

Introduction

This document contains:

- The wiring instructions needed to connect the 4098-9019 Motorized Infrared Optical Beam Smoke Detector System to a compatible Simplex Fire Alarm Control Panel (FACP).
- The Beam Detector programming instructions for the FACP programmer.

For information pertaining to the installation, alignment, local controller programming and operation, please consult the other documents included with this product.

Compatibility

This product is compatible with:

- 4100ES and 4010ES Control Panels / System Firmware 2.02 or higher.
- 4007ES Control Panel / all revisions.
- 4100ES System Power Supplies (SPS) / Firmware 3.12.05 or higher.
- 4010ES Extended System Supply (ESS) / all revisions.
- 4010ES Main System Supply (MSS) / Firmware 3.12.05 or higher.
- 4010ES Main System Supply 2 (MSS2) / all revisions.
- Separate IDNet/IDNet+/IDNet 1+ modules / Firmware 3.12.05 or higher.
- IDNet communications PCC Chip 0742-146 / Revision 2.02.03 or higher.
- IDNet 2+2 / all revisions.

Note: Refer to [Appendix A: Compatible Module Identification](#) for additional reference.

Electrical Specifications

The following consumption figures are based on a 2 detector system across the operating voltage range.

- Voltage: 14 VDC - 36 VDC
- Maximum operating current: 50 mA



Wiring Specifications

Figure 1 depicts the wiring diagram that must be used when adding this device to an IDNet circuit.

