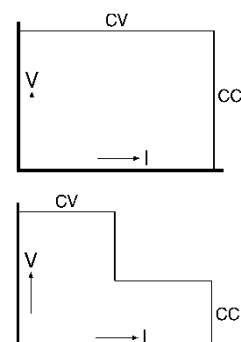




## SM800 - Series 800W DC POWER SUPPLIES

| Models             | Voltage range | Current range |
|--------------------|---------------|---------------|
| SM 7.5-80          | 0 - 7.5 V     | 0 - 80 A      |
| SM 18-50           | 0 - 18 V      | 0 - 50 A      |
| SM 70-AR-24        | 0 - 35 V      | 0 - 24 A      |
| Autoranging output | 0 - 70 V      | 0 - 12 A      |
| SM 400-AR-4        | 0 - 200 V     | 0 - 4 A       |
| Autoranging output | 0 - 400 V     | 0 - 2 A       |



### Features

- Designed for long life at full power
- Excellent dynamic response to load changes
- Protected against all overload and short circuit conditions
- EMC surpasses CE requirements: low emission & high immunity
- Low audible noise: temperature controlled fans
- Available options: analog & digital Interfaces, High Speed Programming, Digital Encoders, Sequencer, Power Sink etc.

### Functionalities

- Master/Slave parallel and series operation with voltage and current sharing
- Stacking is allowed, space between units is not required
- High power system configuration from multiple units
- 19" rack mounting or laboratory use (feet included)
- Remote sensing
- Interlock

