THORWARE Simocode Pro DTM

MANUAL

THORSIS
TECHNOLOGIES

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Table of content

1. Product Description

1.1 General

1.1.1 Application of the Product

The DTM is used for integration of the SIEMENS device SIMOCODE Pro into FDT Configuration Tools (e.g. PACTware and Fieldcare) as well as for integration into Engineering Environments (e.g. ABB 800XA).

1.1.2 General Function

The DTM supports following specifications:
- FDT 1.2.1
- DTM Style Guide (FDT Group, Version 1.0)
- PROFIBUS (DPV1)

1.2   Required Function

The DTM acts as a DeviceDTM, i.e. the DTM accesses an FDT Communication Channel (PROFIBUS) in order to access the device and the DTM provides information necessary for configuration of the PROFIBUS Master (BusMasterConfiguration und Process Channels).

Following FDT Interfaces are supported:

Object / Interface	Optional (O)/ Mandatory (M) according FDT 1.2.1
Device Type Manager	
IDtm	M
IDtm2 (FDT 1.2.1)	M
IDtmActiveXInformation	M
IDtmDocumentation	M
IDtmDiagnosis	M
IDtmImportExport	O
IDtmInformation	M
IDtmInformation2 (FDT 1.2.1)	M
IDtmOnlineDiagnosis	M
IDtmOnlineParameter	M
IDtmParameter	M
IFdtCommunicationEvents	M
IFdtCommunicationEvents2 (FDT 1.2.1)	M
IFdtEvents	M
IPersistXXX	O
IDtmSingleDeviceDataAccess (FDT 1.2.1)	M
IDtmSingleInstanceDataAccess (FDT 1.2.1)	M
DTM ActiveX Control	
IDtmActiveXControl	M
DTM ActiveX Control	
IFdtChannel	M

1.3 Software

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1.3.1 Base Informationen

The DTM is intended for use in FDT environments (FDT 1.2 sowie FDT 1.2.1).
The configuration of SIMOCODE Pro devices shall be supported.
This means support of 2 device types:

- SIMOCODE Pro C (GG1)
- SIMOCODE Pro V (GG2) (more functionality)

The DTM supports both device types, i.e. both device types are visible in the device catalogue.
The DTM does not support switching the device type during runtime of the DTM.

Both device types support different modules:
- Base device (BU)
- Operator panel (OP)
- Current measuring module (IM) (Pro C)
- Current/Voltage measuring module (UM) (Pro V)
- Digital module (DM) (Pro V)
- Analog modul (AM) (Pro V)
- Earth fault module (EM) (Pro V)
- Temperature module (TM) (Pro V)

The DTM is developed for following operating systems:
- Windows Vista
- Windows XP
- Windows 2000

1.3.2   Licensing Procedure

The DTM needs a valid license for full functionality. After installation resp. without a valid license the DTM works in "observer" mode, i.e. no changes are possible and not all dialogs are accessible.
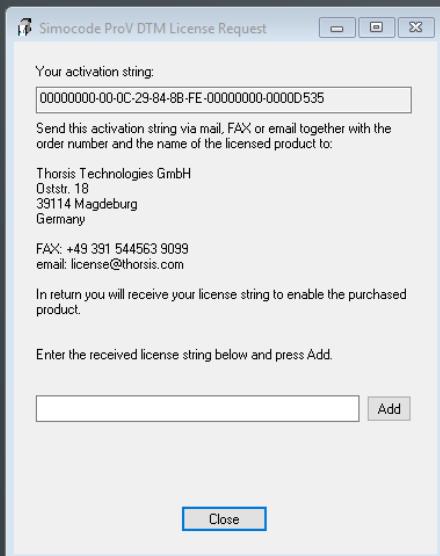
Image 1: License Request

To request a valid license it is necessary to open the DTM dialog "License Request", copy the activation string at the head of dialog and send the string to our support contact.

license@thorsis.com

After getting the license string the string must be copied into the edit line at the bottom of "License Request" dialog. After pressing the button "Add" the license is activated. The DTM must be restarted.

1.3.3   Registry Entries

The DTM uses some entries in the Windows Registry to control its functionality.
The main path for the DTM in the Windows Registry is:

HKEY_LOCAL_MACHINE\SOFTWARE\Thorsis Technologies\SimocodePro DTM

The following entries are used:
- CommLogging: if the value is greater than 0 then a logging file "SimocodeProDTM_Log.txt" is created during DTM run time.
  Important information about DTM execution and the FDT communication documents are written into this file.
  The logging file is overwritten whenever the DTM is new started.
  Default file path of the file is the installation path of the DTM.
- SynchronizedTags: if the value is greater than 0 then the DTM tag (visible in FDT Frame in DTM topology)
  is synchronized with the device parameter "Plant identifier" (visible in dialog "Offline Parameterization" on page "Identification/ Marking")
  and both places show the same string.