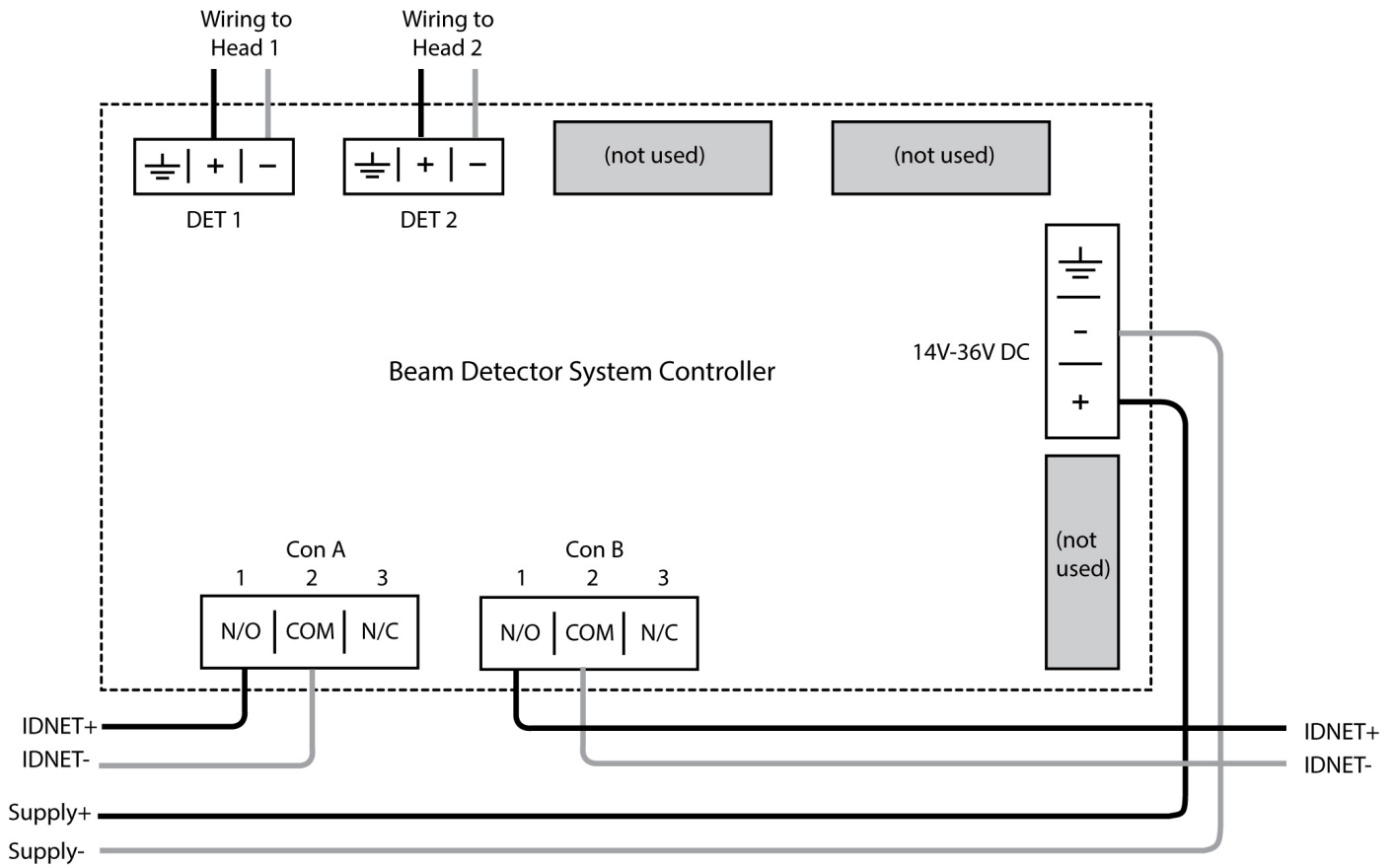


Figure 1: Device Wiring on a IDNet Circuit

Consult Table 1 for the type of wiring needed to connect the FACP to the Beam Detector System Controller.

Table 1: Wiring Type

| Card Type | Wiring Type | Reference Manual |
|-----------|--------------------------------------|------------------|
| IDNet | 14 AWG -18 AWG Shielded Twisted Pair | 574-800 |
| IDNet+ | 14 AWG -18 AWG Twisted Pair | 579-786 |
| IDNet1+ | 14 AWG -18 AWG Twisted Pair | 579-1014 |
| IDNet 2+2 | 14 AWG -18 AWG Twisted Pair | 579-1169 |

Note: Refer to the appropriate IDNet Card manual for the maximal wiring distances.

IDNet LEDs and Addressing

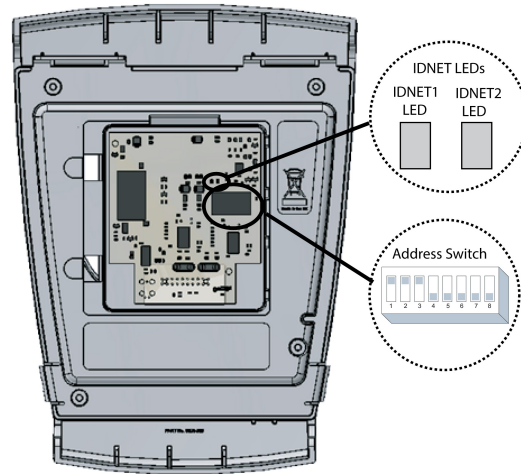


Figure 2: LED and Address Switch Location

LEDs:

Remove the Beam Detector's cover to access the LEDs.

- IDNET1: This red LED corresponds to the head connected to DET1 on the device. When lit, it indicates a trouble or an alarm on the DET1 channel.
- IDNET2: This red LED corresponds to the head connected to DET2 on the device. When lit, it indicates a trouble or an alarm on the DET2 channel.

Addressing:

This device has a unique address that is set via an eight-position DIP switch. Position 1 is the least significant bit (LSB) and position 8 is the most significant bit (MSB).

To set the address:

1. Retrieve the address from the ES Programmer. Use the first address assigned by the programmer if multiple addresses are required for the device (see [Programming and Editing the device point](#)).
2. Use a small screwdriver or pen to set the switches to the address.
3. Record the set address.

