



Cadillac Series

1- Introduction of Product

Faratel Cadillac UPS series are designed based on On-line Double Conversion technology and can provide pure sine wave in output, independent from input AC line even in power failure.

Faratel Cadillac series are equipped with full digital and advanced DSP controlling system to check for proper operation of UPS and find probable errors in any part of the UPS.

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

1-1- Advanced Features

Features	Benefits
<ul style="list-style-type: none"> ▶ Equipped with high reliability advanced DSP microcontroller Fully digital controlled 	DSP is about 200 times faster than standard microprocessors that causes to use all the sources in optimum level and to observe carefully the failure conditions
Works in frequency range of $\pm 3\text{Hz}$ or $\pm 5\text{Hz}$	Ability to work with Generator
Equipped with Smart reboot system	To restart UPS in abnormal cases such as computers hanging or any errors in Com port or USB port
Very low output voltage variations about 1% (Good regulation ability)	Output voltage is independent from input variations and loads level, so sensitive devices can continue their activities without any problem
<ul style="list-style-type: none"> ▶ Ability to remove EMI and RFI noises ▶ Capability of using isolation transformer on the output 	<ul style="list-style-type: none"> ▶ Decrease common mode noises less than 50db ▶ Suitable for medical devices, telecommunication or any other power sensitive devices ▶ Very low potential difference between output "Earth" and "Neutral" (In the case of using Isolation transformer) ▶ Decreases Frequency conflict with other devices ▶ Prevents losses in wiring system and UPS loads
Power Factor Correction	High power factor and low input current harmonic distortion. This helps: <ul style="list-style-type: none"> ▶ To consume low reactive power which cause decrease of input current ▶ No need for installation of extra equipment (cables, transformers, generators) ▶ Reducing frequency interference with other equipments as a result of reduction of THD input current
System modulated	Better and easy servicing

Features	Benefits
IGBT technology or transformerless design	Compact design, small dimensions, low weight
Equipped with Smart RS232 and USB Ports	<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 ▶ Makes report from different events ▶ Shut Down all servers and saving all information even in critical events
<ul style="list-style-type: none"> ▶ Battery management ▶ Equipped with switching charger 	Using special algorithms for charging and discharging batteries which cause the following results: <ul style="list-style-type: none"> ▶ battery lifetime is extended ▶ AC current ripple is at its minimum level during the discharge period ▶ Automatically battery charging in UPS standby mode ▶ Cold start ▶ Includes test button for checking if UPS works properly in lack of AC line voltage ▶ Indicating battery level ▶ Load independent charging voltage ▶ Equipped with external battery connector to prolong backup time
Equipped with sealed lead acid batteries	<ul style="list-style-type: none"> ▶ Maintenance Free
Ability to bypass manually	In order to service the UPS without turning the load off (even the moment), if you use the manual Bypass panel
Ability to work in single phase or three phase	<ul style="list-style-type: none"> ▶ Ability to use in different input power condition and optimal use of batteries
Fan speed control	<ul style="list-style-type: none"> ▶ Energy saving, low acoustic noise, longer fan life ▶ Detects fan failure

Features	Benefits
On-line Double Conversion technology	<ul style="list-style-type: none"> ▶ Output voltages and frequency independent from inputs ▶ UPS output voltage is pure sine wave same as ideal main source and UPS output total harmonic distortion is very low
Temperature management	UPS measures the temperature of different internal parts, and calculates semi-conductor junctions' temperature, that prevents overheating
Overload time management	UPS continues its online operation for a certain period during overload condition and warns the user
High efficiency	<ul style="list-style-type: none"> ▶ Low power consumption ▶ Decreases cost ▶ Low thermal losses that increase the life time of UPS
LCD indicator	<ul style="list-style-type: none"> ▶ User friendly ▶ Ability of monitoring different warnings and errors in text ▶ Monitoring different input and output parameters ▶ Monitoring power consumption and battery level in all conditions ▶
Possibility of placing UPS on battery cabinet without power rack	<ul style="list-style-type: none"> ▶ Optimum use of space suitable for data center systems ▶ No need to power rack and so, reducing cost

