



## *Thermoelectric assembly*

### *LIQUID-TO-AIR*

#### *TA-LA-500-12*

#### *Features*

- The product is designed and manufactured on Peltier modules manufactured by Crystal Ltd.
- Compact size.
- Low weight.
- Easy installation and connection from the power supply.
- Operation from direct electric current in the range from 12 to 14V.
- Solid-state cooler.
- Accurate temperature maintenance.

The product complies with the requirements of Directive EC RoHS., Limiting the content of harmful substances, adopted by the European Union.

#### *Applications*

-Cooling and thermal stabilization of fluids, including corrosive chemical.

In liquid cooling circuits:

Medical devices.

-Laser systems.

-Industrial instrumentation.

- Analytical instruments.

-High-frequency generator.

-Other.

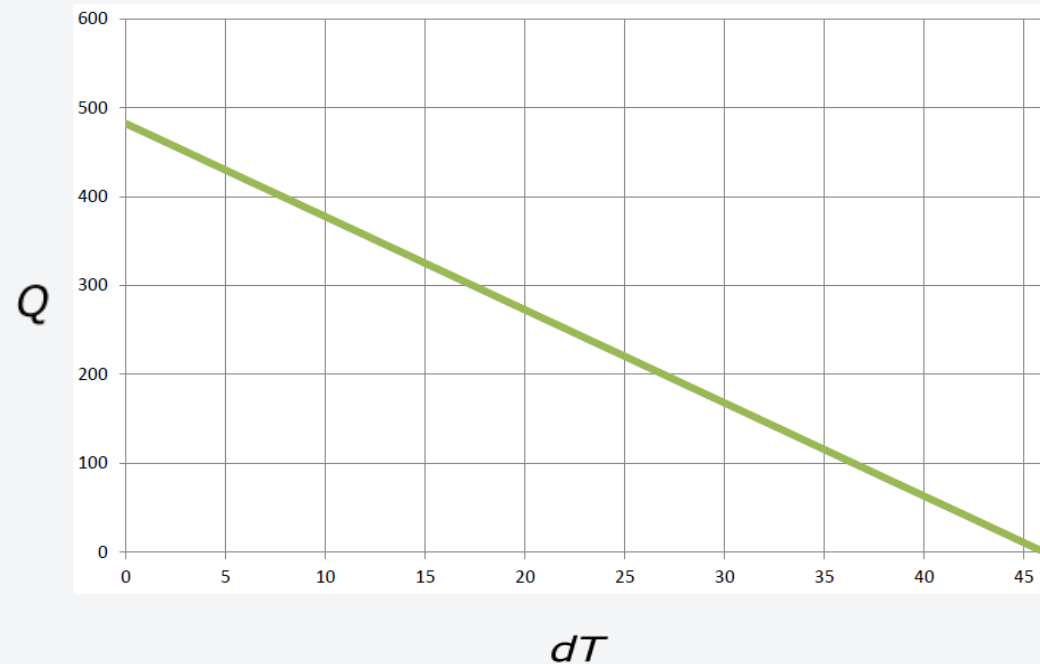


Type	TA-LA-500-12
Voltage (nominal / maximum)	12/14 VDC
Current $\pm$ 10% (nominal / start)	47.2A/60.8A (at 12VDC)
Max ripple	5%
Cooling capacity at $dT = 0^{\circ}\text{C}$ and nominal voltage <sup>1</sup>	482W
Heating <sup>2</sup>	575W
Operating temperature of the heatsink on the inner and outer side, not more than <sup>3</sup>	85°C
Entering fluid temperature not exceeding <sup>3</sup>	70°C
Ambient temperature	-40°C to +60°C
Maximum fluid pressure in the heat exchanger Atm./ Pa.	3 / 3*10 <sup>5</sup> ( Atm./ Pa.)
Nominal flow rate of liquid	5 l / min
Type of coolant <sup>4</sup>	Water, aqueous solutions of ethanol, ethylene glycol, and other liquids
Life of the fan (at temperatures above +40 ° C) and nominal voltage	$\geq 60,000$ Hours
Noise level dB / A (1m distance.)	59dB
Mode	Continuous
Corrosion protection of the heatsink	Anodizing film thickness of 6-20 microns
Protection overheating	by demand the customer ( Additional option )
Electrical connector type	Terminal block with spring contacts WAGO 261
Liquid connector type	by demand the customer ( Additional option )
Weight <sup>5</sup>	10.5 kg

- 1- Cooling capacity is determined at an ambient temperature of +30 ° C to +50 ° C, for liquids having a thermal conductivity of 4.19 +/- 5% kJ / (kg\*K) in the range of operating temperatures
- 2- Heating capacity is rated at external temperature of -40°C, nominal voltage, and  $dT = -45^{\circ}\text{C}$ .
- 3- Possibility of increase to 140°C - Additional option.
- 4- The liquid used should have no components capable of forming deposits or corrosion into copper tube; should not be exposed to freezing or boiling over the temperature range of the liquid circuit.
- 5- Weight unit may have a deviation from the declared value is within +/- 5%.

**NOTE!** A method of transferring heat - forced convection.  
Not recommended to reduce air flow of air heatsinks.

Performance Q[dT]



$$dT = T \text{ amb. temperature} - T \text{ liquid.}$$

Q - cooling capacity, W.

When ambient temperature. temperature plus 35 ° C-50 ° C and rated voltage

Contact us for more information  
e-mail: [info@crystalltherm.com](mailto:info@crystalltherm.com).

+7-495-519-88-52 , +7-495-519-00-69

Fax: +7-495-515-40-94

Dimensions of the assembly

