



Smart Ferro Resonant Series

1- Introduction of Product

Faratel Smart Ferroresonant UPS series are designed based on Ferroresonant technology .

Faratel SFR series are equipped with smart micro-processing system to check for proper operation of UPS and find probable errors in any part of the UPS.

laboratory SFR UPS series are designed for computer systems, sensitive measurement instruments, precision instruments, medical devices, telecommunication or any other power sensitive devices.

1-1- Advanced Features

Features	Benefits
Equipped with intelligent microcontroller	AC conditions are monitored precisely and by complex controlling-protecting algorithms to certify UPS proper operation
Ability to remove EMI and RFI noises	<ul style="list-style-type: none"> ▶ Decrease common mode noises less than 50db ▶ Designed for medical devices, telecommunication or any other power sensitive devices ▶ Decrease the frequency conflicts with other equipments ▶ Prevent losses in wires and UPS's loads
System modulated	Better and easy servicing
Power factor correction	<p>High power factor and low input current harmonic distortion. This helps:</p> <ul style="list-style-type: none"> ▶ No need for installation extra equipment extra (cables, transformers, generators) ▶ Reducing frequency interference with other equipment thanks to input current low THD ▶ Minimize neutral current in balanced 3 phase systems because of eliminating the input current harmonic
Equipped with smart RS232	<ul style="list-style-type: none"> ▶ Ability to interface with UPSwing Pro software for controlling and monitoring UPS, auto saving open files and shutdown OS and UPS in critical events ▶ Making report from different UPS events ▶ Shut down all servers and saving all information even in critical situations

Features	Benefits
<ul style="list-style-type: none"> ▶ Battery management ▶ Equipped with switching charger 	<p>Thanks to algorithms used in battery charging and discharging:</p> <ul style="list-style-type: none"> ▶ Battery lifetime is extended ▶ Cold start ▶ Includes test button for checking if UPS works properly in lack of AC line voltage

1-2- Protection Systems

- Lightning, spike and surge protection
- Spike protection and reduction in scale of 2000V:1
- Back feed protection on battery mode
- Protection of UPS loads against two phased input AC line
- Protection against out of range output voltage variations
- Protection against input voltage and frequency variations
- Overheat protection
- Common mode noise protection
- Output short circuit and overload protection
- Reversed battery connection protection (with external battery connector)
- Charger short circuit protection
- Battery terminal short circuit protection
- Protection against over-discharge
- Protection against out of range battery charger's over voltage
- Tel/Fax/Modem/Network surge suppression

