



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, 10-15-20-30-40-60-80-100-120-160-200 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.

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.

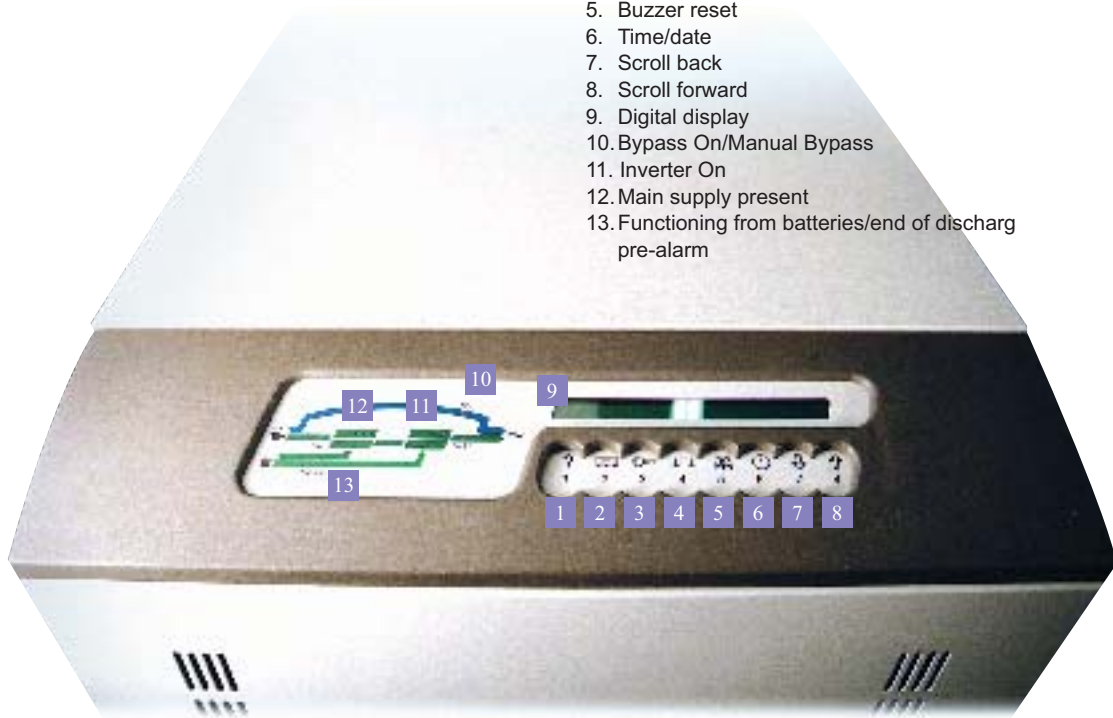
### CHARACTERISTICS

- reliable, filtered, stabilised and regulated sinewave output (double conversion on-line technology VFI according to EN62040-3 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



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



- high level diagnostics: event log with 128 messages, states, measurements and alarms - available from the built-in LCD in several languages
- 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 to power these from two separate sources, without Galvanic isolation (necessary on 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.



