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TNIA08 - PFM Usage
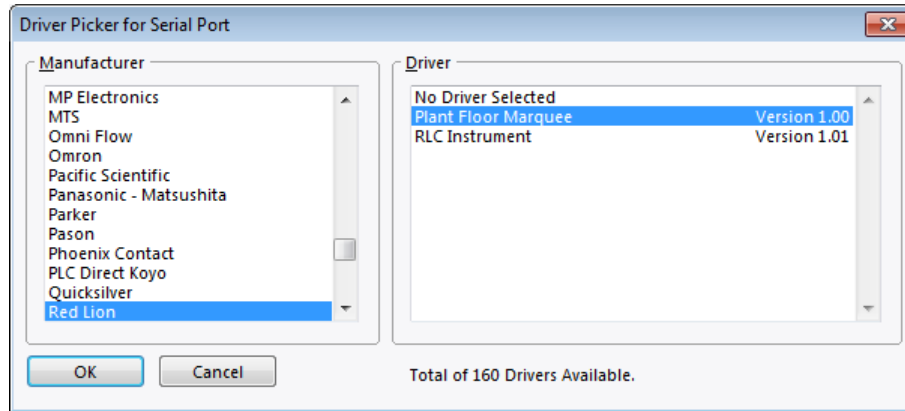**Crimson 3.0**
Released 2016-05-19

Crimson™ 3.0 DSP/G3/Graphite/MC/PTV PFM Usage

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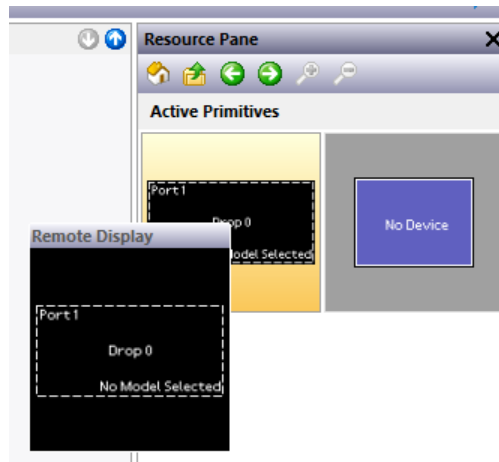** For reference only, the PFM is an obsolete product **

Communications

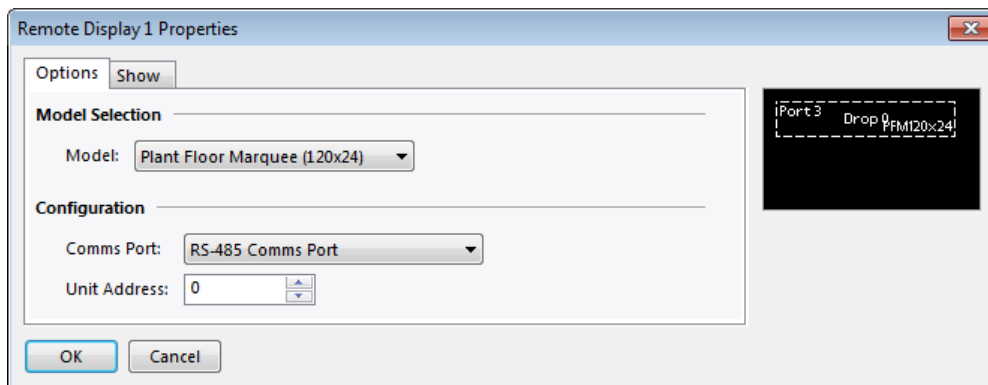- Assign the *Red Lion - Plant Floor* Marquee driver to the RS485 Communications port.

Display Pages

1. Add a *Remote Display* primitive from the *Active Primitives* category to a display page.

2. Open the Remote Display primitive's properties, set the Model Comms Port and Unit Address appropriately.

3. Any items placed 'inside' of the Remote Display box will be displayed on the attached PFM.

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Addressing the PFM

The PFM runs on an RS485 network, which supports up to 32 devices. If multiple PFM displays are connected to a single device they will all show the same data unless they are given a unique address. The acceptable address range for the PFM is 1-32 and zero is a broadcast address. The broadcast is useful when a message should be sent to all PFMs connected or when the address of the PFM is not known. This document goes through two methods of setting an address. The first method uses the Crimson software to connect directly to the PFM. The second method describes how to send a new address from the RS485 communication port of a HMI, DSP, Modular Controller, or PTV.
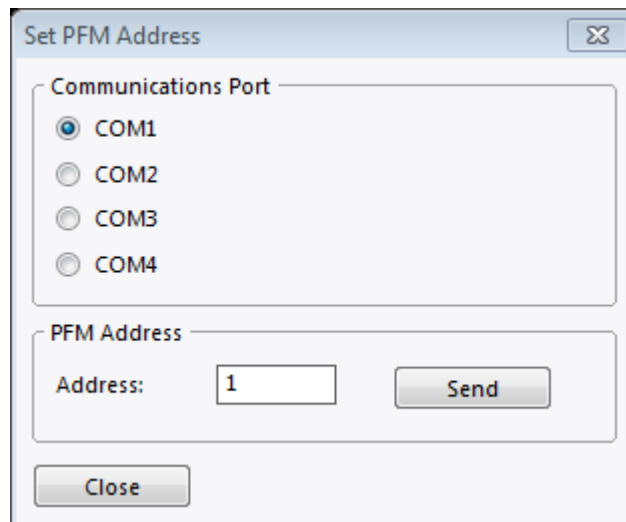
A. Using Crimson

Crimson has a built-in method to set the address of a connected PFM display; however most computers don't have an RS485 port so a converter will be needed. Red Lion Controls sells a cable, which has a built in converter and the proper pin out to go from your RS232 port to the PFM. This is the CBPRO007 cable and can be purchased from your distributor.

