RoHS Compliant

Input voltage up to 144 V DC
Single output of 5.1 to 48 V DC
No input-to-output isolation

c UL us  CE

### Features

- RoHS lead solder exemption compliant
- Efficiency up to 97%
- Low input-output differential voltage
- No derating over temperature

## Model Selection

| Output $V_{o\,nom}$ [V DC] | Output $I_{o\,nom}$ [A] | Input voltage $V_i$ [V DC] | Rated power $P_{o\,tot}$ [W] | Efficiency $\eta_{typ}$ [%] | Type | Options |
|---|---|---|---|---|---|---|
| 5.1 | 10 | 8 - 80 | 51 | 79 | PSL 5A10-7R | |
| 5.1 | 11 | 8 - 40 | 56.1 | 79 | PSL 5A11-2R | |
| 5.1 | 12 | 7 - 40 | 61.2 | 83 | PSL 5A12-7R | |
| 12 | 6 | 18 - 144 | 72 | 89 | PSL 126-7R | |
| 12 | 8 | 15 - 80 | 96 | 90 | PSL 128-7R | |
| 12 | 9 | 15 - 40 | 108 | 90 | PSL 129-2R | |
| 15 | 6 | 22 - 144 | 90 | 90 | PSL 156-7R | -9, L, i, P, C, D |
| 15 | 8 | 19 - 80 | 120 | 91 | PSL 158-7R | D1, A |
| 15 | 9 | 19 - 40 | 135 | 91 | PSL 159-2R | |
| 24 | 6 | 31 - 144 | 144 | 94 | PSL 246-7R | |
| 24 | 8 | 29 - 80 | 192 | 94 | PSL 248-7R | |
| 24 | 9 | 29 - 60 | 216 | 94 | PSL 249-2R | |
| 36 | 6 | 44 - 144 | 216 | 96 | PSL 366-7R | |
| 36 | 8 | 42 - 80 | 288 | 96 | PSL 368-7R | |
| 48 | 6 | 58 - 144 | 288 | 97 | PSL 486-7R | |

## Input

| | | |
|---|---|---|
| Input voltage | | refer to selection chart |
| No load input current | | -50 mA |

## Output

| | | |
|---|---|---|
| Efficiency | $V_{i\ nom}$, $I_{o\ nom}$ | up to 97% |
| Output voltage setting accuracy | $V_{i\ nom}$, $I_{o\ nom}$ | ±0.6% $V_{o\ nom}$ |
| Output voltage switching noise | IEC/EN 61204, total | typ. 0.4% |
| Line regulation | $V_{i\ min}$ - $V_{i\ max}$, $I_{o\ nom}$ | typ. ±0.3% |
| Load regulation | $V_{i\ nom}$, 0 - $I_{o\ nom}$ | typ. 0.3% |
| Minimum load | not required | 0 A |
| Current limitation | rectangular U/I characteristic | typ. 110% $I_{o\ nom}$ |
| Operation in parallel | by current limitation | |

## Protection

| | | |
|---|---|---|
| Input reverse polarity | with external fuse (built-in fuse with option C installed) | |
| Input undervoltage lockout | | typ. 80% $V_{i\ min}$ |
| Input transient protection | suppressor diode | |
| Output | no-load, overload and short circuit proof | |
| Output overvoltage | suppressor diode in each output | typ. 150% $V_{o\ nom}$ |

## Safety

| | | |
|---|---|---|
| Approvals | EN 60950, UL 1950, CSA C22.2 No. 950 | |
| Protection degree | | IP 20 |
| Electric strength test voltage | I/case and O/case | 500/750/1500 V DC |

## EMC

| | |
|---|---|
| Electrostatic discharge | IEC/EN 61000-4-2 |
| Electromagnetic field | IEC/EN 61000-4-3 |
| Electr. fast transients/bursts | IEC/EN 61000-4-4 |
| Surge | IEC/EN 61000-4-5 |
| Conducted disturbances | IEC/EN 61000-4-6 |
| Electromagnetic emissions | CISPR 22/EN 55022 |

