

SCHAEFER

Series CI

Power Supplies

Converters

Inverters

Rectifiers

Chargers

Systems



Schaefer – the Power to make it happen.

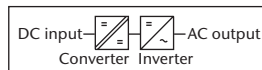
DC/AC Inverters with single phase output

▶ from 200 VA to 10 kVA

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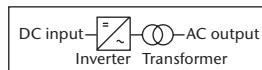
Series CI

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.

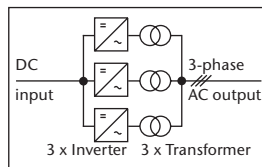
DC/AC Inverters with 3-phase output

▶ from 600 VA to 30 kVA

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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.



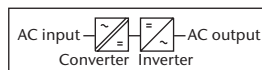
Frequency Converters with single phase output

▶ from 500 VA to 12 kVA

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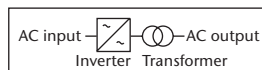
Series CI

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.



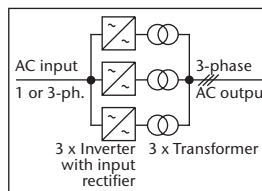
Frequency Converters with 3-phase output

▶ from 1.5 to 36 kVA

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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.



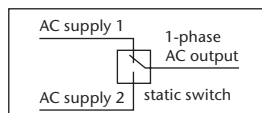
Static Switches

▶ from 800 VA to 10 kVA

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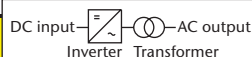
Series SS

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.



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		115	
			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			
			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		230	
			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			
			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		115	
			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			
			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		230	
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			
			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:

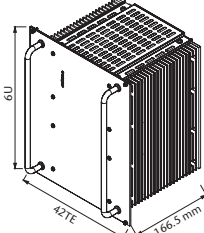
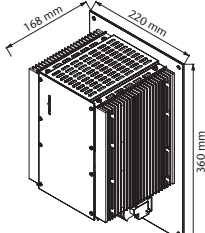
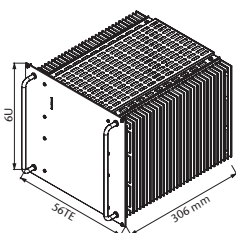
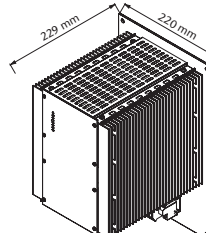
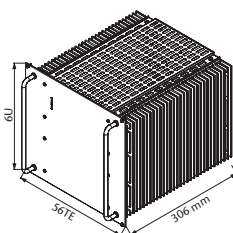
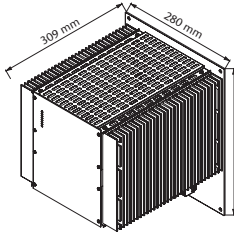
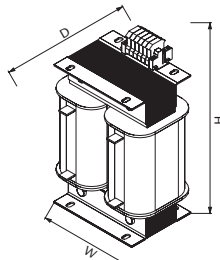
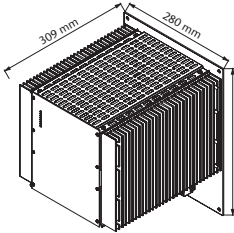
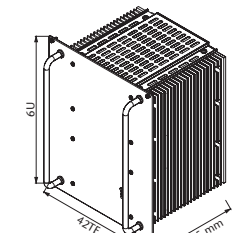
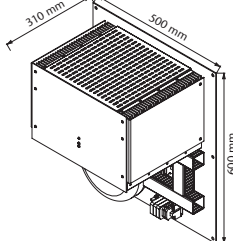
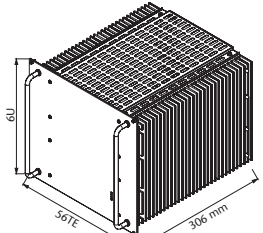
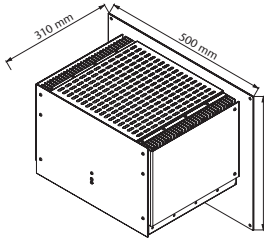
- 1 Select the column for input voltage range.
- 2 Select the row for the appropriate output voltage and power.
- 3 The intersection of both results in the module required.
- 4 Add the required frequency designation to the part number.

