Industrial Automation CANOpen SDO Master

Tech Note 42

Abstract:

This document describes Crimson® driver configuration for CANOpen SDO Master.

Products:

Red Lion Controls CR3000 Human Machine Interface (HMI) with Module (PN: CRM000CMCAN00000), Data Station Plus (DSP) with Option Card (PN: XCCN0000), G3 HMI with Option Card (PN: G3CN0000), Graphite® Controller (GC) with Module (PN: GMCN0000), Graphite HMI with Module (PN: GMCN0000), Modular Controller (MC) with Option Card (PN: XCCN0000), and ProducTVity Station™ (PTV) with Option Card (PN: XCCN0000)

Use Case:

How to establish communication and access the various data types present in the CANOpen SDO Master driver.

Required Software:

Crimson 2.0, 3.0, or 3.1

Required Operating System:

Microsoft Windows 2000, or above

Required Hardware:

Red Lion Controls CR3000 HMI with Module (PN: CRM000CMCAN00000), DSP with Option Card (PN: XCCN0000), G3 HMI with Option Card (PN: G3CN0000), GC with Module (PN: GMCN0000), Graphite HMI with Module (PN: GMCN0000), MC with Option Card (PN: XCCN0000), or PTV with Option Card (PN: XCCN0000)

Introduction

There are three main areas that must be completed when configuring Crimson to support a CANOpen SDO Master driver. The CAN Option Card or CAN Module must be installed and configured, the appropriate driver must be configured, and the associated driver tags must be configured. This document describes how to perform each activity.

> **NOTE**: Crimson support for the CANOpen SDO Master driver requires Crimson 2.0 or above and is only available to Windows 2000 or above users. Please update your version of Crimson to the latest; available online at www.redlion.net

Installing/Configuring the CAN Option Card or CAN Module

1. Install the CAN Option Card or CAN Module, as appropriate, using the instructions provided with each device.
2. Start Crimson.
3. Click on File>New to create a new Crimson database and select the appropriate Red Lion platform.
4. **If configuring a CAN Option Card**: Refer to Figure 1 and go to the Navigation Pane and select *Option Card*; the Communications - Option Card popup appears. Select the *Pick* button; the Option Card popup appears. Select *CAN Option Card* from the Options list and click the *OK* button; Figure 3 appears and CAN Option Card is appended at the end of the tree shown in the Navigation Pane.

