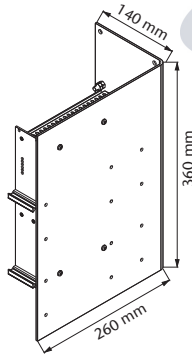
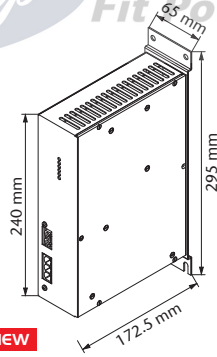


Eurocassette / approx. 1.7 kg
(pluggable module for 19" sub-rack)



Wall mount / approx. 4.7 kg

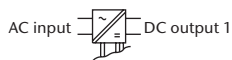


NEW Chassis mount / approx. 2.1 kg



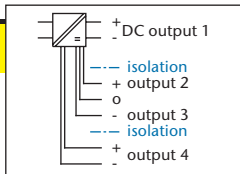
DC / DC Converters

▶ 110 W		▶ 140 W		▶ 160 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 1200	10	M 1220	13	M 1230	M 1240	M 1250	M 1270	M 1280 Z	15	5	5– 5.5
M 1201	5.5	M 1221	7	M 1231	M 1241	M 1251	M 1271	M 1281 Z	8	9	8– 10
M 1202	4.3	M 1222	5.4	M 1232	M 1242	M 1252	M 1272	M 1282 Z	6.2	12	11– 13
M 1203	3.5	M 1223	4.4	M 1233	M 1243	M 1253	M 1273	M 1283 Z	5	15	14– 16
M 1204	2	M 1224	2.7	M 1234	M 1244	M 1254	M 1274	M 1284 Z	3.1	24	23– 26
M 1205	1.8	M 1225	2.4	M 1235	M 1245	M 1255	M 1275	M 1285 Z	2.7	28	26– 30
M 1209	1	M 1229	1.3	M 1239	M 1249	M 1259	M 1279	M 1289 Z	1.5	48	45– 55
M 1206	0.8	M 1226	1	M 1236	M 1246	M 1256	M 1276	M 1286 Z	1.2	60	58– 68



AC / DC Power Supplies

▶ 160 W					
Input VAC, 1-Phase				Output 1 VDC	
115 ±20%	230 ^{+15% -20%}	115 ±20% / 230 ^{+15% -20%}	Max. Output Amps	Adj.	Range
M 1260	M 1280	M 1290	15	5	5– 5.5
M 1261	M 1281	M 1291	8	9	8– 10
M 1262	M 1282	M 1292	6.2	12	11– 13
M 1263	M 1283	M 1293	5	15	14– 16
M 1264	M 1284	M 1294	3.1	24	23– 26
M 1265	M 1285	M 1295	2.7	28	26– 30
M 1269	M 1289	M 1299	1.5	48	45– 55
M 1266	M 1286	M 1296	1.2	60	58– 68



Additional DC outputs

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

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 110/140/160 W will not be exceeded.

For example:

- input voltage = 12 VDC
- output voltage = 48 VDC @ 1 A
- results in a M 1209 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 $-40\text{ }^\circ\text{C}$

