11

ELECDAN Converter

120 × 94 × 26 — A3

2.4kW solar boost controller
Solar Direct Drive MPPT, without battery

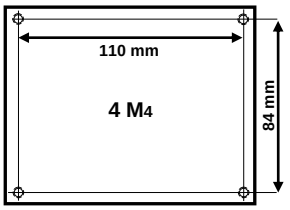
Vout possible: 80 to 100V with
33 V / 300W photovoltaic panels

02/01/24
(6168)

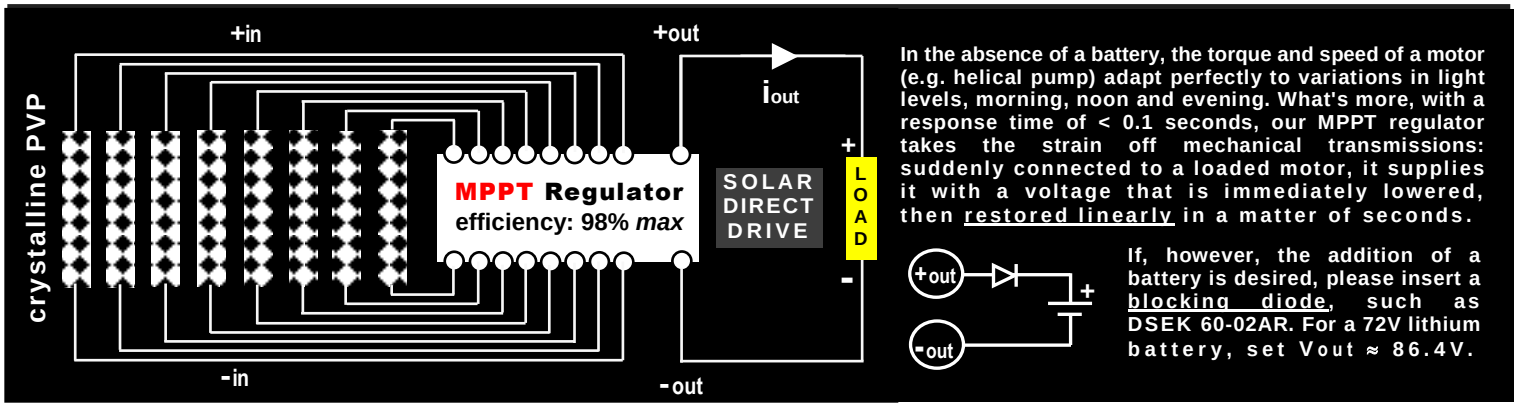
scale: 0.6

Case: molded aluminum
- 120 x 94 x thickness 26
- weight: 590g (without heatsink)

Terminal blocks:
Inputs and outputs: 8mm²
Bottom mounting (4 M4)



SKU: case, type, Vout (or Vout range), iout, option					Price (€)
case	type	Vout (V)	Vout range (V)	iout (A)	
A3	B	100		24	
			80 / 100	24	
Some options and their references			heatsink: D6 inhibition: In wired outputs: F		
Examples of references			A3-B-100-24-In A3-B-80/100-24		



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 diode, such as DSEK 60-02AR. For a 72V lithium battery, set Vout ≈ 86.4V.

This 2.4kW / 100V, boost, miniaturized (no chemical capacitors), IP67 waterproof and very high-efficiency regulator completes our Solar Direct Drive range (150W, 300W, 600W, 1.2kW, 2.4kW). Its 4 innovative MPPTs optimize the electrical energy of 4 pairs of 300W panels, positioned independently in pairs. These qualities facilitate the most diverse uses, from morning to evening: air conditioning, stirring stagnant water, water desalination, boating, electric vehicles, 2kW inverter (100Vdc → 230V~), charging lithium batteries (72V or 84V) by adding a diode (see diagram above).

Permissible input voltages Vin of the MPPT regulator: 33V to 52V

Vin is supplied by mono- or poly-crystalline cells (0.55V and 5W each), the number of which determines the voltage Vp and the power of the photovoltaic panel. The panel generally comprises 60 or 72 cells.
Example: 1/ a 60-cell panel supplies 300W at 33V.
2/ lighted at 83%, a 72-cell panel would supply 300W

Power supplied by panel ≥ 1.1 (Vout regulator x iout)

Vout: either fixed 80V or 90V or 100V, or adjustable 80 to 100V

8 PANELS		Some possibilities with the regulator (2.4kW *max*)		
cells	Vp (V)	Vout (V)	iout *max* (A)	efficiency
60	33	80	24	0.97
		90		0.98
		100		0.99

Connections "2" to "18" are at voltages increasing up to 100V and are accessible on the locking screws.
Safety precautions for installation if the panel incomings do not have individual switches upstream:
- 1st method: protect all panels simultaneously from light before connection
- 2nd method: opt for the "inhibit all risers" option by positioning the integrated side switch "down" (LED not lit whereas the first panel is connected).

Thermal characteristics
- case thermal resistance (Rth): 2.5°C / W
- extreme case temperatures: -30°C to +90°C
- cooling: direct on wall or, optionally, in heatsink D7, Rth = 0.5°C / W

Options: custom output voltages; Vout adjustment via external resistor; outputs on molded wires

Standards and special features: EN / UL / CSA / 60950-1 / RoHS; MTBF > 5.10^5 h (base at 50°C), thanks to the absence of chemical capacitors.

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 information, see data sheets 5116❶, 5088❷, 6154❸, 6013❹, 6155❺, 6157❻, 6158❼, 6161❽, 6163❾ & 6165❿

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