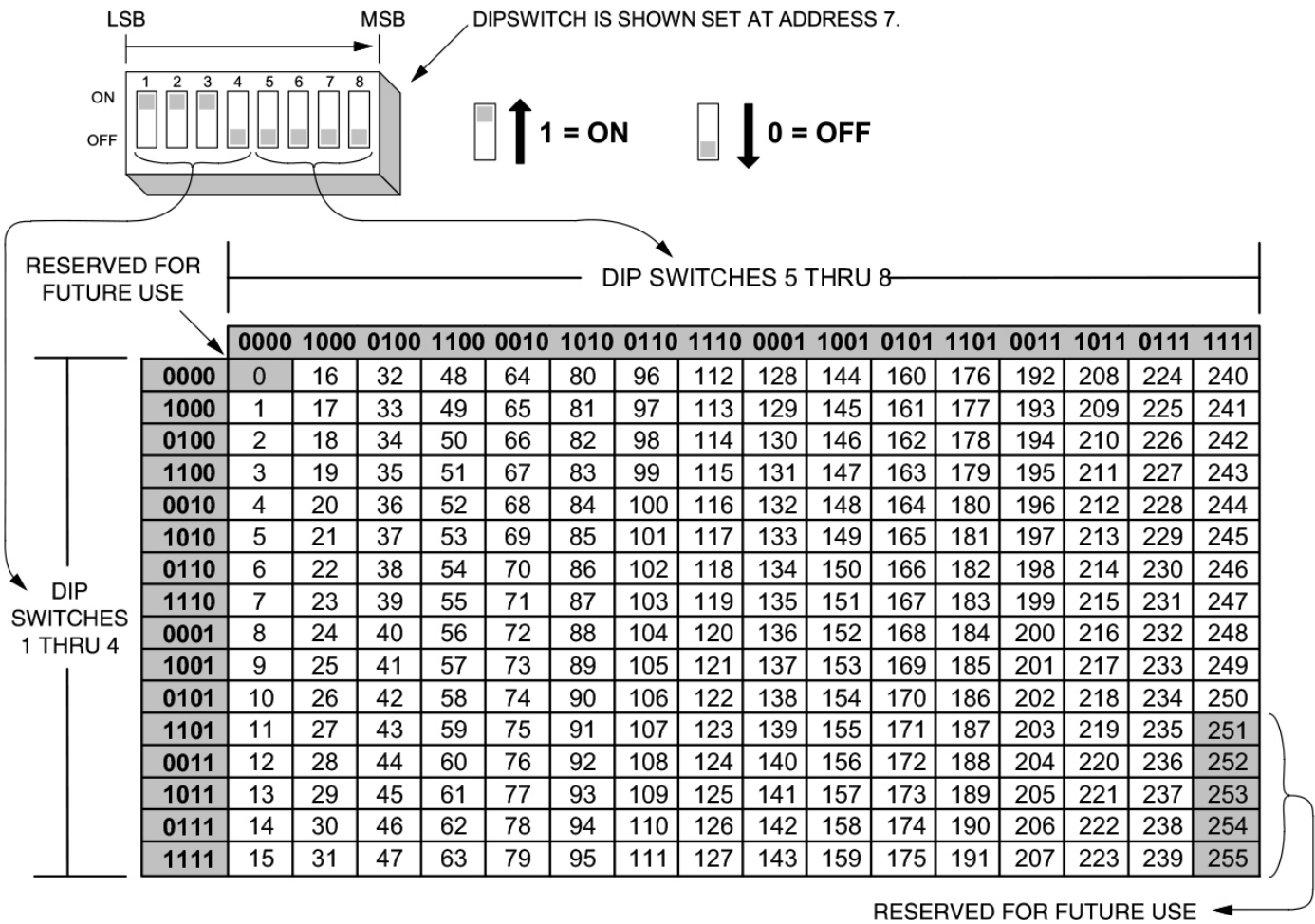


Figure 3: Setting the Address

Programming and Editing the device point

To program or edit this device from the ES Programmer, follow these steps:

1. Open an already existing job or create a new one.
2. Click on the Programmer's **Hardware** tab.
3. Click on the **Grid View** subtab at the bottom of the **Hardware** tab field.
4. Go to the IDNet channel that you are adding the device to and double click on it. The card properties window will open.
5. Click on the card's **Point Editing** tab.

