

Advantys Device Type Manager

Advantys OTB Distributed I/O on
CANopen
User Manual

05/2012

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

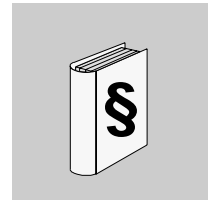
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Safety Information



Important Information

NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will result in** death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **can result in** death or serious injury.

 **CAUTION**

CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in** minor or moderate injury.

CAUTION

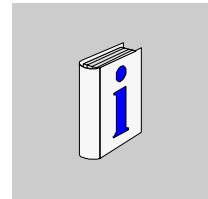
CAUTION, used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, **can result in** equipment damage.

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About the Book



At a Glance

Document Scope

This document will acquaint you with the Advantys DTM for OTB on CANopen as part of the Advantys Configuration Software. It tells you how to install the DTM Library, which contains a DTM for OTB on CANopen NIMs.

This manual is written for an Advantys user, who will configure OTB CANopen NIM modules with the Advantys DTM.

For basic information about the Advantys Configuration Software, please refer to the Advantys Configuration Software User Manual.

Validity Note

Advantys DTM is part of Advantys Configuration Software from version 4.8.

Related Documents

Title of Documentation	Reference Number
Advantys Configuration Software User Manual	33003486 (ENG) 33003487 (FRE) 33003488 (GER) 33003489 (SPA) 33003490 (ITA)
SoMachine DTM Prgramming Guide	EIO0000000673 (ENG) EIO0000000674 (FRE) EIO0000000675 (GER) EIO0000000676 (SPA) EIO0000000677 (ITA) EIO0000000678 (CHS)

You can download these technical publications and other technical information from our website at www.schneider-electric.com.

Product Related Information

WARNING

LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and overtravel stop, power outage and restart.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link.
- Observe all accident prevention regulations and local safety guidelines.¹
- Each implementation of this equipment must be individually and thoroughly tested for proper operation before being placed into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

¹ For additional information, refer to NEMA ICS 1.1 (latest edition), "Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control" and to NEMA ICS 7.1 (latest edition), "Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems" or their equivalent governing your particular location.

User Comments

We welcome your comments about this document. You can reach us by e-mail at techcomm@schneider-electric.com.

Installation



Installing and Uninstalling Advantys DTM

Installing the Advantys DTM

The installation of the Advantys Configuration Software includes the optional installation of the Advantys DTM. The Advantys DTM is supplied on the same CD as the Advantys Configuration Software. During installation of the Advantys Configuration Software you can decide whether you want to install the Advantys DTM or not. By default, the Advantys DTM will be installed automatically with the Advantys Configuration Software.

It is not possible to install Advantys DTMs separately, without installing the Advantys Configuration Software.

Uninstalling the Advantys DTM

Advantys DTMs are uninstalled with the Advantys Configuration Software uninstalling procedure.

It is not possible to uninstall Advantys DTMs separately from the Advantys Configuration Software.

NOTE: For details on the installation / uninstallation processes see the *Advantys Configuration Software User Manual*.

Functional Description



2

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Functional Description	12
User Interface of Advantys DTM	14
Creating and Modifying Island Configurations	16
Labeling Objects	18

Functional Description

Purpose of Advantys DTM

Advantys DTM was developed for the configuration of OTB islands on CANopen protocol, working as a proxy solution.

Advantys DTM provides a device technology on the basis of the FDT technology, operates in a FDT Frame application and supplies information to the FDT Frame Application.

Proxy Solution

The Advantys DTM island window itself does not provide the functions to create or modify your configuration. To create or modify your configuration Advantys DTM activates the Advantys Configuration Software.

Initializing the Advantys DTM

Start Advantys DTM from a FDT Frame Application as follows:

Step	Action
1	Make sure that the Advantys DTM is installed successfully.
2	Open the device type catalog in the FDT Frame Application. Update the device type catalog if required. A new device type Advantys DTM should be available in the catalog.
3	Select a Communication DTM for CANopen and add it to the network view.
4	Select the Advantys DTM and connect it to the CANopen Communication DTM .
5	For any kind of configuration tasks, double click the Advantys DTM icon in the network view.

NOTE: If you are using the Advantys DTM with SoMachine as the FDT frame, please consult the *SoMachine DTM Programming Guide*.

