red lion®

TECHNICAL NOTE   TNOI42

Title: Configuring the address of the PFM (Plant Floor Marquee)

**Product(s): Method 1 – PFM, RS232/RS485 converter or CBPRO007
Method2 – PFM, G3 HMI or DSP/Modular Controller**

ABSTRACT

The purpose of this document is to describe the steps necessary to address the Plant Floor Marquee.

INTRODUCTION

The PFM runs on an RS485 network, which supports 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 send to all PFMs connected or when the address of the PFM is not known. This document will go through two methods of setting an address. The first method uses the Crimson 2.0 software to connect directly to the PFM. The second method describes how to send a new address from the RS485 communication port of a G3, DSP, or Modular Controller.

METHOD 1

Crimson 2.0 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 does sell 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. Once you have a proper connection to the PFM you simply have to open Crimson 2.0 and select Link > Set PFM Address.
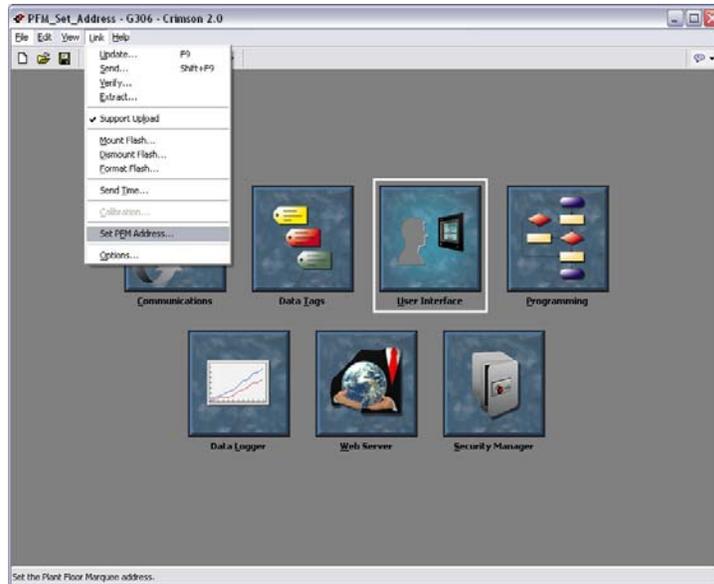

The dialog box will prompt you to select the port you have the PFM connected on. Next simply select your desired address and the port the PFM is connected on.


Click send and if the change is successful you should hear a beep from the PFM.

