



- Sinusoidal Output from 12-480 V
- Compact Switched Mode Design
- DC Inputs 10-400 V
- Wall or Rack Mounting
- Industrial Grade
- Customised Design Available

## Specification

### Input

Input Voltage	• See Table
No load Input Power	• 20 W typical
Earth Leakage Current	• <3.5 mA at 230 VAC

### Output

Output Voltage	• See Table
Output Voltage Adjustment	• 110 V version 110 V to 125 V 230 V version 210 V to 245 V
Minimum Load	• No minimum load required
Wave Form	• Sinusoidal standard, optional wave shape programmable by external signal
Frequency	• Crystal stabilized 50 Hz, 60 Hz, 400 Hz or 45 to 400 Hz adjustable
Distortion	• 3% typical (5% at 400 Hz)
Rise Time	• 100 ms typical
Power Factor	• $\cos \phi \geq 0.7$ inductive/capacitive
Crest Factor	• 3
Line Regulation	• 0.1% for CI models, 2.0 % for I, IT & IV models ( $\pm 10\%$ change $V_{in}$ )
Load Regulation	• 50/60 Hz 1% typical 3% max, 400 Hz 3% typical 5% max (10-90% load change)
Overload Protection	• Current limited to approx 105% I Nom (Steady State)
Short Circuit Current	• Electronically limited to 3 x I Nom
Surge Power	• 2 x P Nom for 1 sec
Temperature Coefficient	• 0.05%/°C typical

### General

Efficiency	• 85-95% I models, 75-90% CI, IT & IV models
Isolation	• 3500 VDC Input to Output, 3500 VDC Input to Ground, 3500 VDC Output to Ground
Switching Frequency	• Approx 33 kHz converter & 20 kHz Inverter section
MTBF	• 120,000 hours I & IT models, 70,000 hours CI models, 50,000 hours IV models
Dimensions/Weight	• Contact Sales
Options	• Contact Sales

### Environmental

Operating Temperature	• -20 °C to +75 °C, derate linearly at 2.5%/°C from +55 °C Optional -40 °C to +75 °C
Storage Temperature	• -40 °C to +85 °C
Cooling	• Natural convection (IT5600 to IT5800 forced cooled)
Operating Humidity	• 5-95% RH non-condensing
Operating Altitude	• 1000 m

### EMC & Safety

Emissions	• EN55022 Level A conducted, optional Class B
EFT/Burst	• EN61000-4-4 Level 3
Surge	• EN61000-4-5 Level 3
Safety Approvals	• EN60950

