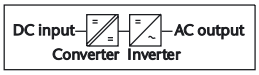
DC/AC Inverters with 1-phase output ► from 500VA to 12kVA

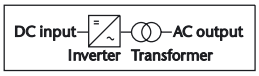
Series CI

is a combination of a switch mode **C**onverter and **I**nverter (internal circuit see page 97). The converter provides the isolation between input and output and transforms the voltage to the level needed by the inverter for supplying the specified AC output voltage.



Series IT

is a combination of a switch mode **I**nverter (internal circuit see page 97) and a **T**ransformer at the output. The transformer provides the isolation between input and output and transforms the voltage to the required level.

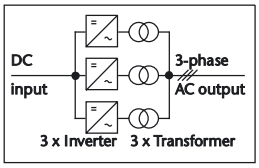


For lower input voltages the CI version is more compact than the IT version.

DC/AC Inverters with 3-phase output ► from 600 VA to 30 kVA

Series IV

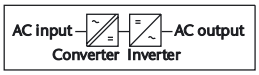
is a combination of 3 individual switch mode inverters with output transformers synchronized for a symmetrical 3-phase output. The transformers provide the isolation between input and output and transform the voltages to the required levels.



Frequency Converters with single phase output ► from 500 VA to 12 kVA

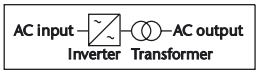
Series CI

is a combination of a switch mode **C**onverter and **I**nverter (internal circuit see page 97). The converter provides the isolation between input and output and transforms the voltage to the level needed by the inverter for supplying the specified AC output voltage.



Series IT

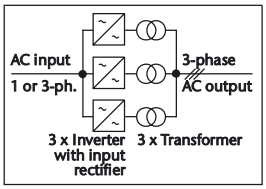
is a combination of a switch mode **I**nverter (internal circuit see page 97) with a rectifier at the input and a **T**ransformer at the output. The transformer provides the isolation between input and output and transforms the voltage to the required level.



Frequency Converters with 3-phase output ► from 1.5 to 36 kVA

Series IV

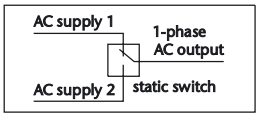
is a combination of 3 individual switch mode inverters, each with input rectifier and output transformer, synchronized for a symmetrical 3-phase output. The transformers provide the isolation between input and output and transform the voltages to the required levels.



Static Switches ► from 800 VA to 10 kVA

Series SS

provides uninterrupted AC power to a critical load by connecting the load to AC supply 1 which can be the inverter output or to AC supply 2 which can be the mains.



Series CI, IT

Specifications

Input

Voltage range . . . . . see tables, unit switches off at under- and overvoltage
No-load input power. . . . . 10 – 30 W
Inrush current . . . . . AC input: limited by thermistor
Hold-up time . . . . . AC input: 10 ms typical

Immunity
- ESD. . . . . acc. to DIN / EN 61000-4-2 level 3
- Fast transients . . . . . acc. to DIN / EN 61000-4-4 level 3
- Surges . . . . . acc. to DIN / EN 61000-4-5 level 3

Output

Line regulation (±10 %) . . . . . 0.1 % for series CI, 2 % for series IT and IV
Load regulation (10 – 90 %) . . . 1 % typical, 3 % max. (400 Hz: 3 % typical, 5 % max.)
Turn-on rise time . . . . . Soft-start, 100 ms typical
Waveform. . . . . sine wave or any wave shape programmable by external signal
Frequency . . . . . 40 – 400 Hz: adjustable / programmable or any fixed frequency (crystal stabilized)
Distortion. . . . . 3 % typical, 5 % @ 400 Hz, 7 % @ 40 – 400 Hz
Overload protection (steady state). . . . . current limited to approx. 1.05 x I_{nom}
Surge power . . . . . 2 x P_{nom} for 1 s
Short circuit protection . . . . . electronically limited to 3 x I_{nom}, unit switches off after 1 s
Crest factor. . . . . approx. 3
Power factor. . . . . cos $\varphi \geq 0.7$ inductive / capacitive

General

Efficiency . . . . . 75 – 94 %
Operating temperature. . . . . –20 to +75°C
Load derating . . . . . 2.5 % / °C from +55°C
Storage temperature . . . . . –40 to +85°C
Humidity . . . . . up to 95 % RH, non-condensing
Safety / Construction. . . . . acc. to DIN / EN 60950-1: 2003
Protection category . . . . . IP 20, others or NEMA upon request
EMI. . . . . acc. to EN 55022, class A, optionally class B
Marking . . . . . CE

Options (details see page 90 – 92)

