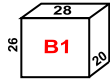




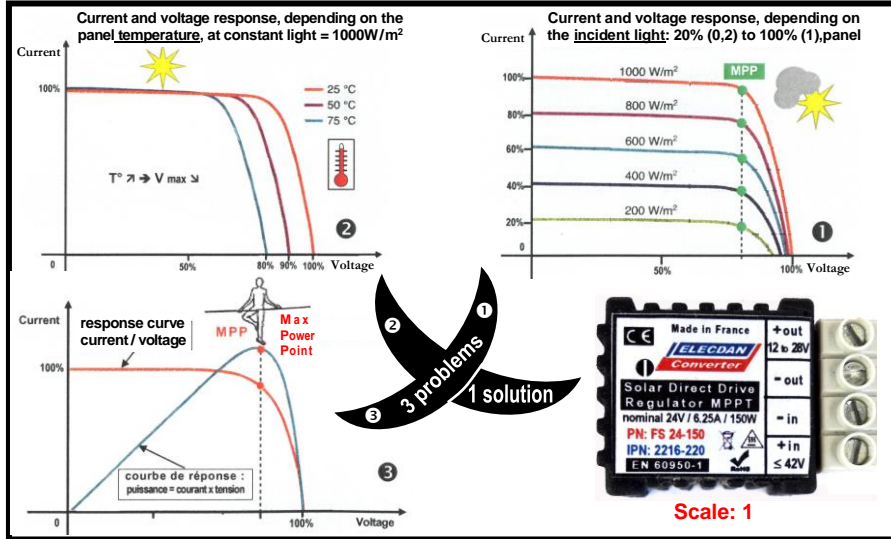
# MPPT solar buck regulator 150W - Solar Direct Drive



**V<sub>out</sub> possible : 5V to 28V according to photovoltaic panel**

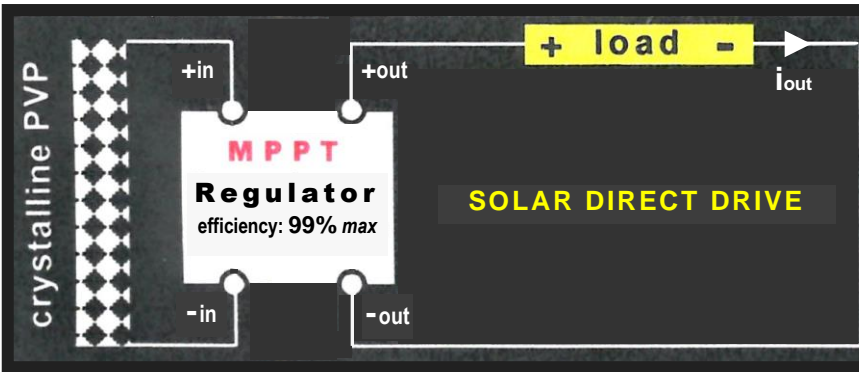


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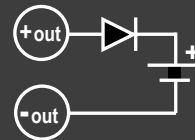


Case : in PA12 thermoplastic  
 > 28 x 26 x thickness 20  
 > weight: 26g (without heatsink)  
 Screw terminals; 4mm<sup>2</sup> wires  
 Fixing: self-tapping screws

SKU: case, V <sub>out</sub> (or V <sub>out</sub> range), I <sub>out</sub> , option				Unit price (€)
case	V <sub>out</sub> (V)	V <sub>out</sub> range (V)	I <sub>out</sub> (A)	
B1	12		10	
	24		6.25	
		5 / 14	10 to 8.6	
		5 / 28	10 to 5.4	
Some options and references		heatsink : D1 or D2 Wired outputs: F		
Examples		B1-12-10-D2 B1-5/28-10/5.4-D2-F		



In the absence of a battery, the torque and speed of a motor (e.g. helical pump) adapt perfectly to variations in light levels, morning, noon and evening. What's more, with a response time of < 0.1 seconds, our MPPT regulator takes the strain off mechanical transmissions: suddenly connected to a loaded motor, it supplies it with a voltage that is immediately lowered, then restored linearly in a matter of seconds.



If, however, the addition of a battery is desired, please insert a blocking Schottky diode, such as VS-19TQ015-M3. For a 24V battery, set V<sub>out</sub> ≈ 27,6V.

This 150W / 24V regulator is the least powerful buck version of our MPPT SDD range, buck or buck-boost, with power increasing, in steps from 150W up to ≥ 2.4kW / 100V. Controlled by our innovative analog MPPT (sheet "5116" ①), it benefits from extreme reliability and miniaturization (15cm<sup>3</sup>, excluding cooling), as well as ≤ 99% efficiency and IP67 sealing. These qualities, and the choice of a suitable photovoltaic panel, facilitate a wide range of Solar Direct Drive applications: refrigerator, fan, helicoidal pump, bicycle ... and even, possibly, direct installation under the aluminum edge of the photovoltaic panel.

**Input voltage V<sub>in</sub> of the MPPT regulator and V<sub>out</sub>**

V<sub>in</sub> is supplied by mono- or poly-crystalline cells (0.55V and 5W each), the number of which determines the voltage V<sub>p</sub> and the power of the photovoltaic panel. The panel generally comprises 15, 30 or 60 cells. Example: a 15-cell panel supplies 75W at 8.25V.

- > Voltage supplied by panel ≥ V<sub>out</sub> regulator + ≈3V
- > Power supplied by panel ≥ 1.1 (V<sub>out</sub> regulator x I<sub>out</sub>)

V<sub>out</sub> : either fixed (12 or 24V) or adjustable (5 to 14V, or 5 to 28V).

PANEL		Some possibilities with the regulator (150W max)		
cells	V <sub>p</sub> (V)	V <sub>out</sub> (V)	I <sub>out</sub> max (A)	efficiency
15	8.25	5	10	0.93
30	16.5			0.93
60	33			0.92
30	16.5	12	10	0.98
60	33			0.96
60	33	24	6.25	0.98
60	33	28	5.4	0.99

**Thermal characteristics:**

- > case thermal resistance (R<sub>th</sub>): 12°C / W
- > extreme case temperatures: -30°C to +90°C
- > cooling: direct on wall or, optionally, in heatsink D1 or D2, R<sub>th</sub> = 10°C and 5°C / W

**Options:** custom output voltages; molded-wire outputs; heatsinks with lower R<sub>th</sub>.

**Standards and special features:** EN / UL / CSA / 60950-1 / RoHS; MTBF: > 10<sup>6</sup> hours, base at 50°C (with thermal grease)

Specialized since 1974 in electrical energy conversion, analog calculation and signal processing, over the past 5 years we have also been studying and testing our innovative MPPT (breakthrough technique and technology, new patent). We have also expanded our knowledge of green, autonomous or complementary energies. So please do not hesitate to ask us for advice if our technical data sheets are not sufficiently didactic. **Note:** we are also involved in the development of ultra-light photovoltaic panels, with the option of an inbuilt MPPT controller, 150 or 300W.

For initial information, see data sheets "5116" ①, "5088" ②

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