## CI Series - Converters & Inverters, Isolated DC Input 0.5-3.5 kVA

Output	Input (VDC)	20-32 V Models	Output Rating	40-64 V Models	50-80 V Models	80-160 V Models	160-320 V Models	320-380 V Models <sup>(1)</sup>	320-640 V Models	Output Rating
115 V	(110-125 V)	CI1626	0.5 kVA	CI1636	CI1646	CI1656	CI1676	CI1686Z	-	0.6 kVA
230 V	(210-245 V)	CI1628	0.5 kVA	CI1638	CI1648	CI1658	CI1678	CI1688Z	-	0.6 kVA
115 V	(110-125 V)	CI3626	1.0 kVA	CI3636	CI3646	CI3656	CI3676	CI3686Z	CI3676G	1.2 kVA
230 V	(210-245 V)	CI3628	1.0 kVA	CI3638	CI3648	CI3658	CI3678	CI3688Z	CI3678G	1.2 kVA
115 V	(110-125 V)	CI4826 <sup>(3)</sup>	1.4 kVA	CI4836 <sup>(3)</sup>	CI4846 <sup>(3)</sup>	CI4856 <sup>(3)</sup>	CI4876 <sup>(3)</sup>	CI4886Z <sup>(3)</sup>	CI4876G <sup>(3)</sup>	1.8 kVA
230 V	(210-245 V)	CI4828 <sup>(3)</sup>	1.4 kVA	CI4838 <sup>(3)</sup>	CI4848 <sup>(3)</sup>	CI4858 <sup>(3)</sup>	CI4878 <sup>(3)</sup>	CI4888Z <sup>(3)</sup>	CI4878G <sup>(3)</sup>	1.8 kVA
115 V	(110-125 V)	CI5626	1.8 kVA	CI5636	CI5646	CI5656	CI5676	CI5686Z	CI5676G	1.8 kVA
230 V	(210-245 V)	CI5628	2.0 kVA	CI5638	CI5648	CI5658	CI5678	CI5688Z	CI5678G	2.0 kVA
115 V	(110-125 V)	CI5726	2.5 kVA	CI5736	CI5746	CI5756	CI5776	CI5786Z	CI5776G	2.5 kVA
230 V	(210-245 V)	CI5728	2.5 kVA	CI5738	CI5748	CI5758	CI5778	CI5788Z	CI5778G	2.5 kVA
115 V	(110-125 V)	CI5726F <sup>(3)</sup>	3.0 kVA	CI5736F <sup>(3)</sup>	CI5746F <sup>(3)</sup>	CI5756F <sup>(3)</sup>	CI5776F <sup>(3)</sup>	CI5786ZF <sup>(3)</sup>	CI5776GF <sup>(3)</sup>	3.5 kVA
230 V	(210-245 V)	CI5728F <sup>(3)</sup>	3.0 kVA	CI5738F <sup>(3)</sup>	CI5748F <sup>(3)</sup>	CI5758F <sup>(3)</sup>	CI5778F <sup>(3)</sup>	CI5788ZF <sup>(3)</sup>	CI5778GF <sup>(3)</sup>	3.5 kVA

**Notes:**

- Models supplied by external PFC module with 93-264 VAC input.
- For 12 V DC nominal input contact sales.
- External fan recommended, details to be advised at time of order.

## I Series - Inverters, Non-Isolated 0.2-12.0 kVA

INPUT VOLTAGE DC												
20-32 V Models	Output Rating	40-64 V Models	50-80 V Models	Output Rating	80-160 V Models	Output Rating	160-320 V Models	170-200 V Models <sup>(1)</sup>	320-650 V Models	Output Rating	380-400 V Models <sup>(2)</sup>	Output Rating
I1520	0.20 kVA	I1530	I1540	0.45 kVA	I1550	0.50 kVA	I1570	I1506	-	0.80 kVA	I1508	1.0 kVA
-	-	I3530	I3540	0.50 kVA	I3550	0.80 kVA	I1370	I1306	I3570G	1.20 kVA	I3508	1.5 kVA
I3720	0.40 kVA	I3730	I3740	0.60 kVA	I3750	1.20 kVA	I3770	I3706	I3770G	2.00 kVA	I3708	2.5 kVA
-	-	I4730	I4740	1.20 kVA	I4750	2.00 kVA	I4770	I4706	I4770G	3.00 kVA	I4708	4.0 kVA
I5620	1.20 kVA	-	I5640	2.00 kVA	I5650	3.00 kVA	I5670	I5606	I5670G	5.00 kVA	I5608	6.0 kVA
I5720	1.60 kVA	I5730	I5740	3.00 kVA	I5750	5.00 kVA	I5770	I5706	I5770G	8.00 kVA	I5708	10.0 kVA
-	-	-	-	-	-	-	I5870	I5806	I5870G	10.0 kVA	I5808	12.0 kVA
OUTPUT VOLTAGE AC <sup>(3)</sup>												
12 V	-	24 V	30 V	-	50 V	-	100 V	115 V	200 V	-	230 V	-

**Notes:**

- Designed for 115 VAC output.
- Designed for 230 VAC output with pre-connected converter series C, or for PFC modules series P (no isolation between input & output).
- Maximum AC output at minimum DC input voltage. Higher output voltage is available at higher input voltage. Maximum AC output (Vrms) ≤ 0.65 input VDC.