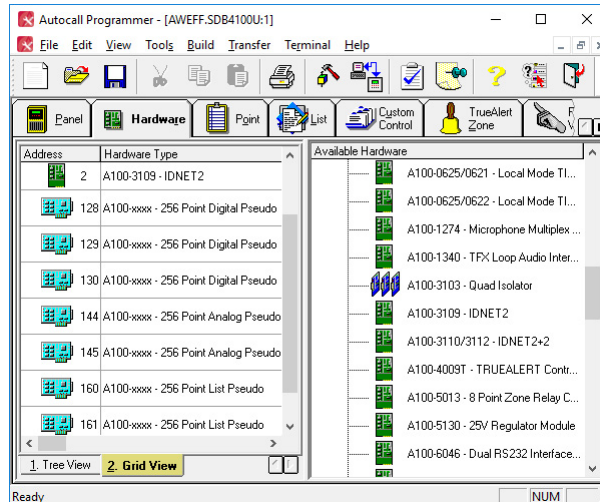


Figure 4: Accessing the IDNet Channel

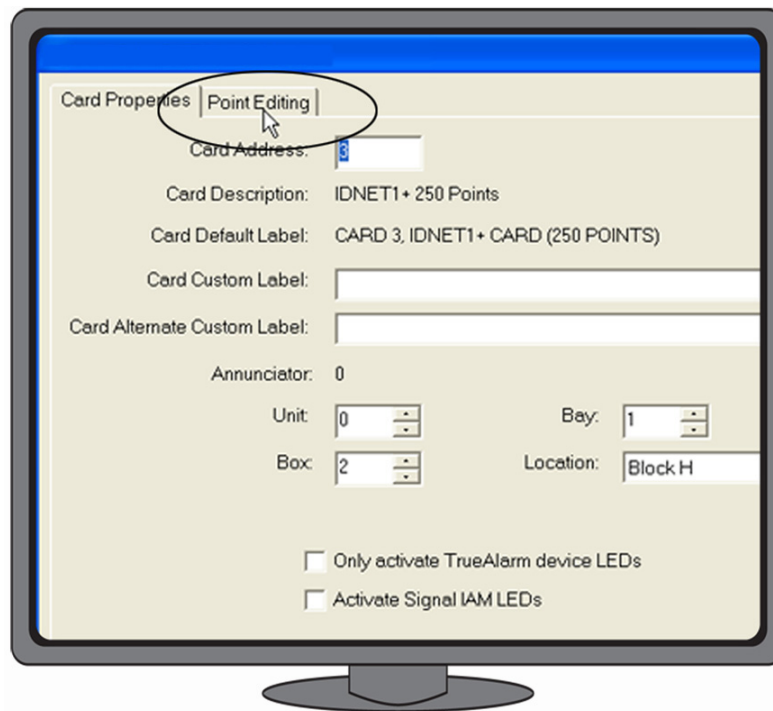


Figure 5: Accessing the Point Editing Tab

6. Use the options in the Point Editing tab, shown in Figure 6, to edit the following:

- **Device Type.** Click on the Device Type drop down list box and select **BEAM**.
- **Point Type.** Click on the Point Type drop down list box and select a point type.
 - Select **FBEAM** for the Beam Detector
 - Select **LSBEAM** for the Latched Supervisory Beam Detector
 - Select **UBEAM** for the Utility Beam Detector
- **Custom Label.** Assign a customized label to the device point.
- **Alternate custom Label.** Define an alternate label of up to 40 characters for the point, typically the function, location, or other descriptive text.
- **PNIS Code.** Allows selection of the PNIS code for the point*.
- **Primary Action message.** This selection assigns a Primary State Action Message to the point*.
- **Trouble Action message.** This selection assigns a Trouble Action Message to the point*.

