

3-phase UPS

THOR RM 10-30 kVA

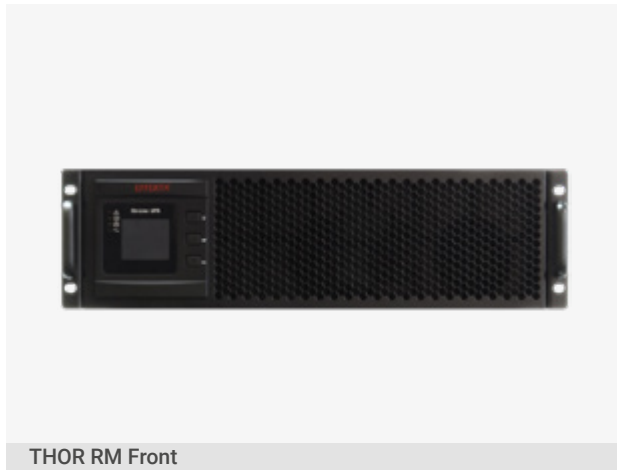
The THOR RM is currently the most compact online double conversion UPS system and can be used in the smallest space. It is suitable for parallel redundant operation and can be extended to extremely long autonomy times using external battery packs.

With its rack design, it can be used as a plug-in device to set up an individually designed UPS system in all 19-inch network cabinets.

With an efficiency of over 95% in normal operation, it is one of the most effective and economical 3-phase UPS systems on the market and is therefore ideally suited to saving money.



■ Detail views



Options for advanced communication and highest availability:

- SNMP / web card for monitoring in network environments
- Additional battery modules to increase the autonomy time to several hours
- Special designs available for industrial applications (connections / special housings, etc.)

■ Suitable for 19" cabinet installation

THOR RM for 19" cabinet installation

Optionally available 19" mounting rails enable problem-free installation in a standard 19" cabinet system.

All components from UPS to batteries to connection unit each require 3 height units (U).



Battery packs

With additional battery packs, the autonomy time of the UPS system can be extended almost indefinitely.

Like the UPS, the battery packs can of course be integrated into 19" cabinets.



■ Professional Accessories

Connection Unit (for standard design)



The UPS connection unit with bypass function is used to protect the UPS modules and to isolate the UPS for maintenance work.



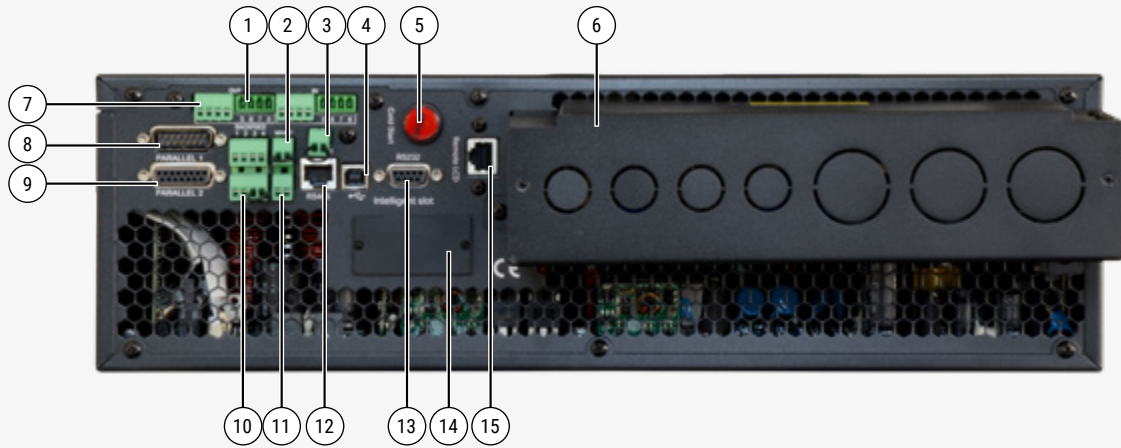
External Remote Display (Option)

With the remote display, the entire UPS system can be configured, monitored and controlled via a cable supplied. All relevant data are clearly displayed on the backlit 7" LCD display.