1-2- Protection Systems

Protection of UPS loads against:

- Lightning, spike and surge protection (Only in the case of using standard Earth)
- Protect UPS loads against two phased input AC line (Only in the case of using standard Earth)
- Protection against out of range output voltage variations
- Output short circuit and overload protection
- Protection against input voltage and frequency variations
- Ability to protect against high impedance of input AC line
- Overheat protection
- Common mode noise* protection
- Reversed battery connection protection
- Charger short circuit protection
- Protection against over-discharge
- Battery terminal short circuit protection
- Protection against out of range battery charger's over voltage
- Protect against output and input conjunction

1-Common Mode & Normal Mode

2- UPS Block Diagram

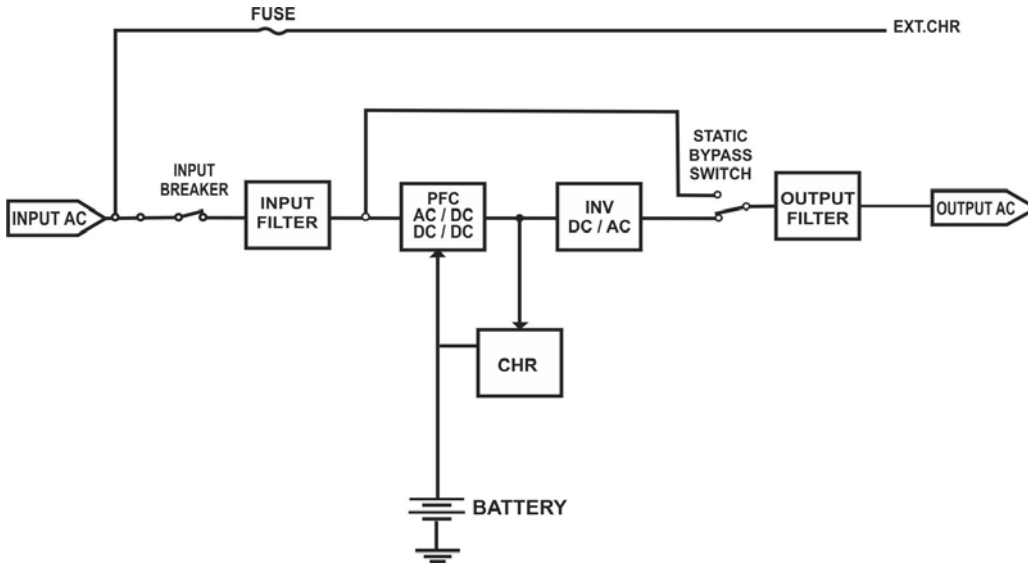


Figure 1: Block diagram of single phase Cadillac UPS series

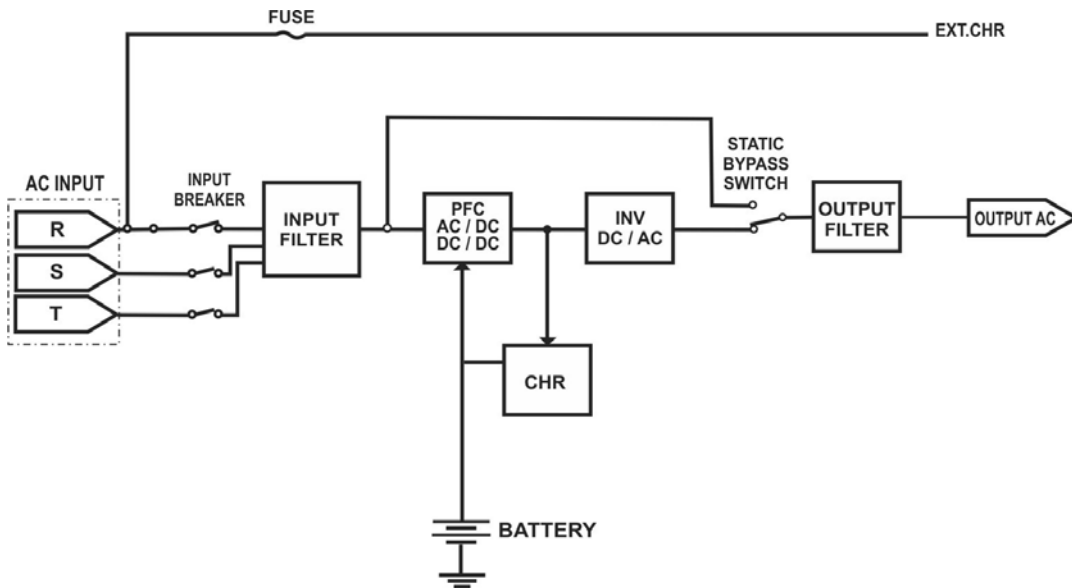


Figure 2: Block diagram of three-phase input Cadillac UPS series

3- Front Panel View

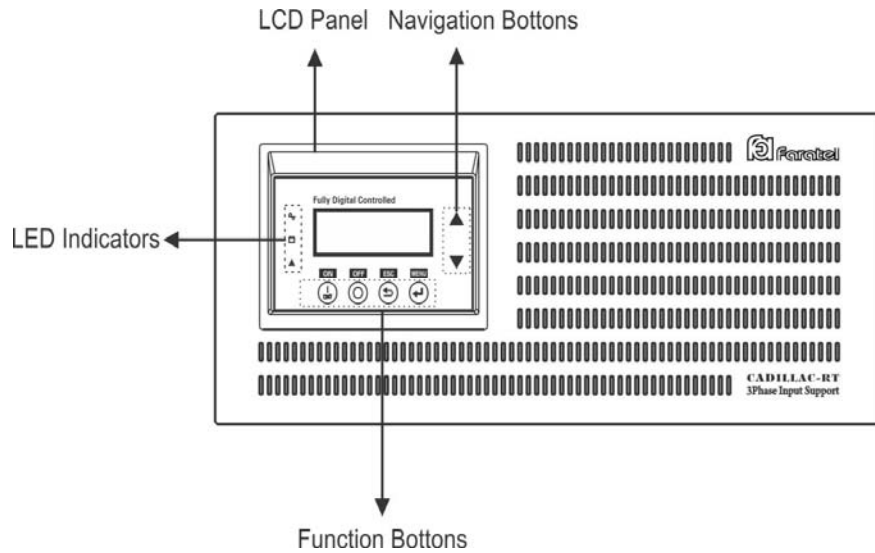


Figure 3: LCD panel of Cadillac UPS series

4- Rear Panel View

- | | |
|---------------------------|--|
| ① Input AC Line Terminal | ⑨ Fans |
| ② Output Terminal | ⑩ External Battery Connector |
| ③ Earth Junction | ⑪ Receptacle for Battery Cabinet Charger |
| ④ Bypass Switch Connector | ⑫ Breaker Fuse For Battery Cabinet Charger |
| ⑤ Input Breaker | ⑬ EPO Port (Some Models) |
| ⑥ Intelligent Card Slot* | ⑭ ITR Connector (Some Models) |
| ⑦ Smart RS232 Port | |
| ⑧ Smart USB Port | |