The Registry main path contains a sub path "Files" with entries that define pathes for specific files. These entry values are set by DTM setup
with the instllation path of DTM. You should not change the entries (except "LoggingPath").
The entry "LoggingPath" allows to define another path for the loggin file.

1.3.4   Design Requirements

1.3.4.1   GUI Design

Following Dialogs are provided:
- **About**
- **Observe (Trend control)**
- **Faults / Warning / Status Information**
- **Command**
- **Offline Parameterize**
- **Measured Value**
- **Service Data / Statistical Data**
- **Password**
- **Online Parameterize**
- **Analog Value Recording -Control / Status Information**
- **Test – Error Buffer**

1.3.4.2 About

The "About" dialog displays static information regarding the DTM.
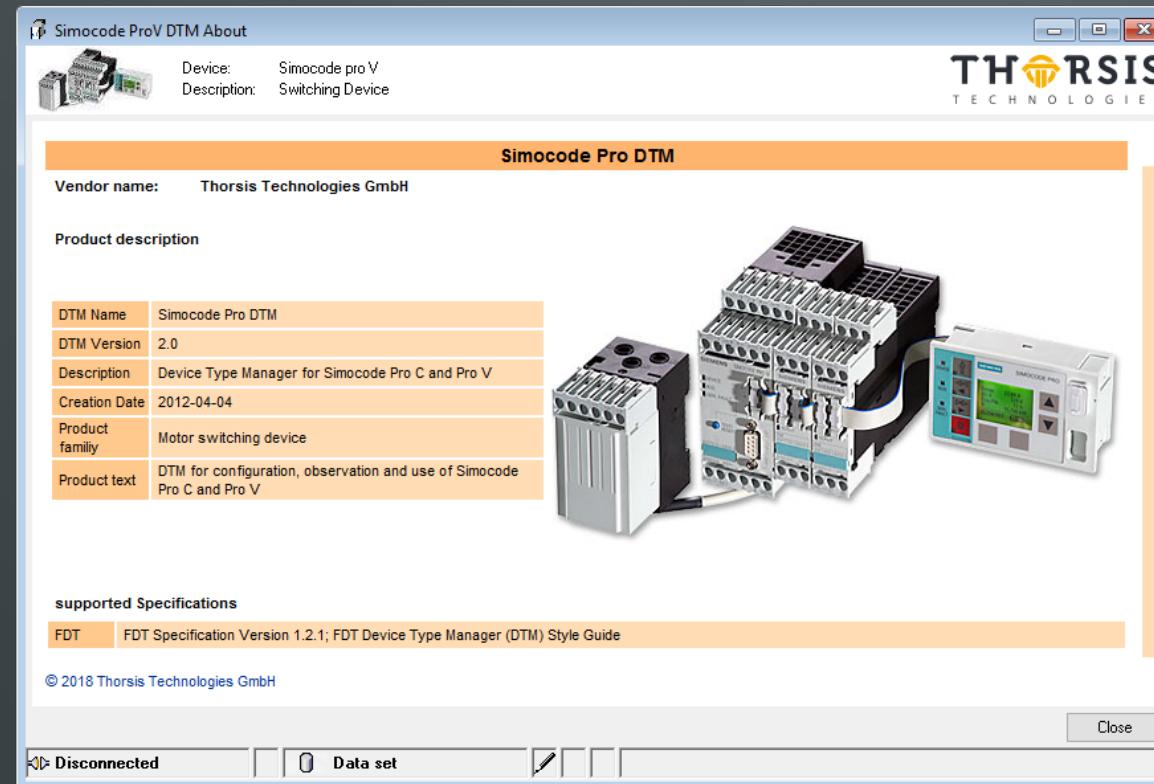
Image 2: About Dialog