Note: For more information on point editing consult the ES Programmer manual.

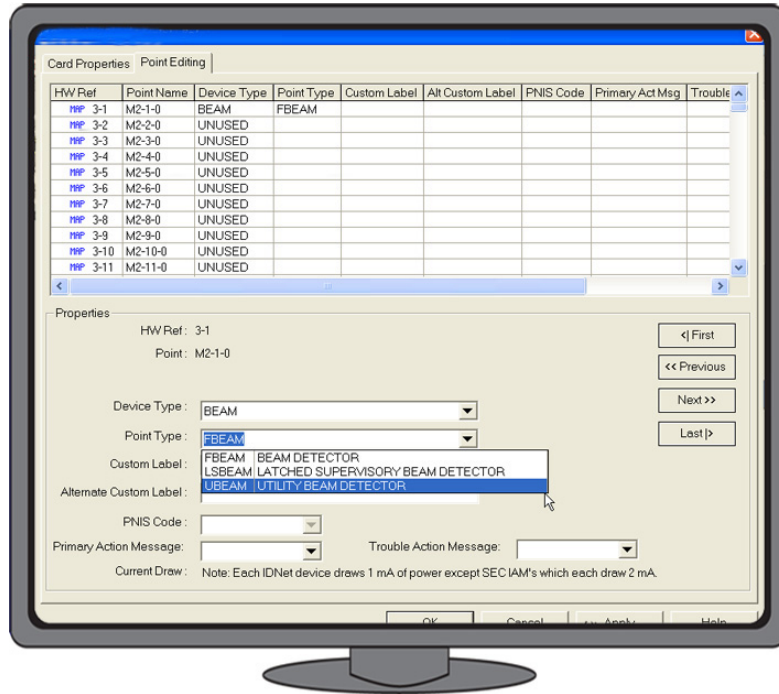


Figure 6: The Point Editing Tab

7. Setting the address:

The Beam Detector System requires two addresses per device:

- One address for the device and the “first” head. This address will also be the one associated with the address switch.
- One address for the second head on the device reporting to the system.

Both of the addresses for one same device must be added consecutively when programming the job. However, each head can be programmed for a separate point type, either “fire”, “latched supervisory”, or “utility”.

Note: A warning pop-up will appear with the notification that the device requires more than one address, prompting you to click **Yes** if you wish to continue. You must click on **Yes** in order to install the device.

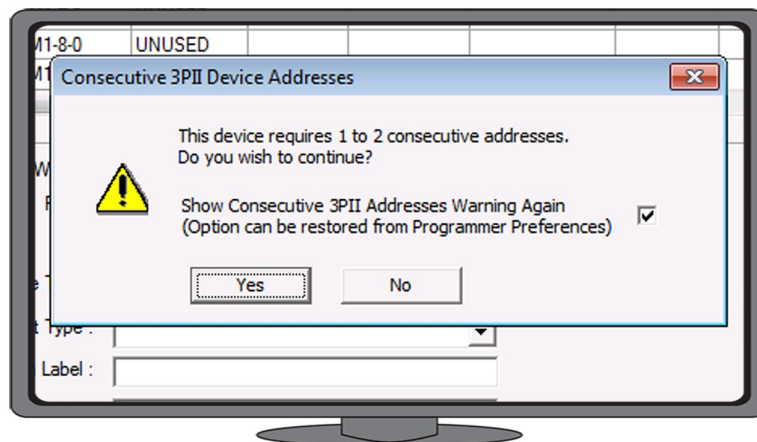


Figure 7: Multiple Address Prompting

Panel Operation

Each device head will appear on the FACP as an IDNet BEAM device type.

Since there are no trouble or alarm conditions specific to the system controller, all information can be reported against one of the heads. When the Beam Detector controller is physically missing or has failed, each head will have a “no answer” trouble for a total of up to two troubles.