Having started Advantys DTM, the island window opens.

Interactions when Starting Advantys Configuration Software

You can start the Advantys Configuration Software from Advantys DTM.

To do this, click the Advantys Start button .

NOTE: When the Advantys Configuration Software is being started out of Advantys DTM, the version of the installed Advantys Configuration Software will be checked to assure compatibility.

Only 1 instance of the Advantys Configuration Software can be started at a time. For this reason, the following interactions with Advantys DTM are possible:

Status	Action	Result
Advantys Configuration Software is already running as a standalone application – started from the Start menu.	You click the Advantys Start button in Advantys DTM to start Advantys Configuration Software.	You are prompted to close the running instance before starting the software from Advantys DTM.
Advantys Configuration software is already running – started from the Advantys DTM.	You want to start Advantys Configuration Software from the Start menu.	You are prompted to close the running instance before Advantys Configuration Software is started as standalone application.

Interactions when Starting a Second Configuration

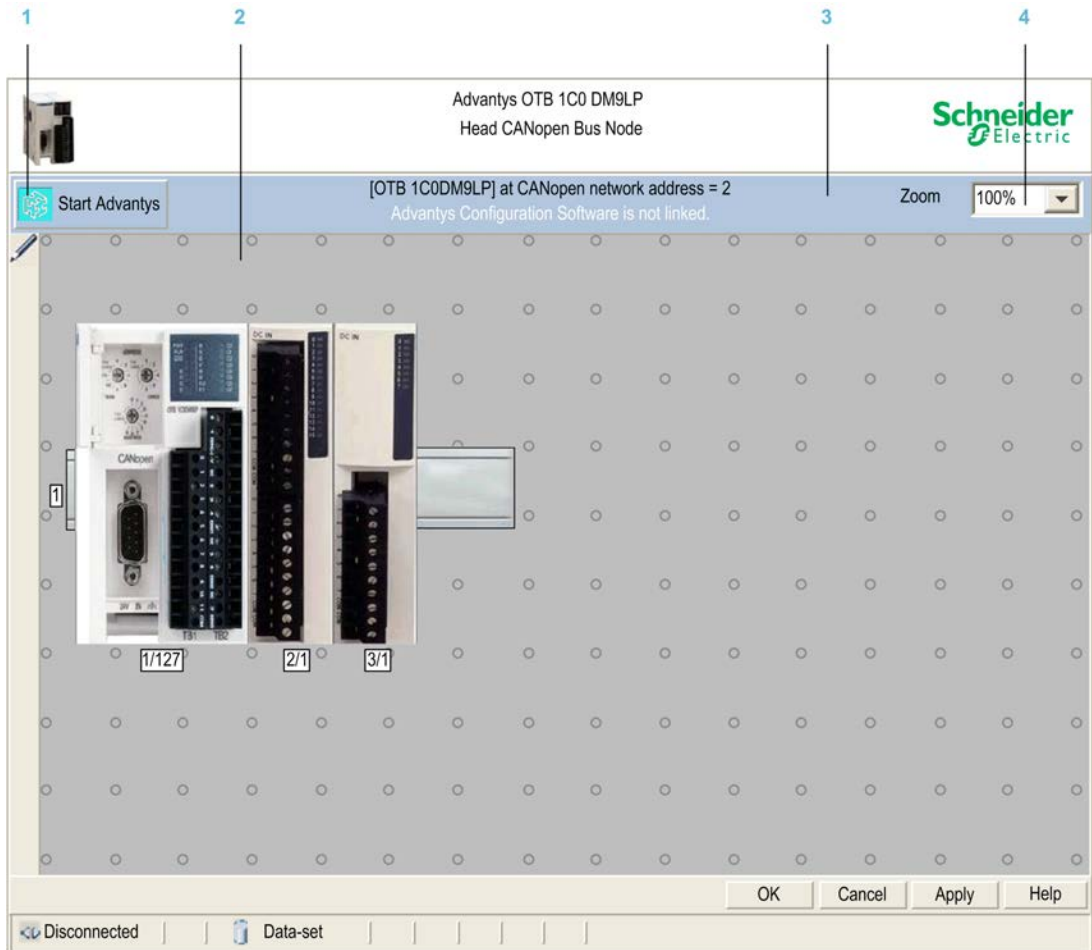
If you have opened an Advantys Configuration Software instance and you open a new or a different configuration in the same instance of the tool, the following interactions are possible:

If...	Then ...
you have not modified the currently open configuration,	Advantys Configuration Software automatically closes the currently open configuration and opens the newly selected configuration of the Advantys DTM.
you have modified the currently open configuration,	you will be prompted to either save or discard your modification(s) before attempting to open the newly selected configuration.