1.3.4.3 Offline Parameterize

The dialog is designed to look and feel similar to the software SIMOCODE ES. The function provided by the dialog adapts to the currently connected device type (Pro C, Pro V) and to the selected operating mode of the device:
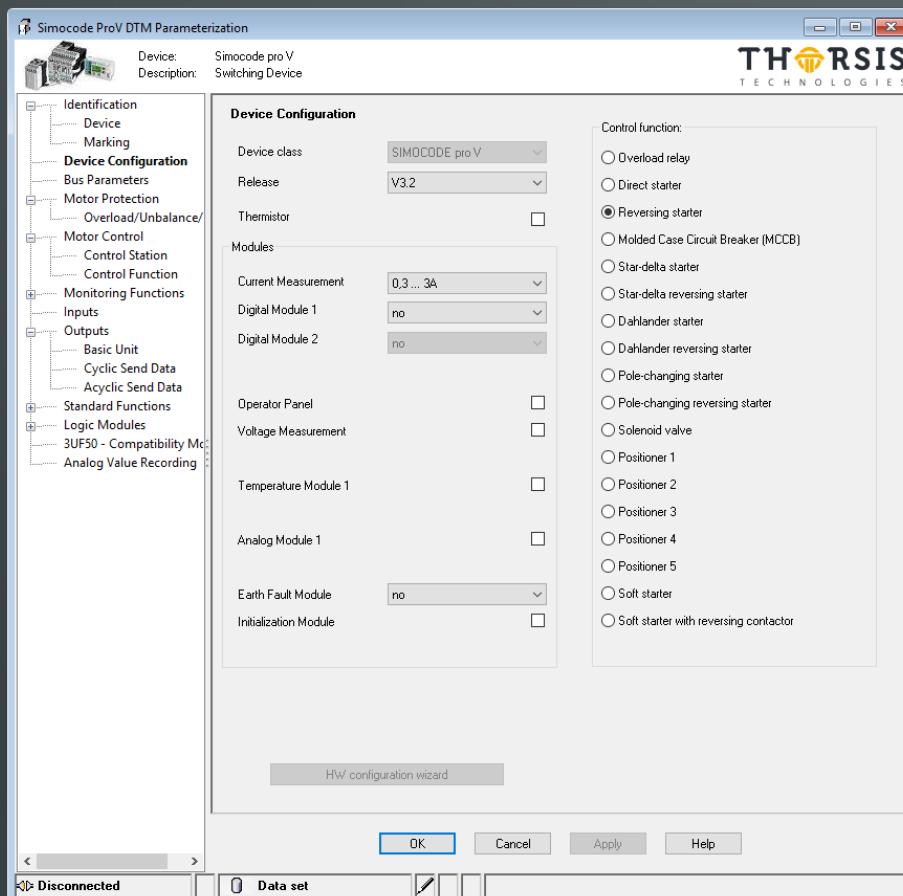

Image 3: Offline Parameterize for SIMOCODE pro V

For the device SIMOCODE Pro V the PropertyPage "Device Configuration" provides following additional Functions (in comparison to SIMOCODE Pro C):

• **Voltage Measurement**

• **Temperature Module**

• **Analog Module**

• **Earth Fault Module**

• **Digital Module**

• **Different Operation modes**
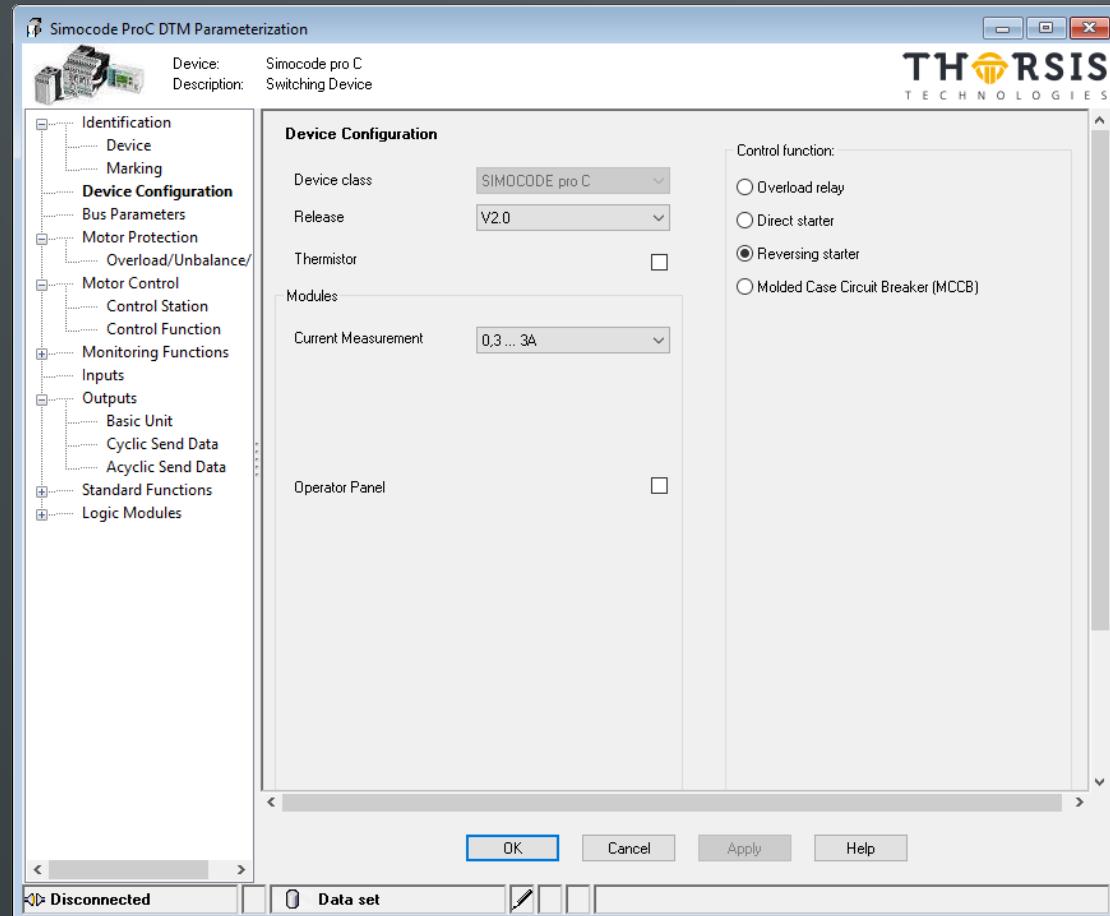
Image 4: Offline Parameterize for SIMOCODE pro C

The dialog contains 51 different PropertyPages. Some of the PropertyPages are used multiple times
(e.g. Timer PP is used for 4 timers).

