

# PRODUCT SPECSHEET

PRODUCT: **SFCUBE**

CATEGORY: **DEEP SAG CORRECTOR**

MODEL: **THREE PHASE 6KVA TO 40KVA**



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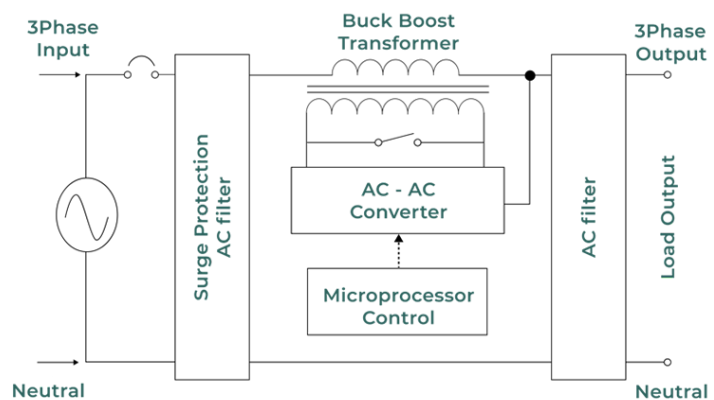
The **TSi SFCube series** provides Sag-Free Fluctuation-Free (SFFF or SFCube) Power which makes it a cost-effective automatic sag and surge compensation device that ensures maintenance-free operation of electronic equipment over a wide range of sag and surge.



**TSi SFCube series** is designed to provide protection against sag and surge events with a typical response cum correction time of 20 milliseconds to comply with the requirements of the ITIC curve for power supply to electronics. This has revolutionised the industry, as the existing technologies become either obsolete or extremely expensive. Hence, we don't call them our competitors. They are simply 'wrong solutions' for the existing power problems.

### *How does the TSi SFCube work?*

The high frequency Insulated Gate Bipolar Transistor (IGBT) driven converter 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 precisely regulated 230V output. The automatic bypass will be activated when there is a fault condition. Green LEDs are used to indicate Normal (regulating mode) operation.



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## *Features & 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  $\pm 2\%$  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.
- Three phase as well as single phase versions are available.

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## *The TSi Philosophy - Powering Happiness*

**TSi Power** is a renowned and a trusted name in the power conditioning industry. Since 2011, we have built a workplace that *nurtures* happy employees to *create* great products, in turn, making *happy customers*. Our founders strongly believe and have cultivated this within the company. There's a reason why we have become one of the world's *most trusted* power conditioners.

*Powering Happiness* is both our business goal and our work culture.

## *Our Facility in Vadodara, India*



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## TECHNICAL SPECIFICATIONS - SFC-6000-9339-450

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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 through 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 - SFC-10000-9339-450

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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 $\pm 2\%$ of the nominal voltage	-45%
Swell Voltage rise %age for which the output would stay within $\pm 2\%$ 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 $\pm 10\%$ of nominal (under 20 – 100 % load condition)
Output Voltage Compensation Range	$\pm 2\%$
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 through 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 - SFC-15000-9339-450

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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 through 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 - SFC-21000-9339-450

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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 $\pm 2\%$ of the nominal voltage	-45%
Swell Voltage rise %age for which the output would stay within $\pm 2\%$ 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 $\pm 10\%$ of nominal (under 20 – 100 % load condition)
Output Voltage Compensation Range	$\pm 2\%$
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 through 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 - SFC-25000-9339-450

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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 $\pm 2\%$ of the nominal voltage	-45%
Swell Voltage rise %age for which the output would stay within $\pm 2\%$ 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 $\pm 10\%$ of nominal (under 20 – 100 % load condition)
Output Voltage Compensation Range	$\pm 2\%$
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 through 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 - SFC-30000-9339-450

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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 $\pm 2\%$ of the nominal voltage	-45%
Swell Voltage rise %age for which the output would stay within $\pm 2\%$ 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 $\pm 10\%$ of nominal (under 20 – 100 % load condition)
Output Voltage Compensation Range	$\pm 2\%$
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 through 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)

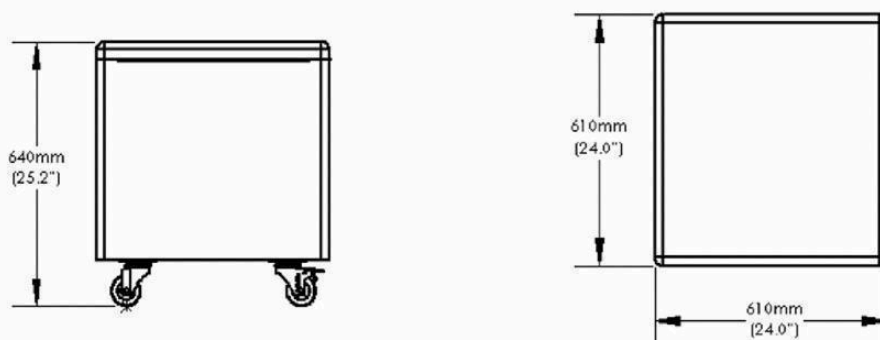
# TECHNICAL SPECIFICATIONS - SFC-40000-9339-450P