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

 <p>6U 42TE 166.5 mm</p>	<p>Size A</p> <p>Wall mount / approx. 11 kg (optional)</p>	 <p>6U 42TE 226 mm</p>	<p>Size B</p> <p>Wall mount / approx. 13-15 kg (optional)</p>																																																
 <p>6U 56TE 306 mm</p>	<p>Size C</p> <p>Wall mount / approx. 19-21 kg (optional)</p>	 <p>6U 56TE 306 mm</p>	<p>Size D</p> <p>Wall mount / approx. 21-27 kg (optional)</p>																																																
 <p>6U 19" 460 mm</p>	<p>Size E</p> <p>Wall mount / approx. 54-58 kg (optional)</p>	 <p>6U 19" 360 mm</p>	<p>Size F</p> <p>Wall mount / approx. 36 kg (optional)</p>																																																
 <p>D H W</p> <p>Size T1 - T3</p> <table><tr><th>Trans- former</th><th>H</th><th>W</th><th>D</th><th>Weight in kg</th></tr><tr><td></td><td colspan="4">in mm</td></tr><tr><td>T1</td><td>390</td><td>240</td><td>233</td><td>33</td></tr><tr><td>T2</td><td>450</td><td>280</td><td>253</td><td>50</td></tr><tr><td>T3</td><td>450</td><td>280</td><td>283</td><td>66</td></tr></table> <p>Transformers refer to 50/60 Hz. Other frequencies or tropical insulation may change size and weight.</p> <p>Standing version</p>	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	 <p>H W D</p> <p>Size T1 - T3</p> <table><tr><th>Trans- former</th><th>H</th><th>W</th><th>D</th><th>Weight in kg</th></tr><tr><td></td><td colspan="4">in mm</td></tr><tr><td>T1</td><td>335</td><td>230</td><td>210</td><td>33</td></tr><tr><td>T2</td><td>390</td><td>260</td><td>240</td><td>50</td></tr><tr><td>T3</td><td>390</td><td>260</td><td>270</td><td>66</td></tr></table> <p>Transformers refer to 50/60 Hz. Other frequencies or tropical insulation may change size and weight.</p> <p>Wall mount version</p>	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
Trans- former	H	W	D	Weight in kg																																															
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T1	390	240	233	33																																															
T2	450	280	253	50																																															
T3	450	280	283	66																																															
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																																															
 <p>6U 42TE 166.5 mm</p>	<p>Size G</p> <p>Wall mount / approx. 8 kg (optional)</p>	 <p>6U 42TE 226 mm</p>	<p>Size H</p> <p>Wall mount / approx. 12 kg (optional)</p>																																																
 <p>6U 56TE 306 mm</p>	<p>Size I</p> <p>Wall mount / approx. 21 kg (optional)</p>	 <p>6U 19" 460 mm*</p>	<p>Size K</p> <p>Wall mount / approx. 34-38 kg (optional) **) applicable for CI 5706, 5708 5726 and 5728</p>																																																

