

3-phase modular UPS

RD5000 THOR II T50 series

50-600 kVA

With the RD5000 THOR II T50 series, ReDeal offers a modern online double conversion ups with 3-phase input & output in 3-level inverter technology, built with powerful 50 kW power modules.

All operating elements, interfaces and power modules are accessible from the front for easy commissioning, operation and maintenance.

Intelligent battery management with configurable charging mode ensures long battery life. Furthermore, battery tests are individually configurable.

With an efficiency of over 96 % in normal operation, it is one of the most effective and economical UPS systems on the market and thus ideally suited for saving money.



■ Details views



Above 3U power module,
bottom IO/parallel control panel



RD5000 THOR II T50 series, 200 kVA equipped with
two 50 kVA power modules

Options for extended communication and highest availability:

- SNMP/web for monitoring in network environments
- Additional batteries to increase backup time to several hours
- External manual bypass for scheduled UPS maintenance or UPS replacement without shutdown
- Special designs available for industrial applications (connections / special enclosures, etc.)

■ Convenient service concept

Modular and easy to maintain

- Easily exchangeable power modules
- Fan change from the front
- Filter change from the front
- User-friendly multilingual LCD control panel
- Firmware upgrade directly on LCD via USB stick or SD card
- Superior MTBF & MTTR
- Remote monitoring and connectivity options



■ Safety first

Redundant power modules

The RD5000 THOR II T50 series can be equipped with 50 kVA modules. The N+1 redundancy ensures the simplest service and extensive fail-safety. If one of the modules is out of service, but the remaining modules are within the total capacity of the load, the UPS continues to operate without interruption.

In addition to the power supply, the fans are also redundant so that, for example, if one fan fails, the system does not come to a standstill but can still supply up to 50% of the load.

Power Walk In / Inter Power Walk In

Power Walk In:

This function ensures a progressive rectifier start when the power supply is restored. This means that the power modules are switched on again one after the other, which prevents switch-on peaks in your power grid.

Inter Power Walk In:

This is a similar function, but several UPSs connected in parallel are restarted sequentially when the power returns.

Low initial and operating costs:

- Scalable performance and autonomy time = Less initial investment; investment as you grow.
- High and constant efficiency of up to 96 % and over 99% in Eco mode.
- Intelligent sleep mode saves energy: modules in sleep mode remain in inverter mode but with output switched off and are activated when needed without switching time.
- Modules are hot-swappable and fans can be replaced from the front.
- Front access for serviceability and maintenance

Clear connections

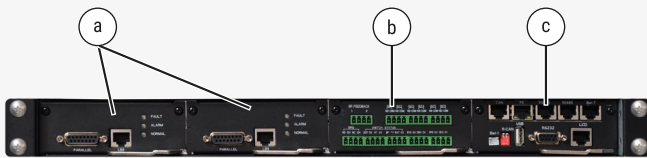
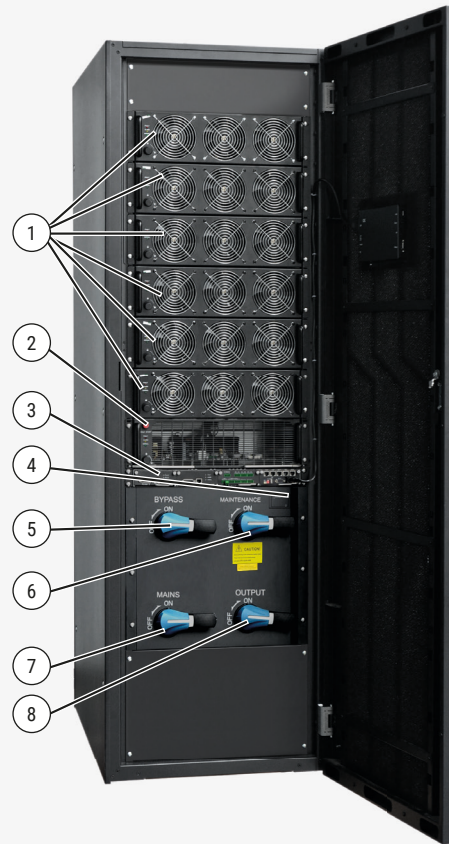
RD5000 THOR II T50 series (Example 300 kVA system cabinet equipped with six power modules)

