# TSi-SFCube

## SFCube

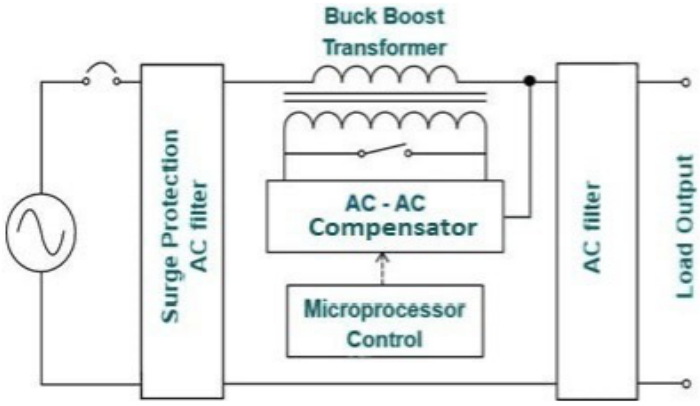
### Three Phase 6kVA to 30kVA


SFCube provides Sag-Free Fluctuation-Free (SFFF or SFCube) Power which makes it a cost-effective automatic sag and surge compensation device that ensures maintenance-free operation of electronic equipment over a wide range of sag and surge. TSi-SFCube series is designed to provide protection against sag and surge events within a typical compensation time of 20 milliseconds to comply with the requirements of the ITIC curve for power supply to electronics.

Three phase as well as single phase versions are available.

## How the SFCube works:

The high frequency Insulated Gate Bipolar Transistor (IGBT) driven compensator takes the incoming AC power, measures it against the nominal voltage reference to detect a sag or surge event. It then adds or subtracts a compensating voltage to achieve a regulated 230 V output.




## Features and Benefits:

- Ability to handle sag of indefinite length.
- Provides optimum sag and surge voltage compensation, as well as spike & noise control.
- Handles sag up to 45% of the nominal voltage and provides the output voltage within +/-2% of the nominal voltage.
- Static technology results in quiet operation, high product up-time & low maintenance.
- Since the AC-AC Compensator is always online, hence even routine voltage fluctuations are compensated real-time.
- Internal surge voltage protection assures trouble-free operation.
- AC input circuit breakers and load over current protection prevents costly equipment damage.
- Tight control over electronic card failures, data corruption and machine breakdowns result in higher productivity, lower operating costs, and greater consumer comfort.
- Lightweight and compact size makes for ease of installation.

154-55, Siddhi Industrial Infra Park,
Waghodia, Vadodara- 391760,
Gujarat, India

**Contact:** +91-80004 55999
**Email:** info@tsipower.in
**Website:** www.tsipower.in

# Reliable TSi-SFCube Technology for Next Gen Electronic Machinery

Leads to

**Bad power quality**
causing voltage disturbances like sags, swells, spikes, transients and HF noises.

Corrected through

Protection against

**Shutdown and damages**
sensitive electronic production machines, data corruption, tool breakages, loss of profits.

**TSi - SFCube**


## TSi's Secret

Corrects supply side disturbances due to sags/ swells/ spikes and supplies 'Pure Power' leading to no downtime in the production line.

All this is done within ITIC curve requirement of 20 milliseconds.