Frequency Converters (AC / AC Inverters) with I-phase output

Features

- AC input: 1 or 3-phase, 47 – 400 Hz
- 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 VAC 1-Phase	Output kVA	Size	Input VAC 1-Phase	Input VAC 3-Phase			Output kVA	Size	Cooling	Output VAC
115 ±20%			230 ^{+15%} _{-20%}	3x200 ^{+15%} _{-20%}	3x400 ^{+15%} _{-20%}	3x480 ^{+10%} _{-15%}				
IT 1666	0.5	A	IT 1686	IT 1666 V			0.5	A		115
IT 3666	1	B	IT 3686	IT 3666 V	IT 3686 V		1	B		
IT 3866	1.2	C	IT 3886	IT 3866 V	IT 3886 V	IT 3896 V	1.6	C		
IT 4866	2	D	IT 4886	IT 4866 V	IT 4886 V	IT 4896 V	2.5	D		
IT 5666	3	E	IT 5686	IT 5666 V	IT 5686 V	IT 5696 V	5	F+T1		
IT 5766	5	F+T1	IT 5786	IT 5766 V	IT 5786 V	IT 5796 V	8	F+T2		
					IT 5886 V	IT 5896 V	12	F+T3		
IT 1668	0.5	A	IT 1688	IT 1668 V			0.5	A		230
IT 3668	1	B	IT 3688	IT 3668 V	IT 3688 V		1	B		
IT 3868	1.2	C	IT 3888	IT 3868 V	IT 3888 V	IT 3898 V	1.6	C		
IT 4868	2	D	IT 4888	IT 4868 V	IT 4888 V	IT 4898 V	2.5	D		
IT 5668	3	E	IT 5688	IT 5668 V	IT 5688 V	IT 5698 V	5	F+T1		
IT 5768	5	F+T1	IT 5788	IT 5768 V	IT 5788 V	IT 5798 V	8	F+T2		
					IT 5888 V	IT 5898 V	12	F+T3		

= natural convection

= temperature controlled fans



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

Input VAC 1-Phase			Input VAC 3-Phase			Output kVA	Size	Cooling	Output VAC
115 ±20%	230 ^{+15%} _{-20%}	115 ±20% / 230 ^{+15%} _{-20%}	3x200 ^{+15%} _{-20%}	3x400 ^{+15%} _{-20%}	3x480 ^{+10%} _{-15%}				
CI 1666	CI 1686	CI 1696	CI 1666 V			0.6	G		115
CI 3666	CI 3686	CI 3696	CI 3666 V	CI 3686 V	CI 3696 V	1.2	H		
CI 4866	CI 4886	CI 4896	CI 4866 V	CI 4886 V	CI 4896 V	1.8	I		
CI 5666	CI 5686	CI 5696	CI 5666 V	CI 5686 V	CI 5696 V	2.4	K		
CI 5766	CI 5786		CI 5766 V	CI 5786 V	CI 5796 V	3.5	K		
CI 1668	CI 1688	CI 1698	CI 1668 V			0.6	G		230
CI 3668	CI 3688	CI 3698	CI 3668 V	CI 3688 V	CI 3698 V	1.2	H		
CI 4868	CI 4888	CI 4898	CI 4868 V	CI 4888 V	CI 4898 V	1.8	I		
CI 5668	CI 5688	CI 5698	CI 5668 V	CI 5688 V	CI 5698 V	2.4	K		
CI 5768	CI 5788		CI 5768 V	CI 5788 V	CI 5798 V	3.5	K		

= natural convection

= temperature controlled fans

Frequency Designation (output)