    If configuring a CAN Module: Refer to Figure 2 and go to the Navigation Pane and select *Slot 1*; the Communications - Comms Modules - Slot 1 popup appears. Under Module Selection, click on the *Pick* button; the Module popup appears. Select *CAN Module* from the Options list and click the *OK* button; Figure 3 appears.
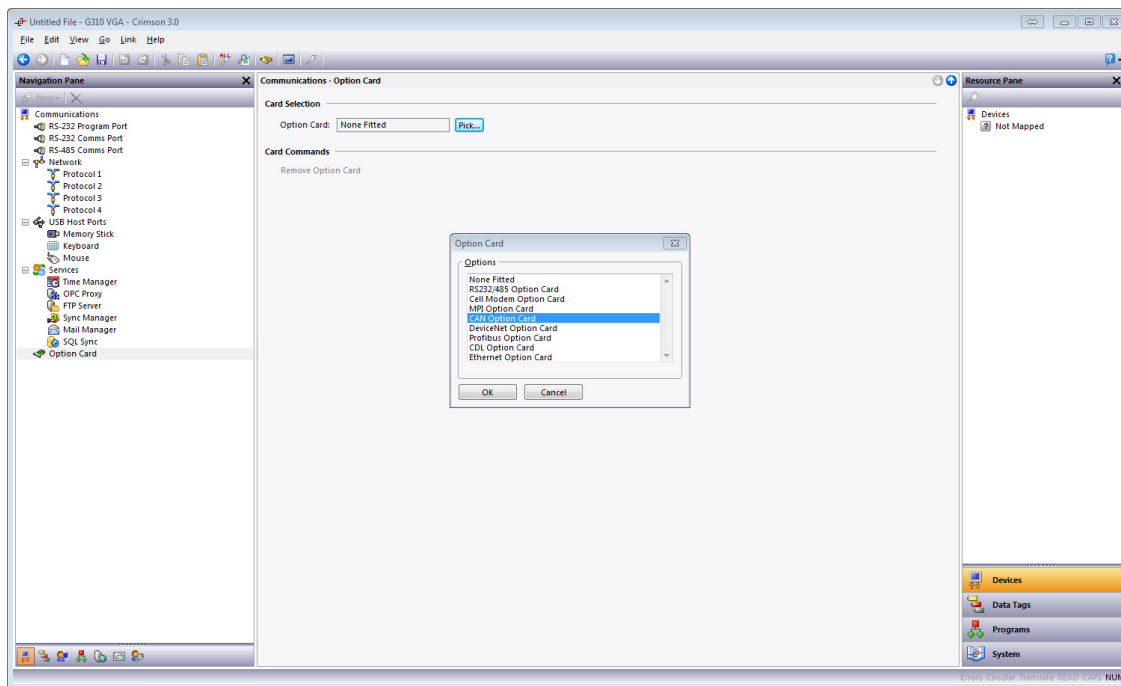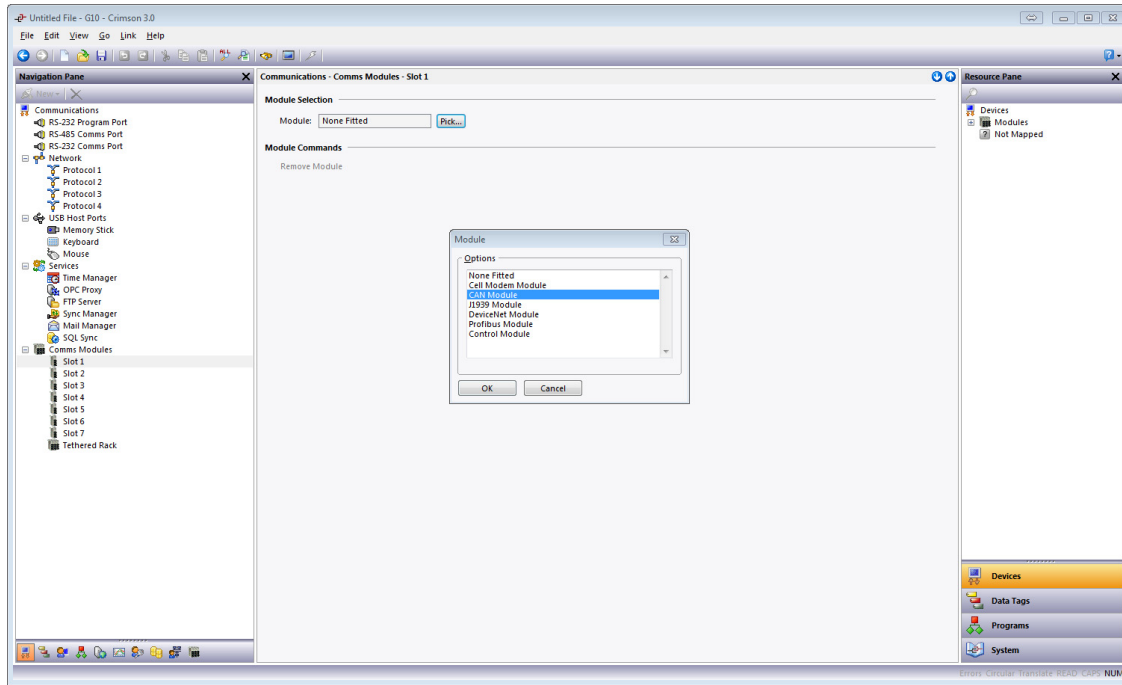

Figure 1.

Figure 2.

Configuring the Driver

Once the option card or module has been installed and set up, the appropriate driver needs to be selected and configured. The remainder of this document describes how to configure Crimson to support a G10 HMI equipped with a CAN Module. All other models are configured in the same manner.

