

PRESENTATION : equipped with special screw terminals compatible with high input and output currents (up to 27.5A), this half-brick type Buck-Boost mini regulator can reach a power of 2.3kW with an efficiency of up to 97%.

Capable of operating at constant voltage or constant current, this regulator simplifies the engineer's design work, because its input accepts any generator, provided it delivers a voltage between 9V and 88V, and even as low as 8V (when already in operating mode). In addition, the setting ① of the output voltage, from 0 to 88V (very simple), either manual with "0 to 5kΩ" "RVset" resistor or automatic with "0 to 10V" control) allows the supply of conventional or special loads at low voltage, or requiring a large variation of the applied voltage, from zero to $V_{max} \leq 88V$. Moreover, the loads are safely powered, at variable or constant current, since the supply can be limited from 0 to 27.5A, thanks to a simple adjustment ②, either manual by quasi-linear resistor "Riset" or automatic with a control by "0 to 10V". For special applications, on request, the standard control voltage "0 to 10V" can be isolated, reduced, increased or shifted. Example: 4V to 8V (isolated or not) → 2V to 48V.

INPUT VOLTAGE V_{in} : 9V to 88V ; 8V *min* after start ; ideal amplitude for the almost integral conversion, for example of the energy collected by any super capacitors charged at $\leq 88V$.

INPUT CURRENT I_{in}

- $\leq 200mA$ at no-load, depending on V_{in} and V_{out} ; ($< 20mA$ / OFF)
- 27.5A max, in charge, regardless of V_{in}

OUTPUT VOLTAGE V_{out} : 0 to 88V (+ sense: optional ③B)

Manual setting by "0 to 175kΩ" RVset ①B or by "0 to 10V" voltage control ①A.

OUTPUT CURRENT I_{out} : variable at constant V_{out} , or constant, automatically, at variable V_{out} ; settable current limit: from 0 to 27.5A.

Manual limitation by Riset ②B or automatic linear limitation by "0 to 10V" ②A.

ISOLATION : terminals "- V_{in} " and "- V_{out} " non isolated

POWER

- input: V_{in} voltage x current 27.5A maximum (2.42kW max)
- output: input power x efficiency (2.34kW maximum)
- parallel mounting, up to 4 regulators: connect "i share" terminals

LINE and LOAD: 10^{-2} of V_{out} and $< -48mV / A$

RESIDUAL : $\leq 500mV$; switching frequency: $\approx 275kHz$

RISE TIME at full load: 40ms + 4ms / volt

ON/OFF FUNCTION ③A : $\leq 0.8V$ for "ON" and $\geq 3.5V$ for "OFF"; delay $< 40ms$

PROTECTIONS and AUTOMATIC FUNCTIONS

- UVP: below voltage $< 8V$ on the input
- OVP: overvoltage 95V, on V_{in} or V_{out}
- OCP: overcurrent 29A, on the input or output
- OTP: abnormal environment: baseplate $\geq 100^{\circ}C$
- CCG: change from constant V_{out} to constant I_{out} , and vice versa

THERMAL CHARACTERISTICS

- storage and operation: $-40^{\circ}C$ to $125^{\circ}C$ and $-40^{\circ}C$ to $+85^{\circ}C$
- thermal resistance of the case: $7^{\circ}C / W$ ($\frac{1}{2}$ brick type base)
- optional heatsink: 172 x 120 mm, $1^{\circ}C / W$

OTHER CHARACTERISTICS

- IP67 sealing; upon request: overmolded wires 50cm
- input and output capacitors: integrated in the housing

