

Photovoltaic Power Converter

YCH-H010

Datasheet



Key Features:

- High efficiency Si-based MIH[®] VMJ PV cells
- Optimized for 915nm through 980nm laser sources
- Low cost, high reliability laser diode wavelengths
- Efficiency at 50W input: ~22%
- Up to 15 volts output

Applications:

- Electronic Current Transducer (ECT)
- Electromagnetic Field Measurement
- RF over Fiber & 5G
- Remote Sensors
- Power Electronics
- Applications that require voltage isolation, noise immunity or spark free operation

Product Description

MH GoPower (“MHGP”) offers the only photovoltaic power converter (PPC) product line capable of delivering a wide range of power and voltage outputs. Power output levels range from tens of milliwatts to over 10 watts (higher power available upon request), while output voltage levels are possible from 4 volts to over 30 volts. MHGP’s PPC product line operates most efficiently with wavelengths in the range of 915nm to 980nm, and with fiber with an NA of 0.22 to 0.27.

The YCH-H010 is MHGP’s High power PPC offering for applications requiring power up to 10 watts. Device efficiencies of greater than 22% are achievable with appropriate heat sinking, with 50W of optical input. The YCH-H010 requires fiber splicing for high input power laser, and provides two jacketed copper wires for DC electrical output.

Target applications include powering remote and embedded sensors, current sensors, optical network components, as well as other applications requiring voltage isolation between the power source, and embedded electronics in high voltage or high noise environments.

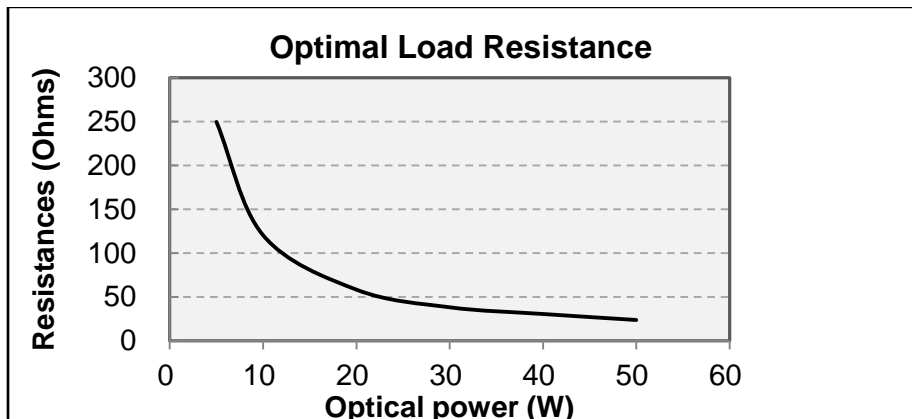
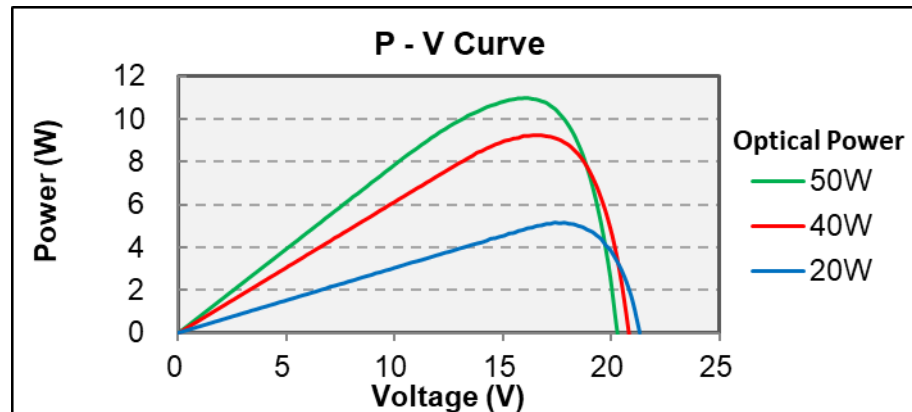
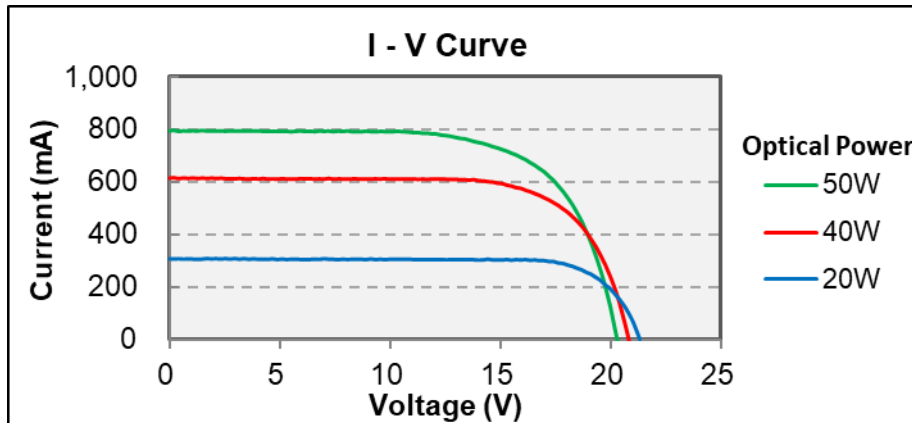
Electrical Characteristics of YCH-H010 PPC with Passive Heatsinking **