# Technical Specifications

| Model | SFC-6000-9339-450 |
|---|---|
| **Electrical** | |
| **Capacity (in KVA)** | 6 |
| **Switching Technology** | 20 kHz IGBT AC chopper/inverter |
| **Voltage Compensation Time** | 20 ms typical |
| **AC Input** | |
| **Nominal Input Voltage (V)** | Three phase 400 |
| **Sag Voltage drop %age for which the output would stay within +/- 2% of the nominal voltage** | - 45 % |
| **Swell Voltage rise %age for which the output would stay within +/- 2% of the nominal voltage** | + 25 % |
| **Nominal Operating Frequency** | 47 – 63 Hz |
| **AC Input Connector** | L1, L2, L3, Neutral & Ground input wires |
| **Overload & Short Circuit Protection** | Through suitably rated input circuit breaker |
| **AC Output** | |
| **Nominal Output Voltage (V)** | Three phase 400 |
| **Efficiency** | Typical 95% when continuous incoming voltage is +/- 10% of nominal (under 20 – 100 % load condition) |
| **Output Voltage Compensation Range** | +/- 2 % |
| **Maximum Rated Output Current (A)** | 9 |
| **System Status Indicator** | Green LED ON-Normal operation - Amber LED ON-Bypass operation Red LED ON-Fault |
| **Output Connector** | L1, L2, L3, Neutral & Ground output wires |
| **Surge Protection** | Class II Surge Protection |
| **Physical** | |
| **Cabinet Construction** | RAL 7035 light grey powder coated CRCA cabinets |
| **Automatic AC-AC Converter Bypass** | Standard, will get activated when there is a fault condition |
| **Cabinet Weather Protection Ratings** | IP 20 (for use in protected indoor environments) |
| **Display** | Digital output voltage display thru selector switch |
| **Mounting** | 4 High Quality Castor wheels, 2 with brakes |
| **Overall Dimension (approx.)** | As per Dimension Diagram of Cubical Type 610x610x640 |
| **Unpacked Weight (approx.)** | 140 kg |
| **Environmental** | |
| **Cooling Method** | Forced air |
| **Operating Temperature Range** | 0 to + 45 °C |
| **Operating Humidity Range** | 10 to 90% relative humidity (non-condensing) |

# Technical Specifications

| Model | SFC-10000-9339-450 |
|---|---|
| **Electrical** | |
| **Capacity (in KVA)** | 10 |
| **Switching Technology** | 20 kHz IGBT AC chopper/inverter |
| **Voltage Compensation Time** | 20 ms typical |
| **AC Input** | |
| **Nominal Input Voltage (V)** | Three phase 400 |
| **Sag Voltage drop %age for which the output would stay within +/- 2% of the nominal voltage** | - 45 % |
| **Swell Voltage rise %age for which the output would stay within +/- 2% of the nominal voltage** | + 25 % |
| **Nominal Operating Frequency** | 47 – 63 Hz |
| **AC Input Connector** | L1, L2, L3, Neutral & Ground input wires |
| **Overload & Short Circuit Protection** | Through suitably rated input circuit breaker |
| **AC Output** | |
| **Nominal Output Voltage (V)** | Three phase 400 |
| **Efficiency** | Typical 95% when continuous incoming voltage is +/- 10% of nominal (under 20 – 100 % load condition) |
| **Output Voltage Compensation Range** | +/- 2 % |
| **Maximum Rated Output Current (A)** | 14 |
| **System Status Indicator** | Green LED ON-Normal operation - Amber LED ON-Bypass operation Red LED ON-Fault |
| **Output Connector** | L1, L2, L3, Neutral & Ground output wires |
| **Surge Protection** | Class II Surge Protection |
| **Physical** | |
| **Cabinet Construction** | RAL 7035 light grey powder coated CRCA cabinets |
| **Automatic AC-AC Converter Bypass** | Standard, will get activated when there is a fault condition |
| **Cabinet Weather Protection Ratings** | IP 20 (for use in protected indoor environments) |
| **Display** | Digital output voltage display thru selector switch |
| **Mounting** | 4 High Quality Castor wheels, 2 with brakes |
| **Overall Dimension (approx.)** | As per Dimension Diagram of Cubical Type 610x610x640 |
| **Unpacked Weight (approx.)** | 160 kg |
| **Environmental** | |
| **Cooling Method** | Forced air |
| **Operating Temperature Range** | 0 to + 45 °C |
| **Operating Humidity Range** | 10 to 90% relative humidity (non-condensing) |