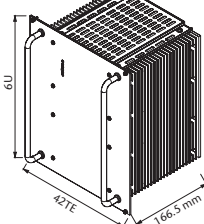
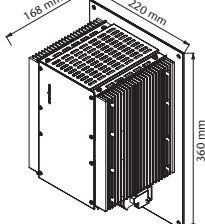
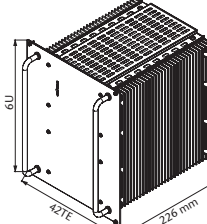
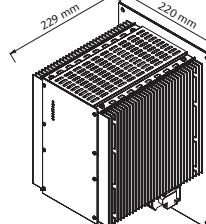
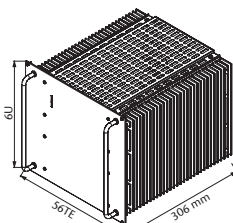
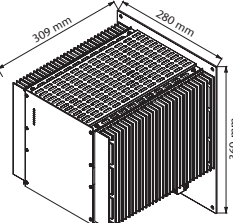
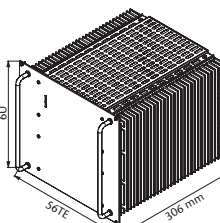
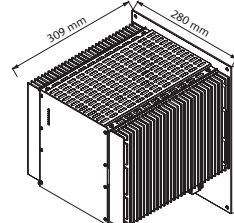
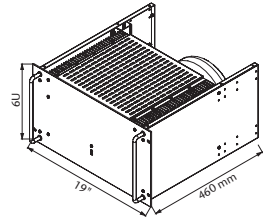
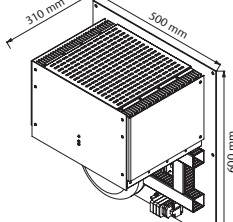
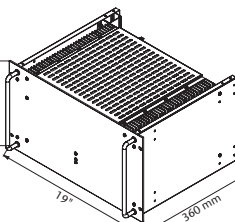
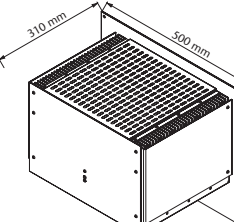
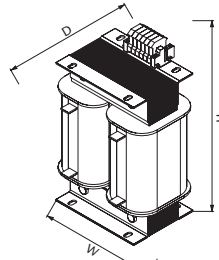
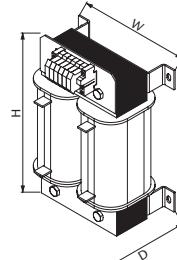
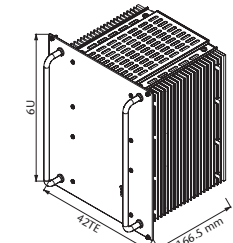
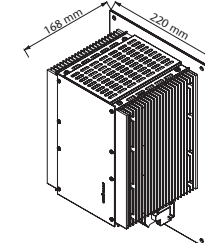
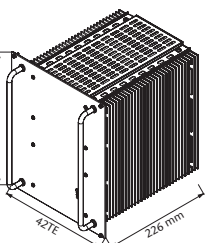
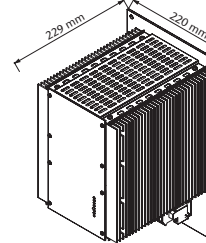
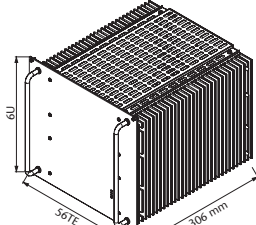
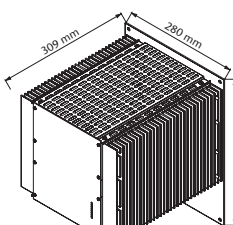
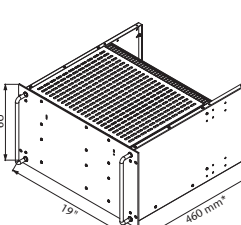
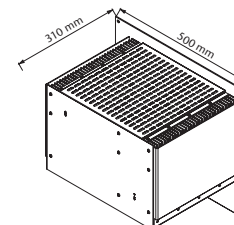
.0	any external signal (control, ramp) → <i>only for Series CI</i>
.1	40 - 400 Hz adjustable / programmable
.2	45 - 65 Hz adjustable / programmable
.3	any fixed frequency between 40 - 400 Hz
.4	400 Hz
.5	50 Hz
.51	synchronized with 50 Hz mains
.6	60 Hz
.61	synchronized with 60 Hz mains
.7	50/60 Hz switchable

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 = 115 VAC, 60 Hz
- 2 output voltage = 230 VAC, 50 Hz @ 1.2 kVA
- 3 results in a CI 3668
- 4 for 50 Hz add .5, i.e. CI 3668.5