Optical Power (W)	20	40	50
Pmax (W)	5.2	9.2	11.0
Vmax (V)	18.0	16.8	16.1
I _{max} (mA)	298.6	550.6	683.7
Efficiency (%)	26.0%	23.1%	22.0%

** Typical converter performance with ambient temp of ~25°C

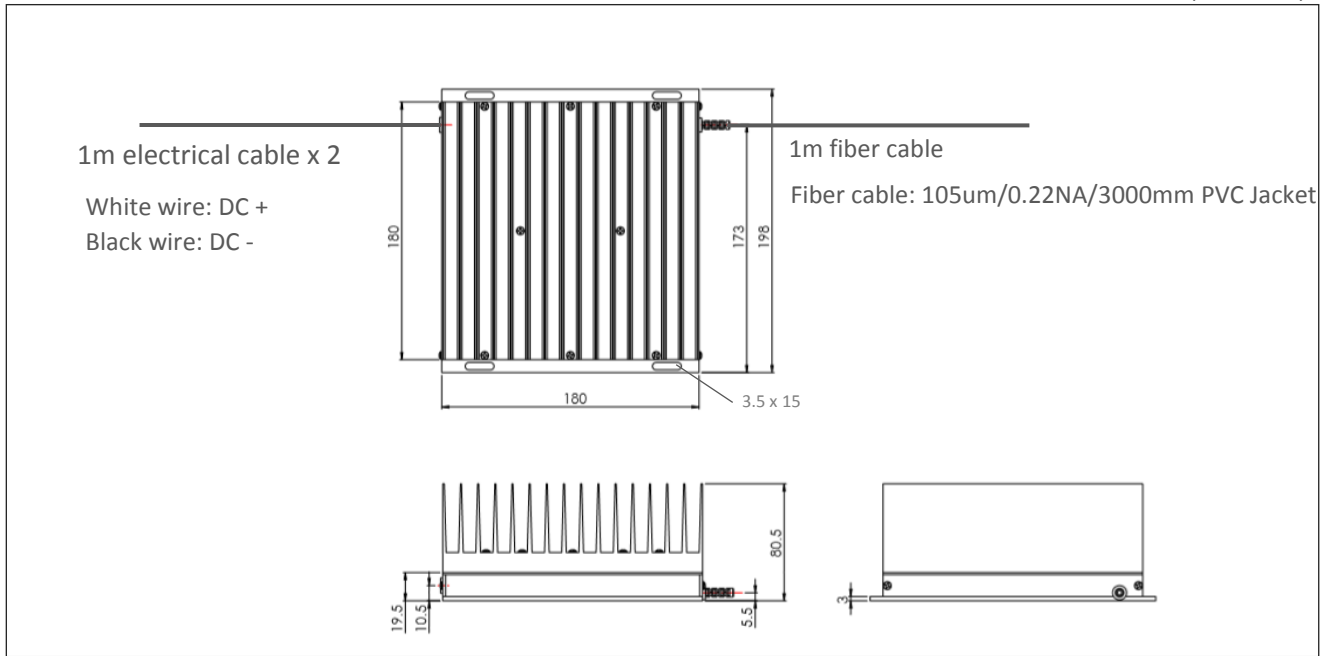
** Tested with 975 nm wavelength laser

** PPC and heatsink held in free space, with no active airflow over the heatsink fins or PPC



Mechanical Dimensions

(Unit: mm)



Net weight: 2.9 kg

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