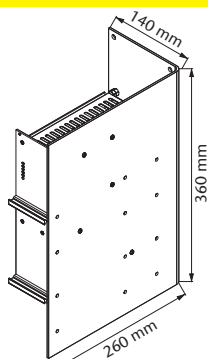
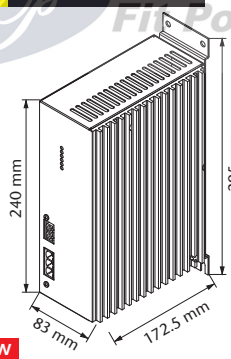


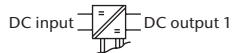
Eurocassette / approx. 2.0 kg
(pluggable module for 19" sub-rack)



Wall mount / approx. 5.0 kg

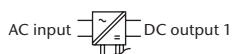


NEW
Chassis mount / approx. 2.4 kg



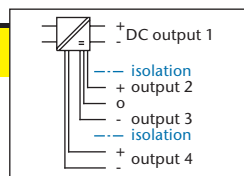
DC / DC Converters

▶ 220 W		▶ 280 W		▶ 320 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 1300	20	M 1320	25	M 1330	M 1340	M 1350	M 1370	M 1380 Z	30	5	5– 5.5
M 1301	11	M 1321	16	M 1331	M 1341	M 1351	M 1371	M 1381 Z	20	9	8– 10
M 1302	8.5	M 1322	12.5	M 1332	M 1342	M 1352	M 1372	M 1382 Z	15	12	11– 13
M 1303	7	M 1323	10	M 1333	M 1343	M 1353	M 1373	M 1383 Z	13	15	14– 16
M 1304	4.2	M 1324	6.2	M 1334	M 1344	M 1354	M 1374	M 1384 Z	8	24	23– 26
M 1305	3.7	M 1325	5.4	M 1335	M 1345	M 1355	M 1375	M 1385 Z	7	28	26– 30
M 1309	2	M 1329	3	M 1339	M 1349	M 1359	M 1379	M 1389 Z	3.7	48	45– 55
M 1306	1.6	M 1326	2.5	M 1336	M 1346	M 1356	M 1376	M 1386 Z	3	60	58– 68



AC / DC Power Supplies

▶ 320 W					
Input VAC, 1-Phase				Output 1 VDC	
115 ±20%	230 ^{+15%} -20%	115 ±20% / 230 ^{+15%} -20%	Max. Output Amps	Adj.	Range
M 1360	M 1380	M 1390	30	5	5– 5.5
M 1361	M 1381	M 1391	20	9	8– 10
M 1362	M 1382	M 1392	15	12	11– 13
M 1363	M 1383	M 1393	13	15	14– 16
M 1364	M 1384	M 1394	8	24	23– 26
M 1365	M 1385	M 1395	7	28	26– 30
M 1369	M 1389	M 1399	3.7	48	45– 55
M 1366	M 1386	M 1396	3	60	58– 68



Additional DC outputs

+ output 2		- output 3		output 4			
common return							
linear regulator				linear regulator		switch mode regulator	
5 V	3 A max.	5 V	1.2 A max.	5 V	3 A max.	5 V	8 A max.
12 V		12 V		15 V	3 A max.	12 V	5 A max.
15 V		15 V		24 V	1.2 A max.	15 V	4 A max.
						24 V	2.5 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 220/280/320 W will not be exceeded.

For example:

- input voltage = 110 VDC
- output voltage = 24 VDC @ 8 A
- results in a M 1354 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 $-40\text{ }^\circ\text{C}$

