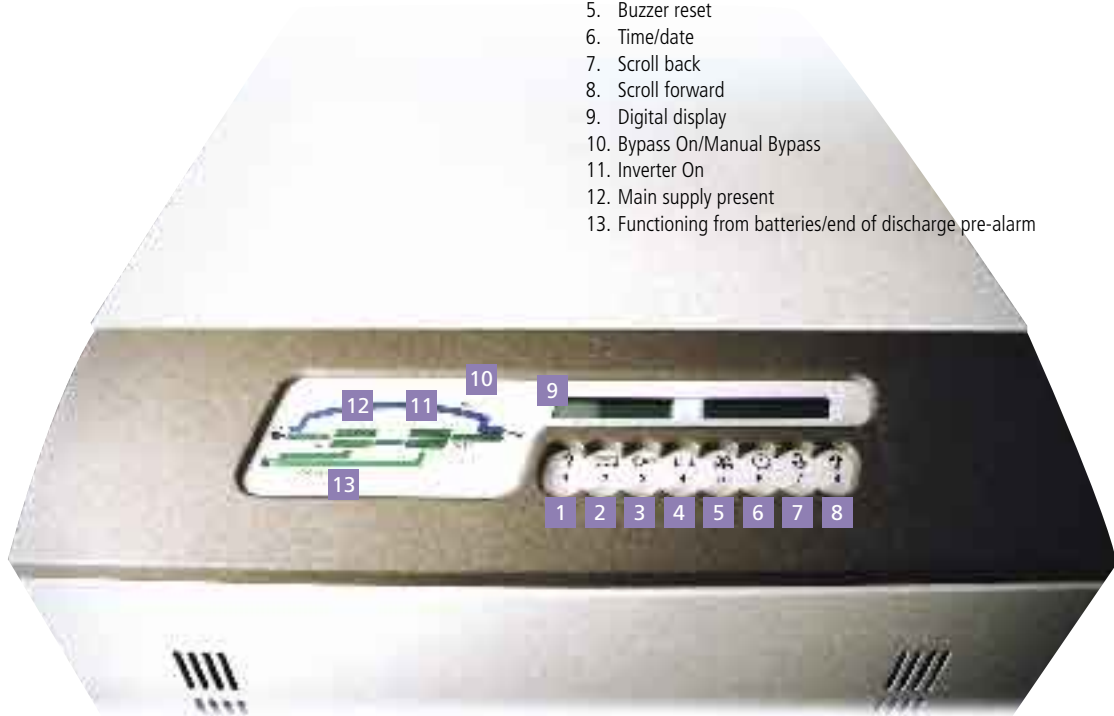
### CHARACTERISTICS

- reliable, filtered, stabilised and regulated sinewave output (double conversion on-line technology VFI according to EN50091-3 specifications) with filters for atmospheric disturbance suppression
- high reliability: IGBT technology, full microprocessor control with no-break static and manual bypasses, extremely high short-circuit current (2.8In single phase version, 4In three phase version) to ensure compatibility with the most difficult transformer applications, lighting, drives and industrial processes), and an isolation transformer on the inverter output
- maximum reliability and power availability - connect up to 6 units in parallel or N+1 redundancy, even of different power ratings
- low input total harmonic distortion (<5%)
- 0.8 power factor makes Master 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



Remote mimic panel (leds)

1. 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
9. Digital display
10. Bypass On/Manual Bypass
11. Inverter On
12. Main supply present
13. Functioning from batteries/end of discharge pre-alarm



- Low power consumption up to 98% in ECO-Mode on the RT10000, RT12000, RT16000 and RT20000 models
- Simple to install:
  - capability to install the UPS into any distribution system (neutral not required on rectifier input)
  - capability to separate the rectifier/bypass power networks and of powering these from two separate sources, without galvanic isolation (necessary on those UPS without an output transformer)
- capability of regulating the output voltage (to offset voltage drops down long cable runs)
- built-in automatic and manual battery test feature, battery deep discharge protection and temperature compensating charger
- BACK FEED protection: to avoid energy feeding back into the mains supply should a fault occur.

#### ADVANCED COMMUNICATION

- compatible with TELEGUARD (see p.11)
- advanced, multi-platform communication, for all operating systems and network environments:
  - PowerShield<sup>2</sup>** supervision and shut-down software included, with SNMP agent, for Windows 95, 98, 2000, Me, XP, Mac OS X, 9.x, Linux, NT 4.0, Novell operating systems. The UPS is equipped with a cable for direct connection to the PC (Plug and Play)
- RS232 serial port
- dry contacts relays
- EPO (Emergency Power Off) shutdown input contact
- input for switching to bypass by remote signal
- digital or LED-based remote control panel.