## IT Series - Inverters & Transformers, Isolated 1 Phase 0.2-10.0 kVA

Output	Input (VDC)	20-32 V Models	Output Rating	40-64 V Models	50-80 V Models	Output Rating	80-160 V Models	Output Rating	160-320 V Models	340-400 V Models <sup>(1)</sup>	360-650 V Models	Output Rating
115 V	(110-125 V)	IT1626	0.2 kVA	IT1636	IT1646	0.4 kVA	IT1656	0.5 kVA	IT1676	IT1686Z	-	0.5 kVA
230 V	(210-245 V)	IT1628	0.2 kVA	IT1638	IT1648	0.4 kVA	IT1658	0.5 kVA	IT1678	IT1688Z	-	0.5 kVA
115 V	(110-125 V)	-	-	IT3636	IT3646	0.5 kVA	IT3656	1.0 kVA	IT3676	IT3686Z	IT3676G	1.0 kVA
230 V	(210-245 V)	-	-	IT3638	IT3648	0.5 kVA	IT3658	1.0 kVA	IT3678	IT3688Z	IT3678G	1.0 kVA
115 V	(110-125 V)	IT3826	0.4 kVA	IT3836	IT3846	0.6 kVA	IT3856	1.2 kVA	IT3876	IT3886Z	IT3876G	1.6 kVA
230 V	(210-245 V)	IT3828	0.4 kVA	IT3838	IT3848	0.6 kVA	IT3858	1.2 kVA	IT3878	IT3888Z	IT3878G	1.6 kVA
115 V	(110-125 V)	-	-	-	-	1.2 kVA	IT4856	2.0 kVA	IT4876	IT4886Z	IT4876G	2.5 kVA
230 V	(210-245 V)	-	-	-	-	1.2 kVA	IT4858	2.0 kVA	IT4878	IT4888Z	IT4878G	2.5 kVA
115 V	(110-125 V)	-	-	IT5636	IT5646	2.0 kVA	IT5656	3.0 kVA	IT5676 <sup>(2)</sup>	IT5686Z <sup>(2)</sup>	IT5676G <sup>(2)</sup>	5.0 kVA
230 V	(210-245 V)	-	-	IT5638	IT5648	2.0 kVA	IT5658	3.0 kVA	IT5678 <sup>(2)</sup>	IT5688Z <sup>(2)</sup>	IT5678G <sup>(2)</sup>	5.0 kVA
115 V	(110-125 V)	-	-	IT5736	IT5746	3.0 kVA	IT5756 <sup>(2)</sup>	5.0 kVA	IT5776 <sup>(2)</sup>	IT5786Z <sup>(2)</sup>	IT5776G <sup>(2)</sup>	8.0 kVA
230 V	(210-245 V)	-	-	IT5738	IT5748	3.0 kVA	IT5758 <sup>(2)</sup>	5.0 kVA	IT5778 <sup>(2)</sup>	IT5788Z <sup>(2)</sup>	IT5778G <sup>(2)</sup>	8.0 kVA
115 V	(110-125 V)	-	-	-	-	-	-	-	IT5876 <sup>(2)</sup>	IT5876Z <sup>(2)</sup>	IT5876G <sup>(2)</sup>	10.0 kVA
230 V	(210-245 V)	-	-	-	-	-	-	-	IT5878Z <sup>(2)</sup>	IT5878Z <sup>(2)</sup>	IT5878G <sup>(2)</sup>	10.0 kVA

**Notes:**

- Models supplied by external PFC module with 93-264 VAC input.
- Output transformer needs to be installed externally because of weight e.g. on mounting plate (wall mount version).
- For other output voltages the output transformer can be modified - contact Sales.

