Thermoelectric assembly

LIQUID-TO-AIR

TA-LA-500-48

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 48 to 54V.
- 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

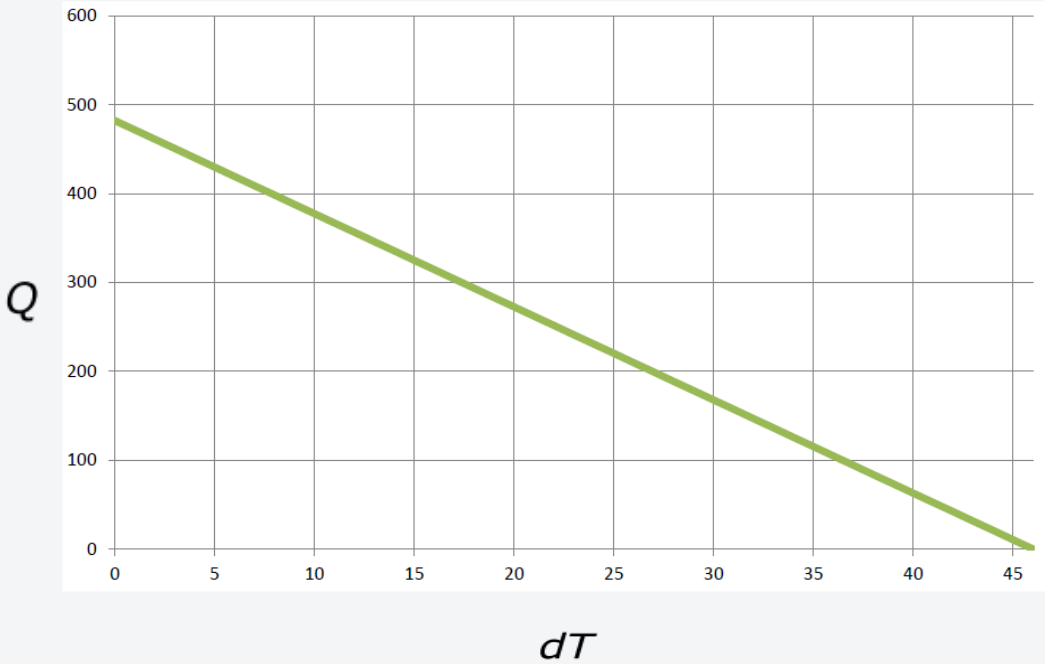
-Cooling and thermal stabilization of fluids, including corrosive chemical.
In liquid cooling circuits:
Medical devices.
-Laser systems.
-Industrial instrumentation.
- Analytical instruments.
-High-frequency generator.
-Other.

Type	*TA-LA-500-48*
Voltage (nominal / maximum)	*48/54 VDC*
Current ± 10% (nominal / start)	*11,8A/15,2A (at 48VDC)*
Max ripple	*5%*
Cooling capacity at dT = 0°C and nominal voltage[1]	*482W*
Heating[2]	*575W*
Operating temperature of the heatsink on the inner and outer side, not more than[3]	*85°C*
Entering fluid temperature not exceeding[3]	*70°C*
Ambient temperature	*-40°C to +60°C*
Maximum fluid pressure in the heat exchanger Atm./ Pa.	*3 /3*10⁵ (Atm./ Pa.)*
Nominal flow rate of liquid	*5 l / min*
Type of coolant[4]	*Water, aqueous solutions of ethanol, ethylene glycol, and other liquids*
Life of the fan (at temperatures above +40 ° C) and nominal voltage	*≥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[5]	*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°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 cupper 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.
6- Not recommended to reduce air flow of air heatsinks.

Performance Q[dT]



dT = T amb. temperature - T liquid.
Q - cooling capacity, W.
When ambient temperature. temperature plus 35 ° C-50 ° C and rated voltage

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Dimensions of the assembly