## Environmental

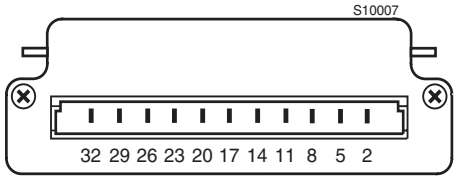
| | | |
|---|---|---|
| Operating ambient temperature | -2, $V_{i\ nom}$, $I_{o\ nom}$, convection cooled | –10 to 50°C |
| Operating case temperature $T_C$ | -2, $V_{i\ nom}$, $I_{o\ nom}$ | –10 to 80°C |
| Storage temperature | -2, non operational | –25 to 100°C |
| Operating ambient temperature | -7, $V_{i\ nom}$, $I_{o\ nom}$, convection cooled | –25 to 71°C |
| Operating case temperature $T_C$ | -7, $V_{i\ nom}$, $I_{o\ nom}$ | –25 to 95°C |
| Storage temperature | -7, non operational | –40 to 100°C |
| Damp heat | IEC/EN 60068-2-3 | |
| Vibration, sinusoidal | IEC/EN 60068-2-6 | |
| Shock | IEC/EN 60068-2-27 | |
| Bump | IEC/EN 60068-2-29 | |
| Random vibration | IEC/EN 60068-2-64 | |
| MTBF | MIL-HDBK-217 | |

## Options

| | | |
|---|---|---|
| Extended temperature range | –40 - 71°C, ambient, operating | -9 |
| Inhibit, TTL input, output(s) enabled if left open | | i |
| Output voltage adjustment | 0 - 108% $V_{o\,nom}$ | R |
| Additional internal input filter | | L |
| Output voltage adjustment | ±8% $V_{o\,nom}$ | P |
| Thyristor crowbar on output | | C |
| Input or output undervoltage monitoring | | D/D1 |
| Test sockets for check of output voltage | | A |

## Pin allocation

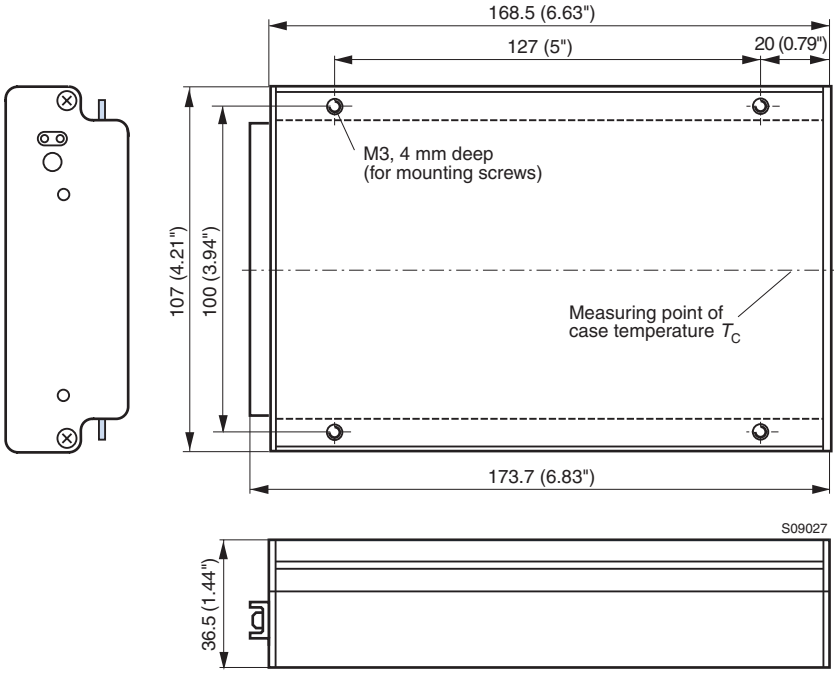
| Pin | Electrical determination | Design. |
|---|---|---|
| 2 | R-input (or inhibit input) | R (i) |
| 5 | Undervoltage monitor (Option D) | D |
| 8 | Output voltage (negative) | Go– |
| 11 | Output voltage (negative) | Go– |
| 14 | Output voltage (positive) | Vo+ |
| 17 | Output voltage (positive) | Vo+ |
| 20 | Input voltage (negative) | Gi– |
| 23 | Input voltage (negative) | Gi– |
| 26 | Input voltage (positive) | Vi+ |
| 29 | Input voltage (positive) | Vi+ |
| 32 | Protective ground (leading pin) | ⏚ |



## Mechanical data

The regulators are designed to be inserted into 19" rack according to IEC60297-3.
Dimensions in mm.

European Projection




## Accessories

Isolation pads for easy and safe PCB mounting.
Ring core chokes for ripple and interference reduction.

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