 <p>6U 42TE 166.5 mm</p>	<p>Size A</p>  <p>168 mm 220 mm 360 mm</p> <p>Eurocassette / approx. 9 kg (pluggable module for 19" sub-rack)</p> <p>Wall mount / approx. 11 kg (optional)</p>	 <p>6U 42TE 226 mm</p>	<p>Size B</p>  <p>229 mm 220 mm 360 mm</p> <p>Eurocassette / approx. 13 kg (pluggable module for 19" sub-rack)</p> <p>Wall mount / approx. 15 kg (optional)</p>																																								
 <p>6U 56TE 306 mm</p>	<p>Size C</p>  <p>309 mm 280 mm 360 mm</p> <p>Eurocassette / approx. 18 kg (pluggable module for 19" sub-rack)</p> <p>Wall mount / approx. 21 kg (optional)</p>	 <p>6U 56TE 306 mm</p>	<p>Size D</p>  <p>309 mm 280 mm 360 mm</p> <p>Eurocassette / approx. 21 - 24 kg (pluggable module for 19" sub-rack)</p> <p>Wall mount / approx. 24 - 27 kg (optional)</p>																																								
 <p>6U 19" 460 mm</p>	<p>Size E</p>  <p>310 mm 500 mm 600 mm</p> <p>19" Plug-in module / approx. 46 - 50 kg</p> <p>Wall mount / approx. 54 - 58 kg (optional)</p>	 <p>6U 19" 360 mm</p>	<p>Size F</p>  <p>310 mm 500 mm 400 mm</p> <p>19" Plug-in module / approx. 32 kg</p> <p>Wall mount / approx. 36 kg (optional)</p>																																								
 <p>D H W</p> <p>Size T1 - T3</p> <table><tr><th>Trans- former</th><th>H</th><th>W</th><th>D</th><th>Weight in kg</th></tr><tr><td>T1</td><td>390</td><td>240</td><td>233</td><td>33</td></tr><tr><td>T2</td><td>450</td><td>280</td><td>253</td><td>50</td></tr><tr><td>T3</td><td>450</td><td>280</td><td>283</td><td>66</td></tr></table> <p>Transformers refer to 50/60 Hz. Other frequencies or tropical insulation may change size and weight.</p> <p>Standing version</p>	Trans- former	H	W	D	Weight in kg	T1	390	240	233	33	T2	450	280	253	50	T3	450	280	283	66		 <p>H W D</p> <p>Size T1 - T3</p> <table><tr><th>Trans- former</th><th>H</th><th>W</th><th>D</th><th>Weight in kg</th></tr><tr><td>T1</td><td>335</td><td>230</td><td>210</td><td>33</td></tr><tr><td>T2</td><td>390</td><td>260</td><td>240</td><td>50</td></tr><tr><td>T3</td><td>390</td><td>260</td><td>270</td><td>66</td></tr></table> <p>Transformers refer to 50/60 Hz. Other frequencies or tropical insulation may change size and weight.</p> <p>Wall mount version</p>	Trans- former	H	W	D	Weight in kg	T1	335	230	210	33	T2	390	260	240	50	T3	390	260	270	66	
Trans- former	H	W	D	Weight in kg																																							
T1	390	240	233	33																																							
T2	450	280	253	50																																							
T3	450	280	283	66																																							
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T3	390	260	270	66																																							
 <p>6U 42TE 166.5 mm</p>	<p>Size G</p>  <p>168 mm 220 mm 360 mm</p> <p>Eurocassette / approx. 6 kg (pluggable module for 19" sub-rack)</p> <p>Wall mount / approx. 8 kg (optional)</p>	 <p>6U 42TE 226 mm</p>	<p>Size H</p>  <p>229 mm 220 mm 360 mm</p> <p>Eurocassette / approx. 10 kg (pluggable module for 19" sub-rack)</p> <p>Wall mount / approx. 12 kg (optional)</p>																																								
 <p>6U 56TE 306 mm</p>	<p>Size I</p>  <p>309 mm 280 mm 360 mm</p> <p>Eurocassette / approx. 18 kg (pluggable module for 19" sub-rack)</p> <p>Wall mount / approx. 21 kg (optional)</p>	 <p>6U 19" 460 mm*</p>	<p>Size K</p>  <p>310 mm 500 mm 400 mm</p> <p>19" Plug-in module / approx. 28-32 kg *) less depth upon request</p> <p>Wall mount / approx. 34-38 kg (optional)</p>																																								