User Interface of Advantys DTM

Island Window of Advantys DTM

The island window of Advantys DTM is very similar to the island window of the Advantys Configuration Software. You can easily recognize the Advantys DTM island window by the grey background with its pattern of circles.



- 1 starts the Advantys Configuration Software
- 2 island window indicating that the Advantys DTM is **not connected** to the Advantys Configuration Software
- 3 displays the state of the Advantys DTM
- 4 modifies the zoom setting

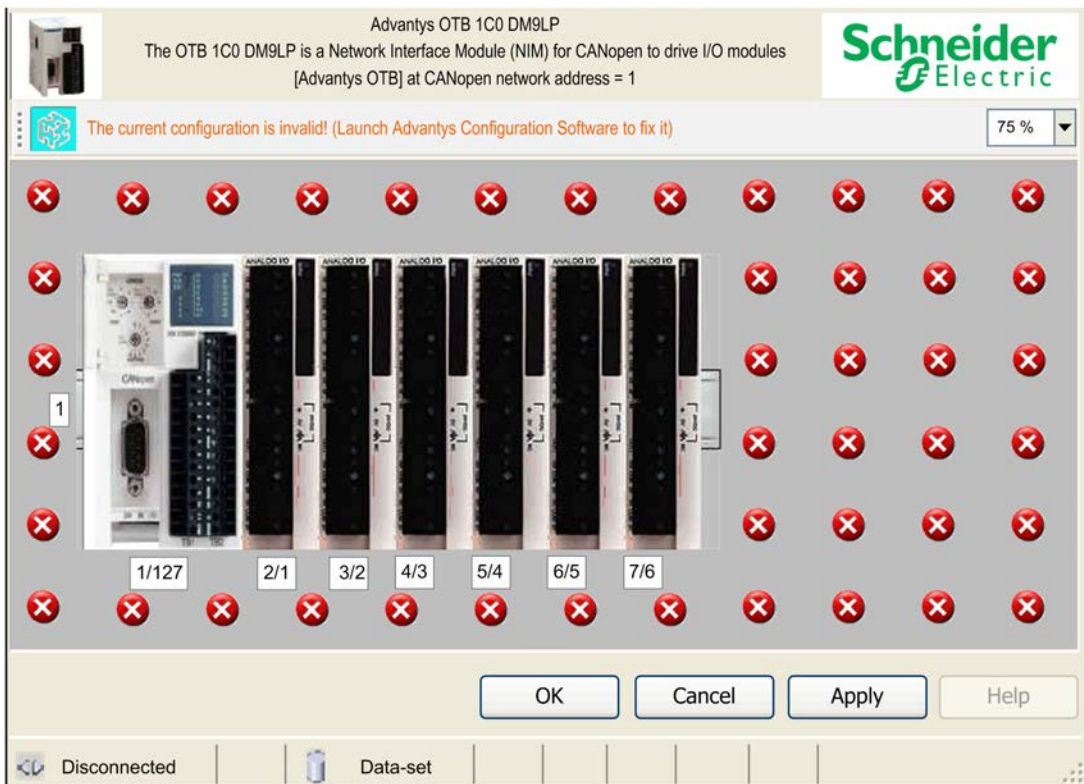
Connection Status

The circle color indicates the connection status from Advantys DTM to the Advantys Configuration Software:

Color	Meaning
grey	not connected
blue	connected
orange	Advantys DTM is connected to Advantys Configuration Software and the current configuration has been modified. The modifications have not been saved yet.

Invalid Configuration or Unsuccessful Build

If the configuration created in the Advantys Configuration Software is not valid or the build of the configuration is not successful, red circles are displayed in the background of the Advantys DTM island window.



Creating and Modifying Island Configurations

Limitations

In most FDT Frame Applications it is possible to maintain the configuration of several OTB islands in parallel by opening the appropriate DTM instances for each OTB island.