The following operations can be performed from the FACP:

Table 2: Addressable Beam Detector FACP Operations

| Operations | Status Name | State | Point Type |
|---|--|------------------------------|------------------|
| Acknowledge the Beam device from the panel | n/a | n/a | n/a |
| Disable and enable each head | n/a | Enabled / Disabled / Trouble | Trouble |
| Turn off and on each device LED | n/a | n/a | n/a |
| Measure the signal strength** | Signal Strength% | 0 to 100 | n/a |
| Measure the compensation level** | Compensation Level | -50 to 205 | n/a |
| Edit the almost dirty threshold | Almost Dirty Threshold | -50 to 205 (default = 100) | n/a |
| Report the smoke status | Smoke Status | NORMAL, FIRE | Fire |
| Report the device communications* | Device Communications | NORMAL, TROUBLE | Trouble |
| Report a rapid obscuration trouble* | Rapid Obscuration | NORMAL, TROUBLE | Trouble |
| Report the self aligned status | Self Aligned status | FALSE, TRUE | n/a |
| Report the almost dirty status | Almost Dirty | FALSE, TRUE | n/a |
| Report the excessively dirty trouble* | Excessively Dirty | FALSE, TROUBLE | Trouble |
| Report a summary trouble* | Summary Trouble | NORMAL, TROUBLE | Trouble |
| Toggle the alarm test output | Alarm test | OFF, ON | ON triggers fire |
| Change the priority of the device | Priority | 0 to 15 | n/a |
| Add the device to the install mode list | n/a | INSTALL MODE | n/a |
| Edit the smoke threshold*** | Smoke Threshold% | 10 – 60 (default = 35) | n/a |
| * This operation can also be completed or viewed at the Beam System Controller. | | | |
| ** This operation can be viewed at the FACP but must be edited at the Beam System Controller. | | | |
| *** The smoke threshold can also be set through the Custom Control option in the ES Programmer. See the example for a sample equation. Consult the <i>ES Panel Programmer Manual</i> 547-849 for more information on custom controls. | Example:[INPUTS] STATUS ON A34 ANALOG TIMER SYSTEM STARTUP PULSE TIMER [END INPUTS] [OUTPUTS] SET_NUMERIC_OUTPUT 1 30 PRI=9,9 M1-1-0 BEAM FBEAM 1ST BEAM DETECTOR [END OUTPUTS] | | |

When viewing the Beam Detector information through the FACP interface, the following information can be accessed by selecting the device on the panel and then using the “More Info” button.

