

Online UPS

# Falcon 8500

Double Conversion Transformer based UPS

30 KVA - 300 KVA

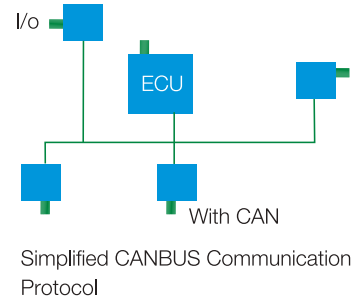
Three Phase Input / Three Phase Output



**Reliability**

The Falcon UPS family is designed for harsh conditions which prevail in India, Like high ambient temperatures, very high humidity, wide input voltage fluctuations, and operation on DG Sets during powercuts which are not seen in many parts of the world.

The Falcon UPS is designed for continuous operation at 40°C ambient temperature with special attention to details in component selection and design to improve reliability and life under demanding conditions. Complexity of control wiring within the UPS has been simplified using CANBUS communication protocol for higher reliability and trouble - free operations.



Special Heat Sinks with large surface area for effective heat dissipation in small volume.

Advanced thermal protection of IGBT using on chip built-in temperature sensor. Pulse by pulse current limit and Desaturation protects IGBT from short circuits is implemented. Press fit low inductance drivers are used with latest generation IGBT ensuring highest reliability.

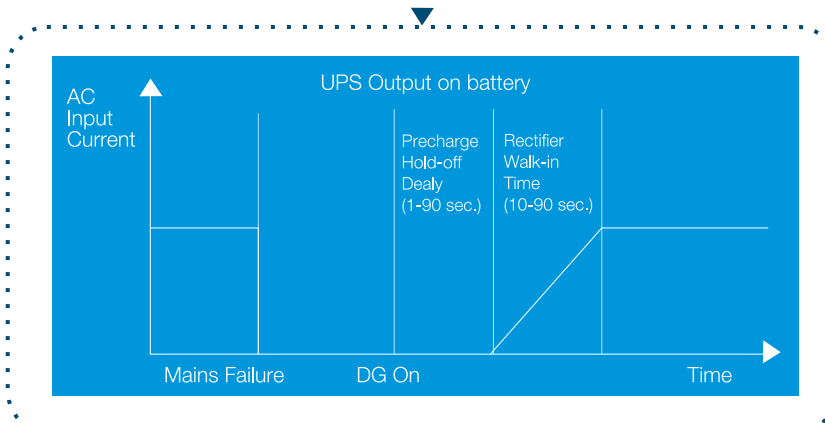
**Flexibility**

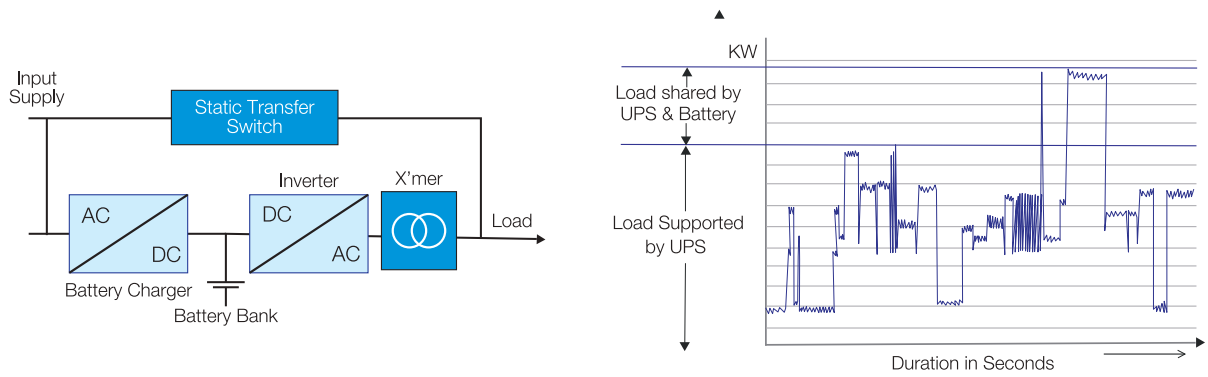
**Compatibility with Input Source**



Falcon 8500 deploys a sophisticated control circuit with power walk-in function to achieve progressive rectifier start-up to avoid the impact of inrush current on the upstream breakers and to avoid the step loading on generators.

Scheduled ramp-up & Power Walk-in





Rectifier Current Limit - Working in parallel with Battery

Falcon 8500 has also been designed with Rectifier current Limit function, taking into account the short term momentary loads which allows the system to work in parallel with the battery and to reduce the maximum demand on the mains or avoids the need of enhancing the maximum demand sanctioned by the utility provider or generator.

## Compatibility with Loads

### SVM (Space Vector Modulation)

An advanced PWM (Pulse Width Modulation) digital control technique, to modulate the inverter, provides fast transient response with high efficiency. SVM also allows the UPS to adapt the PWM switching to different loading conditions such as: partial load, full load, linear load, non-linear load, static load, pulsating load.