1. Once there is a proper connection to the PFM open Crimson and select *Link - Set PFM Drop...*
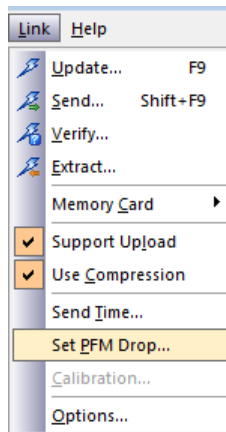
2. Select the port the PFM is connected on and set the desired address, then click *Send.*

3. The change is successful when the PFM beeps.

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B. Using a Program

This method allows setting the address of a PFM without any extra parts. All that is required is the device that will control the PFM. For this example a G3 database will be used.

1. First configure the RS485 port of the G3 for *Raw Serial Port*.
2. Change the Baud Rate to *115200* and the other settings can be left at default.
3. Next click on *Data Tags* in the <u>Navigation Pane</u> and create two new numeric tags.
4. Rename Tag to Address, rename Tag2 to TxData and set the Extent to *Array*.
5. Click on *Programs* in the <u>Navigation Pane</u> paste the code below in the code window of the <u>Editing Pane</u>, and then use *Ctrl+t* to translate the program.

```
int i, CS=0;

// STX
TxData[0] = 0x02;

// Display ID, must be 0xFF for address
change
TxData[1] = 0xFF;

// Operation Code 0x41 for address
change
TxData[2] = 0x41;

// Number of bytes (2 bytes equal to
0x01 0x00 for this operation)
TxData[3] = 0x01;
TxData[4] = 0x00;

// required ID
TxData[5] = Address;

// ETX
TxData[6] = 0x03;

// checksum
for(i = 0; i < 7; i ++) {

        CS ^= TxData[i];
        }

TxData[7] = CS;

for(i = 0; i < 8; i ++) {

        PortWrite(3, (TxData[i]&0xFF));
        }
```
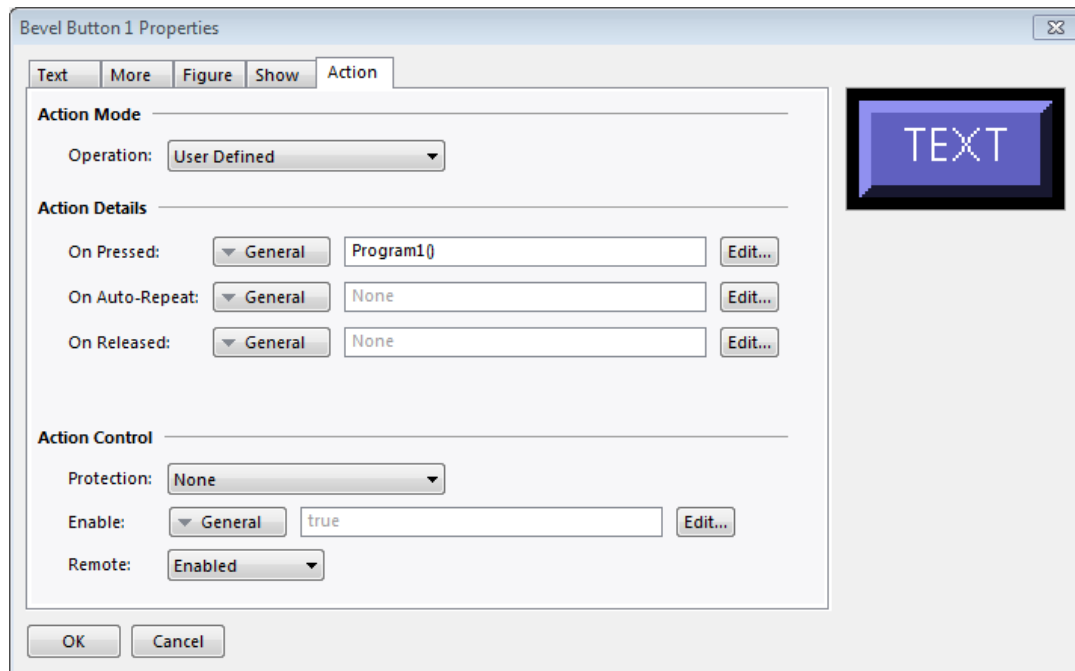
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6. Click on *Display Pages* in the Navigation Pane.
7. Add the Address tag to the display and enable data entry.
8. Add a button to the page, open its Properties, click on the *Action* tab, and type *Program1()* in the On Pressed field.

9. The change is successful when the PFM beeps.

Red Lion Technical Support

If you have any questions or trouble contact Red Lion Technical Support by emailing support@redlion.net or calling 1-877-432-9908.