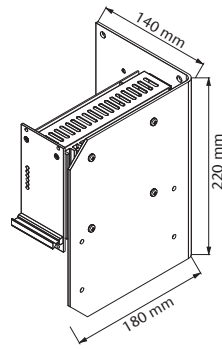
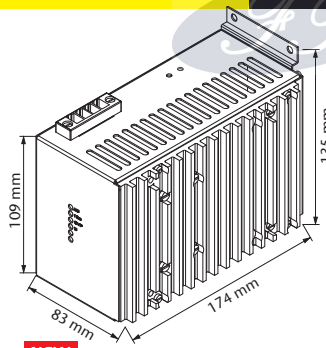


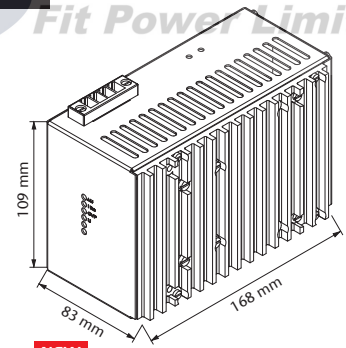
Eurocassette / approx. 1.0 kg
(pluggable module for 19" sub-rack)



Wall mount / approx. 2.5 kg



NEW
Chassis mount / approx. 1.4 kg

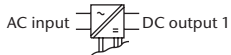


NEW
DIN rail mount / approx. 1.35 kg



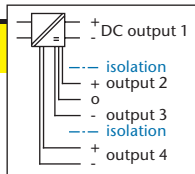
DC / DC Converters

| ▶ 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 ¹⁾ 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 Power Supplies

| ▶ 80 W | | | | | |
|--------------------|--------------------------|-------------------------------------|------------------|--------------|--------|
| Input VAC, 1-Phase | | | | Output 1 VDC | |
| 115 ±20% | 230 ^{+15% -20%} | 115 ±20% / 230 ^{+15% -20%} | 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:

- 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 60/80 W will not be exceeded.

For example:

- input voltage = 110 VDC
- output voltage = 60 VDC @ 0.6 A
- results in a M 356 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 (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 $-40\text{ }^\circ\text{C}$