1. Referring to Figure 3, go to the Navigation Pane and select *CAN Interface*.
2. Go to Driver Selection and click on the *Pick* button; the Driver Picker for CAN Port popup opens.
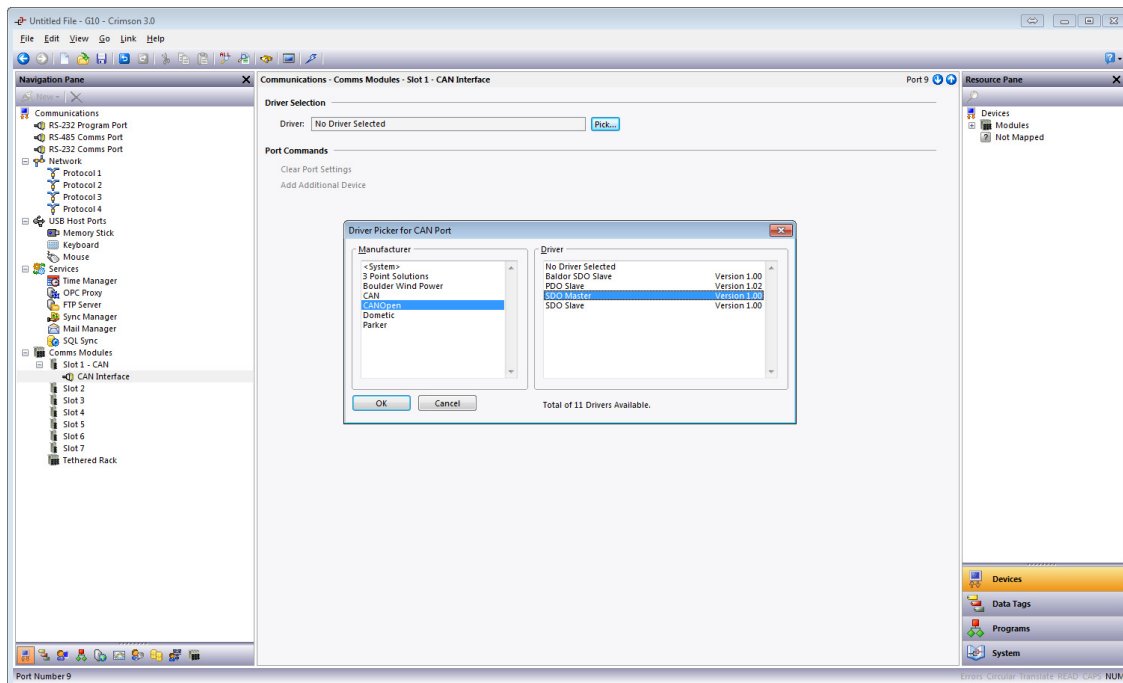3. Select *CANOpen - SDO Master* and click on the *OK* button; Figure 4 appears.

Figure 3.

4. Referring to Figure 4, a new device called "DEV1" will be created (this can be renamed by right-clicking on it and selecting the "Rename" option, if desired)

5. Click on the newly-created device and the Communications - Comms Modules - Slot1 - CAN Interface - DEV1 popup appears.

6. Ensure that the Drop Number and other settings correspond to those expected by the CAN Open End device; default values are shown in Figure 4.
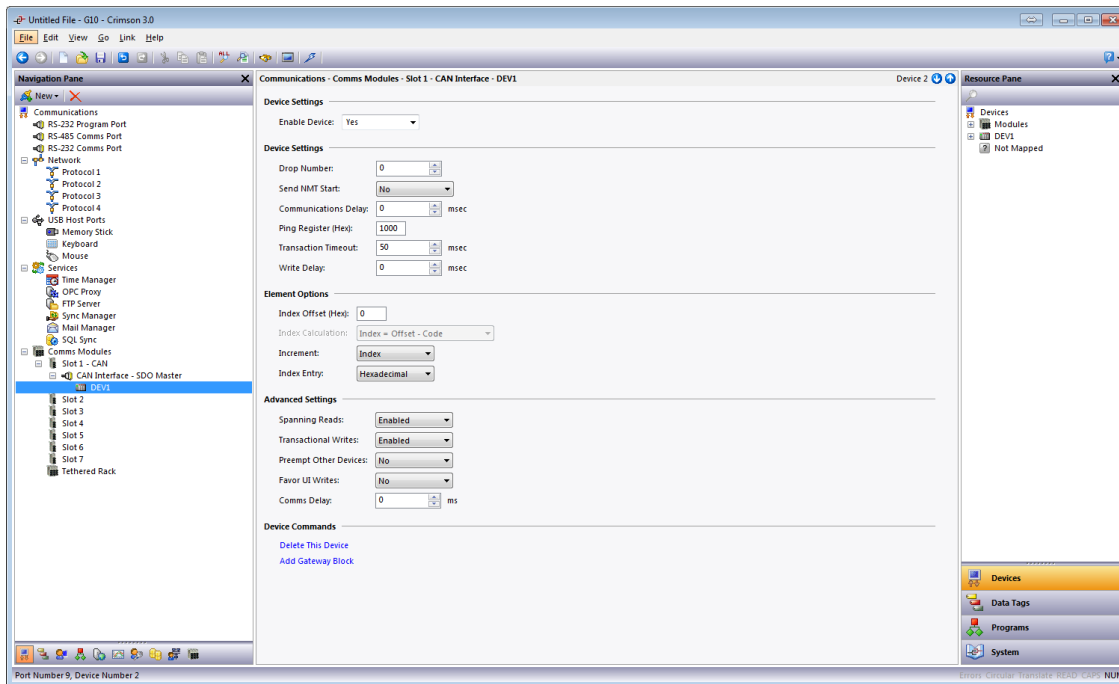

Figure 4.