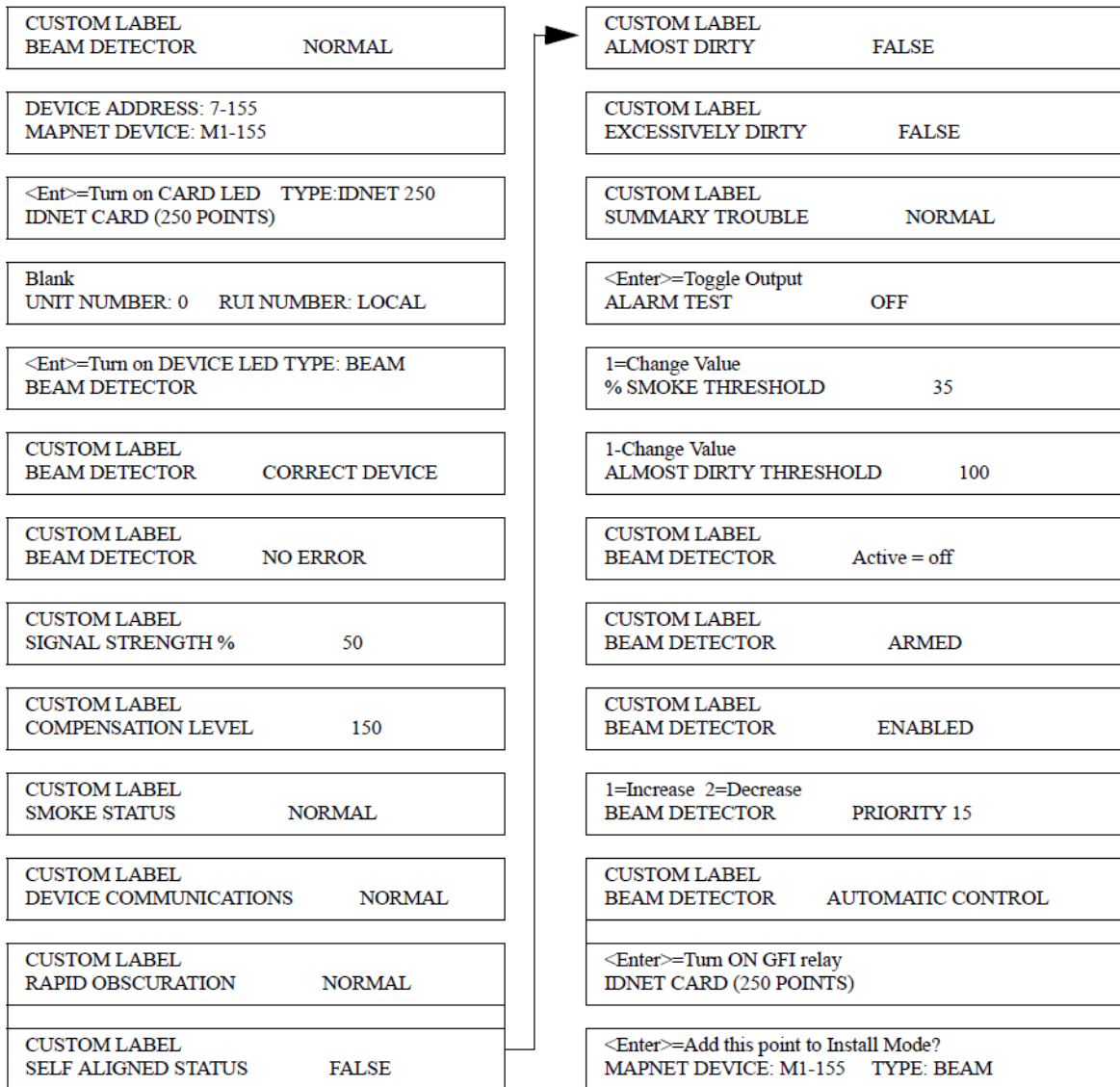


Figure 8: Beam Detector Information

Troubles Reported

The following trouble conditions are monitored by the FACP:

| IDNet Troubles | Beam Detector Troubles |
|-------------------------|------------------------------|
| No Answer | Device Communications Status |
| Bad Answer | Rapid Obscuration |
| Wrong Device | Summary Trouble |
| Disable Trouble | Excessively Dirty |
| Manual Override Trouble | |

Part Replacement

For replacement parts contact your certified Simplex representative.

Appendix A: Compatible Module Identification

- 4100-3101 566-044 IDNet Module – 250 Devices
- 4100-3104 566-329 IDNet Module – 127 Devices
- 4100-3105 566-330 IDNet Module – 64 Devices
- 4100-5111 566-071 Expansion System Pwr Supply (SPS)
- 4100-5112 566-072 Expansion System Pwr Supply (SPS)
- 4100-5113 566-071 Expansion System Pwr Supply (SPS)
- 4100-3106 566-421 4100-3106 IDNet Module – QuickConnect2
- 4100-3107 566-675 4100-3107 IDNet+ Module – 246 Devices, Quad Isolator
- 4010-9907 566-883 4010-9907 IDNet+ Module – 246 Devices, Quad Isolator
- 650-442 566-876 Main System Supply with IDNet+ (4010ES)
- 650-442 566-1104 Main System Supply with IDNet2 (4010ES)
- 650-1300/1301 566-1025 Extended System Supply (4010ES)

