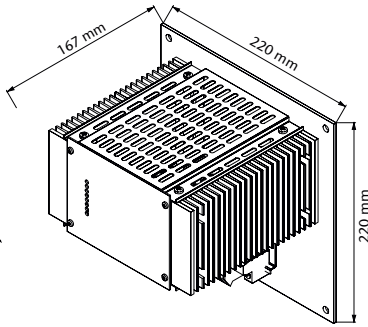
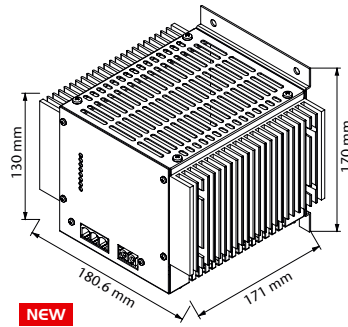


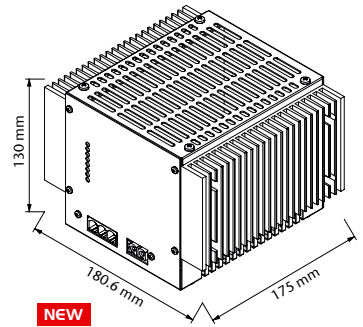
Eurocassette / approx. 3.5 kg
(pluggable module for 19" sub-rack)



Wall mount / approx. 4.5 kg



NEW
Chassis mount / approx. 4.0 kg



NEW
DIN rail mount / approx. 3.9 kg



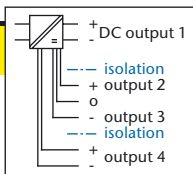
DC / DC Converters

▶ 270 W		▶ 400 W		▶ 450 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	
M 600	35	M 620	40	M 630	M 640	M 650	M 670	M 680 Z	40	5	5– 5.5	
M 601	18	M 621	25	M 631	M 641	M 651	M 671	M 681 Z	30	9	8– 10	
M 602	15	M 622	20	M 632	M 642	M 652	M 672	M 682 Z	24	12	11– 13	
M 603	12	M 623	16	M 633	M 643	M 653	M 673	M 683 Z	19	15	14– 16	
M 604	7.5	M 624	10	M 634	M 644	M 654	M 674	M 684 Z	12	24	23– 26	
M 605	6	M 625	8.7	M 635	M 645	M 655	M 675	M 685 Z	10	28	26– 30	
M 609	3.2	M 629	4.6	M 639	M 649	M 659	M 679	M 689 Z	5.4	48	45– 55	
M 606	3	M 626	3.8	M 636	M 646	M 656	M 676	M 686 Z	4.5	60	58– 68	



AC / DC Converters

▶ 450 W					
Input VAC, 1-Phase				Output 1 VDC	
115 ±20%	230 ^{+15%} _{-20%}	115 ±20% / 230 ^{+15%} _{-20%}	Max. Output Amps	Adj.	Range
M 660	M 680	M 690	40	5	5– 5.5
M 661	M 681	M 691	30	9	8– 10
M 662	M 682	M 692	24	12	11– 13
M 663	M 683	M 693	19	15	14– 16
M 664	M 684	M 694	12	24	23– 26
M 665	M 685	M 695	10	28	26– 30
M 669	M 689	M 699	5.4	48	45– 55
M 666	M 686	M 696	4.5	60	58– 68



Additional DC outputs

+ output 2		– output 3		output 4			
common return							
linear regulator				linear regulator		switchmode regulator „sw“	
5 V	3 A	5 V	3 A	5 V	3 A max.	5 V	10 A max.
12 V	max.	12 V	max.	12 V	3 A max.	12 V	6 A max.
15 V		15 V		15 V	3 A max.	15 V	5 A max.
				24 V	1.2 A max.	24 V	3 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:

- Select the column for input voltage range.
- Select the row for the appropriate main output voltage.
- The intersection of both results in the module required.
- Additional outputs can be chosen, considering that the max. output power of 270 / 400 / 450 W will not be exceeded.

For example:

- input voltage = 12 VDC
- output voltage = 60 VDC @ 3 A
- results in a M 606 module.
- 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
 Marking CE

Options

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
- Wall mount
- Chassis mount
- DIN rail mount
- Increased mechanical strength
- Tropical protection
- Extended temperature range to $-40\text{ }^\circ\text{C}$

