

# GPS Inter -Bay Bus Thermal Monitoring Kit

**150046491**

**Thermal Probe  
Installed on -48V  
bus**



Kit provides an alarm when a GPS4848 Distributed Architecture Inter-bay bus temperature is high. A probe should be located off framing or racking above the initial cabinet to provide ambient temperature. A kit should be applied to each -48V inter-bay bus: 1 kit per supplemental cabinet. Probe mounts to an inter-bay bus and connects to 221F or 223T RPM module.

## Tools required:

- **Wire cutter**
- **Screwdrivers—Phillips and flat**

## Step 1 - Verify Available RPM Temperature Channels

1. Verify that sufficient temperature channels are available on installed RPM modules. Existing 221F usually provide sufficient temperature channels.
2. Install one or more 223T Temperature Modules (7 temperature channels each) as necessary to provide additional temperature channels, if necessary.

## Step 2 - Install Ambient Probe Above Initial Cabinet

1. Mount probe off framing or racking above the initial cabinet - secure with cable tie - not provided.
2. Connect probe to an available temperature channel on either a 221F or a 223T RPM Module - cable provided.

## Step 3 - Install Probe to -48V Inter-Bay bus

1. Mount probe onto a -48V inter-bay bus using an existing tapped hole - screw and washer provided.
2. Connect probe to an available temperature channel on either a 221F or a 223T RPM Module - cable provided.

## Step 4 - Configure Temperature Channels in the Controller

1. Configure Temperature Channel Descriptions

Example

Chan	Description
C708	PBD 0101.01 Bay 3 Bus Temp
C709	PBD 0101.02 Bay 2 Bus Temp
C70A	PBD 0101.04 Bay 4 Bus Temp
C70B	PBD 0101.06 Bay 6 Bus Temp
C70C	PBD 0101.08 Bay 8 Bus Temp
C70D	PBD 0101.10 Bay 10 Bus Temp
C70E	PBD 0101.12 Bay 12 Bus Temp
C70F	PBD 0101.03 Bay 5 Bus Temp
C720	PBD 0101.05 Bay 7 Bus Temp
C721	PBD 0101.07 Bay 9 Bus Temp
C722	PBD 0101.09 Bay 11 Bus Temp
C723	PBD 0101.00 Bay 1 Ambient

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### Step 5 - Configure Alarms in the Controller

1. Configure Alarm (User Defined Event Channels) for each Bus. This defines alarm conditions for bus temperature. Recommended settings are 20°F above ambient temperature and 5 minute delay, approximating 800A (50% capacity) on the buses.

The actual threshold used may need to be adjusted for site conditions if repeated nuisance alarms are generated without any significant loading imbalance detected. Once activated, the UDE alarm will remain active until cleared manually with a Clear Events command.

Example:

Chan	Description	Severity	Duration	Program Line	Latched
U0501	PBD 0101.01 Bus Temp High	PMN	300 (second Duration)	(C708 – C723) > 20	Yes
U0502	PBD 0101.02 Bus Temp High	PMN	300 (second Duration)	(C709 – C723) > 20	Yes
U0503	PBD 0101.03 Bus Temp High	PMN	300 (second Duration)	(C70F – C723) > 20	Yes
U0504	PBD 0101.04 Bus Temp High	PMN	300 (second Duration)	(C70A – C723) > 20	Yes
U0505	PBD 0101.05 Bus Temp High	PMN	300 (second Duration)	C720 – C723) > 20	Yes
U0506	PBD 0101.06 Bus Temp High	PMN	300 (second Duration)	(C70B – C723) > 20	Yes
U0507	PBD 0101.07 Bus Temp High	PMN	300 (second Duration)	(C721 – C723) > 20	Yes
U0508	PBD 0101.08 Bus Temp High	PMN	300 (second Duration)	(C70C – C723) > 20	Yes
U0509	PBD 0101.09 Bus Temp High	PMN	300 (second Duration)	(C722 – C723) > 20	Yes
U0510	PBD 0101.10 Bus Temp High	PMN	300 (second Duration)	(C70D – C723) > 20	Yes
U0512	PBD 0101.12 Bus Temp High	PMN	300 (second Duration)	(C70E – C723) > 20	Yes

Activation of these alarms indicates that a study should be undertaken to determine the loads currently being carried on the inter-cabinet buses and perhaps take some action to minimize them. The spreadsheet “Distributed Architecture Balancer.xls” might assist with this study.

Obtain load readings for the distribution circuits in each cabinet of the system. Fill in all light green shaded fields of the balancer to obtain recommendations of rectifier and/or battery string positioning that might be used to lessen the level of load sharing occurring between cabinets of any specific system.

## Reference Documents

These documents are available at [abppowerconversion.com](http://abppowerconversion.com)

Document	Title
107570517	RPM J85501G-1 Product Manual
108327362	GPS Installation Guide
108994645	Galaxy Millennium II Installation and User’s Guide
108324765	Galaxy Millennium Product Manual
850046741	Distributed Architecture Balancer

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