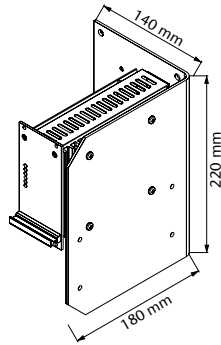
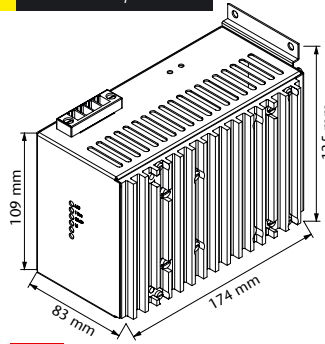


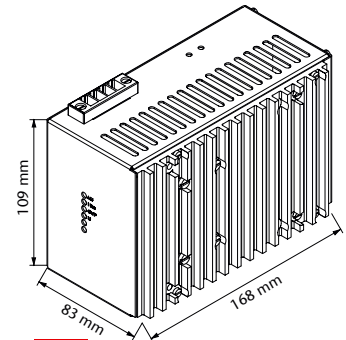
Eurocassette / approx. 1.0 kg  
(pluggable module for 19" sub-rack)



Wall mount / approx. 2.5 kg



**NEW**  
Chassis mount / approx. 1.4 kg



**NEW**  
DIN rail mount / approx. 1.35 kg



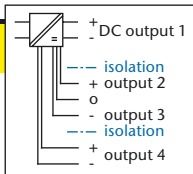
## DC / DC Converters

▶ 60 W				▶ 80 W						
Input VDC									Output 1 VDC	
10–16 VDC	Max. Output Amps	18–36 VDC	36–75 VDC	45–90 VDC	80–160 VDC	160–320 VDC	320–380 <sup>1)</sup> VDC	Max. Output Amps	Adj.	Range
M 300	6	M 320	M 330	M 340	M 350	M 370	M 380 Z	8	5	5– 5.5
M 301	3	M 321	M 331	M 341	M 351	M 371	M 381 Z	4	9	8– 10
M 302	2.3	M 322	M 332	M 342	M 352	M 372	M 382 Z	3	12	11– 13
M 303	2	M 323	M 333	M 343	M 353	M 373	M 383 Z	2.5	15	14– 16
M 304	1.2	M 324	M 334	M 344	M 354	M 374	M 384 Z	1.5	24	23– 26
M 305	1	M 325	M 335	M 345	M 355	M 375	M 385 Z	1.3	28	26– 30
M 309	0.6	M 329	M 339	M 349	M 359	M 379	M 389 Z	0.7	48	45– 55
M 306	0.5	M 326	M 336	M 346	M 356	M 376	M 386 Z	0.6	60	58– 68



## AC / DC Converters

▶ 80 W					
Input VAC, 1-Phase				Output 1 VDC	
115 ±20%	230 <sup>+15%</sup> <sub>-20%</sub>	115 ±20% / 230 <sup>+15%</sup> <sub>-20%</sub>	Max. Output Amps	Adj.	Range
M 360	M 380	M 390	8	5	5– 5.5
M 361	M 381	M 391	4	9	8– 10
M 362	M 382	M 392	3	12	11– 13
M 363	M 383	M 393	2.5	15	14– 16
M 364	M 384	M 394	1.5	24	23– 26
M 365	M 385	M 395	1.3	28	26– 30
M 369	M 389	M 399	0.7	48	45– 55
M 366	M 386	M 396	0.6	60	58– 68



## Additional DC outputs

+ output 2		– output 3		output 4	
common return					
5 V	2 A max.	5 V	0.5 A max.	5 V	1.2 A max.
12 V		12 V		1.2 A max.	
15 V		15 V		1.2 A max.	
				24 V	0.5 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 60/80 W will not be exceeded.

### For example:

- 1 input voltage = 110 VDC
- 2 output voltage = 60 VDC @ 0.6 A
- 3 results in a M 356 module.
- 4 Additional outputs to be specified.

<sup>1)</sup> 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  $I_{\text{nom}}$   
 Overvoltage protection . . . . . OVP switches off module with  
 automatic return to operation  
 Remote sense. . . . . compensation up to 10 % of  $U_{\text{nom}}$

### 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  $-40\text{ }^\circ\text{C}$