**IV Series - Inverters & Transformers, Isolated 3 Phase 0.6-7.5 kVA**

Input (VDC) / Output	20-32 V Models	Output Rating	40-64 V Models	50-80 V Models	Output Rating	80-160 V Models	Output Rating	160-320 V Models	320-380 V Models <sup>(2)</sup>	360-650 V Models	Output Rating
3x200 VAC (Line to Line)	IV5526	0.6 kVA	IV5536	IV5546	1.2 kVA	IV5556	1.5 kVA	IV5576	IV5586Z	-	1.8 kVA
3x400 VAC (Line to Line)	IV5528	0.6 kVA	IV5538	IV5548	1.2 kVA	IV5558	1.5 kVA	IV5578	IV5588Z	-	1.8 kVA
3x480 VAC (Line to Line)	IV5529	0.6 kVA	IV5539	IV5549	1.2 kVA	IV5559	1.5 kVA	IV5579	IV5589Z	-	1.8 kVA
3x200 VAC (Line to Line)	-	-	IV5636	IV5646	1.5 kVA	IV5656	2.4 kVA	IV5676	IV5686Z	IV5676G	3.5 kVA
3x400 VAC (Line to Line)	-	-	IV5638	IV5648	1.5 kVA	IV5658	2.4 kVA	IV5678	IV5688Z	IV5678G	3.5 kVA
3x480 VAC (Line to Line)	-	-	IV5639	IV5649	1.5 kVA	IV5659	2.4 kVA	IV5679	IV5689Z	IV5679G	3.5 kVA
3x200 VAC (Line to Line)	IV5726 <sup>(1)</sup>	1.2 kVA	IV5736 <sup>(1)</sup>	IV5746 <sup>(1)</sup>	1.8 kVA	IV5756 <sup>(1)</sup>	3.5 kVA	IV5776 <sup>(1)</sup>	IV5786Z <sup>(1)</sup>	IV5776G <sup>(1)</sup>	5.0 kVA
3x400 VAC (Line to Line)	IV5728 <sup>(1)</sup>	1.2 kVA	IV5738 <sup>(1)</sup>	IV5748 <sup>(1)</sup>	1.8 kVA	IV5758 <sup>(1)</sup>	3.5 kVA	IV5778 <sup>(1)</sup>	IV5788Z <sup>(1)</sup>	IV5778G <sup>(1)</sup>	5.0 kVA
3x480 VAC (Line to Line)	IV5729 <sup>(1)</sup>	1.2 kVA	IV5739 <sup>(1)</sup>	IV5749 <sup>(1)</sup>	1.8 kVA	IV5759 <sup>(1)</sup>	3.5 kVA	IV5779 <sup>(1)</sup>	IV5789Z <sup>(1)</sup>	IV5779G <sup>(1)</sup>	5.0 kVA
3x200 VAC (Line to Line)	-	-	-	-	-	IV5856 <sup>(1)</sup>	6.0 kVA	IV5876 <sup>(1)</sup>	IV5886Z <sup>(1)</sup>	IV5876G <sup>(1)</sup>	7.5 kVA
3x400 VAC (Line to Line)	-	-	-	-	-	IV5858 <sup>(1)</sup>	6.0 kVA	IV5878 <sup>(1)</sup>	IV5888Z <sup>(1)</sup>	IV5878G <sup>(1)</sup>	7.5 kVA
3x480 VAC (Line to Line)	-	-	-	-	-	IV5859 <sup>(1)</sup>	6.0 kVA	IV5879 <sup>(1)</sup>	IV5889Z <sup>(1)</sup>	IV5879G <sup>(1)</sup>	7.5 kVA

**IV Series - Inverters & Transformers, Isolated 3 Phase 0.6-7.5 kVA**

Input AC / Output	185-264 V Models	93-138/185-264 V Models	3x400 (320-460) V Models	3x480 (400-530) V Models	Output Rating
115 V	CI1686	CI1696	-	-	0.6 kVA
230 V	CI1688	CI1698	-	-	0.6 kVA
115 V	CI3686	CI3696	CI3686V	CI3696V	1.2 kVA
230 V	CI3688	CI3698	CI3688V	CI3698V	1.2 kVA
115 V	CI4886	CI4896	CI4886V	CI4896V	1.8 kVA
230 V	CI4888	CI4898	CI4888V	CI4898V	2.0 kVA
115 V	CI5686	CI5696	CI5686V	CI5696V	1.8 kVA
230 V	CI5688	CI5698	CI5688V	CI5698V	2.0 kVA
115 V	CI5786	CI5796	CI5786V	CI5796V	2.5 kVA
230 V	CI5788	CI5798	CI5788V	CI5798V	2.5 kVA