Connection overview

THOR RM rear panel with connectors



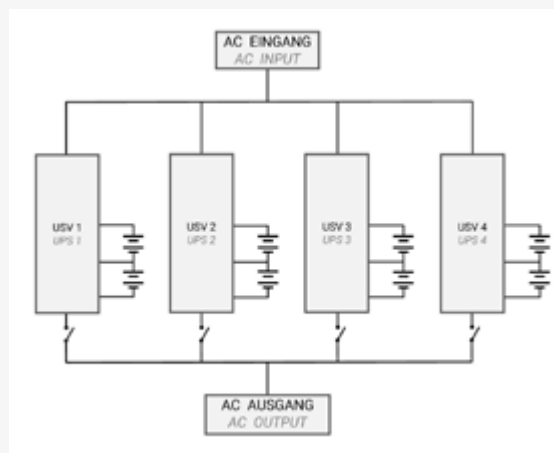
- 1) Connection for back feed protection
- 2) Bypass switch (connection unit) signalling contact
- 3) Output switch signalling contact
- 4) USB port
- 5) Cold start button
- 6) Terminal block for input, output and battery
- 7) Dry contact connection
- 8) Parallel port 1
- 9) Parallel port 2
- 10) EPO connector
- 11) Temperature sensor connector (for NTC)
- 12) RS485 connection
- 13) RS232 connection
- 14) Smart slot (SNMP card)
- 15) Connection for external 7" display

Parallel option

THOR RM in parallel operation

Up to 4 THOR RM devices 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, which means that the system can be operated with a separate battery per UPS module or with a common battery.



Characteristics

- UPS classification VFI-SS-111 according to IEC 62040-3
- VFI sine wave output
- UPS software for all common OS
- Incl. RS232 / USB and expansion slot
- Integrated Emergency Power Off (EPO)
- Rack design: Can be used as a 19" rack
- 24 months warranty

Special features

- Excellent power factor of 1.0
- Parallel redundant operation of up to 4 systems possible
- Cold start function (start in battery operation)
- Outstanding efficiency of over 95.5%
- Dry-In/Dry-Out interface as standard
- Multi colour display

Specifications

THOR RM		10 kVA	20 kVA	30 kVA	
Power	Nominal power in VA/W	10000/10000	20000/20000	30000/30000	
	Autonomy time 100/50% Load (cos. phi 0.8)	As standard in min.	15/32	9/20	
Technology	Quantity battery packs	2	4	4	
	Higher autonomy times	scalable with additional battery packs			
	Online double conversion	VFI-SS-111 according to IEC 62040-3			
	Phase	Input / Output 3-phase/ 3-phase			
Input	Nominal voltage configurable	380/400/415VAC			
	Input voltage range	305~485Vac			
	Input frequency range	50/60 Hz (auto-detect)			
	Distortion (THDi)	≤3% @ linear load			
Output	Output voltage	380/400/415VAC			
	Voltage regulation	±1%			
	Power factor	1.0			
	Frequency range	1. Mains operation: synchronized with input when Input frequency >±10% (±1%/±2%/±4%/±5% optional) 2. Battery operation :50/60*(1±0.02%) Hz			
	Transfer time	None			
	Overload Capability (Line Mode)	≤ 110% for 60 min., ≤ 125% for 10 min., ≤ 150% for 1 min.			
	Voltage form	Sine wave			
	Distortion (THD)	≤2% @ linear load ≤4% @ non-linear load			
	Efficiency	Normal mode	max. 95.5 %		
		Battery	Type	Maintenance free lead-acid battery	
Life time	5 years, optional 10 years				
Nominal DC-voltage	480VDC, (optional 360 - 600VDC)				
Charging current	max. 18A (adjustable depending on the battery capacity)				
Communication	Recharging time	approx. 3 hours to 90% capacity depending on configuration			
	Interface	RS232, USB, RS485, dry contacts, REPO, parallel and backfeed port			
	Slot for further communication cards	for optional SNMP-card			
Dimensions / Weight	Display	LCD-Display and LEDs			
	Dimensions UPS (HxWxD in mm)	3HE x 481 x 808,5			
	Dimensions of battery extension (H x W x D in mm)	3U x 481 x 750			
	Weight UPS in kg	25	27		
Safety / Enclosure	Weight battery pack in kg	2x 77	4x 77		
	Protection	IP20			
Terminals	Input	Fixed connection on terminals			
	Output	Fixed connection on terminals			
Environmental conditions	Temperature	0°C – 40°C, 20°C recommended			
	Humidity	0-90 % RH @ 0- 40°C (non-condensing)			
	Acoustic Noise	< 55 dB (A)@1m			
Safety / Enclosure	Safety	EN 62040-1			
	EMC	EN 62040-2 Class C3			
	Certifications	CE			