2- UPS Block Diagram

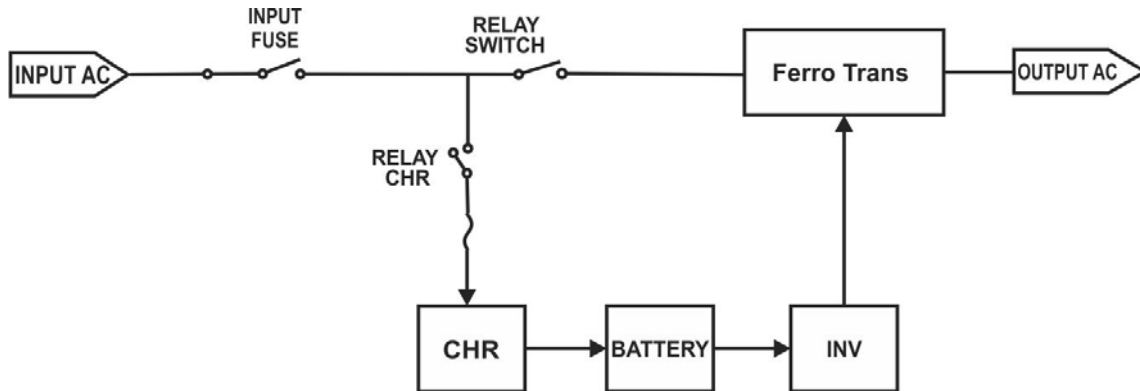


Figure 1: Block diagram of SFR3000-DT

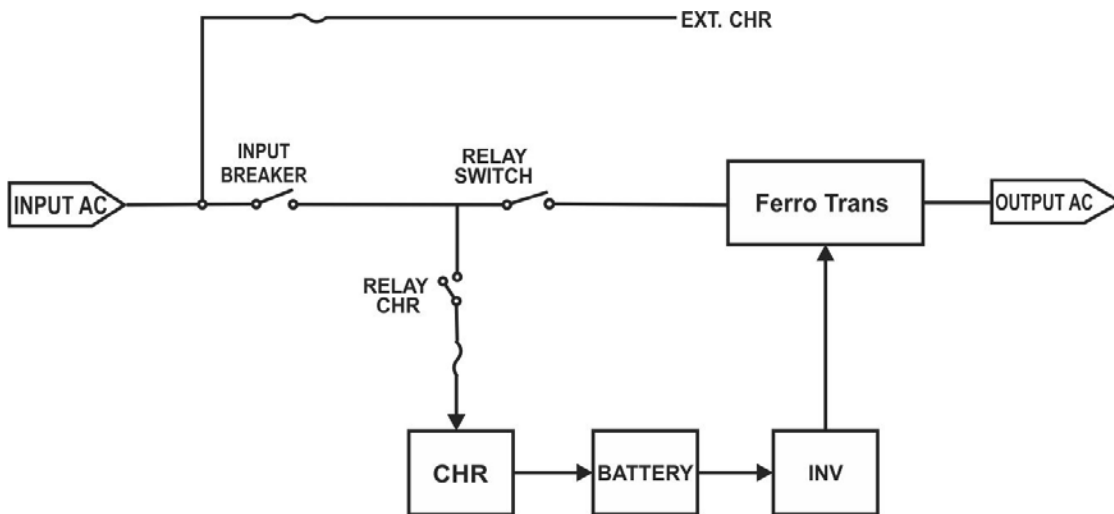


Figure 2: Block diagram of SFR5000-DT

3- Front Panel View

- ① TEST/MUTE Button
- ② OUTPUT Indicator
- ③ AC IN Indicator
- ④ Charger Indicator
- ⑤ Low Battery Indicator
- ⑥ Inverter Indicator
- ⑦ Over Load Indicator
- ⑧ Fault Indicator
- ⑨ Load Level Indicators
- ⑩ Battery Level Indicators

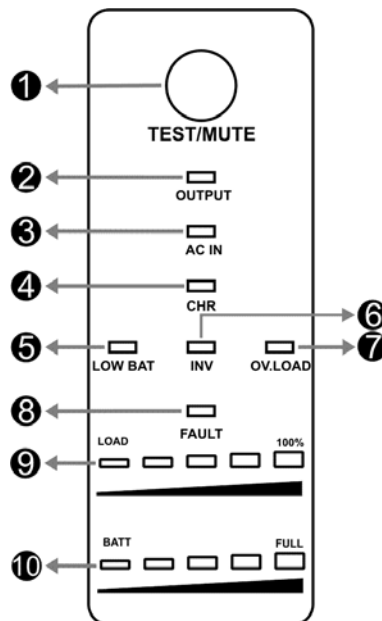


Figure 3: Front panel of SFR-UPS series

4- Rear Panel View

- | | |
|--|--|
| <ul style="list-style-type: none"> ❶ Input AC Line Cable/Terminal ❷ Input Fuse/ Breaker ❸ Earth Connection Screw ❹ Site Wiring Fault Indicator ❺ Output Receptacles/Terminal ❻ Special Fuse for Output Receptacles ❼ External Battery Connector ❽ Battery Fuse | <ul style="list-style-type: none"> ❾ Receptacle for Charger of External Battery ❿ Input Fuse for Charger of External Battery ⓫ Smart RS232 Port ⓬ Intelligent Card Slot ⓭ Modem/Network Surge Protection (RJ45/11 connection) ⓮ Fans ⓯ On/Off Breaker ⓰ Terminal Cables Keeper |
|--|--|