1.3.4.4 Online Parameterize

Online Parameterize looks like Offline Parameterize. But Online Parameterize works online with the data set in the device.
The dialog does not support direct access according DTM Style Guide.

1.3.4.5 Observe

The "Observe" dialog displays current values of the device (e.g. actual current) as a trend view.
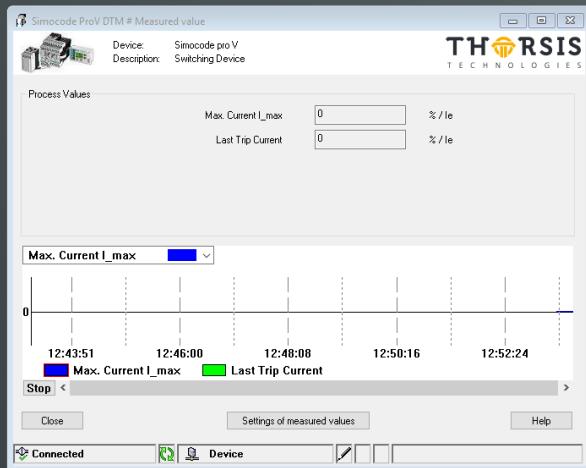

Image 5: Trend view

1.3.4.6 Measured values

The "Measured values" dialog gives an overview of the current values of the device.
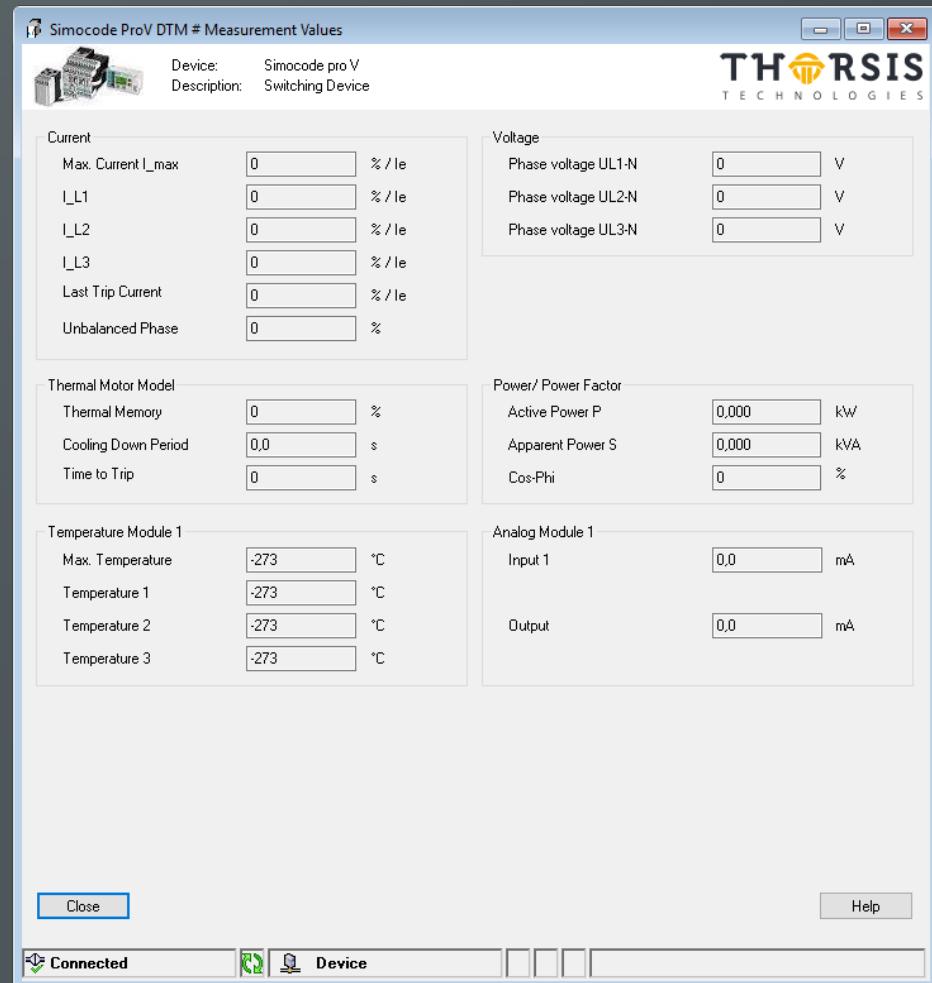
Image 6: Measured values

