*LIGO Laboratory / LIGO Scientific Collaboration*

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ETM: Hartman Sensor Power Supply

Test Procedure

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LIGO Scientific Collaboration

This is an internal working note

of the LIGO Laboratory.

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# Overview

This test procedure applies to the ETM: Hartman Sensor Power Supply LIGO-D1002851. The Chassis receives +18V and provides a regulated 13 V for the Hartmann Camera and 5.5V for the fiber optic data link. The Micrel regulator has a max junction temperature of 125 C and a junction to ambient thermal resistance of 1.5 C/Watt. The camera has a max current of 1.2A and the data link has a max current of 0.5A. The 10 ohm test load will give 1.3 amps for the 13 volt supply and .55 amps for the 5.5V supply.

Upper Heater Segment

9 Pin D Conn

RTD

9 Pin D Conn

Lowe

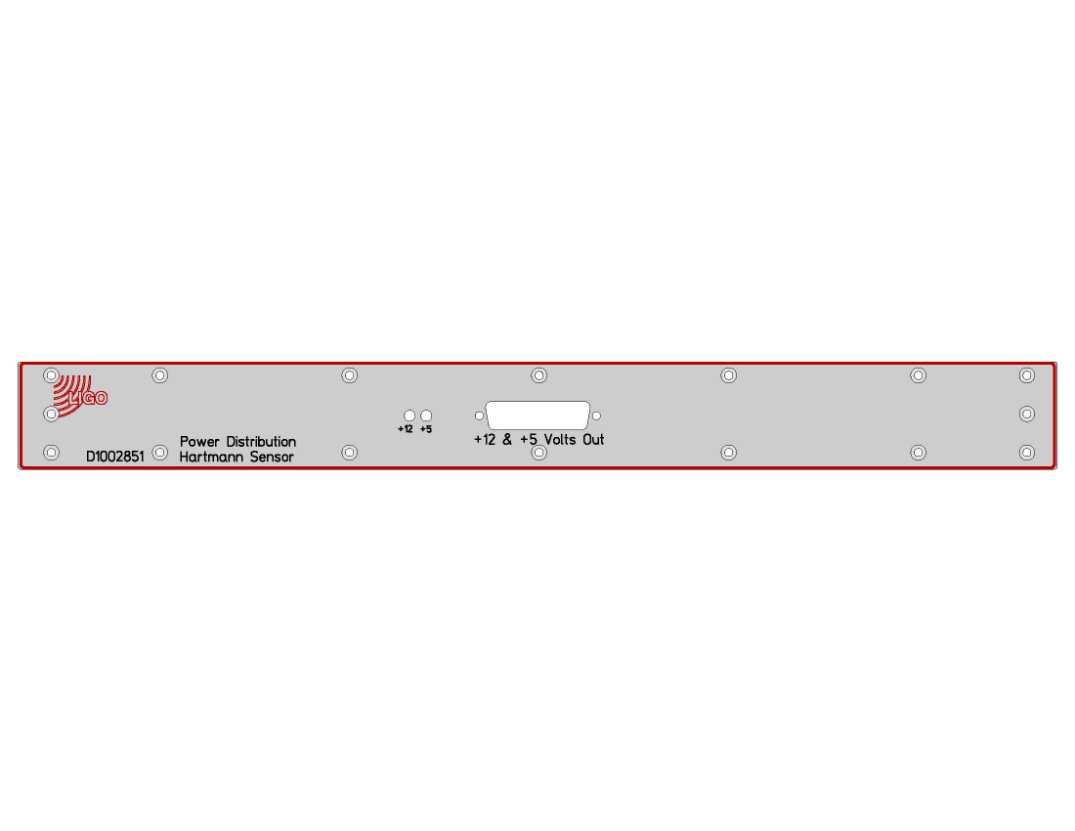
V2

I

V

T

T



10 ohms

10 ohms

GND

5.5V

13 V

Front Panel of Ring Heater

# 

# Setup

A power supply capable of supplying 18 V and 3 Amps is connected to the power connector. Ten ohms is connected between the 12 volt pin and ground and another 10 ohms between the 5 V pin and ground as shown above.

## Requirements

With loads attached the output voltage should be 13 V (+/- 0.1)

5.5V (+/- 0.1)

After 1 hour the highest temperature near the regulator should be less than 60 C

With power switched on the +18, +12, and +5 LED should be on

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  | Measured | Requirement |  |
|  | 5 volt output |  | 5.5 +/- 0.1 |  |
|  | 12 volt output |  | 13 +/- 0.1 |  |
|  |  |  |  |  |
|  | Temperature |  | <60 C |  |
|  |  |  |  |  |
|  | 18V LED |  | On |  |
|  | 12V LED |  | On |  |
|  | 5V LED |  | On |  |
|  |  |  |  |  |