Configure Data Tags

Once the configuring the driver has been completed, the associated Data Tags must be configured:

1. Go to the Data Tags section in Crimson and select the desired Tag; *Tag1* in this example.

2. Specify the Tag Type; Crimson supports four basic Tag Types: Numeric (Float or Integer), Flag (Binary/Discrete), String, and Basic.

3. Specify what data is to be accessible to the CANOpen SDO Master driver; the following data options are available:

Name	Description	Element Size	Access
Bxxxx	CANOpen object accessed as byte	Byte	Read/Write
Wxxxx	CANOpen object accessed as word	Word	Read/Write
Lxxxx	CANOpen object accessed as long	Long	Read/Write

4. Figure 5 shows a Word Register selected and lists all of the available data types to which tags may be mapped:
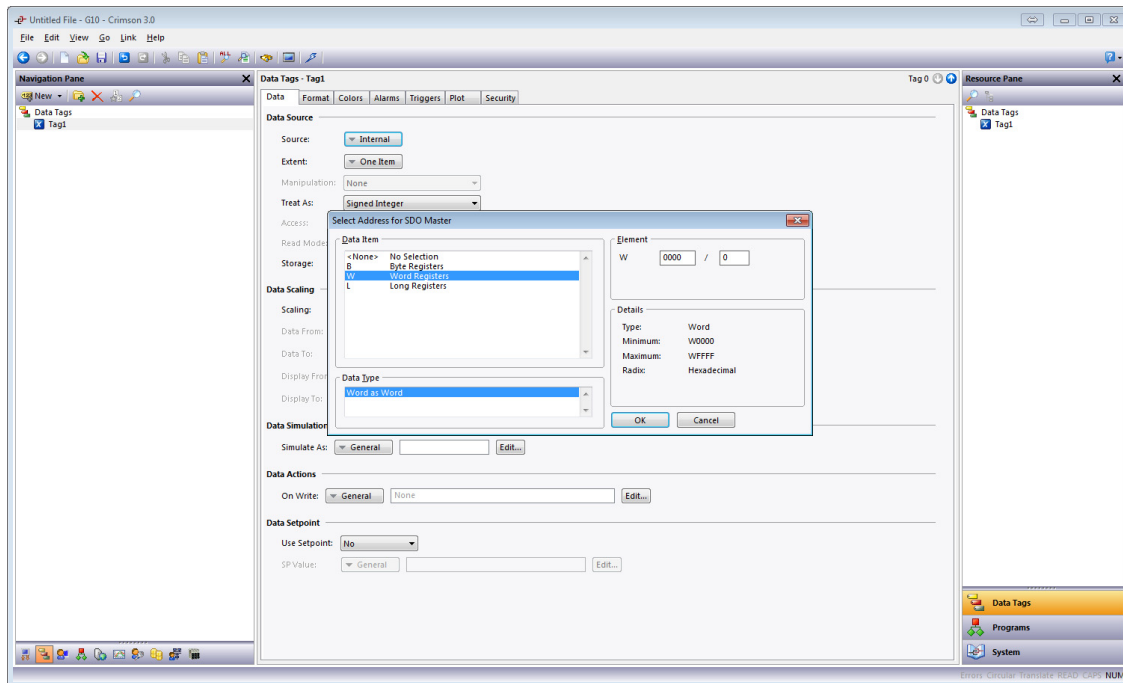

Figure 5.

Notes:

1. Any combination of one or more CANOpen devices can be used.

2. The CANOpen SDO Master driver supports only one Graphite HMI/Controller per network.

3. No network manager is required or supported.

Disclaimer

It is the customer's responsibility to review the advice provided herein and its applicability to the system. Red Lion makes no representation about specific knowledge of the customer's system or the specific performance of the system. Red Lion is not responsible for any damage to equipment or connected systems. The use of this document is at your own risk. Red Lion standard product warranty applies.

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.

For more information: http://www.redlion.net/support/policies-statements/warranty-statement