### 1.3.4.7 Analog Value Recording

The "Analog Value Recording" dialog may be used to record values of a device (e.g. triggered by a condition).
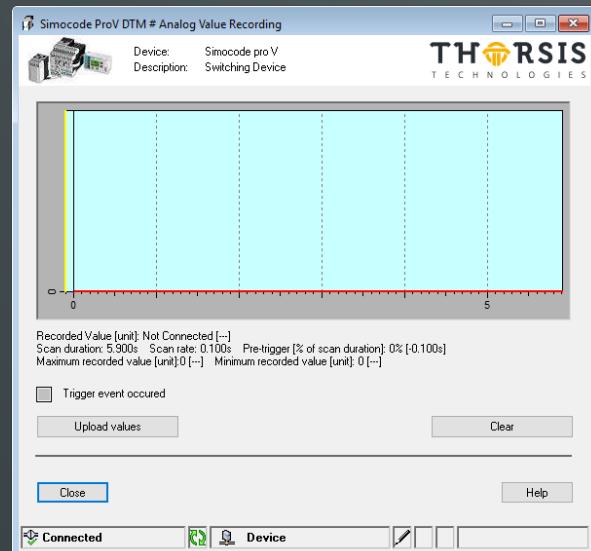
Image 7: Analog value recording

1.3.4.8 Control/ Status Information

The "Control/ Status Information" dialog displays diagnostic information of the device. Furthermore it is possible to control the device.
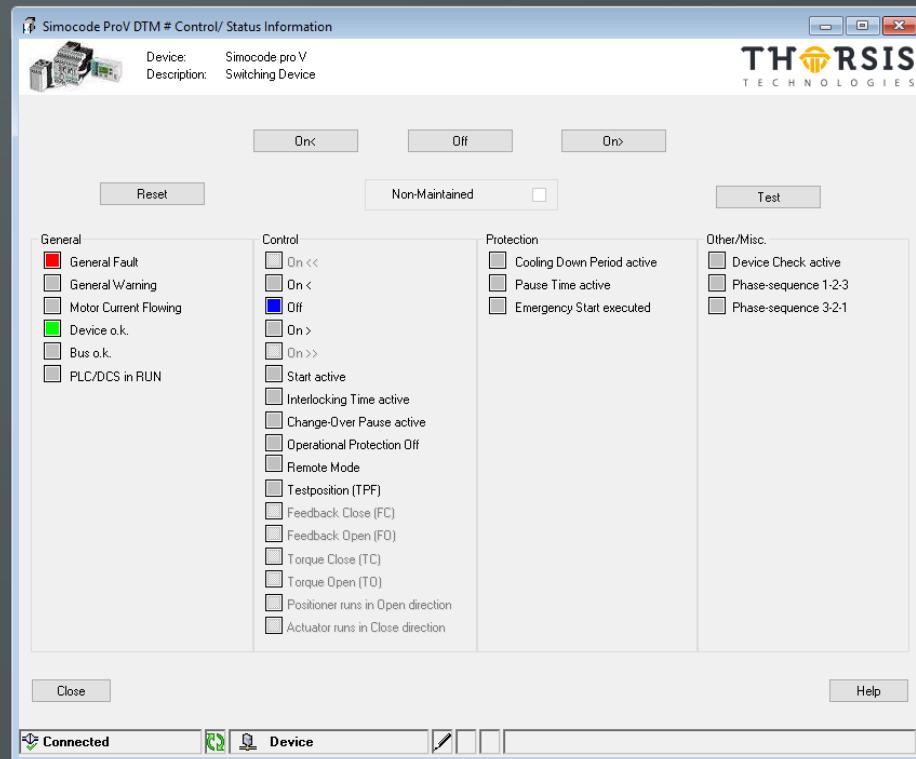
Image 8: Control/Status information