|                                                                      | SM 7.5-80            | SM 18-50                | SM 70-AR-24                             | SM 400-AR-4                      |
|----------------------------------------------------------------------|----------------------|-------------------------|-----------------------------------------|----------------------------------|
| <b>DC Power terminals</b>                                            |                      |                         |                                         |                                  |
| voltage                                                              | 0 - 7.5 V            | 0 - 18 V                | 0 - 70 V                                | 0 - 400 V                        |
| current                                                              | 0 - 80 A             | 0 - 50 A                | 0 - 24 A                                | 0 - 4 A                          |
| AUTORANGING (2 ranges)                                               | no                   | no                      | yes                                     | yes                              |
| Max. output current / voltages                                       | /                    | /                       | 24 A / 0-35 V<br>12 A / 35-70 V         | 4 A / 0-200 V<br>2 A / 200-400 V |
| <b>AC Input</b>                                                      |                      |                         |                                         |                                  |
| single phase, 48 - 62 Hz                                             | 90-265 V             | 90-265 V                | 90-265 V                                | 90-265 V                         |
| rated voltage range                                                  | 100-240 V            | 100-240 V               | 100-240 V                               | 100-240 V                        |
| rated frequency                                                      | 50 / 60 Hz           | 50 / 60 Hz              | 50 / 60 Hz                              | 50 / 60 Hz                       |
| rated current                                                        | max 10A              | max 10A                 | max 10A                                 | max 10A                          |
| Power Derating vs input:                                             |                      | $V_o = 16V$ $V_o = 18V$ |                                         |                                  |
| 90 V : $P_{out\ max}$ (W), $I_{in}$ (A)                              | 580, 8.5             | 725, 10    670, 9.2     | 740, 10                                 | 750, 10                          |
| 100 V: $P_{out\ max}$ (W), $I_{in}$ (A)                              | 600, 7.6             | 800, 9.9    730, 8.9    | 830, 10                                 | 800, 9.5                         |
| 110 V: $P_{out\ max}$ (W), $I_{in}$ (A)                              | 600, 6.9             | 800, 8.8    770, 8.4    | 840, 9                                  | 800, 8.5                         |
| <b>230 V: <math>P_{out\ max}</math> (W), <math>I_{in}</math> (A)</b> | 600, 3.2             | 800, 4.1    900, 4.5    | 840, 4.2                                | 800, 4                           |
| power factor, 100%, 50% load                                         | 0.99, 0.96           | 0.99, 0.98              | 0.99, 0.98                              | 0.99, 0.98                       |
| internal fuses                                                       | 12.5 AT              | 12.5 AT                 | 12.5 AT                                 | 12.5 AT                          |
| standby input power ( $V_o=I_o=0$ )                                  | 14 W                 | 14 W                    | 14 W                                    | 14 W                             |
| standby input power ( $V_o=V_{max}$ )                                | 18 W                 | 18 W                    | 20 W                                    | 26 W                             |
| <b>Efficiency</b>                                                    |                      |                         | 35 V / 70 V                             | 200 V / 400 V                    |
| 230 V AC, 1 ph input, full load                                      | 82 %                 | 87 %                    | 89 %                                    | 89 %                             |
| 115 V AC, 1 ph input, full load                                      | 80 %                 | 83 %                    | 85 %                                    | 86 %                             |
| <b>Regulation</b>                                                    |                      |                         |                                         |                                  |
| Load 0 - 100% <b>CV</b>                                              | 0.2 mV               | 0.5 mV                  | 2 mV                                    | 10 mV                            |
| Line 120 - 265 V AC <b>CV</b><br>(measured on sense block)           | 0.2 mV               | 0.2 mV                  | 0.5 mV                                  | 2 mV                             |
| Load 0 - 100% <b>CC</b>                                              | 4 mA                 | 3 mA                    | 1.5 mA                                  | 0.5 mA                           |
| Line 120 - 265 V AC <b>CC</b><br>(internal voltage sense)            | 1 mA                 | 1 mA                    | 1 mA                                    | 0.2 mA                           |
| <b>Ripple + noise</b>                                                |                      |                         |                                         |                                  |
| rms (BW=300 kHz) <b>CV</b>                                           | 2.5 mV               | 2 mV                    | 3 mV                                    | 15 mV                            |
| p-p (BW=20 MHz) <b>CV</b>                                            | 10 mV                | 8 mV                    | 15 mV                                   | 80 mV                            |
| rms (BW=300 kHz) <b>CC</b>                                           | 25 mA                | 5 mA                    | 3 / 1 mA                                | 0.8 / 0.5 mA                     |
| p-p (BW=20 MHz) <b>CC</b><br>CC-ripple at full load                  | 120 mA               | 25 mA                   | 15 / 5 mA                               | 3 / 1.5 mA                       |
| <b>Front panel connection</b>                                        | <b>Not available</b> | <b>Option 257</b>       | <b>Option 258</b>                       | <b>Option 259</b>                |
| Load Regulation:                                                     |                      |                         |                                         |                                  |
| Load 0 - 100% <b>CV</b>                                              | -                    | 15 mV                   | 40 mV                                   | 15 mV                            |
| Ripple + noise                                                       |                      | -                       | -                                       | -                                |
| rms (BW=300 kHz) <b>CV</b>                                           | -                    | 3 mV                    | 4 mV                                    | 18 mV                            |
| p-p (BW=20 MHz) <b>CV</b>                                            | -                    | 18 mV                   | 20 mV                                   | 150 mV                           |
| <b>Temp. coeff., per °C<sup>1</sup></b> <b>CV</b>                    |                      |                         | 35.10 <sup>-6</sup>                     |                                  |
| <b>CC</b>                                                            |                      |                         | 60.10 <sup>-6</sup>                     |                                  |
| <b>Stability<sup>1</sup></b> after 1 hr warm-up                      |                      |                         | 6.10 <sup>-5</sup>                      |                                  |
| during 8 hrs <b>CV</b>                                               |                      |                         | 9.10 <sup>-5</sup>                      |                                  |
| <b>CC</b>                                                            |                      |                         |                                         |                                  |
| $t_{amb} = 25 \pm 1\ ^\circ C$ , $V_{in} = 230\ VAC$                 |                      |                         | (internal voltage sensing for CC-stab.) |                                  |