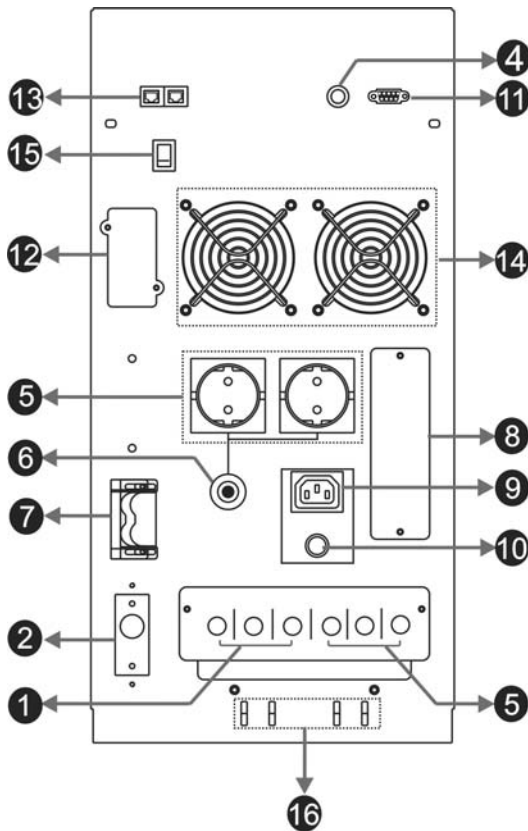


Figure 5: Rear panel of SFR5000-DT

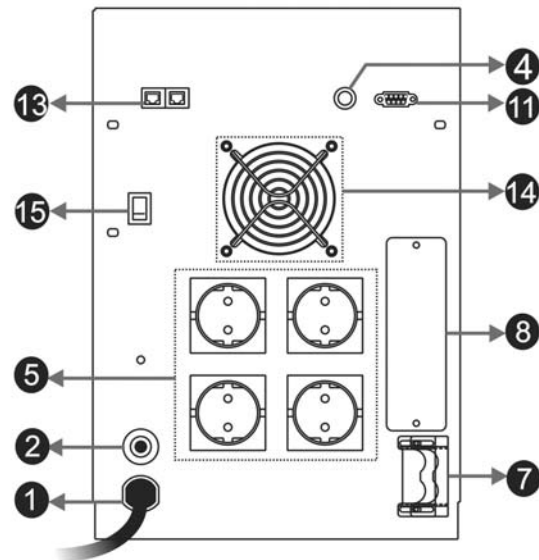


Figure 4: Rear panel of SFR3000-DT

5- Technical Specification Table

Model		SFR3000-DT	SFR5000-DT
Technology		Ferroresonant	
Power		3000VA - 1800Watt	5000VA - 3000Watt
Input	Voltage	170~260VA	
	Max. current	20A	30A
	Frequency	48.5Hz~52.5HZ	
	Phase	Single phase	
	Power factor	0.9	
Output	Voltage	220 VAC±2.5% pure sine wave	
	Current	13.6A	22.7A
	Frequency	AC mode: synch with input Battery mode: 50Hz±0.5%	
	Phase	Single phase	
	Nominal power factor	0.6	
	THD	At linear load <4%	
	Overload capacity	110%~150% Of nominal power for 3 minutes	
Battery	Type	Sealed Lead acid batteries with free maintenance	
	Voltage	48VDC	
	Internal battery	Has not	
	Recharge time	10 hours after 90% discharge	
	External battery	Equipped with external battery connector	
Efficiency		In normal mode > 85%	
Transfer time		0msec	
Environment	Audible noise		Less than 50dB at 1 meter from UPS
	Ambient operation	Temperature	0~40°C
		Humidity	0~95% (Non-condensing)
		Altitude	1000 Meters max. elevation (based on IEC62040)

6- Physical Specification Table

Physical specification	Model	SFR3000-DT	SFR5000-DT
	Net dimension [W*D*H] (mm)	250*514*374	250*838*575
	Shipping dimension [W*D*H] (mm)	325*590*440	370*1000*760
	Net weight (Kg)	48.7	97.3
	Shipping weight (Kg)	50.2	112

8- How to Contact Faratel

8-1- Central Sales Department

Address: Faratel Bldg., No. 21, Kandovan Alley (Opposite of Nejatolahi St.), Enqelab St., Tehran, Iran

Postal Code: 1131834914

Telephone: (+98 21) 6670 0001 up to 5

Fax: (+98 21) 6670 9493

Email: sales@faratel.com

URL: <http://www.faratel.com>

8-2- Central Customer Service

Address: Faratel, Shahid Abdolrahimi St., 17 Shahrivar St., Sanay-e Felezi St., Fifth Kilometer of old Karaj Rd., Tehran, Iran

Postal Code: 1378763511

Telephone: (+98 21) 6680 9495 up to 7

Fax: (+98 21) 6680 5525

Email: support@faratel.com

URL: <http://www.faratel.com/support/>

In order to find the nearest authorized representatives of Customer Service in Iran please refer to the above URL.