Input

- Inrush current limiting for DC input
- Reverse polarity protection for DC input
- Autoranging for 115 / 230 VAC input
- Special circuit for 16.6 Hz AC input

Output

- Inhibit (remote on / off)
- Static Switch (details see page 88)

Signals

via relay contacts
- Power ok (input)
- AC ok (output)

Programming

Output voltage, current or frequency via
- Potentiometer
- Analog signal
- Interface card RS232 or IEEE488

Monitoring

Input / output voltage, current or frequency via
- Analog signal
- Interface card RS232 or IEEE488

Mechanics / environment:

- 19″ sub-rack for eurocassette, refer to page 93
- Wall mount
- Increased mechanical strength
- Tropical protection
- Extended temperature range to –40°C
- Temperature controlled fans for 19″ units

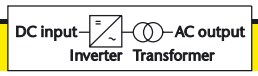
Connector (details see page 103)

Mechanics	Series CI	Series IT	Series IV
Eurocassette	H15 and high currrent connector for I > 50 A	H15, high current connector for I > 50 A and F24H7	--
Wall mount	Terminals	Terminals	Terminals
19″ plug-in module	Terminals	Terminals	Terminals
19″ sub-rack	Terminals	Terminals	Terminals

DC / AC Inverters with 1-phase output

Features

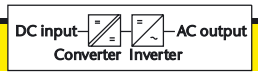
- DC input: 10 – 800 V
- AC output: 115 or 230 V or any other output voltage (to be specified)
- 40 – 400 Hz or fixed frequency (crystal stabilized)
- Sine wave
- Continuous short circuit protection
- Thermal shutdown with auto restart for inverters > 1 kVA
- Suitable for complex load
- Surge power capability
- Industrial grade components
- Compact and robust design



Series IT Switch mode inverter and transformer (for isolation and voltage transformation)

Input VDC																Cooling	Output VAC
20–32 VDC	Output kVA	Size	40–64 VDC	50–80 VDC	Output kVA	Size	80–160 VDC	Output kVA	Size	160–320 VDC	340–400 [1] VDC	340–640 [2] VDC	450–800 [2] VDC	Output kVA	Size		
IT 1626	0.2	A	IT 1636	IT 1646	0.4	A	IT 1656	0.5	A	IT 1676	IT 1686 Z			0.5	A		
			IT 3636	IT 3646	0.5	B	IT 3656	1	B	IT 3676	IT 3686 Z	IT 3676 G		1	B		
							IT 3856	1.2	C	IT 3876	IT 3886 Z	IT 3876 G	IT 3876 K	1.6	C		
			IT 4836	IT 4846	1.2	D	IT 4856	2	D	IT 4876	IT 4886 Z	IT 4876 G	IT 4876 K	2.5	D		115
			IT 5636	IT 5646	2	E	IT 5656	3	E	IT 5676	IT 5686 Z	IT 5676 G	IT 5676 K	5	F+T1	❄	
			IT 5736	IT 5746	3	E	IT 5756	5	F+T1	IT 5776	IT 5786 Z	IT 5776 G	IT 5776 K	8	F+T2	❄	
										IT 5876	IT 5886 Z	IT 5876 G	IT 5876 K	10	F+T3	❄	
IT 1628	0.2	A	IT 1638	IT 1648	0.4	A	IT 1658	0.5	A	IT 1678	IT 1688 Z			0.5	A		
			IT 3638	IT 3648	0.5	B	IT 3658	1	B	IT 3678	IT 3688 Z	IT 3678 G		1	B		
							IT 3858	1.2	C	IT 3878	IT 3888 Z	IT 3878 G	IT 3878 K	1.6	C		
			IT 4838	IT 4848	1.2	D	IT 4858	2	D	IT 4878	IT 4888 Z	IT 4878 G	IT 4878 K	2.5	D		230
			IT 5638	IT 5648	2	E	IT 5658	3	E	IT 5678	IT 5688 Z	IT 5678 G	IT 5678 K	5	F+T1	❄	
			IT 5738	IT 5748	3	E	IT 5758	5	F+T1	IT 5778	IT 5788 Z	IT 5778 G	IT 5778 K	8	F+T2	❄	
										IT 5878	IT 5888 Z	IT 5878 G	IT 5878 K	10	F+T3	❄	

= natural convection ❄ = temperature controlled fans



Series CI Switch mode converter (for isolation and voltage transformation) and inverter in one package