| <b>Analog Programming</b>             | <b>CV</b>                                                                                                                                                                                                      | <b>CC</b>              |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Programming inputs</b>             |                                                                                                                                                                                                                |                        |
| accuracy                              | 0 - 5 V                                                                                                                                                                                                        | 0 - 5 V                |
| offset                                | $\pm 0.2\%$                                                                                                                                                                                                    | $\pm 0.5\%$            |
| temp. coeff. offset                   | - 0.1 ... +1.3 mV (on 5V)                                                                                                                                                                                      | 0 ... +2.2 mV (on 5V)  |
| input impedance                       | 10 $\mu V / ^\circ C$                                                                                                                                                                                          | 50 $\mu V / ^\circ C$  |
|                                       | > 1 MOhm                                                                                                                                                                                                       | > 1 MOhm               |
| <b>Monitoring outputs</b>             |                                                                                                                                                                                                                |                        |
| accuracy                              | 0 - 5 V                                                                                                                                                                                                        | 0 - 5 V                |
| offset                                | $\pm 0.2\%$                                                                                                                                                                                                    | $\pm 0.2\%$            |
| temp. coeff. offset                   | - 1 ... 0 mV (on 5V)                                                                                                                                                                                           | - 1.1 ... 0 mV (on 5V) |
| input impedance                       | 3 $\mu V / ^\circ C$                                                                                                                                                                                           | 60 $\mu V / ^\circ C$  |
|                                       | 2 Ohm / max. 4mA                                                                                                                                                                                               | 2 Ohm / max. 4mA       |
| <b>ISO AMP Programming (optional)</b> | Isolated analog programming, range 0 - 5 V / 200 kOhm or 0 - 10 V / 400 kOhm.<br>See datasheet ISO AMP on <a href="http://www.DeltaPowerSupplies.com">www.DeltaPowerSupplies.com</a> for accuracy, offset etc. |                        |
| <b>Reference voltage</b> $V_{ref}$    | 5.114 $\pm 15$ mV ( $R_o = 2$ Ohm, max. 4 mA)                                                                                                                                                                  |                        |
| on prog. connector TC                 | 20 ppm                                                                                                                                                                                                         |                        |
| <b>+12 V output</b> $V_o$             | 12 V $\pm 0.2$ V                                                                                                                                                                                               |                        |
| on prog. Connector $I_{max}$          | 0.2 A                                                                                                                                                                                                          |                        |
| $R_o$                                 | 3 Ohm                                                                                                                                                                                                          |                        |

Notes: 1. Measured at full load. 2. See "Safety instructions".

|                                 |          |                                                                                                                                                            |                                                                        |
|---------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>Status Outputs</b>           |          |                                                                                                                                                            |                                                                        |
| CC                              | - status | CC - operation                                                                                                                                             | 5 V = logic 1 (Ro = 500 Ohm)                                           |
| LIM                             | - status | CV or CC limit                                                                                                                                             | 5 V = logic 1 (Ro = 500 Ohm)                                           |
| OT                              | - status | Over Temperature                                                                                                                                           | 5 V = logic 1 (Ro = 500 Ohm)                                           |
| PSOL                            | - status | Power Sink Overload                                                                                                                                        | 5 V = logic 1 (Ro = 500 Ohm)                                           |
| ACF                             | - status | AC - Fail                                                                                                                                                  | 5 V = logic 1 (Ro = 500 Ohm)                                           |
| DCF                             | - status | DC - Fail <sup>1)</sup>                                                                                                                                    | 5 V = logic 1 (Ro = 500 Ohm)                                           |
| <b>Relay Outputs</b>            |          |                                                                                                                                                            |                                                                        |
| ACF                             |          | AC - Fail                                                                                                                                                  | both NO and NC contact                                                 |
| DCF                             |          | DC - Fail <sup>2)</sup>                                                                                                                                    | both NO and NC contact <sup>2)</sup> output $\pm 5\%$ beyond set point |
| <b>Remote shutdown</b>          |          | with + 5 V, 1 mA or relay contact                                                                                                                          |                                                                        |
| <b>Interlock</b>                |          | contact at rear panel, see photo of rear panel on page 1-6                                                                                                 |                                                                        |
| <b>Indicators</b> (front panel) |          | AC-Fail, DC-Fail, Over Temperature, Power Sink Overload, Remote-ShutDown, Remote-CV, Remote-CC, Output On, CV-limit, CC-limit, CV- and CC- mode            |                                                                        |
| <b>Controls</b> (front panel)   |          | Mains on/off, CV-and CC-potmeter, CV- and CC-limit-potmeter, Display-Settings button, Display-Limits button, Remote/Local, Output On/Off, Front panel Lock |                                                                        |