LCD remote panel

Digital control

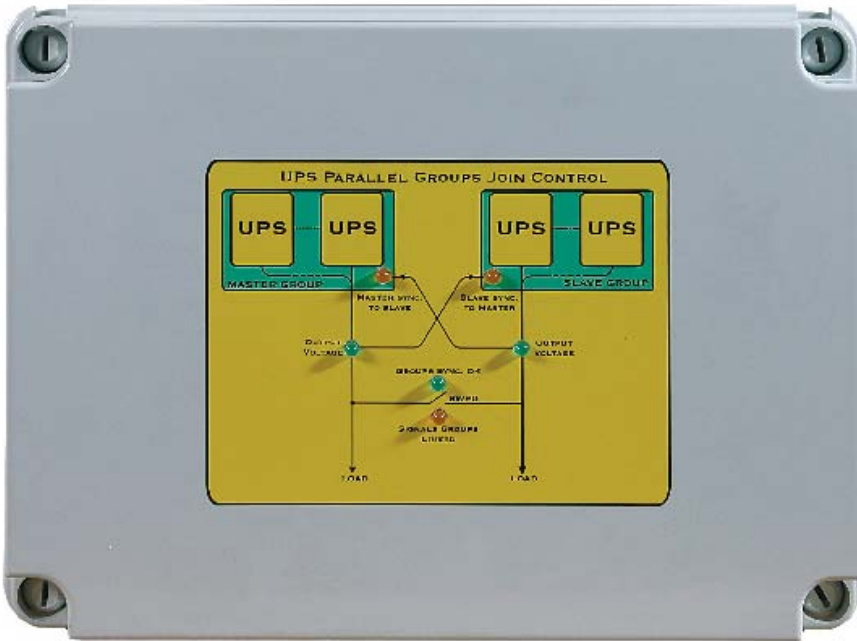


#### ADVANCED COMMUNICATION

- compatible with TeleGuard for remote maintenance (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, NT 4.0, 2000, 2003, Me, XP, 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)
- RS232 serial port
- dry contact relays
- EPO (Emergency Power Off) shutdown input contact
- input for switching to bypass by remote signal
- LCD or LED-based remote control panel
- generator interface: enables desynchronisation of the UPS output from a generator supply which may be subject to phase and frequency variations. The interface also enables more economic use of the battery charger.



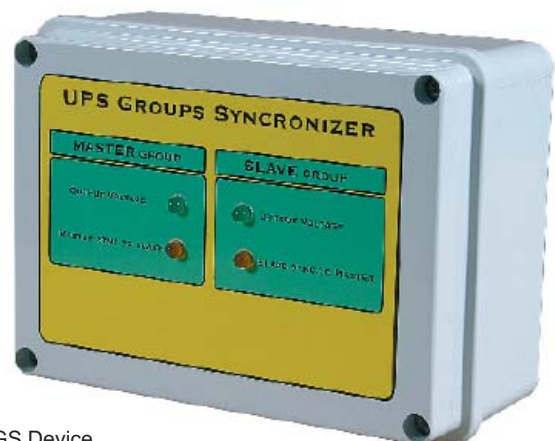
Front view RT series



PSJ Device

#### OPTIONS

- PSJ - Parallel Systems Joiner  
Connects two UPS groups operating in parallel configurations through a power coupling switch. The Slave UPS Group is permanently synchronised to the Master group. Should one of the UPS in one of the parallel groups fail, the PSJ will automatically connect the remaining UPS to the other group via an external bypass.
- UGS - UPS Group Synchronizer  
Ensures that 2 or more UPS groups remain synchronised even during a power failure. The UGS also enables a Riello UPS to be synchronised with an independent power source, even of a different power rating. The UGS is often used with the Parallel Systems Joiner (PSJ).



UGS Device



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	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 I <sub>n</sub> x10ms	18	14	12	14
Standard features	BackFeed protection; separate bypass line			
<b>BATTERIES</b>				
Type	Maintenance-free sealed lead-acid			
Maximum recharge current (A)	0,2xC10			
<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)	8	10	15	20
Rated voltage (kW)	6.4	8	12	16
Number of phases	1			
Rated voltage (V)	230 single-phase			
Rated current (A)	35	43	65	87
Regulation of the output voltage	220 ÷ 244 V phase/neutral (from control panel)			
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	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 control panel) with mains supply present			
Inverter efficiency at rated load	92		93	

UPS three-phase/single-phase: on bypass the UPS switches the load (single-phase) to phase one of the input, and therefore the cables and input protection must be capable of supplying the fully rated single-phase output.

Product characteristics can be customised to meet client specifications.



MODELS	RM 800	RM 1000	RM 1500	RM 2000
ENVIRONMENTAL				
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 1m		53+60 dBA at 1m	
Protection rating	IP20			
Efficiency	>91%		>92%	
Compliance	Safety EN 62040-1 EMC EN 62040-2 Directives 73/23-93/68-89/336 EEC EN 62040-3			
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 can be customised to meet client specifications.

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

DESCRIPTION
Isolation transformer module
Master DIALOG CLEAN (THDi<8%)
Communication software "full" version (see software section page 42)
Network adapter module on slot (see Netman101 page 45)
JBUS/MODBUS converter module (see Multicom 302 page 46)
Multiplexer module (see Multicom 352 page 46)
UPS Group Synchroniser (see UGS page 27)
No-break connection device (see PSJ page 27)
Interface for generator
LED remote status panel panel
LCD based remote control panel
Closed loop parallel kit option (to be ordered with the unit)
Empty battery cabinets for prolonged runtime

The above options are supplied 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 auto sensing				
Power factor	0.8 (0.9 in RT CLEAN version)				
Distortion current absorbed	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 auto sensing				
Permitted frequency range	± 2% (selectable from ± 1% to ± 5% from front panel)				
Overload capacity 1nx10ms	14	15	14	15	14
Standard features	BackFeed protection; separate bypass line				
<b>BATTERIES</b>					
Type	Maintenance-free sealed lead-acid				
Max 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)	400				
Rated current (A)	14	22	29	43	58
Regulation output voltage	348 ÷ 424 V Phase/neutral (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 can be customised to meet client specifications.