# Technical Specifications

| Model | SFC-15000-9339-450 |
|---|---|
| **Electrical** | |
| **Capacity (in KVA)** | 15 |
| **Switching Technology** | 20 kHz IGBT AC chopper/inverter |
| **Voltage Compensation Time** | 20 ms typical |
| **AC Input** | |
| **Nominal Input Voltage (V)** | Three phase 400 |
| **Sag Voltage drop %age for which the output would stay within +/- 2% of the nominal voltage** | - 45 % |
| **Swell Voltage rise %age for which the output would stay within +/- 2% of the nominal voltage** | + 25 % |
| **Nominal Operating Frequency** | 47 – 63 Hz |
| **AC Input Connector** | L1, L2, L3, Neutral & Ground input wires |
| **Overload & Short Circuit Protection** | Through suitably rated input circuit breaker |
| **AC Output** | |
| **Nominal Output Voltage (V)** | Three phase 400 |
| **Efficiency** | Typical 95% when continuous incoming voltage is +/-10% of nominal (under 20 – 100 % load condition) |
| **Output Voltage Compensation Range** | +/- 2 % |
| **Maximum Rated Output Current (A)** | 22 |
| **System Status Indicator** | Green LED ON-Normal operation - Amber LED ON-Bypass operation Red LED ON-Fault |
| **Output Connector** | L1, L2, L3, Neutral & Ground output wires |
| **Surge Protection** | Class II Surge Protection |
| **Physical** | |
| **Cabinet Construction** | RAL 7035 light grey powder coated CRCA cabinets |
| **Automatic AC-AC Converter Bypass** | Standard, will get activated when there is a fault condition |
| **Cabinet Weather Protection Ratings** | IP 20 (for use in protected indoor environments) |
| **Display** | Digital output voltage display thru selector switch |
| **Mounting** | 4 High Quality Castor wheels, 2 with brakes |
| **Overall Dimension (approx.)** | As per Dimension Diagram of Cubical Type 660x660x720 |
| **Unpacked Weight (approx.)** | 190 kg |
| **Environmental** | |
| **Cooling Method** | Forced air |
| **Operating Temperature Range** | 0 to + 45 °C |
| **Operating Humidity Range** | 10 to 90% relative humidity (non-condensing) |

# Technical Specifications

| Model | SFC-21000-9339-450 |
|---|---|
| **Electrical** | |
| **Capacity (in KVA)** | 21 |
| **Switching Technology** | 20 kHz IGBT AC chopper/inverter |
| **Voltage Compensation Time** | 20 ms typical |
| **AC Input** | |
| **Nominal Input Voltage (V)** | Three phase 400 |
| **Sag Voltage drop %age for which the output would stay within +/- 2% of the nominal voltage** | - 45 % |
| **Swell Voltage rise %age for which the output would stay within +/- 2% of the nominal voltage** | + 25 % |
| **Nominal Operating Frequency** | 47 – 63 Hz |
| **AC Input Connector** | L1, L2, L3, Neutral & Ground input wires |
| **Overload & Short Circuit Protection** | Through suitably rated input circuit breaker |
| **AC Output** | |
| **Nominal Output Voltage (V)** | Three phase 400 |
| **Efficiency** | Typical 95% when continuous incoming voltage is +/-10% of nominal (under 20 – 100 % load condition) |
| **Output Voltage Compensation Range** | +/- 2 % |
| **Maximum Rated Output Current (A)** | 30 |
| **System Status Indicator** | Green LED ON-Normal operation - Amber LED ON-Bypass operation Red LED ON-Fault |
| **Output Connector** | L1, L2, L3, Neutral & Ground output wires |
| **Surge Protection** | Class II Surge Protection |
| **Physical** | |
| **Cabinet Construction** | RAL 7035 light grey powder coated CRCA cabinets |
| **Automatic AC-AC Converter Bypass** | Standard, will get activated when there is a fault condition |
| **Cabinet Weather Protection Ratings** | IP 20 (for use in protected indoor environments) |
| **Display** | Digital output voltage display thru selector switch |
| **Mounting** | 4 High Quality Castor wheels, 2 with brakes |
| **Overall Dimension (approx.)** | As per Dimension Diagram of Cubical Type 888x888x838 |
| **Unpacked Weight (approx.)** | 310 kg |
| **Environmental** | |
| **Cooling Method** | Forced air |
| **Operating Temperature Range** | 0 to + 45 °C |
| **Operating Humidity Range** | 10 to 90% relative humidity (non-condensing) |