| <b>Programming speed</b><br><i>Standard Version</i> (resistive load)  | <b>SM 7.5-80</b>                       | <b>SM 18-50</b>                       | <b>SM 70-AR-24</b>                       | <b>SM 400-AR-4</b>                       |
|-----------------------------------------------------------------------|----------------------------------------|---------------------------------------|------------------------------------------|------------------------------------------|
| <b>Rise time (10 - 90%)</b>                                           |                                        |                                       |                                          |                                          |
| output voltage step                                                   | 0 $\rightarrow$ 7.5 V                  | 0 $\rightarrow$ 16 V                  | 0 $\rightarrow$ 35 V                     | 0 $\rightarrow$ 200 V                    |
| time, (100 % load)                                                    | 6.5 ms                                 | 12 ms                                 | 6 ms                                     | 4 ms                                     |
| time, (10 % load)                                                     | 2.5 ms                                 | 5 ms                                  | 2.5 ms                                   | 2 ms                                     |
| output voltage step                                                   | -                                      | -                                     | 0 $\rightarrow$ 70 V                     | 0 $\rightarrow$ 400 V                    |
| time, (100 % load)                                                    | -                                      | -                                     | 10 ms                                    | 8 ms                                     |
| time, (10 % load)                                                     | -                                      | -                                     | 7 ms                                     | 5 ms                                     |
| <b>Fall time (90 - 10%)</b>                                           |                                        |                                       |                                          |                                          |
| output voltage step                                                   | 7.5 $\rightarrow$ 0 V                  | 16 $\rightarrow$ 0 V                  | 35 $\rightarrow$ 0 V                     | 200 $\rightarrow$ 0 V                    |
| time, (100 % load)                                                    | 6.5 ms                                 | 12 ms                                 | 6 ms                                     | 4 ms                                     |
| time, (10 % load)                                                     | 62 ms                                  | 120 ms                                | 60 ms                                    | 42 ms                                    |
| output voltage step                                                   | -                                      | -                                     | 70 $\rightarrow$ 0 V                     | 400 $\rightarrow$ 0 V                    |
| time, (100 % load)                                                    | -                                      | -                                     | 25 ms                                    | 15 ms                                    |
| time, (10 % load)                                                     | -                                      | -                                     | 250 ms                                   | 155 ms                                   |
| <b>Programming speed</b><br><i>Optional High Speed</i> (resist. load) | <b>SM 7.5-80</b><br><i>Option P250</i> | <b>SM 18-50</b><br><i>Option P251</i> | <b>SM 70-AR-24</b><br><i>Option P252</i> | <b>SM 400-AR-4</b><br><i>Option P253</i> |
| <b>Rise time (10 - 90%)</b>                                           |                                        |                                       |                                          |                                          |
| output voltage step                                                   | 0 $\rightarrow$ 7.5 V                  | 0 $\rightarrow$ 16 V                  | 0 $\rightarrow$ 35 V                     | 0 $\rightarrow$ 200 V                    |
| time, (100 % load)                                                    | 0.2 ms                                 | 0.22 ms                               | 0.24 ms                                  | 0.4 ms                                   |
| time, (10 % load)                                                     | 0.2 ms                                 | 0.26 ms                               | 0.24 ms                                  | 0.3 ms                                   |
| output voltage step                                                   | -                                      | -                                     | 0 $\rightarrow$ 70 V                     | 0 $\rightarrow$ 400 V                    |
| time, (100 % load)                                                    | -                                      | -                                     | 0.24 ms                                  | 0.82 ms                                  |
| time, (10 % load)                                                     | -                                      | -                                     | 0.24 ms                                  | 0.55 ms                                  |
| <b>Fall time (90 - 10%)</b>                                           |                                        |                                       |                                          |                                          |
| output voltage step                                                   | 7.5 $\rightarrow$ 0 V                  | 16 $\rightarrow$ 0 V                  | 35 $\rightarrow$ 0 V                     | 200 $\rightarrow$ 0 V                    |
| time, (100 % load)                                                    | 0.2 ms                                 | 0.24 ms                               | 0.27 ms                                  | 0.42 ms                                  |
| time, (10 % load)                                                     | 1 ms                                   | 1.95 ms                               | 3 ms                                     | 4.6 ms                                   |
| output voltage step                                                   | -                                      | -                                     | 70 $\rightarrow$ 0 V                     | 400 $\rightarrow$ 0 V                    |
| time, (100 % load)                                                    | -                                      | -                                     | 0.85 ms                                  | 1.7 ms                                   |
| time, (10 % load)                                                     | -                                      | -                                     | 9.5 ms                                   | 20 ms                                    |
| <b>Ripple</b> @ full load                                             |                                        |                                       |                                          |                                          |
| typical (rms/pp)                                                      | 20 / 80 mV                             | 40 / 120 mV                           | 35 V / 24 A<br>25 / 90 mV<br>70 V / 12 A | 200V / 4 A<br>35 / 200 mV<br>400 V / 2 A |
| typical (rms/pp)                                                      |                                        |                                       | 30 / 110mV                               | 30 / 160 mV                              |
| <b>Output Capacitance</b> (typical)                                   | 310 $\mu$ F                            | 200 $\mu$ F                           | 80 $\mu$ F                               | 4 $\mu$ F                                |