Transformer



MODELS	RM 800	RM 1000	RM 1500	RM 2000
<b>INPUT</b>				
Rated power (kVA)	8	10	15	20
Rated voltage (V)	400 Vac three-phase			
Voltage range	± 20%			
Frequency range	45/65 Hz			
Power factor	0.8 (0.9 in RM CLEAN version)			
Distortion of the current absorbed	30% (8% in RM CLEAN version)			
Soft start	0-100% in 10"			
<b>BYPASS</b>				
Rated current (A)	35	43	65	87
Rated voltage (V)	230 Vac single-phase			
Permitted voltage range	± 15% (selectable from ± 10% to ± 25% from front panel)			
Rated frequency	50/60 Hz (autorange)			
Permitted frequency range	± 2% (selectable from ± 1% to ± 5% from front panel)			
Overload capacity Inx10ms	18	14	12	14
Standard features	BackFeed protection; separate bypass line			
<b>BATTERIES</b>				
Type	Maintenance-free sealed lead-acid			
Maximum recharge current (A)	0,2x10			
<b>RECTIFIER OUTPUT</b>				
Rated battery voltage	384 Vdc			
Maintenance voltage	Variable acc. to temperature (-0,5 Vx°C)			
Ripple	<1%			
<b>INVERTER OUTPUT</b>				
Rated power (kVA)	8	10	15	20
Rated voltage (kW)	6.4	8	12	16
Number of phases	single-phase			
Rated voltage (V)	220/230/240			
Rated current (A)	35	43	65	87
Regulation of the output voltage	200/244 V phase/neutral (from control panel) ± 5%			
Crest factor (Ipeak/Irms)	3 : 1			
Waveform	Sinewave			
Static stability	± 1%			
Dynamic stability	± 5% in 5ms			
Frequency	same as the input (autorange)			
Overload	125% 150% 200% of the rated current for 10'/1'/'7"			
Frequency stability	± 0,05% on mains failure ± 2% (selectable from ± 1% to ± 5% from front panel) with mains supply present			
Inverter efficiency at rated load	92		93	

UPS three-phase/single-phase: in bypass mode, the mains and so the input cables must be sized accordingly.  
Product characteristics may be changed to meet specific customer demands.

Digital control



MODELS	RM 800	RM 1000	RM 1500	RM 2000
<b>ENVIRONMENTAL</b>				
Remote signaling	volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)			
Remote controls	EPO and bypass			
Operating temperature	0 - 40 °C			
Relative humidity	95% (non condensing)			
Colour	Light grey RAL 7035			
Noise	48-54 dBA at 1 m		53-60 dBA at 1 m	
Protection rating	IP20			
Efficiency	>91%		>92%	
Compliance	Safety EN 50091-1-1		EMC EN 50091-2	Directives 73/23-93/68-89/336 EEC
Rectifier maximum input current (A)	15	18	27	36
Bypass input current (A)	36	45	68	91
Weight (kg)	from 190 to 460	from 200 to 470	from 220 to 490	from 230 to 500
Dimensions (hwd) (mm)	1200x555x720			
Back-up (min) Internal	from 0 to 50	from 0 to 40	from 0 to 20	from 0 to 15

Product characteristics may be changed to meet specific customer demands.

## Master DIALOG RM 8kVA-RM 20kVA OPTIONS

### DESCRIPTION

Isolation transformer module

Multi DIALOG CLEAN (THDi <8%)

Communication software "full" version (see software section p.38)

Communication accessories (see accessories section p.41)

LED-based remote control panel

LCD-based remote control panel

Retrofit Parallel kit

Extended runtime battery boxes

Battery boxes (empty)

10 year design life batteries

Above options without connecting cables.