# Technical Specifications

| Model | SFC-25000-9339-450 |
|---|---|
| **Electrical** | |
| **Capacity (in KVA)** | 25 |
| **Switching Technology** | 20 kHz IGBT AC chopper/inverter |
| **Voltage Compensation Time** | 20 ms typical |
| **AC Input** | |
| **Nominal Input Voltage (V)** | Three phase 400 |
| **Sag Voltage drop %age for which the output would stay within +/- 2% of the nominal voltage** | - 45 % |
| **Swell Voltage rise %age for which the output would stay within +/- 2% of the nominal voltage** | + 25 % |
| **Nominal Operating Frequency** | 47 – 63 Hz |
| **AC Input Connector** | L1, L2, L3, Neutral & Ground input wires |
| **Overload & Short Circuit Protection** | Through suitably rated input circuit breaker |
| **AC Output** | |
| **Nominal Output Voltage (V)** | Three phase 400 |
| **Efficiency** | Typical 95% when continuous incoming voltage is +/-10% of nominal (under 20 – 100 % load condition) |
| **Output Voltage Compensation Range** | +/- 2 % |
| **Maximum Rated Output Current (A)** | 36 |
| **System Status Indicator** | Green LED ON-Normal operation - Amber LED ON-Bypass operation Red LED ON-Fault |
| **Output Connector** | L1, L2, L3, Neutral & Ground output wires |
| **Surge Protection** | Class II Surge Protection |
| **Physical** | |
| **Cabinet Construction** | RAL 7035 light grey powder coated CRCA cabinets |
| **Automatic AC-AC Converter Bypass** | Standard, will get activated when there is a fault condition |
| **Cabinet Weather Protection Ratings** | IP 20 (for use in protected indoor environments) |
| **Display** | Digital output voltage display thru selector switch |
| **Mounting** | 4 High Quality Castor wheels, 2 with brakes |
| **Overall Dimension (approx.)** | As per Dimension Diagram of Cubical Type 888x888x838 |
| **Unpacked Weight (approx.)** | 330 kg |
| **Environmental** | |
| **Cooling Method** | Forced air |
| **Operating Temperature Range** | 0 to + 45 °C |
| **Operating Humidity Range** | 10 to 90% relative humidity (non-condensing) |