**IT Series - Frequency Converters, Isolated 1 Phase 0.5-10.0 kVA**

Input (VAC) / Output	93-138 V Models	185-264 V Models	Output Rating	3x400 (320-460) V Models	3x480 (400-530) V Models	Output Rating
115 V (110-125 V)	IT1666	IT1686	0.5 kVA	IT3686V	IT3696V	1.0 kVA
230 V (210-245 V)	IT1668	IT1688	0.5 kVA	IT3688V	IT3698V	1.0 kVA
115 V (110-125 V)	IT3666	IT3686	0.8 kVA	IT3886V	IT3896V	1.6 kVA
230 V (210-245 V)	IT3668	IT3688	0.8 kVA	IT3888V	IT3898V	1.6 kVA
115 V (110-125 V)	IT3866	IT3886	1.4 kVA	IT4886V	IT4696V	2.5 kVA
230 V (210-245 V)	IT3868	IT3888	1.4 kVA	IT4888V	IT4898V	2.5 kVA
115 V (110-125 V)	IT4866	IT4886	2.0 kVA	IT5686V <sup>(1)</sup>	IT5696V <sup>(1)</sup>	5.0 kVA
230 V (210-245 V)	IT4868	IT4888	2.0 kVA	IT5688V <sup>(1)</sup>	IT5698V <sup>(1)</sup>	5.0 kVA
115 V (110-125 V)	IT5666 <sup>(1)</sup>	IT5686	4.0 kVA	IT5786V <sup>(1)</sup>	IT5796V <sup>(1)</sup>	8.0 kVA
230 V (210-245 V)	IT5668 <sup>(1)</sup>	IT5688	4.0 kVA	IT5788V <sup>(1)</sup>	IT5798V <sup>(1)</sup>	8.0 kVA
115 V (110-125 V)	IT5766 <sup>(1)</sup>	IT5786 <sup>(1)</sup>	6.0 kVA	IT5886V <sup>(1)</sup>	IT5896V <sup>(1)</sup>	10.0 kVA
230 V (210-245 V)	IT5268 <sup>(1)</sup>	IT5788 <sup>(1)</sup>	6.0 kVA	IT5888V <sup>(1)</sup>	IT5898V <sup>(1)</sup>	10.0 kVA

Input (VAC) / Output	93-138 V Models	185-264 V Models	Output Rating	3x400 (320-460) V Models	3x480 (400-530) V Models	Output Rating
3x200 VAC (Line to Line)	IV5566	IV5586	1.5 kVA	IV5686	IV5696V	3.5 kVA
3x400 VAC (Line to Line)	IV5568	IV5588	1.5 kVA	IV5688	IV5698V	3.5 kVA
3x200 VAC (Line to Line)	IV5666	IV5686	2.4 kVA	IV5786 <sup>(1)</sup>	IV5796V <sup>(1)</sup>	5.0 kVA
3x400 VAC (Line to Line)	IV5668	IV5688	2.4 kVA	IV5788 <sup>(1)</sup>	IV5798V <sup>(1)</sup>	5.0 kVA
3x200 VAC (Line to Line)	IV5766 <sup>(1)</sup>	IV5786 <sup>(1)</sup>	3.5 kVA	IV5886 <sup>(1)</sup>	IV5896V <sup>(1)</sup>	7.5 kVA
3x400 VAC (Line to Line)	IV5768 <sup>(1)</sup>	IV5788 <sup>(1)</sup>	3.5 kVA	IV5888 <sup>(1)</sup>	IV5898V <sup>(1)</sup>	7.5 kVA
3x200 VAC (Line to Line)	IV5866 <sup>(1)</sup>	IV5886 <sup>(1)</sup>	6.0 kVA	IV5886VF <sup>(1)</sup>	IV5896VF <sup>(1)</sup>	10.0 kVA
3x400 VAC (Line to Line)	IV5868 <sup>(1)</sup>	IV5888 <sup>(1)</sup>	6.0 kVA	IV5886VF <sup>(1)</sup>	IV5898VF <sup>(1)</sup>	10.0 kVA

- Notes:**
- Output transformers need to be installed externally because of weight.
  - Models supplied by external PFC module with 93-264 VAC input.
  - For other output voltages the output transformer can be modified - contact Sales.
  - 3-Phase output systems for power up to 36 kVA can be achieved - contact Sales.