MODELS	RT 1000	RT 1500	RT 2000	RT 3000	RT 4000
<b>INPUT</b>					
Rated power (kVA)	10	15	20	30	40
Rated voltage (V)	400 Vac three-phase				
Voltage range	± 20%				
Rated frequency	50/60 Hz autorange				
Power factor	0.8 (0.9 in RT CLEAN version)				
Distortion of the current absorbed	30% (8% in RT CLEAN version)				
Soft start	0-100% in 10"				
<b>BYPASS</b>					
Rated current (A)	14	22	29	43	58
Rated voltage (V)	400 Vac three-phase				
Permitted voltage range	± 15% (selectable from ± 10% to ± 25% from front panel)				
Rated frequency	50/60 Hz (autorange)				
Permitted frequency range	± 2% (selectable from ± 1% to ± 5% from front panel)				
Overload capacity Inx10ms	14	15	14	15	14
Standard features	BackFeed protection; separate bypass line				
<b>BATTERIES</b>					
Type	Maintenance-free sealed lead-acid				
Maximum recharge current (A)	0,2xC10				
<b>RECTIFIER OUTPUT</b>					
Rated battery voltage	384 Vdc				
Maintenance voltage	Variable acc. to temperature (-0,5 Vx°C)				
Ripple	<1%				
<b>INVERTER OUTPUT</b>					
Rated power (kVA)	10	15	20	30	40
Rated voltage (kW)	8	12	16	24	32
Number of phases	3 + N				
Rated voltage (V)	380/400/415 selectable				
Rated current (A)	14	22	29	43	58
Regulation of the output voltage	348 - 424 V (from control panel)				
Crest factor (Ipeak/Irms)	3 : 1				
Waveform	Sinewave				
Static stability	± 1%				
Dynamic stability	± 5% in 5ms				
Frequency	same as the input (autorange)				
Overload	125% 150% 200% of the rated current for 10'/1'/'7"				
Frequency stability	± 0,05% on mains failure ± 2% (selectable from ± 1% to ± 5% from front panel) with mains supply present				
Inverter efficiency at rated load	91		92		93
Short circuit current	2,8 In (three-phase) 4In (single-phase)				

Product characteristics may be changed to meet specific customer demands.

Front view RT series



MODELS	RT 1000	RT 1500	RT 2000	RT 3000	RT 4000
<b>ENVIRONMENTAL</b>					
Remote signaling	volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)				
Remote controls	EPO and bypass				
Operating temperature	0 - 40 °C				
Relative humidity	95% (non condensing)				
Colour	Light grey RAL 7035				
Noise	48-54 dBA at 1 m		53-60 dBA at 1 m		
Protection rating	IP20				
Efficiency	> 90%		> 91%		> 92%
Compliance	Safety EN 50091-1-1 EMC EN 50091-2 Directives 73/23-93/68-89/336 EEC				
Rectifier maximum input current (A)	18	28	37	55	72
Bypass input current (A)	14	22	29	43	58
Weight (kg)	from 210 to 480	from 220 to 490	from 230 to 500	from 282 to 552	330
Dimensions (hwd) (mm)	1200x555x720				
Back-up (min) Internal	from 0 to 40	from 0 to 20	from 0 to 15	from 0 to 10	0

Product characteristics may be changed to meet specific customer demands.

## Master DIALOG RT 10kVA-RT 40kVA OPTIONS

### DESCRIPTION

Isolation transformer module

Multi DIALOG CLEAN (THDi <8%)

Communication software "full" version (see software section p.38)

Communication accessories (see accessories section p.41)

LED-based remote control panel

LCD-based remote control panel

Retrofit Parallel kit

Extended runtime battery boxes

Battery boxes (empty)

10 year design life batteries

Above options without connection cables



MODELS	RT 6000	RT 8000
<b>INPUT</b>		
Rated power (kVA)	60	80
Rated voltage (V)	400 Vac three-phase	
Voltage range	± 20%	
Frequency range	45/65 Hz	
Power factor	50/60 Hz autorange	
Rated frequency	0.8 (0.9 in RT CLEAN version)	
Distortion of the current absorbed	30% (5% in RT CLEAN version; 8% 12 pulse version)	
Soft start	0-100% in 10"	
<b>BYPASS</b>		
Rated current (A)	87	115
Rated voltage (V)	400 Vac three-phase	
Permitted voltage range	± 15% (selectable from ± 10% to ± 25% from front panel)	
Rated frequency	50/60 Hz (autorange)	
Permitted frequency range	± 2% (selectable from ± 1% to ± 5% from front panel)	
Overload capacity Inx10ms	12	11
Standard features	BackFeed protection; separate bypass line	
<b>BATTERIES</b>		
Type	Maintenance-free sealed lead-acid	
Maximum recharge current (A)	0,2xC10	
<b>RECTIFIER OUTPUT</b>		
Rated battery voltage	384 Vdc	
Maintenance voltage	Variable acc. to temperature (-0,5 Vx°C)	
Ripple	<1%	
<b>INVERTER OUTPUT</b>		
Rated power (kVA)	60	80
Rated voltage (kW)	48	64
Number of phases	3 + N	
Rated voltage (V)	380/400/415 selectable	
Rated current (A)	87	115
Regulation of the output voltage	348 - 424 V phase/neutral (from control panel)	
Crest factor (Ipeak/Irms)	3 : 1	
Waveform	Sinewave	
Static stability	± 1%	
Dynammic stability	± 5% in 5ms	
Frequency	same as the input (autorange)	
Overload	125% 150% 200% of the rated current for 10'/1'/'7"	
Frequency stability	± 0,05% on mains failure ± 2% (selectable from ± 1% to ± 5% from front panel) with mains supply present	
Inverter efficiency at rated load	93	

Product characteristics may be changed to meet specific customer demands.