|                                                                                           | <b>SM 7.5-80</b>                           | <b>SM 18-50</b>                            | <b>SM 70-AR-24</b>                              | <b>SM 400-AR-4</b>                             |
|-------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|-------------------------------------------------|------------------------------------------------|
| <b>Recovery time</b>                                                                      |                                            |                                            |                                                 |                                                |
| recovery within                                                                           | 50 mV                                      | 60 mV                                      | 35 / 70 V<br>75 mV                              | 200 / 400 V<br>1.0 / 0.5 V                     |
| di/dt of load step                                                                        | 1.25 A/ $\mu$ s                            | 0.9 A/ $\mu$ s                             | 0.4 / 0.2 A/ $\mu$ s                            | 0.1 / 0.05 A/ $\mu$ s                          |
| output voltage                                                                            | 7 V                                        | 15 V                                       | 30 / 65 V                                       | 185 / 370 V                                    |
| time, @ 50 - 100% load step                                                               | 100 $\mu$ s                                | 100 $\mu$ s                                | 100 $\mu$ s                                     | 100 $\mu$ s                                    |
| max. deviation                                                                            | 160 mV                                     | 150 mV                                     | 250 / 200 mV                                    | 2 / 1.5 V                                      |
| <b>Output impedance</b>                                                                   |                                            |                                            |                                                 |                                                |
| CV, 0-1 kHz                                                                               | < 1 m $\Omega$                             | < 2 m $\Omega$                             | < 7 m $\Omega$                                  | < 0.18 $\Omega$                                |
| CV, 1-100 kHz                                                                             | < 30 m $\Omega$                            | < 30 m $\Omega$                            | < 35 m $\Omega$                                 | < 2 $\Omega$                                   |
| <b>Pulsating load</b> max. tolerable AC component of load current<br>f > 1 kHz, f < 1 kHz | 15 A <sub>rms</sub> , 80 A <sub>peak</sub> | 15 A <sub>rms</sub> , 50 A <sub>peak</sub> | 10 A <sub>rms</sub> , 24 / 12 A <sub>peak</sub> | 0.4 A <sub>rms</sub> , 4 / 2 A <sub>peak</sub> |

Notes: 1. Measured at full load. 2. See "Safety instructions".

|                                                                                                                            |                                    |                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Insulation</b><br>AC mains / DC power terminals<br>creepage / clearance<br>AC mains / case<br>DC power terminals / case |                                    | 3750 V <sub>rms</sub> (1min.)<br>8 mm<br>2500 V <sub>rms</sub><br>600 V DC <sup>2</sup>                                                                       |
| <b>Safety</b>                                                                                                              |                                    | EN 60950 / EN 61010                                                                                                                                           |
| <b>EMC</b>                                                                                                                 | <b>Emission</b><br><b>Immunity</b> | <b>EN 61326-1</b> , class B equipment (for use in domestic establishments)<br><b>EN 61326-1</b> , equipment for use in industrial and domestic establishments |

|                              |                                                                                            |
|------------------------------|--------------------------------------------------------------------------------------------|
| <b>Operating Temperature</b> | – 20 to + 50 °C @ full load, derate output to 75% at 60 °C                                 |
| <b>Humidity</b>              | maximum 95% RH, non condensing, up to 40 °C<br>maximum 75% RH, non condensing, up to 50 °C |
| <b>Storage temperature</b>   | – 40 to + 70 °C                                                                            |
| <b>Thermal protection</b>    | output shuts down in case of insufficient cooling                                          |
| <b>MTBF</b>                  | 500 000 hrs                                                                                |