1.3.4.9 Faults / Warning / Status Information

The "Faults / Warning / Status Information" dialog displays diagnostic information of the device. It contains 3 RegisterCards.
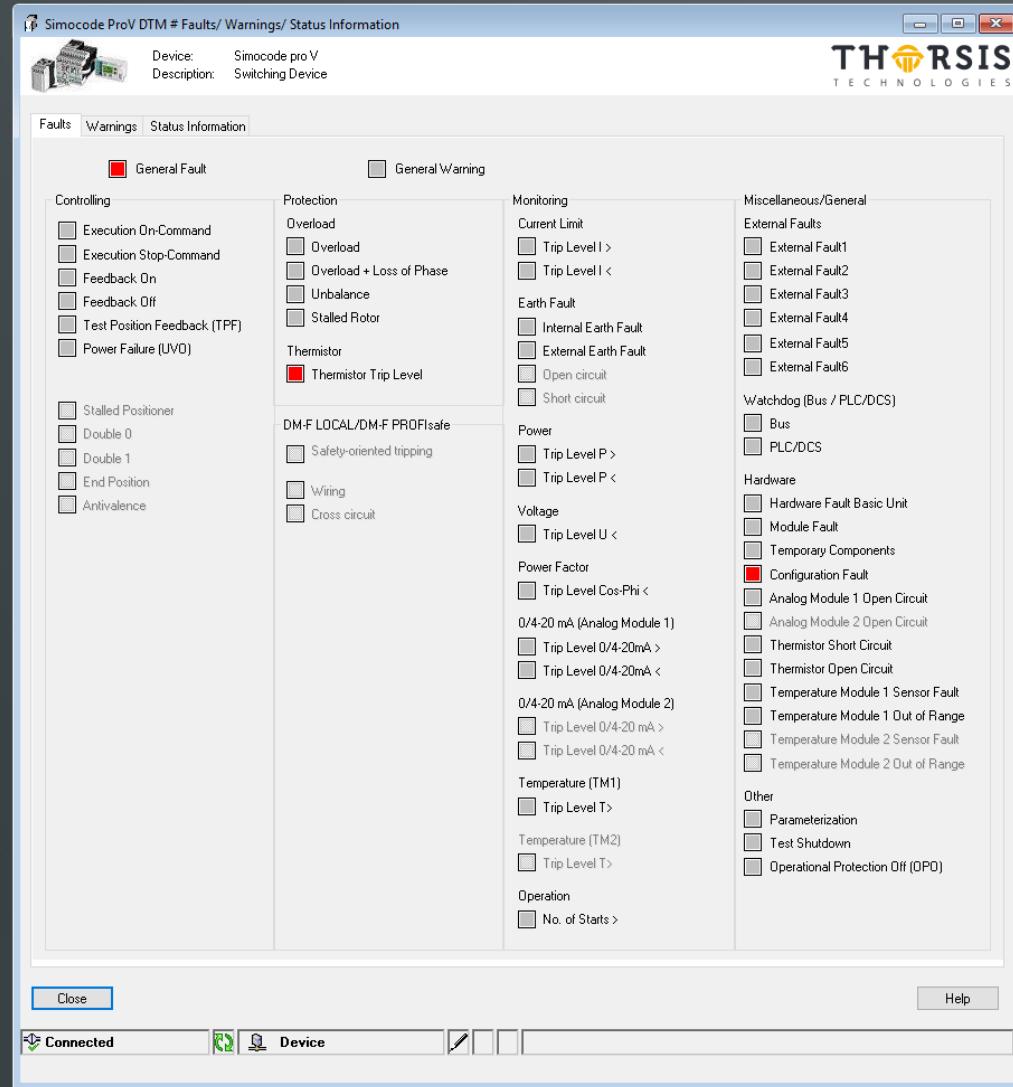
Image 9: Faults
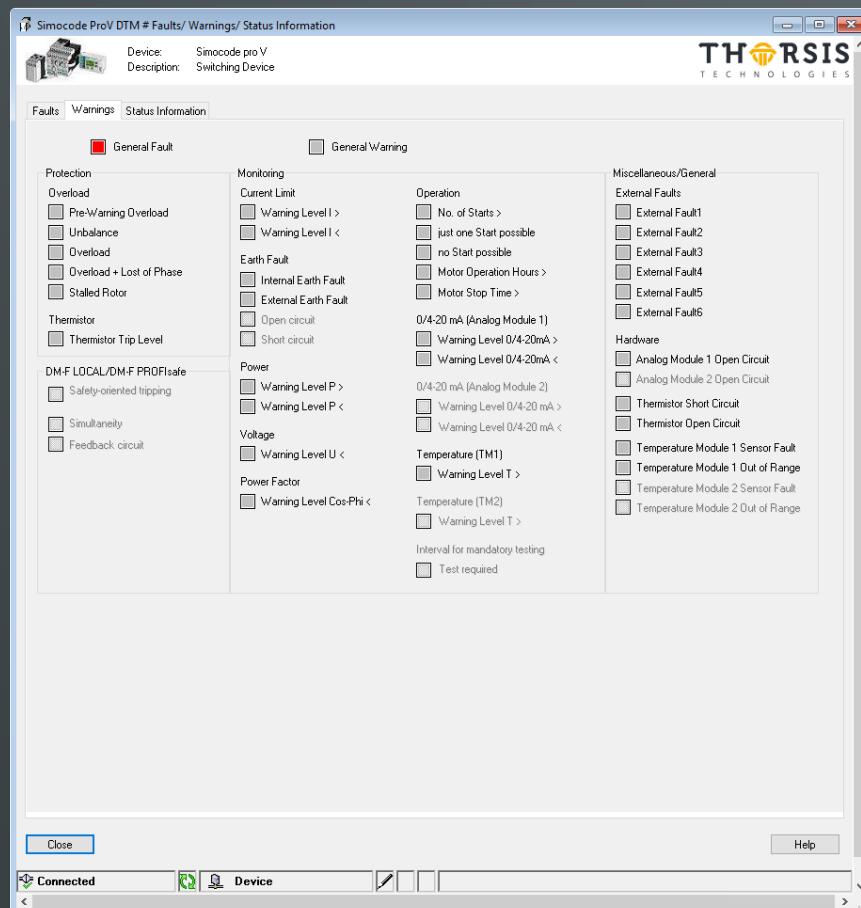
Image 10: Warnings
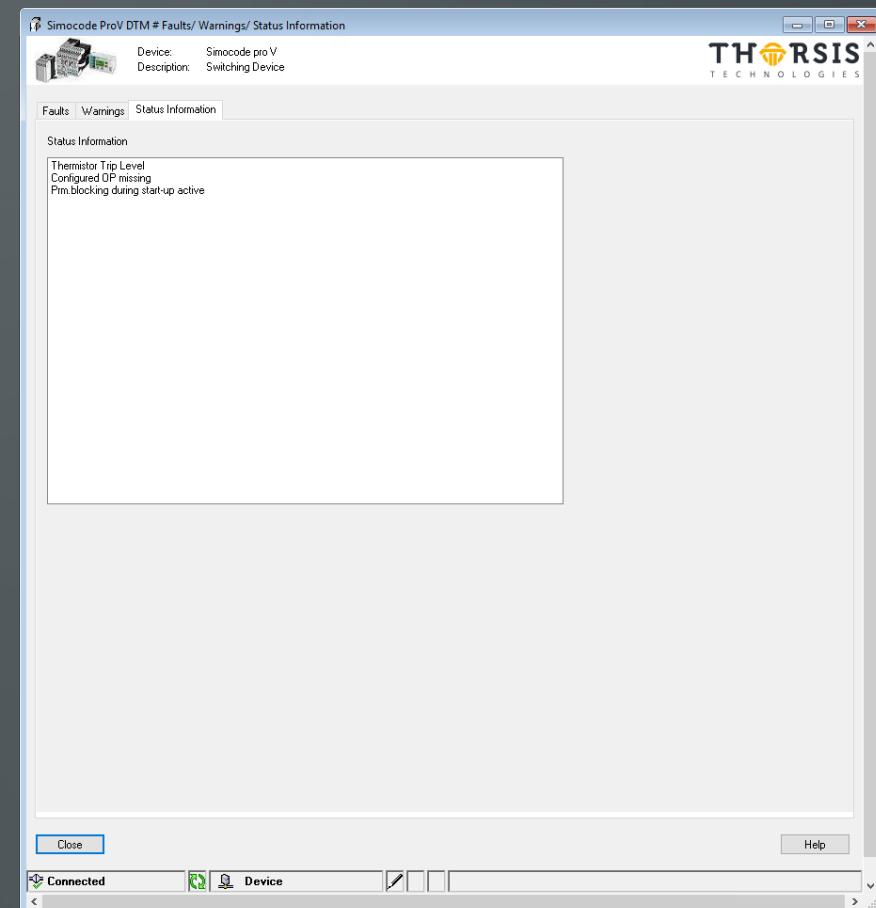
Image 11: Status Information