METHOD 2

This method allows you to set the address of your PFM without any extra parts. You only need the device that you plan to control your display. For this example we will use a G3 database. The first thing to do is configure the RS485 port of the G3 for Raw Serial. Change the baud rate to 115200 and the other settings can be left at default.
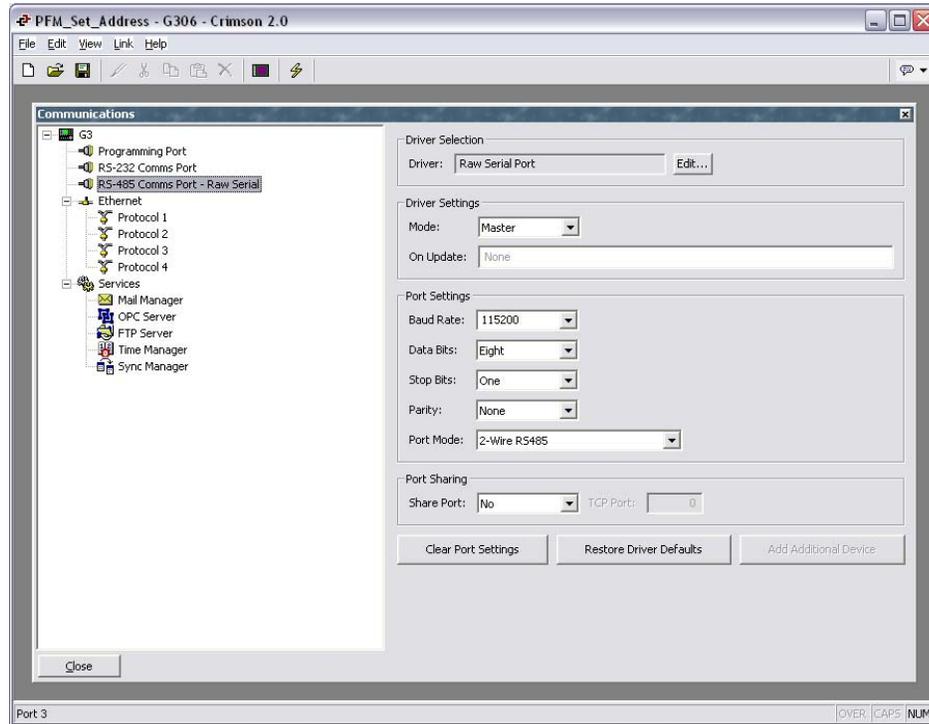
Next we will move to the data tags section and we will create two tags. The first tag will be an integer variable and will be named Address. The next tag will be an integer array and will be named TxData.
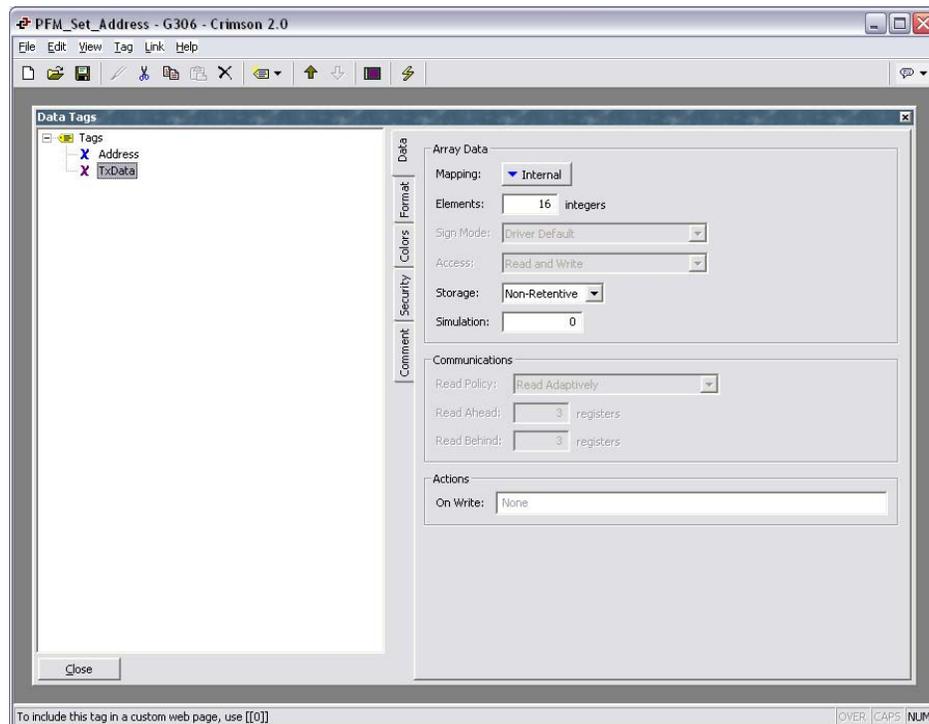
Now the following code will need to be copied into the programming section of the database.

```
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));
}
```
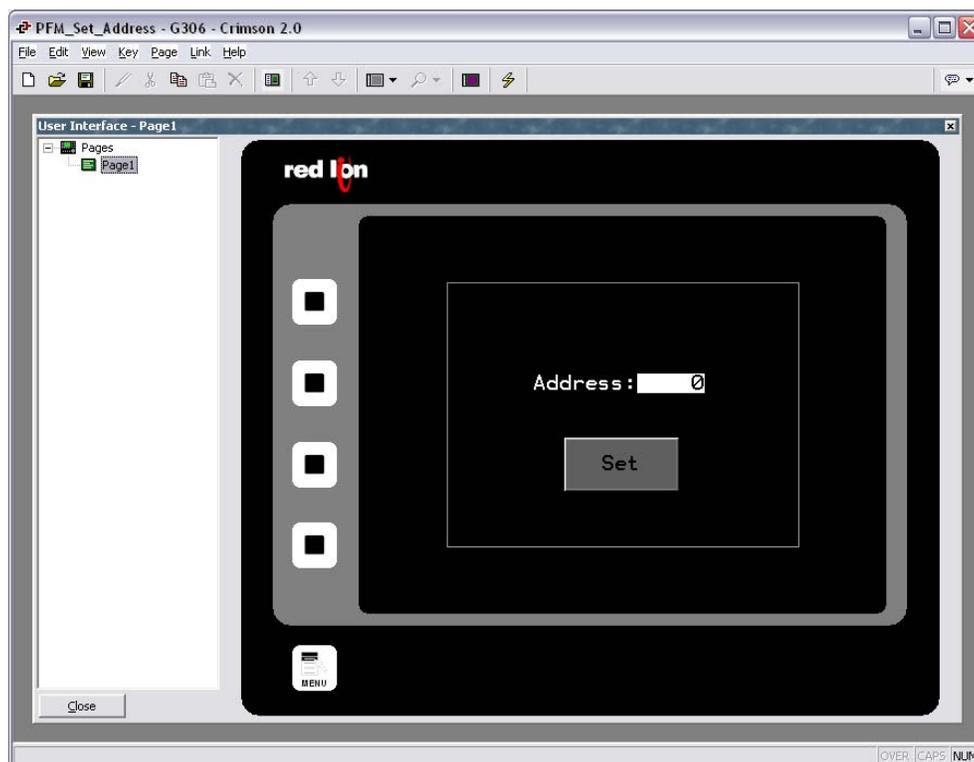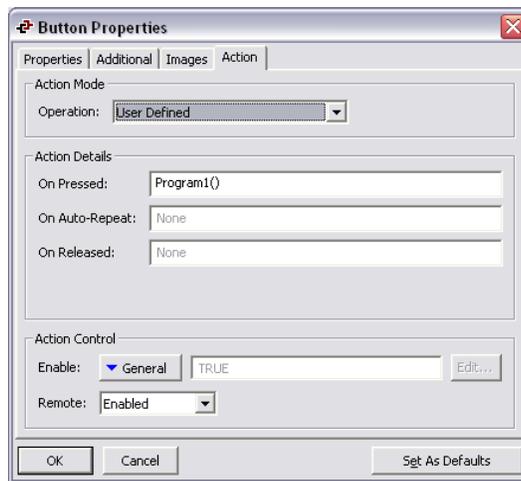
Next go to Program > Translate and make sure the program translates without error.

If you are using a G3 HMI you can now place the Address tag on the display and enable data entry. You will also need a way to call the previously created program. A simple way is to create a general button on the display.

The following image shows the button configuration.

If the change is successful the PFM will beep.