|                                                                                                                                                                                                  |                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| <b>Hold-Up time</b> (@ 230 VAC input)<br>V <sub>out</sub> = 100%, P <sub>out</sub> ≤ 840 W<br>V <sub>out</sub> = 85%, I <sub>out</sub> = 100%<br>V <sub>out</sub> = 100%, I <sub>out</sub> = 50% | 16 ms<br>20 ms<br>36 ms            |
| <b>Turn on delay</b><br>after mains switch on                                                                                                                                                    | 600 ms @ 230 VAC, 900 ms @ 115 VAC |
| <b>Inrush current</b>                                                                                                                                                                            | 22 A @ 230 VAC, 24 A @ 115VAC      |

|                                                                                                                                                                                              | SM 7.5-80                                                                                                                                                                                      | SM 18-50                                                      | SM 70-AR-24                                                  | SM 400-AR-4                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|
| <b>Series operation</b><br>max. total voltage<br>Master / Slave operation                                                                                                                    | 600 V <sup>2</sup><br>yes                                                                                                                                                                      |                                                               |                                                              |                                                              |
| <b>Parallel operation</b><br>Normal<br>Master / Slave operation                                                                                                                              | no limit<br>maximum 4 units                                                                                                                                                                    |                                                               |                                                              |                                                              |
| <b>Remote sensing</b><br>max. voltage drop per load lead                                                                                                                                     | 2 V                                                                                                                                                                                            |                                                               |                                                              |                                                              |
| <b>Limits</b> <b>Voltage</b> adjust range<br><b>Current</b> adjust range                                                                                                                     | 0 - 102 %<br>0 - 102 %                                                                                                                                                                         |                                                               |                                                              |                                                              |
| <b>Front panel CV/CC-controls</b><br>resolution<br>knob operation<br>screwdriver adjustment<br><br>Lock function for CV/CC-settings<br>Selectable Start-up at 0V / 0A or<br>at last settings | analog potentiometers <sup>3)</sup><br>10 turns (0.03%)<br>standard<br>optional (P001)<br><br>no <sup>3)</sup><br>no <sup>3)</sup><br><br><sup>3) optional with digital encoders (P236).</sup> |                                                               |                                                              |                                                              |
| <b>Meters</b><br>scale voltage<br>scale current<br>accuracy read output<br>read limit setting (d = digit)                                                                                    | 3.5 digit<br>0 - 7.50 V<br>0 - 80.0 A<br>0.5% + 2d<br>2% + 2d                                                                                                                                  | 3.5 digit<br>0 - 18.00 V<br>0 - 50.0A<br>0.5% + 2d<br>2% + 2d | 3.5 digit<br>0 - 70.0V<br>0 - 24.0 A<br>0.5% + 2d<br>2% + 2d | 3.5 digit<br>0 - 400 V<br>0 - 4.00 A<br>0.5% + 2d<br>2% + 2d |

|                                                                          |                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mounting</b>                                                          | stacking of units allowed, air flow is from rear to sides                                                                                                                                                                          |
| <b>AC Terminals</b>                                                      | IEC320/C14, EN60320/C14                                                                                                                                                                                                            |
| <b>DC Terminals</b>                                                      | M5 bolts                                                                                                                                                                                                                           |
| <b>Programming connector</b>                                             | 15 pole D-connector at rear panel (Female)                                                                                                                                                                                         |
| <b>Interlock</b>                                                         | contact at rear panel                                                                                                                                                                                                              |
| <b>Cooling</b><br>audio noise level<br><br>air flow                      | low noise blower, fan speed adapts to temperature of internal system<br>ca. 45 dBA at full load, 25 °C ambient temperature, 1 m distance<br>ca. 50 dBA at full load, 50 °C ambient temperature, 1 m distance<br>From rear to sides |
| <b>Enclosure</b><br>degree of protection                                 | IP20                                                                                                                                                                                                                               |
| <b>Dimensions</b><br>front panel: h x w<br>behind front panel: h x w x d | 88.1 x 222 mm (1/2 19", 2 U)<br>86 x 221 x 406 mm (feet removed)                                                                                                                                                                   |
| <b>Weight</b>                                                            | 5.4 kg                                                                                                                                                                                                                             |

Notes: 1. Measured at full load. 2. See "Safety instructions".