1.3.4.10 Service Data / Statistical Data

The "Service Data / Statistical Data" dialog may be display maintenance-related information.
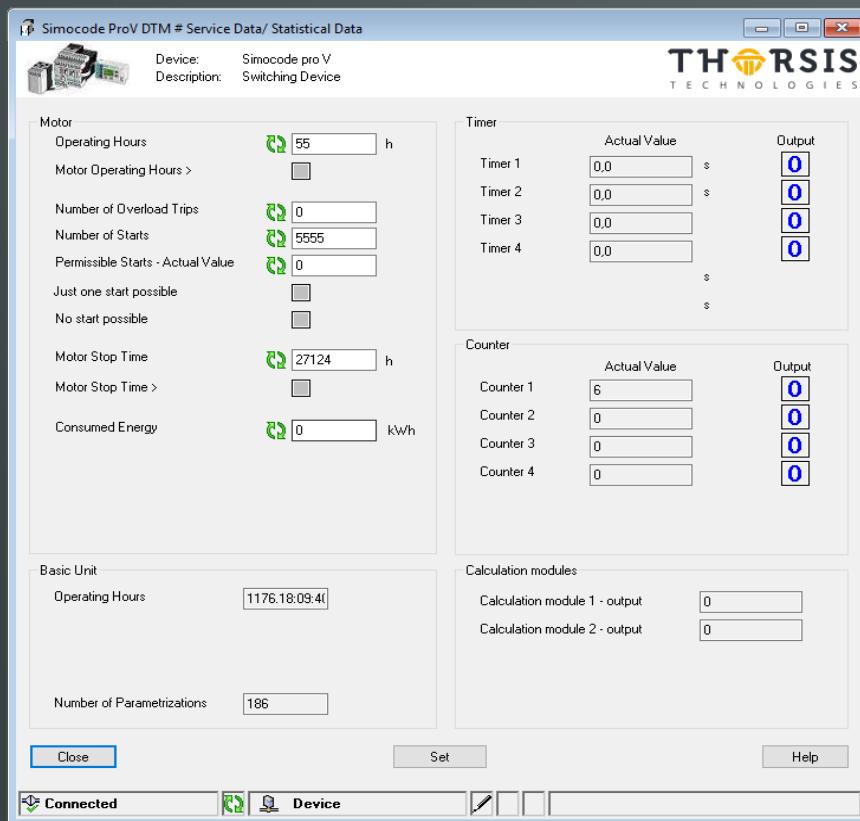
Image 12: Service Data / Statistical Data