Picture right:

- 1.) Power modules
- 2.) Bypass module
- 3.) Control unit/communication
- 4.) SNMP (Intelligent) Slot
- 5.) Switch bypass
- 6.) Switch maintenance
- 7.) Switch Input
- 8.) Switch Output

Picture below (Control unit/communication):

- a) Parallel-/LBS connection with LED-indicator (2 x)
- b) Dry contacts
- c) Network-, sensor- und communication connections



Parallel connectable

RD5000 THOR T50 series in parallel operation

Up to 6 RD5000 THOR II T50 series units (≤ 600 kVA) systems can be operated in parallel. Such a group of UPSs connected in parallel behaves like a large UPS system, but offers the advantage of higher reliability and redundancy.

Battery groups can be connected separately or in parallel, so that either a separate battery for each UPS or a common battery for all UPSs is available.



Characteristics

- UPS classification VFI-SS-111 according to IEC 62040-3
- VFI sine wave output can be switched to ECO High Efficiency mode
- UPS software for all common OS
- Incl. RS232 / USB and expansion slot
- Integrated Emergency Power Off (EPO)
- 12 months warranty

Special features

- Excellent power factor of 1.0
- Temperature sensor for temperature-controlled charging voltage to increase battery life
- Redundant parallel control unit
- Power supply modules and fans redundant
- Outstanding efficiency of 96 % in normal operation and 99 % in ECO mode
- Dry-In/Dry-Out interface as standard

Specifications

RD5000 THOR II T50 series		150 kVA	200 kVA	300 kVA	400 kVA	500 kVA	600 kVA	
Power	Nominal power in kVA/kW	50-150	50-200	50-300	50-400	50-500	50-600	
	Power per module	50 kVA/kW						
	Number of modules max.	3	4	6	8	10	12	
Backup time		on request / depending on the battery configuration						
Technology	Online double conversion	n + x technology scalable / VFI-SS-111 according to IEC 62040-3						
Phases	Input / Output	3-phase / 3-phase						
Input	Configurable nominal voltage	380/400/415 VAC						
	Input voltage range	305~485 VAC						
	Input frequency range	40Hz-70Hz						
Circuit feedback	THDI	≤3% (100% non-linear load)						
Output	Output voltage	380/400/415VAC						
	Voltage regulation	±1%						
	Frequency range	normal operation	±1% / ±2% / ±4% / ±5% / ±10% der Nennfrequenz (optional)					
		battery operation	(50/60 ±0.1) Hz					
	Transfer time	none						
	Overload inverter	105% < load ≤ 110% for 60 min, 110% < load ≤ 125% for 10 min, 125% < load ≤ 150% for 1 min, then switching to bypass						
Voltage form	sinusoidal							
Efficiency	Normal-Mode / ECO- Mode	max. 96 % / 99 %						
Battery	Type	maintenance free lead-acid battery						
	Service life expectancy	10-12 Years						
	DC nominal voltage	±180V/192V/±204V/±216V/±228V/±240/±252/±264/±276/±288/±300VDC (30/32/34/36/38/40/42/44/46/48/50 blocks adjustable)						
	Maximum charging current	20 A per module (charging current is set according to the battery bank capacity)						
	Time to recharge	depending on battery capacity						
Communication	Interfaces	CAN, RS232, RS485, LBS, Parallel, dry contacts, SNMP-card (optional)						
	Display	multilingual 7"-LC-Display						
Dimensions / weight	UPS (HxWxD in mm)	1200x600x 850	1600x600x 850	2000x600x 850	2000x1200x 850	2000x1400x 850		
	UPS w/o modules in kg	180	200	260	450	480	550	
	Battery cabinet	depending on battery capacity						
	UPS modules (HxWxD in mm)	130 (3U) x 440 x 620						
	UPS modul in kg	34						
	Protection class	IP21						
Connections	Input	fixed connection on terminals						
	Output	fixed connection on terminals						
Environmental conditions	Temperature	[0 - 40 °C], Recommended: + 15 °C...+ 25°C						
	Humidity	0-95 % RH @ 0- 40°C (non-condensing)						
	Operating noise	< 70 dB						
Protection / Standards	Safety EMC Service	IEC 62040-1 IEC 62040-2 IEC 62040-3						
	Approvals	CE						