MODELS	RT 1000	RT 1500	RT 2000	RT 3000	RT 4000
ENVIRONMENTAL					
Remote signaling	volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)				
Remote controls	ESD and Bypass				
Operating temperature	0 ÷ 40 °C				
Relative humidity	95% (non condensing)				
Colour	Light grey RAL 7035				
Noise	48+54 dBA at 1m		53+60 dBA at 1m		
Protection rating	IP20				
Efficiency	> 90%		> 91%		> 92%
Compliance	Safety EN 62040-1 EMC EN 62040-2 Directives 73/23-93/68-89/336 EEC EN 62040-3				
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 can be customised to meet client specifications.

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

DESCRIPTION
Isolation transformer module
Master DIALOG CLEAN (THDi<8%)
Communication software "full" version (see software section page 42)
Network adapter module on slot (see Netman101 page 45)
JBUS/MODBUS converter module (see Multicom 302 page 46)
Multiplexer module (see Multicom 352 page 46)
UPS Group Synchroniser (see UGS page 27)
No-break connection device (see PSJ page 27)
Interface for generator
LED remote status panel panel
LCD based remote control panel
Closed loop parallel kit option (to be ordered with the unit)
Empty battery cabinets for prolonged runtime

The above options are supplied without connecting 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 auto sensing	
Rated frequency	0.8 (0.9 in RT CLEAN version)	
Distortion of the current absorbed	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 auto sensing	
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)	400	
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 can be customised to meet client specifications.



MODELS	RT 6000	RT 8000
ENVIRONMENTAL		
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 1m	
Protection rating	IP20	
Efficiency	> 92%	
Compliance	Safety EN 62040-1 EMC EN 62040-2 Directives 73/23-93/68-89/336 EEC EN 62040-3	
Rectifier maximum input current (A)	100	125
Bypass input current (A)	87	115
Weight (kg)	450	555
Dimensions (hwd) (mm)	1400x800x740	
Back-up (min)	0	0

Product characteristics can be customised to meet client specifications.

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

DESCRIPTION
Isolation transformer module
Master DIALOG CLEAN (THDi<5%)
Communication software "full" version (see software section page 42)
Network adapter module on slot (see Netman101 page 45)
JBUS/MODBUS converter module (see Multicom 302 page 46)
Multiplexer module (see Multicom 352 page 46)
UPS Group Synchroniser (see UGS page 27)
No-break connection device (see PSJ page 27)
Interface for generator
LED remote status panel panel
LCD based remote control panel
Closed loop parallel kit option (to be ordered with the unit)
Empty battery cabinets for prolonged runtime

The above options are supplied without connecting cables.



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	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 auto sensing			
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)	400			
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 can be customised to meet client specifications.



MODELS	RT 10000	RT 12000	RT 16000	RT 20000
ENVIRONMENTAL				
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 1m			
Protection rating	IP20			
Efficiency	> 93%			
Compliance	Safety EN 62040-1 EMC EN 62040-2 Directives 73/23-93/68-89/336 EEC EN 62040-3			
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)	0			

Product characteristics can be customised to meet client specifications.

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

DESCRIPTION
Isolation transformer module
Master DIALOG CLEAN (THDi<5%)
Communication software "full" version (see software section page 42)
Network adapter module on slot (see Netman101 page 45)
JBUS/MODBUS converter module (see Multicom 302 page 46)
Multiplexer module (see Multicom 352 page 46)
UPS Group Synchroniser (see UGS page 27)
No-break connection device (see PSJ page 27)
Interface for generator
LED remote status panel panel
LCD based remote control panel
Closed loop parallel kit option (to be ordered with the unit)
Empty battery cabinets for prolonged runtime

The above options are supplied without connecting cables.

**For more information contact Riello Galatrek Ltd:**

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