### Regenerative Loads

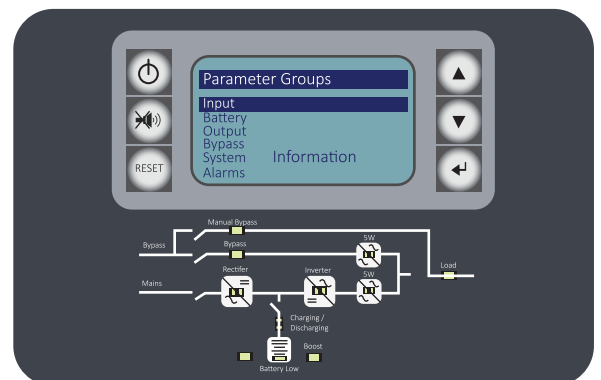
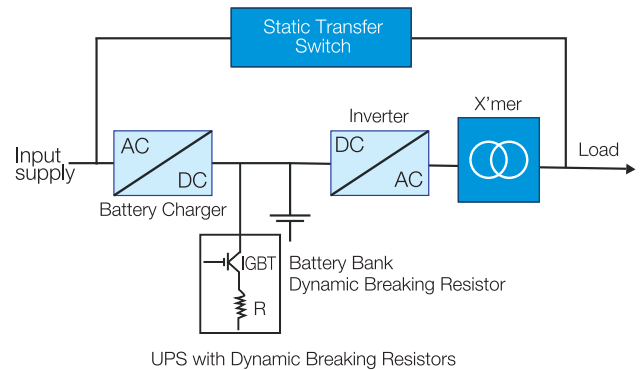
Falcon 8500 can support the use of dynamic breaking resistors and makes the UPS compatible with regenerative loads.

### Easy Installation

Falcon 8500 requires a very small space for installation, only 1 m<sup>2</sup> for a 300kVA system with power density of 222KW/sq m.

### User Friendliness

The Human Machine Interface (HMI) is intuitive and user friendly with a LCD screen and LED MIMIC Screen.



### Total Cost of Ownership

Falcon 8500 can be operated upto 40°C (ambient temperature) without precision air conditioning as required by most UPS. This helps large saving for the customer in CapEx and OpEx costs associated with cooling required for the UPS. The UPS batteries must be kept in a separate room for safety and temperature must be maintained below 27°C to maximize the life of the batteries.

Long Life Power Electronic grade capacitors are being used in the UPS which allows for lower total cost of ownership.

### Intelligent High Efficiency

Eco Mode operations which can be enabled for energy savings (Upto 99% Efficiency). The firmware, tested to Indian power conditions monitors the quality of the input power, and enables the Eco Mode operations on bypass only when input power conditions are stable. Other wise the UPS transfers back to double conversion mode in less than 2ms whereby the reliability of power is ensured to the critical load.

#### Standard Features

- Inbuilt Static & Manual Bypass
- Inbuilt Isolation Transformer
- 128X64 Graphics LCD & Mimic
- 32 Bit DSP Controller
- Rectifier Current Limit function
- Built in Alarm Log & Data Log

#### Optional Features

- Harmonic Filters
- Dynamic Breaking Resistor for Regenerative loads
- Potential Free Contacts
- SNMP for LAN based monitoring

No Precision Air Conditioning Required



### Standards & Certifications

Standard	
Safety	IEC 62040-1
Testing and Performance	IEC 62040-3
EMC/EMI	IEC 62040-2 Category C3
IP Protection Class	IEC 60529
Noise Level	ISO 3746
Quality Standards	ISO 9001:2008
Environmental Management System	ISO 14001:2004
OHSAS	OHSAS 18001:2007





## Technical Specification

### Falcon 8500

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Three Phase Input / Three Phase Output

General	Falcon 8500									
Capacity	30KVA	40KVA	60KVA	80KVA	100KVA	120KVA	160KVA	200KVA	250KVA	300KVA
<b>Input</b>										
Phase	3 Phases + Neutral + Ground									
Voltage	415AC +/-15%									
Frequency	50/60Hz									
<b>Output</b>										
Voltage	400/415V									
Voltage Regulation	+/-1%									
THDu	THD<1.5% (Linear Load ), THD<6% (None Linear Load)									
Power Factor	0.8									
Crest	3:1									
Overload Capability	110% for 1 hour; 125% for 10 minutes ;150% for1 minute; >150% for 200ms									
<b>System</b>										
System Efficiency	Online mode: upto 93% ;ECO mode: upto 99%									
Display	128X64 Graphics LCD & Mimic									
IP Class	IP20									
Interface	Optional: Dry Contacts, SNMP									
Operation Temperature	0~40°C									
Storage Temperature	-40~70°C									
Relative Humidity	0~95%(Non - Condensing)									
Noise	72dB @ 100% load, 68dB @ 45% load(1 Meter Away)									
Altitude of Operation	≤1000, Load Derated 1% per 100m from 1000m to 2000m									
Isolation Transformer	Inbuilt									
<b>Physical</b>										
Dimension (W*D*H)(mm)	500 X 800 X 1080		600 X 900 X 1400			1000 X 900 X 1750		1200 X 900 X 1910		
Weight in Kgs	350	350	550	600	650	700	1250	1400	1700	1700
Colour	RAL 7016 Texture - Anthracite Grey									
<b>Applicable Standards</b>										
Safety	IEC 62040-1									
EMC	IEC 62040-2									
Performance	IEC 62040-3									

\* Specifications are subject to change