CASE

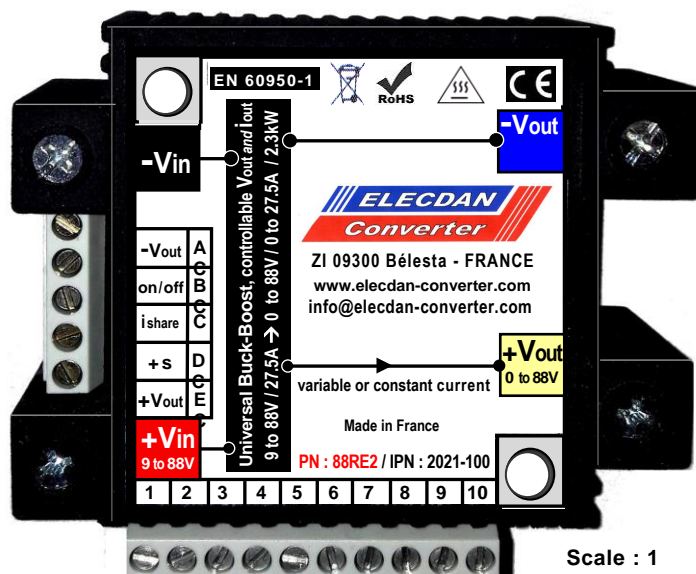
- 86 x 67 (or 86) x 30 mm (overall dimensions); weight: 330g
- screw terminal block: "Vin" and "Vout" (50mm²), choices and controls (1.8mm²)
- mounting: 2 holes $\varnothing 3.2mm$ front; 2 M3 back; c.t.c. distances: 48.2 x 50.8 mm

STANDARDS and SPECIFICATIONS

- EN / UL / CSA / 60950-1 / RoHS
- MTBF: $> 2 \times 10^6$ hours, baseplate at $60^{\circ}C$

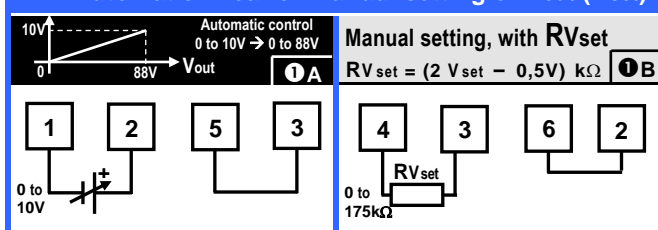
Please consult us
for quantity prices

Please ask for our applications and advice datasheets

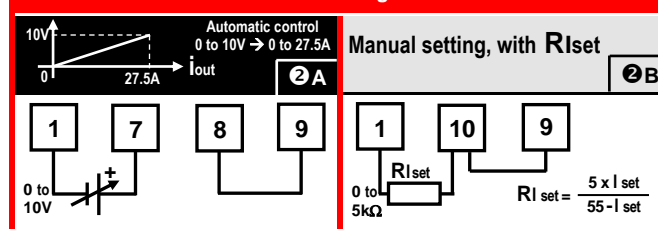


Scale : 1

① Automatic linear or manual setting of V_{out} (Vset)



② Automatic linear or manual setting of the current limitation I_{set}



③A (negative logic) on/off ← REMOTE → sensing ③B



Efficiency at full load	96%	90%	88%
V input	28V	48V	75V
V output	48V	28V	48V

Choice of 4 references, depending on the type of setting for V_{out} and I_{out}
External (see diagrams) / Built-in (trimmer with axis $\varnothing 3mm$) / Custom (factory setting)

Ref.	input	output	I_{out} max (A)	Vout (V)	I_{out} (A)	Type of settings	Case	Unit price excl tax (€)
88RE2	9 to 88	0 to 88	27.5	0 to 88	≤ 27.5	Ext / automatic	E4 / 30 / 15	
88RA	9 to 88	0 to 88	27.5	0 to 88	≤ 27.5	automatic	E4 / 30 / 15	
88Ri2	9 to 88	0 to 88	27.5	0 to 88	≤ 27.5	built-in trimmer	E4 / 30 / 5	
88RC2	9 to 88	to be specified		in factory		custom	E4 / 30 / 5	
88RD...	9 to 88	functions to be specified				on demand	E4 / 30 / ..	

For additional informations : please see sheet "5040"

Additional advantage: even when not powered, this regulator bears any positive voltage up to 88V at its output, while absorbing only 0 to 2mA. This feature allows, for example, the direct charging of a battery, without the regular and energy-consuming intermediate non-return diode.