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**ELECDAN**  
**Converter**
**600W solar regulator, buck, MPPT,**
**Solar Direct Drive, without battery**
*V<sub>out</sub> possible: 20 to 28V, with 33V / 300W photovoltaic panels*

Made in France


 22/11/23  
 (6157)

Also available in 2 versions  
 100 x 50 x 26 mm case:  
 > terminal connections  
 > wire connections  
 (1/4 scale)

Case: molded aluminum  
 > 51 x 51 x thickness 26  
 > weight: 140g (without heatsink)  
 Terminal blocks: screw + clamp  
 with max wire cross-section 30mm<sup>2</sup>  
 Fixing: two-sided (two M4)

SKU: case, type, V <sub>out</sub> (or V <sub>out</sub> range), I <sub>out</sub> , option				Unit price (€)
boîtier	type	V <sub>out</sub> (V)	plage V <sub>out</sub> (V)	I <sub>out</sub> (A)
A1		24	20 / 28	25
				28 / 21
Some options and references			heatsink : <b>D4</b> on / off : <b>ON</b> wired outputs : <b>F</b>	
Examples of references			A1-24-25-D4 A1-20/28-25/21-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 second, 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 two blocking Schottky diode, such as VS-19TQ015-M3. For a 24V battery, set V<sub>out</sub> ≈ 27,6V.

This 600W / 24V regulator is the 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 (68cm<sup>3</sup>, excluding cooling), as well as ≤ 99% efficiency and IP67 sealing. These qualities, combined with two suitable photovoltaic panel, facilitate a wide range of Solar Direct Drive applications: refrigerator, fan, helicoidal pump, tricycle ... 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 60 or 72 cells. Example: a 60-cell panel supplies 300W at 33V. > 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 (24V) or adjustable (20 to 28V / 28 to 21A)

PANEL		Some possibilities with the regulator (600W max)		
cellules	V <sub>p</sub> (V)	V <sub>out</sub> (V)	I <sub>out</sub> <u>max</u> (A)	efficiency
60	33	20	28	0.98
60	33	24	25	0.99
60	33	28	21	0.99

#### Thermal characteristics:

- > case thermal resistance (R<sub>th</sub>): 7°C / W
- > extreme case temperatures: -30°C to +90°C
- > cooling: direct on wall or, optionally, in heatsink D4 or D5, R<sub>th</sub> = 0.5°C and 1°C / W

**Options:** custom output voltages; V<sub>out</sub> adjustment via external resistor; outputs on molded wires

**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 "6154" ③, "6013" ④ et "6155" ⑤

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