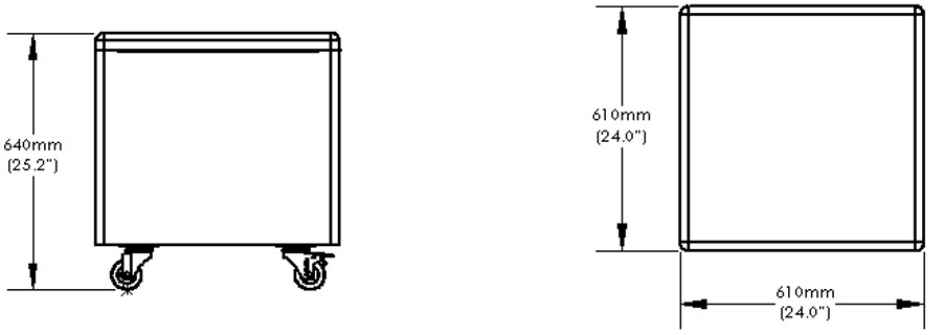
# Technical Specifications

| Model | SFC-30000-9339-450 |
|---|---|
| **Electrical** | |
| **Capacity (in KVA)** | 30 |
| **Switching Technology** | 20 kHz IGBT AC chopper/inverter |
| **Voltage Compensation Time** | 20 ms typical |
| **AC Input** | |
| **Nominal Input Voltage (V)** | Three phase 400 |
| **Sag Voltage drop %age for which the output would stay within +/- 2% of the nominal voltage** | - 45 % |
| **Swell Voltage rise %age for which the output would stay within +/- 2% of the nominal voltage** | + 25 % |
| **Nominal Operating Frequency** | 47 – 63 Hz |
| **AC Input Connector** | L1, L2, L3, Neutral & Ground input wires |
| **Overload & Short Circuit Protection** | Through suitably rated input circuit breaker |
| **AC Output** | |
| **Nominal Output Voltage (V)** | Three phase 400 |
| **Efficiency** | Typical 95% when continuous incoming voltage is +/-10% of nominal (under 20 – 100 % load condition) |
| **Output Voltage Compensation Range** | +/- 2% |
| **Maximum Rated Output Current (A)** | 43 |
| **System Status Indicator** | Green LED ON-Normal operation - Amber LED ON-Bypass operation Red LED ON-Fault |
| **Output Connector** | L1, L2, L3, Neutral & Ground output wires |
| **Surge Protection** | Class II Surge Protection |
| **Physical** | |
| **Cabinet Construction** | RAL 7035 light grey powder coated CRCA cabinets |
| **Automatic AC-AC Converter Bypass** | Standard, will get activated when there is a fault condition |
| **Cabinet Weather Protection Ratings** | IP 20 (for use in protected indoor environments) |
| **Display** | Digital output voltage display thru selector switch |
| **Mounting** | 4 High Quality Castor wheels, 2 with brakes |
| **Overall Dimension (approx.)** | As per Dimension Diagram of Cubical Type 888x888x838 |
| **Unpacked Weight (approx.)** | 350 kg |
| **Environmental** | |
| **Cooling Method** | Forced air |
| **Operating Temperature Range** | 0 to + 45 °C |
| **Operating Humidity Range** | 10 to 90% relative humidity (non-condensing) |

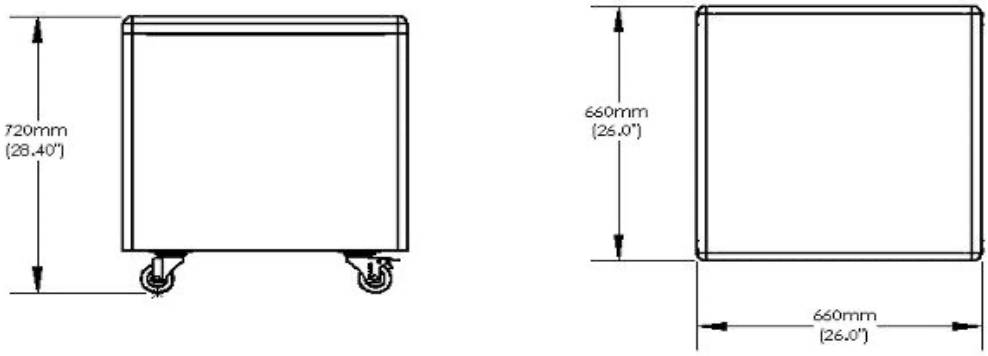
# Technical Specifications

## Dimension Diagrams

### CUBICAL TYPE 610x610x640

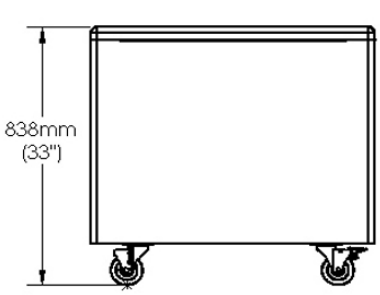


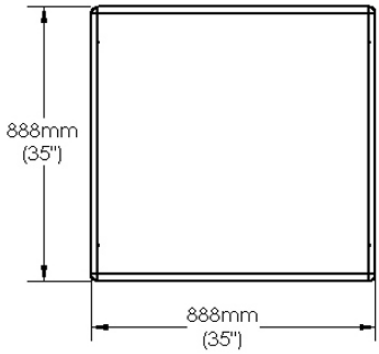

### CUBICAL TYPE 660x660x720



## Dimension Diagrams

### CUBICAL TYPE 888x888x838




**TSi Power Pvt. Ltd.**

| 154-155, Siddhi Industrial Infra Park |
| Waghodia, Vadodara, Gujarat, India 391760 |
| Tel: + 91-80004 55999 / +91-75677 22666 |
| info@tsipower.in | https://tsipower.in |