## Typical Applications

- Accurate current sources
- Automotive battery simulations
- Driving PWM-Controlled DC motors
- Electronic circuit design
- Controlled battery (dis)charging
- Medical research equipment
- Component device testing
- Lasers
- Aerospace and military equipment
- ATE in industrial production lines

## Available Options



### Increased Output Power

The conservatively rated unit allows to deliver extra output with the same reliability.

At some derating, either the maximum output voltage or the maximum output current can be increased by about 10%.

Order Code :

- P069



### High Speed Programming

A 10 to 20 times higher programming speed (down to 0.2ms rise time at full load) and lower output capacitance<sup>1)</sup>. Excellent for laser applications, test systems or as current source with low parallel capacitance as used in plasma chambers.

Order Codes :

- SM 7.5-80 P250
- SM 18-50 P251
- SM 70-AR-24 P252
- SM400-AR-4 P253



### Two-Quadrant Output Power Sink

Two quadrant operation maintains the DC output voltage constant regardless the output power is positive or negative<sup>1)</sup>. Ideal for PWM-speed controlled DC-Motors and ATE systems.

Order Codes :

- SM 7.5-80 P245
- SM 18-50 P246
- SM 70-AR-24 P247
- SM400-AR-4 P248



### Sequencer

Arbitrary Waveform generator or standalone automation. The sequencer is integrated in the Ethernet controller.

Order Code :

- P256



### Digital CV- and CC-Settings

Reliable, long-life digital encoders can be implemented at the front panel. Includes total front panel lock (also for CV- / CC-knobs) and a coarse or fine pitch adjustment depending on the turning speed.

Order Code :

- P236



### Secured Voltage and Current Settings

For maximum security, the CV/CC settings can be adjusted with a screwdriver only and are protected with a plastic cap from accidental adjusting.

Order Code :

- P001



### Software Control and Interfaces

Interfaces to be installed by factory <sup>2)</sup>.

Order Codes:

- Ethernet controller (including sequencer) - P256
- ISO AMP Card - isolated analog - P249
- RS232 controller - P254



### 19" Rack Mounting adapter

The 19" mounting adapters make it possible to position one or two units side by side in a 19" rack.

Order Codes:

- RA19 - 1SM800 (for 1unit)
- RA19 - 2SM800 (for 2units)



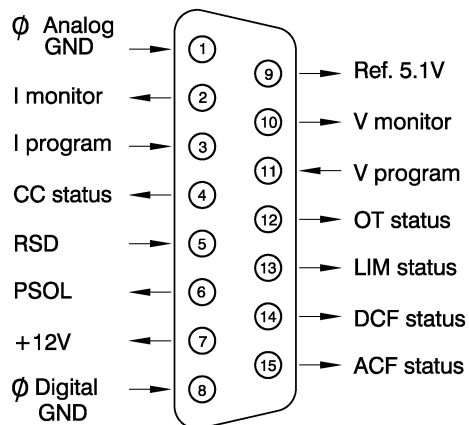
### Front Power Output

Bind posts at the front panel instead of at the rear panel.

Order Codes :

- SM 7.5-80 n.a.
- SM 18-50 P257
- SM 70-AR-24 P258
- SM400-AR-4 P259

Notes: 1. Download datasheets about High Speed Programming, Power Sink and Battery Charging from [www.DeltaPowerSupplies.com](http://www.DeltaPowerSupplies.com).  
2. There is only room for one of the interfaces in a unit.