When you work in parallel with several open DTMs on several island files it might happen that you confuse one island configuration with another one.

WARNING

UNINTENDED EQUIPMENT OPERATION

- Provide meaningful names for the OTB DTM instances.
- Be sure you are making modifications to the correct island.
- Consult the name of the OTB DTM instance which is displayed in the caption of the Advantys Configuration Software.
- Perform operational tests of your system and any configuration changes that you have made before commissioning the device.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

To create or modify an OTB configuration, start the Advantys Configuration Software by clicking on the launch button in the Advantys DTM island window.

As the Advantys Configuration Software is running as client software of the Advantys DTM, you can only create or modify islands that are specified by the Advantys DTM.

The following items are not available and hence set in grey in the **File** menu:

- **New Workspace**
- **Open Workspace**
- **Add New Island**
- **Add Existing Island**
- **Close Island**
- **Remove Island**

Process Channels

Advantys DTM provides its I/O configuration for the integration in control systems, for example PLC programming tools.

Creating and Modifying

To create a new island or to modify an existing one, start the Advantys Configuration Software from the Advantys DTM. If no island was created before, the island editor appears as an empty rail.

If you intend to modify an already existing configuration, the island editor shows your current configuration.

To create or modify your island, you can add modules from the **Catalog Browser** to this segment, move or delete them. This is the method by which you establish an island bus configuration in the software.

Saving your Configuration

Click on **Save** to save your configuration.

NOTE: If your configuration is not valid, a message box informs you and indicates the reason for it in the log window.

Labeling Objects

Introduction

The Advantys Configuration Software allows you to assign meaningful names to any module parameters and I/O data objects in your configuration.

The names for the selected data objects are displayed in the **I/O Image Overview** and the **I/O Image Animation** dialog boxes and in the Module Editor.

Naming of Data Objects

Proceed as follows to assign a name to a module parameter, an I/O status or I/O data element:

Step	Action
1	Select the module whose data elements you want to assign names to.
2	Open the Module Editor.
3	If the data object is <ul style="list-style-type: none">● a module parameter, select the Parameters tab.● an I/O data object, select the I/O Image tab.
4	Double-click the User Defined Label field of the object you want to assign a name to. Note: This is only possible if the Island is unlocked and in offline mode.
5	Enter the name you want to assign to the object. NOTE: The name cannot exceed 24 characters and has to be IEC conform <ul style="list-style-type: none">● Only characters (A-Z, a-z) and numbers are allowed.● Must not start with a number.● It must not contain spaces.
6	Press ENTER.

Providing Labels to FDT Frame Applications

After naming data objects using the Advantys Configuration Software, i.e. after adding user defined labels to objects, the DTM for OTB on CANopen provides these symbolic variable names to FDT Frame Applications.

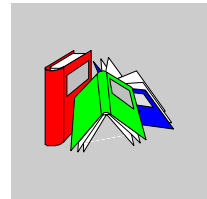
It depends on the respective FDT Frame Application, whether these symbolic variable names (labels) are used or not.

For example with SoMachine, the labels are displayed in the **Channel** column of the OTB's **CANopen I/O Mapping** tab and can be used in SoMachine.

The screenshot displays the 'CANopen I/O Mapping' configuration for the device 'OTB_1C0DM9LP'. The 'Channels' table lists the following mappings:

Variable	Mapping	Channel	Address	Type
		ErrorLight	%QX2.0	BOOL
		Start	%IX1.6	BOOL
		EmergencyStop	%IX1.7	BOOL

Glossary



C

CAN

controller area network

D

DTM

A DTM (Device Type Manager) is a kind of device driver, which is provided by the field device vendor. The DTM contains the device specific information and provides a graphical user interface. The DTM can be used to perform monitoring tasks and configuration tasks on the specific device. A DTM is not a standalone application, it requires an FDT Frame Application to run.

F

FDT

The FDT (Field Device Tool) technology standardizes the communication interface between field devices and systems (www.fdtgroup.org).

FTB

field terminal block

FTM

field terminal modular

N

NIM

network interface module

O

OTB

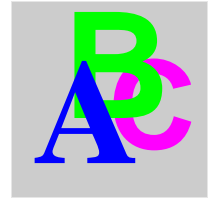
optimized terminal block

S

STB

smart terminal block

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