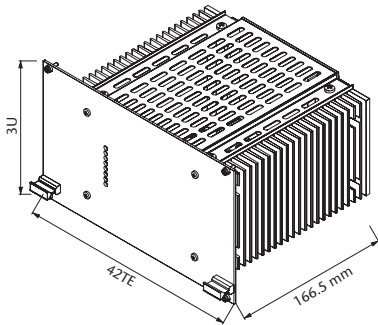
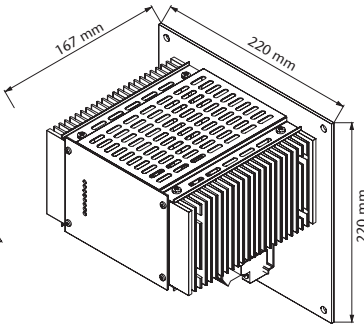
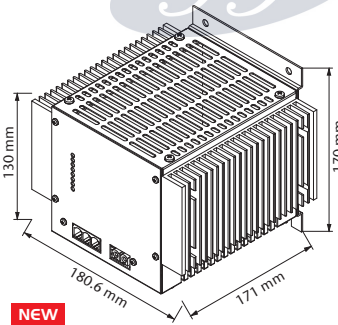
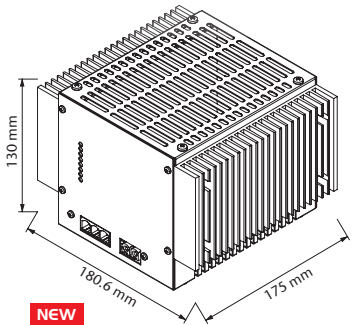


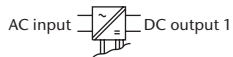
Eurocassette / approx. 2.6 kg
(pluggable module for 19" sub-rack)

Wall mount / approx. 3.6 kg

**NEW**
Chassis mount / approx. 3.1 kg**NEW**
DIN rail mount / approx. 3.0 kg

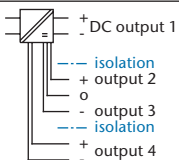
DC / DC Converters

▶ 180 W		▶ 250 W		▶ 300 W							
Input VDC										Output 1 VDC	
10–16 VDC	Max. Output Amps	18–36 VDC	Max. Output Amps	36–75 VDC	45–90 VDC	80–160 VDC	160–320 VDC	320–380 ¹⁾ VDC	Max. Output Amps	Adj.	Range
SM 600	25	SM 620	25	SM 630	SM 640	SM 650	SM 670	SM 680 Z	30	5	5– 5.5
SM 601	12	SM 621	16	SM 631	SM 641	SM 651	SM 671	SM 681 Z	19	9	8– 10
SM 602	9	SM 622	13	SM 632	SM 642	SM 652	SM 672	SM 682 Z	16	12	11– 13
SM 603	7.2	SM 623	11	SM 633	SM 643	SM 653	SM 673	SM 683 Z	13	15	14– 16
SM 604	4.8	SM 624	7	SM 634	SM 644	SM 654	SM 674	SM 684 Z	8.5	24	23– 26
SM 605	4.2	SM 625	6	SM 635	SM 645	SM 655	SM 675	SM 685 Z	7	28	26– 30
SM 609	2.65	SM 629	3.3	SM 639	SM 649	SM 659	SM 679	SM 689 Z	3.9	48	45– 55
SM 606	2.2	SM 626	2.5	SM 636	SM 646	SM 656	SM 676	SM 686 Z	3	60	58– 68



AC / DC Power Supplies

▶ 300 W					
Input VAC, 1-Phase				Output 1 VDC	
115 ±20%	230 ^{+15%} –20%	115 ±20% / 230 ^{+15%} –20%	Max. Output Amps	Adj.	Range
SM 660	SM 680	SM 690	30	5	5– 5.5
SM 661	SM 681	SM 691	19	9	8– 10
SM 662	SM 682	SM 692	16	12	11– 13
SM 663	SM 683	SM 693	13	15	14– 16
SM 664	SM 684	SM 694	8.5	24	23– 26
SM 665	SM 685	SM 695	7	28	26– 30
SM 669	SM 689	SM 699	3.9	48	45– 55
SM 666	SM 686	SM 696	3	60	58– 68



Additional DC outputs

+ output 2		— output 3		output 4	
common return					
5 V	3 A max.	5 V	1.2 A max.	5 V	3 A max.
12 V		12 V		12 V	3 A max.
15 V		15 V		15 V	3 A max.
				24 V	1.2 A max.

The modules require a minimum load of 10...20 % at the main output in order to generate sufficient voltage for the additional outputs.

Assistance in table use:

- 1 Select the column for input voltage range.
- 2 Select the row for the appropriate main output voltage.
- 3 The intersection of both results in the module required.
- 4 Additional outputs can be chosen, considering that the max. output power of 180/250/300 W will not be exceeded.

For example:

- 1 input voltage = 230 VAC
- 2 output voltage = 24 VDC @ 8.5 A
- 3 results in a SM 684 module.
- 4 Additional outputs to be specified.

¹⁾ input supply from PFC also suitable

Features

- DC input: 10 - 380 V
- AC input: 115 / 230 V, 47 - 400 Hz
- Up to 4 DC outputs: 5 / ... / 60 V
- Power: 30 / ... / 700 W
- Continuous short circuit protection for main output
- Overvoltage protection for main output
- Industrial grade components
- Compact and robust design

Specifications**Input**

Voltage range see table, unit switches off
at under- and overvoltage

No-load input power 3 - 6 W

Switch-on time 0.5 - 2 s

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

Main output

Line regulation ($\pm 10\%$) 0.1 %

Load regulation (10-90 %) 0.2 %

Load transient (10-90-10 %) 6 % typical

Response time to $\pm 1\%$ 2 - 3 ms

Turn-on rise time Soft-start, 100 ms typical

Ripple $\leq 1\% + 30\text{ mV}_{\text{p-p}}$

Overload protection current limited to 105 - 110 % of I_{nom}

Overvoltage protection OVP switches off module with
automatic return to operation

Remote sense compensation up to 10 % of U_{nom}

Additional outputs

Line regulation ($\pm 10\%$) 0.1 %

Load regulation (10-90 %) 2 % typical

Ripple 0.5 % typical

Overload protection current limited

General

Efficiency 70 - 85 %

Operating temperature -20 to $+75\text{ }^{\circ}\text{C}$

Load derating 2.5% / $^{\circ}\text{C}$ from $+55\text{ }^{\circ}\text{C}$

Storage temperature -40 to $+85\text{ }^{\circ}\text{C}$

Humidity up to 95 % RH, non-condensing

Cooling natural convection

Temperature coefficient 0.02% / $^{\circ}\text{C}$ typical

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

MTBF approx. 100,000 h @ $40\text{ }^{\circ}\text{C}$
acc. to MIL - HDBK - 217 E (notice 1)

Connector for
eurocassette - std. design H 15 (details see page 103)

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

Output

- Parallel operation
- Redundant operation
- Inhibit (remote on / off)

Signals

via open collector or relay contacts

- Power ok (input)
- DC ok (outputs)

Monitoring

Input / output voltage or current via

- analog signal
- interface card RS232 or IEEE488 (external)

Mechanics / environment:

- 19" sub-rack for eurocassette, refer to page 93
- Wall mount
- Chassis mount
- DIN rail mount
- Increased mechanical strength
- Tropical protection
- Extended temperature range to $-40\text{ }^{\circ}\text{C}$