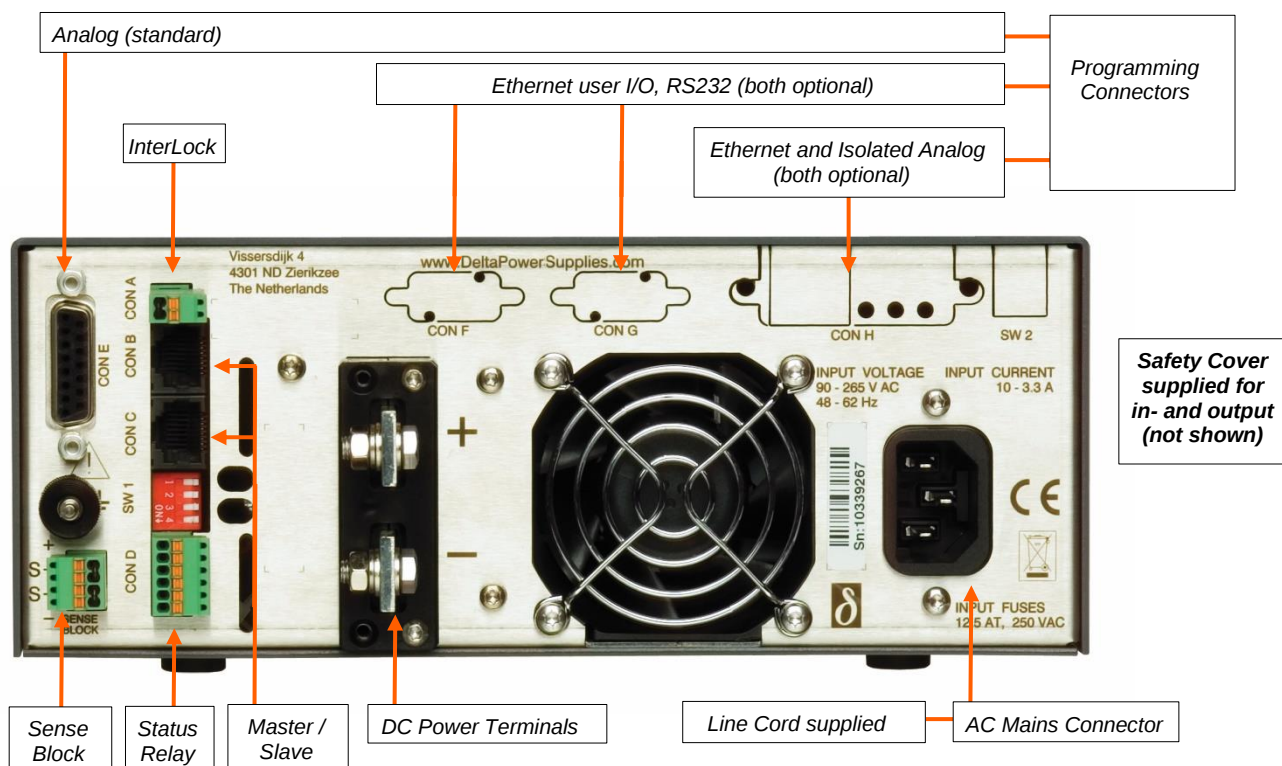
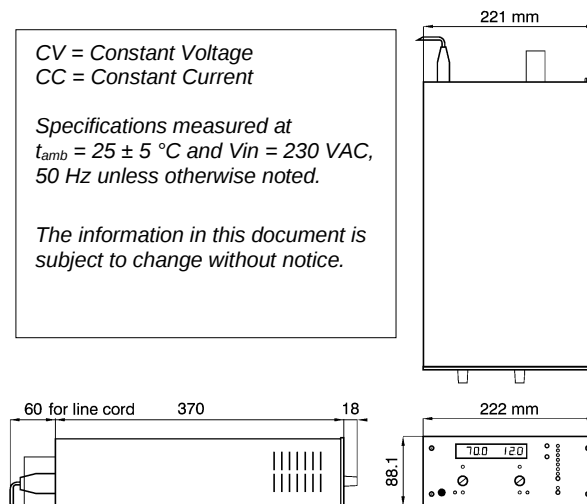


Connections analog programming connector

CV = Constant Voltage  
 CC = Constant Current

Specifications measured at  
 $t_{amb} = 25 \pm 5^\circ\text{C}$  and  $V_{in} = 230\text{ VAC}$ ,  
 50 Hz unless otherwise noted.

The information in this document is  
 subject to change without notice.



19" Rack Adapter RA19-2 SM800



Front panel connection:

SM18-50      Option P257  
 SM70-AR-24      Option P258  
 SM400-AR-4      Option P259



19" Rack Adapter RA19-1 SM800