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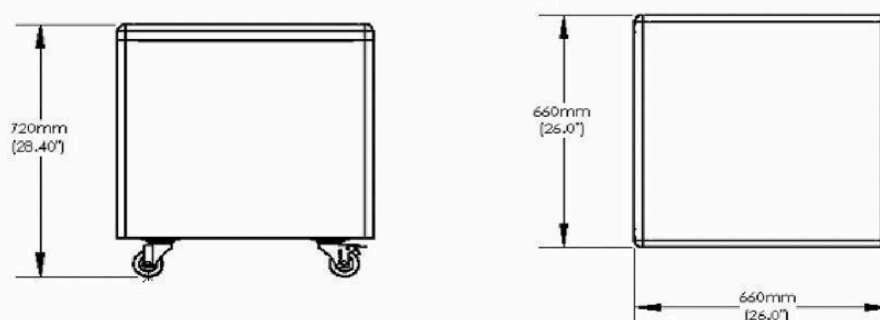
ELECTRICAL	
Capacity (in KVA)	40
Switching Technology	20 kHz IGBT AC chopper/inverter
Voltage Compensation Time	20 ms typical
AC INPUT	
Nominal Input Voltage (V)	Three phase 400
Sag Voltage drop %age for which the output would stay within +/- 2% of the nominal voltage	-45%
Swell Voltage rise %age for 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 BUSBAR
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)	58
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 BUSBAR
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 through selector switch
Mounting	Pad mounted
Overall Dimension (approx.)	As per Dimension Diagram of Panel Type 650x1220x2400
Unpacked Weight (approx.)	500 kg
ENVIRONMENTAL	
Cooling Method	Forced air
Operating Temperature Range	0 to + 45 °C
Operating Humidity Range	10 to 90% relative humidity (non-condensing)

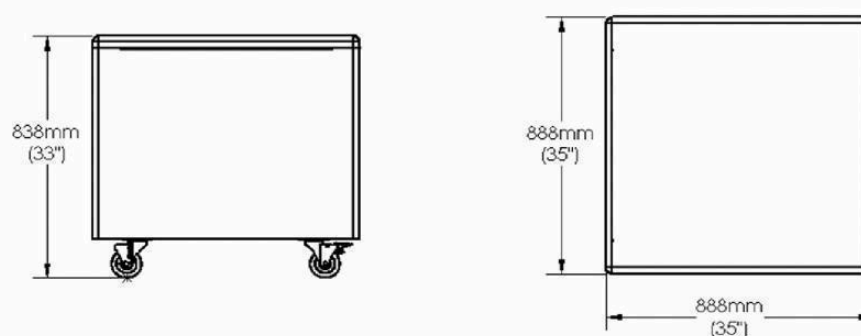
### CUBICAL TYPE 610 x 610 x 640 (in mm)



### CUBICAL TYPE 660 x 660 x 720 (in mm)

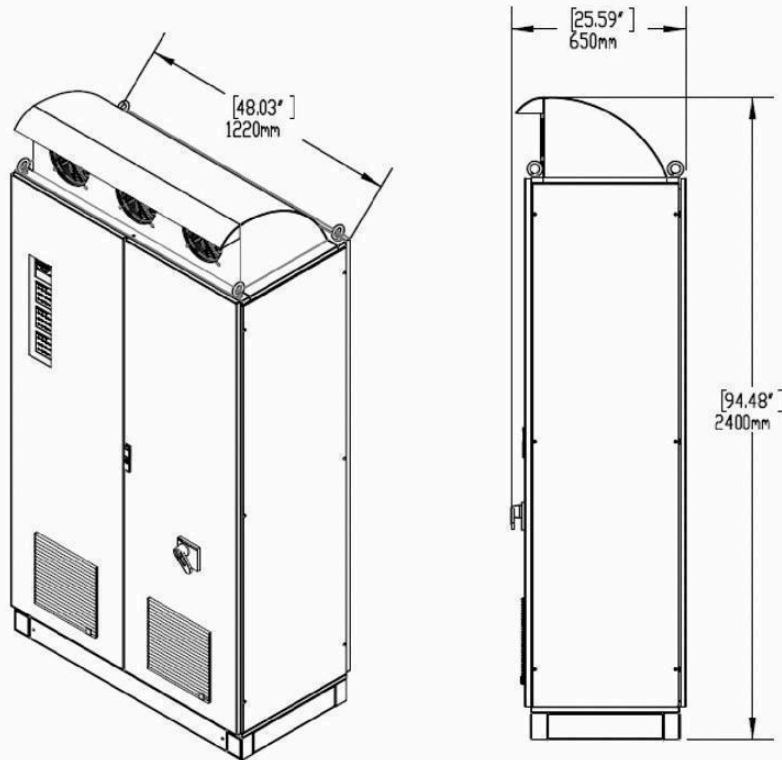


### CUBICAL TYPE 888 x 888 x 838 (in mm)






## PANEL TYPE 650 x 1220 x 2400 (in mm)



Contact us for a **free demo** or a **customised quote** or just a hello!

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