MODELS	RT 6000	RT 8000
<b>ENVIRONMENTAL</b>		
Remote signaling	volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)	
Remote controls	EPO and bypass	
Operating temperature	0 - 40 °C	
Relative humidity	95% (non condensing)	
Colour	Light grey RAL 7035	
Noise	53-62 dBA at 1 m	
Protection rating	IP20	
Efficiency	> 92%	
Compliance	Safety EN 50091-1-1 EMC EN 50091-2 Directives 73/23-93/68-89/336 EEC	
Rectifier maximum input current (A)	100	125
Bypass input current (A)	87	115
Weight (kg)	450	555
Dimensions (hwd) (mm)	1400x800x740	
Back-up (min) Internal	0	0

Product characteristics may be changed to meet specific customer demands.

## Master DIALOG RT 60kVA-RT 80kVA OPTIONS

DESCRIPTION
Isolation transformer module
Master DIALOG CLEAN (THDi<5%)
Communication software "full" version (see software section p.38)
LED-based remote control panel
LCD-based remote control panel
Retrofit Parallel kit
Extended runtime battery boxes
Battery boxes (empty)
10 year design life batteries

Above options without connecting cables.

LCD remote panel





MODELS	RT 10000	RT 12000	RT 16000	RT 20000
<b>INPUT</b>				
Rated power (kVA)	100	120	160	200
Rated voltage (V)	400 Vac three-phase			
Voltage range	± 20%			
Frequency range	45-65 Hz			
Power factor	0.8 (0.9 in RT CLEAN version)			
Distortion of the current absorbed	30% (5% in RT CLEAN version)			
Soft start	0-100% in 10"			
<b>BYPASS</b>				
Rated current (A)	145	174	232	290
Rated voltage (V)	400 Vac three-phase			
Permitted voltage range	± 15% (selectable from ± 10% to ± 25% from front panel)			
Rated frequency	50/60 Hz (autorange)			
Permitted frequency range	± 2% (selectable from ± 1% to ± 5% from front panel)			
Overload capacity Inx10ms	12		10	
Standard features	BackFeed protection; separate bypass line			
<b>BATTERIES</b>				
Type	Maintenance-free sealed lead-acid			
Maximum recharge current (A)	0,2xC10			
<b>RECTIFIER OUTPUT</b>				
Rated battery voltage	432 Vdc		480 Vdc	
Maintenance voltage	Variable acc. to temperature (-0,5 Vx°C)			
Ripple	<1%			
<b>INVERTER OUTPUT</b>				
Rated power (kVA)	100	120	160	200
Rated voltage (kW)	80	96	128	160
Number of phases	3 + N			
Rated voltage (V)	380/400/415 selectable			
Rated current (A)	145	174	232	290
Regulation of the output voltage	348 - 424 V phase/neutral (from control panel)			
Crest factor (Ipeak/Irms)	3 : 1			
Waveform	Sinewave			
Static stability	± 1%			
Dynammic stability	± 5% in 5ms			
Frequency	same as the input (autorange)			
Overload	125% 150% 200% of the rated current for 10'/1'/'7"			
Frequency stability	± 0,05% on mains failure ± 2% (selectable from ± 1% to ± 5% from front panel) with mains supply present			
Inverter efficiency at rated load	94		95	

Product characteristics may be changed to meet specific customer demands.



MODELS	RT 10000	RT 12000	RT 16000	RT 20000
<b>ENVIRONMENTAL</b>				
Remote signaling	volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)			
Remote controls	EPO and bypass			
Operating temperature	0 - 40 °C			
Relative humidity	95% (non condensing)			
Colour	Light grey RAL 7035			
Noise	54-62 dBA at 1 m			
Protection rating	IP20			
Efficiency	> 93%			
Compliance	Safety EN 50091-1-1 EMC EN 50091-2 Directives 73/23-93/68-89/336 EEC			
Rectifier maximum input current (A)	160	190	250	310
Bypass input current (A)	145	174	232	290
Weight (kg)	650	730	900	1100
Dimensions (hwd) (mm)	1400x1070x740			1800x1420x740
Back-up (min) Internal	0			

Product characteristics may be changed to meet specific customer demands.

## Master DIALOG RT 100kVA-RT 200kVA OPTIONS

DESCRIPTION
Isolation transformer module
Master DIALOG CLEAN (THDi <5%)
Communication software "full" version (see software section p.38)
Communication accessories (see accessories section p.41)
LED-based remote control panel
LCD-based remote control panel
Retrofit Parallel kit
Extended runtime battery boxes
Battery boxes (empty)
10 year design life batteries

Above options without connecting cables.