Input VDC															Cooling	Output VAC
10–16 VDC	Output kVA	Size	20–32 VDC	Output kVA	Size	40–64 VDC	50–80 VDC	80–160 VDC	160–320 VDC	320–380 [1] VDC	320–640 [2] VDC	450–800 [2] VDC	Output kVA	Size		
CI 1606	0.4	G	CI 1626	0.5	G	CI 1636	CI 1646	CI 1656	CI 1676	CI 1686 Z			0.6	G		
			CI 3626	1	H	CI 3636	CI 3646	CI 3656	CI 3676	CI 3686 Z	CI 3676 G		1.2	H		
CI 4806	0.8	I	CI 4826	1.4	I	CI 4836	CI 4846	CI 4856	CI 4876	CI 4886 Z	CI 4876 G	CI 4876 K	1.8	I		115
			CI 5626	2	K	CI 5636	CI 5646	CI 5656	CI 5676	CI 5686 Z	CI 5676 G	CI 5676 K	2.4	K		
CI 5706	2	K	CI 5726	3	K	CI 5736	CI 5746	CI 5756	CI 5776	CI 5786 Z	CI 5776 G	CI 5776 K	3.5	K	❄	
CI 1608	0.4	G	CI 1628	0.5	G	CI 1638	CI 1648	CI 1658	CI 1678	CI 1688 Z			0.6	G		
			CI 3628	1	H	CI 3638	CI 3648	CI 3658	CI 3678	CI 3688 Z	CI 3678 G		1.2	H		
CI 4808	0.8	I	CI 4828	1.4	I	CI 4838	CI 4848	CI 4858	CI 4878	CI 4888 Z	CI 4878 G	CI 4878 K	1.8	I		230
			CI 5628	2	K	CI 5638	CI 5648	CI 5658	CI 5678	CI 5688 Z	CI 5678 G	CI 5678 K	2.4	K		
CI 5708	2	K	CI 5728	3	K	CI 5738	CI 5748	CI 5758	CI 5778	CI 5788 Z	CI 5778 G	CI 5778 K	3.5	K	❄	

= natural convection ❄ = temperature controlled fans

Frequency Designation

.0	any external signal (control, ramp) → *only for Series CI*
.1	40 - 400 Hz adjustable / programmable
.2	45 - 65 Hz adjustable / programmable
.3	any fixed frequency between 40 - 400 Hz
.4	400 Hz
.5	50 Hz
.51	synchronized with 50 Hz mains
.6	60 Hz
.61	synchronized with 60 Hz mains
.7	50/60 Hz switchable

Assistance in table use:

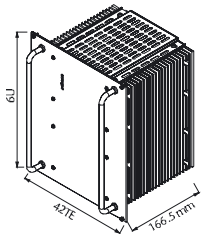
1. Select the column for input voltage range.
2. Select the row for the appropriate output voltage and power.
3. The intersection of both results in the module required.
4. Add the required frequency designation to the part number.

For example:

1. input voltage = 48 VDC
2. output voltage = 230 VAC @ 1.2 kVA
3. results in a IT 4838 or CI 3638
4. for 50 Hz add .5, e.g. CI 3638.5

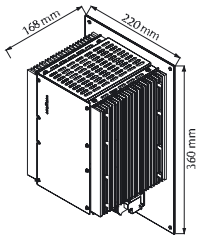
[1] input supply from PFC also suitable
[2] suited for wall-mount, alternatives upon request

Dimensions

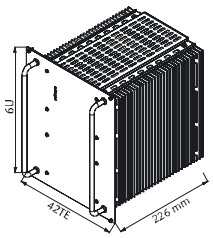


Eurocassette / approx. 9 kg
(pluggable module for 19" sub-rack)

Size A

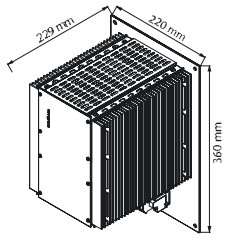


Wall mount / approx. 11 kg
(optional)

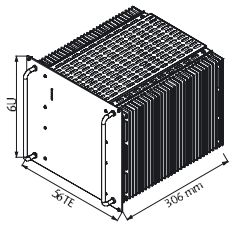


Eurocassette / approx. 11 - 13 kg
(pluggable module for 19" sub-rack)

Size B

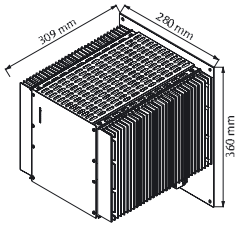


Wall mount / approx. 13 - 15 kg
(optional)

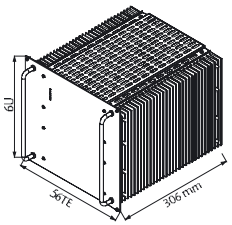


Eurocassette / approx. 16 - 18 kg
(pluggable module for 19" sub-rack)