*UPS Card management Must be ordered separately

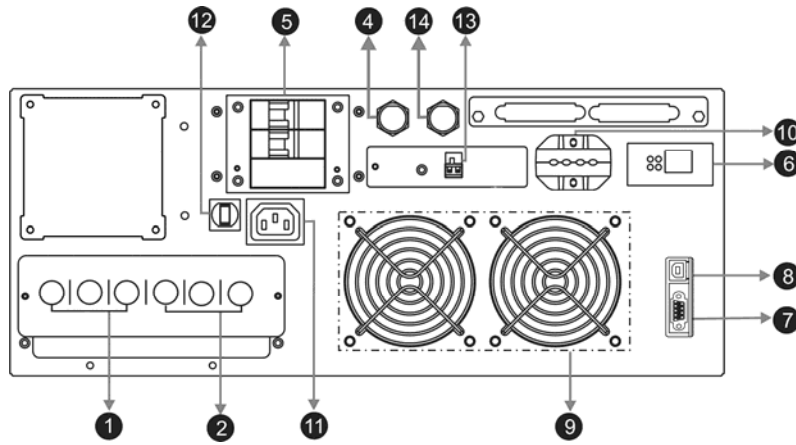


Figure 4: Rear panel of CAD10KX1- RT4U

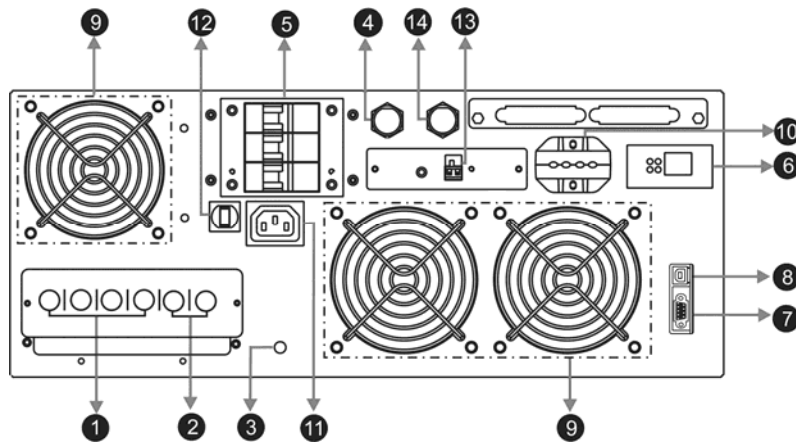


Figure 5: Rear panel of CAD10KX3-RT4U

5- Technical Specification Table

Model		CAD10KX1-RT4U	CAD10KX3-RT4U	
Technology		On-Line Double Conversion		
Power		10000VA - 7000Watt		
Input	Voltage	170-270VAC		
	Max. current	50A	Single Phase: 50A Three Phase: 25A	
	Frequency	50±3Hz or ±5Hz		
	Phase	Single phase (1Ph+N+PE)	Single phase (1Ph+N+PE) Three phase (3Ph+N+PE)	
	Power factor	Full load: >99%	Three phase full load: >94% Single phase full load: >99%	
Output	Voltage	220VAC±1% Pure sine wave		
	Current	45.4A at non-linear full load		
	Frequency	In AC mode:50±3Hz or ±5Hz / In battery mode: 50±0.01Hz		
	Phase	Single phase		
	Nominal power factor	0.7		
	THD	<2% at linear load / <5% at non-linear load		
	Overload capacity	Up to 125% of nominal power for 10 seconds 150% of nominal power for 0.4 seconds		
	Transfer time	AC line to bypass and vice versa	0 ms	
AC line to backup and vice versa		0 ms		
Battery	Type	Sealed lead acid batteries with free maintenance		
	Voltage	240VDC		
	Recharge time	10 hours for 90% discharge		
	External battery	Equipped with external battery connector		
Efficiency		In normal mode:<92%	In normal mode:<91%	
Environment	Audible noise		Less than 55dB at 1 meter from UPS	Less than 60dB at 1 meter from UPS
	Ambient operation	Temperature	0~40°C	
		Humidity	0~80% (Non-condensing)	
		Altitude	1000 meters max. elevation (Based on IEC 62040)	

6- Physical Specification Table

Physical specification	Model	CAD10KX1-RT4U	CAD10KX3-RT4U
	Dimension [W*D*H] (mm)	Net Dimension: 440*650*177 Shipping Dimension: 530*760*290	
	Net weight (Kg)	25	27
	Shipping weight (Kg)	27.5	29.5

7-Backup Time Chart

UPS model	UPS power (VA)	Battery cabinet	Load/Backup time (Minute)						
			20%	40%	50%	60%	70%	80%	Full
All models	10000	SBC24028	142	57	45	39	34	29	20
		SBC24042	234	103	74	57	49	44	34

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) 61922

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.