## Application Details

### Wall Mounting Plate

Option 'W' available for 3U/6U models.  
Higher input current models use stud terminals.

### Ordering Details

Example: CI1628.5 describes an inverter operating from a battery voltage in the range 18-36 VDC and provides a 50 Hz sinusoidal output of 230 V RMS at 500 VA.

### Other Options

See AC-DC C Series for options.  
Customised designs - to special order - consult Sales.

### Frequency Designation

Add suffix to model number

.0	External control (specify at time of order)
.1	45-400 Hz adjustable
.2	45-65 Hz Adjustable
.4	400 Hz
.5	50 Hz
.51	Synchronised with 50 Hz mains
.6	60 Hz
.61	Synchronised with 60 Hz mains
.7	50/60 Hz switchable
.1 and .2	Frequency internally or externally adjustable/programmable
.4, 5 and .7	Frequency fixed, crystal stabilised
NOTE:	.0 not for IT or IV series.

## SS Series - Static Switch Specification 0.8-10 kVA

### Input

- Input Voltage • 115 VAC or 230 VAC models - See Table
- Input Frequency • 50 Hz, 60 Hz and 400 Hz models  
See Application Details

### Output

- Output Power • 800 VA to 10 kVA - See Tables
- Switching Times • Mains to inverter (mains priority)  $\leq 1/2$  period, typ 1/4 period (incl. failure detection time) or inverter to mains (inverter priority) 1 period, typ 1/2 period with a current  $>15$  A  
Return to mains (mains priority) or return to inverter (inverter priority) practically no interruption
- Switching Point • 0.8 Vnom <voltage <1.15 Vnom
- Surge Current • 5 x Inom for 1 sec
- Output Protection • Short circuit protected for output current  $\leq 15$  A, external fuse for output current  $>15$  A

Temperature Coefficient • 0.05%/°C

### General

- Signal Inputs • Logic low = 0 to 5 V, logic high = 12 to 30 V via opto coupler
- Relay Contacts • V max = 250 VAC, I max = 3 A
- Connectors • One H15 and one F48 or terminal block with wall mount option

### Environmental

- Operating Temperature • -20 °C to +75 °C, derate from +55 °C at 2.5%/°C (optional -40 °C to +75 °C)
- Storage Temperature • -40 °C to +85 °C

### EMC & Safety

- Isolation Resistance •  $>10$  M $\Omega$  at 500 VDC
- Isolation Test • EN60950, Class 1
- Creepage Distance • VDE 0110  $\geq 4$  mm
- Safety Approvals • EN60950, Class 1

## SS Series - Output Ratings & Mechanical Dimensions

Input/Output Voltage AC	Output Power	Dimensions			Model Number
		Height	Width	Depth (mm)	
230 V AC	1.6 kVA	6U	21TE	166.5	SS1508
	1.6 kVA	6U	21TE	226.0	SS3508
	3.2 kVA	6U	21TE	226.0	SS3518
	4.6 kVA	6U	21TE	226.0	SS3528
	10.0 kVA	6U	21TE	226.0	SS3538
115 V AC	0.8 kVA	6U	21TE	166.5	SS1506
	1.6 kVA	6U	21TE	166.5	SS1516
	1.6 kVA	6U	21TE	226.0	SS3506
	3.0 kVA	6U	21TE	226.0	SS3516
	5.0 kVA	6U	21TE	226.0	SS3526
	10.0 kVA	6U	21TE	226.0	SS3536

## Application Details

### Frequency Designation

Model Number	Designator	Frequency	
	SSXXXX	.4	400 Hz
		.5	50 Hz
		.6	60 Hz

Example:

SS1508.5 is a Static Switch for 230 VAC operation at 50 Hz and is capable of handling 1.6 kVA.