Size C

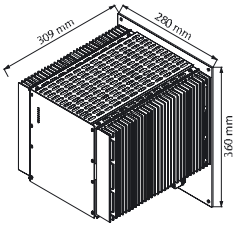


Wall mount / approx. 19 - 21 kg
(optional)

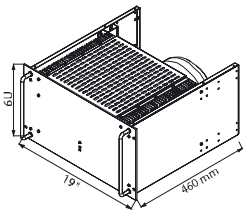


Eurocassette / approx. 18 - 24 kg
(pluggable module for 19" sub-rack)

Size D

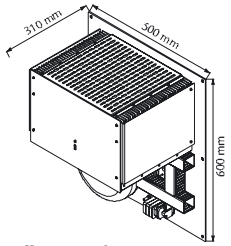


Wall mount / approx. 21 - 27 kg
(optional)

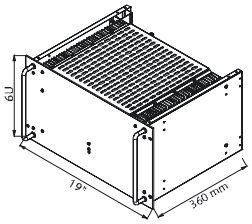


19" Plug-in module / approx. 46 - 50 kg

Size E

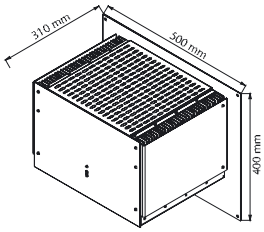


Wall mount / approx. 54 - 58 kg
(optional)

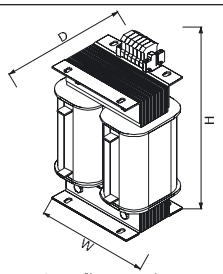


19" Plug-in module / approx. 32 kg

Size F



Wall mount / approx. 36 kg
(optional)

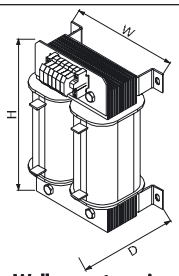


Standing version

Size T1 - T3

Trans-former	H	W	D	Weight in kg
	in mm			
T1	390	240	233	33
T2	450	280	253	50
T3	450	280	283	66

Transformers refer to 50/60 Hz.
Other frequencies or tropical insulation may change size and weight.

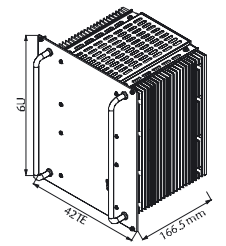


Wall mount version

Size T1 - T3

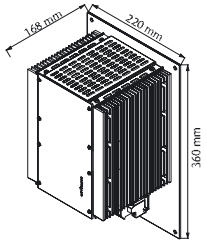
Trans-former	H	W	D	Weight in kg
	in mm			
T1	335	230	210	33
T2	390	260	240	50
T3	390	260	270	66

Transformers refer to 50/60 Hz.
Other frequencies or tropical insulation may change size and weight.

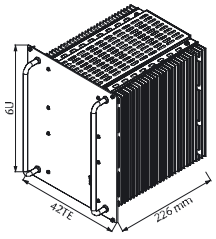


Eurocassette / approx. 6 kg
(pluggable module for 19" sub-rack)

Size G

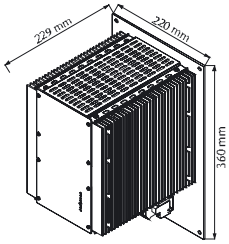


Wall mount / approx. 8 kg
(optional)

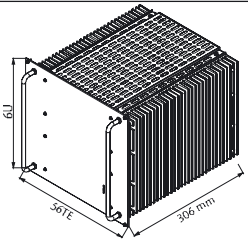


Eurocassette / approx. 10 kg
(pluggable module for 19" sub-rack)

Size H

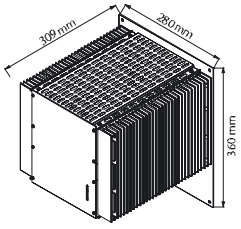


Wall mount / approx. 12 kg
(optional)

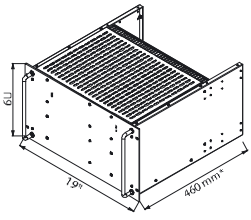


Eurocassette / approx. 18 kg
(pluggable module for 19" sub-rack)

Size I

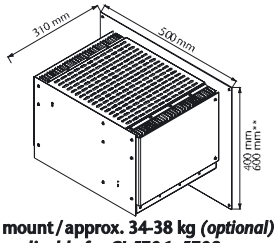


Wall mount / approx. 21 kg
(optional)



19" Plug-in module / approx. 28-32 kg
****) less depth upon request***

Size K



Wall mount / approx. 34-38 kg *(optional)*
*****) applicable for CI 5706, 5708***
5726 and 5728