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 ETM: Hartman Sensor Power Supply

 Test Procedure

Steve O’Connor

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LIGO Scientific Collaboration

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of the LIGO Laboratory.

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| **California Institute of Technology****LIGO Project – MS 18-34****1200 E. California Blvd.****Pasadena, CA 91125**Phone (626) 395-2129Fax (626) 304-9834E-mail: info@ligo.caltech.edu | **Massachusetts Institute of Technology****LIGO Project – NW22-295****185 Albany St****Cambridge, MA 02139**Phone (617) 253-4824Fax (617) 253-7014E-mail: info@ligo.mit.edu |
| **LIGO Hanford Observatory****P.O. Box 1970****Richland WA 99352**Phone 509-372-8106Fax 509-372-8137 | **LIGO Livingston Observatory****P.O. Box 940****Livingston, LA 70754**Phone 225-686-3100Fax 225-686-7189 |

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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 |  |
|  |  |  |  |  |