1.3.4.11 Test Dialog

The "Test" dialog displays the current state resp. value of specific inputs and outputs. Furthermore it is possible to set specific input states resp. values.
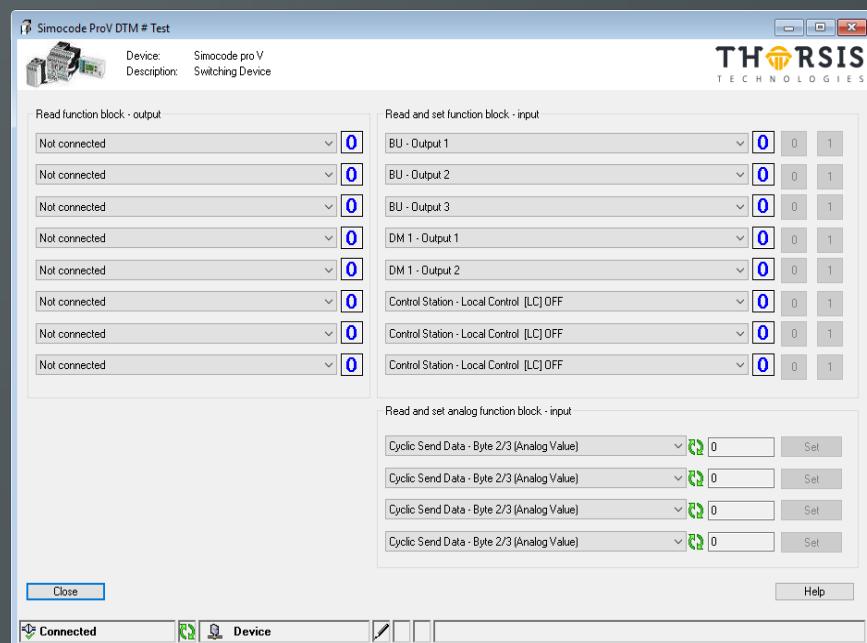
Image 13: Test dialog

1.3.4.12 Error Buffer

The dialog "Error Buffer" is used to read the error buffer from the device and to display the contents of the error buffer to the user.
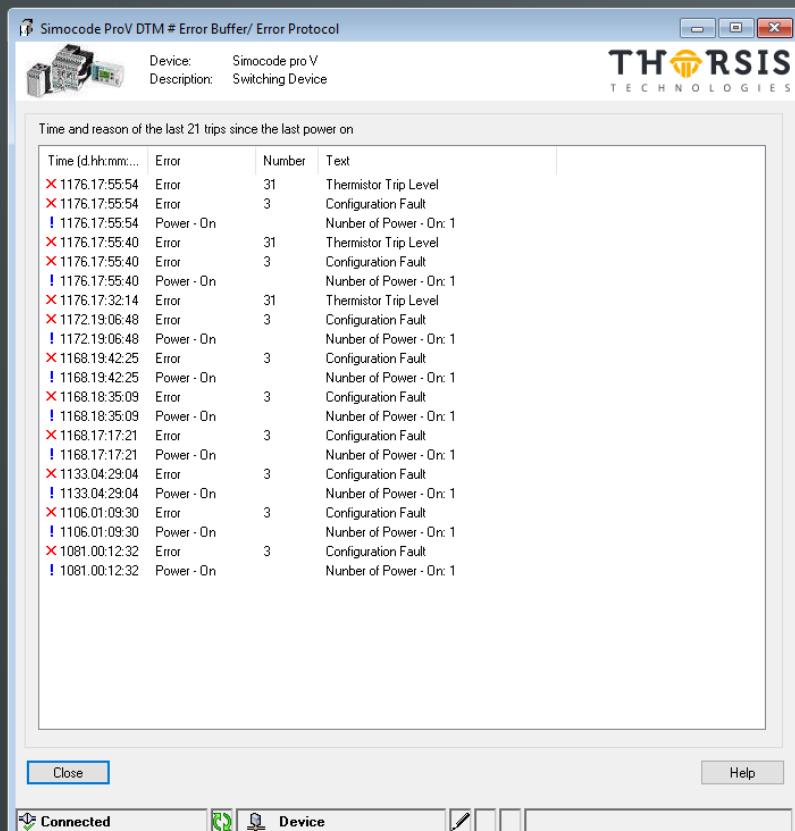
Image 14: Error buffer dialog

1.3.4.13 Command

The Command dialog allows execution of pre-defined commands on the device.
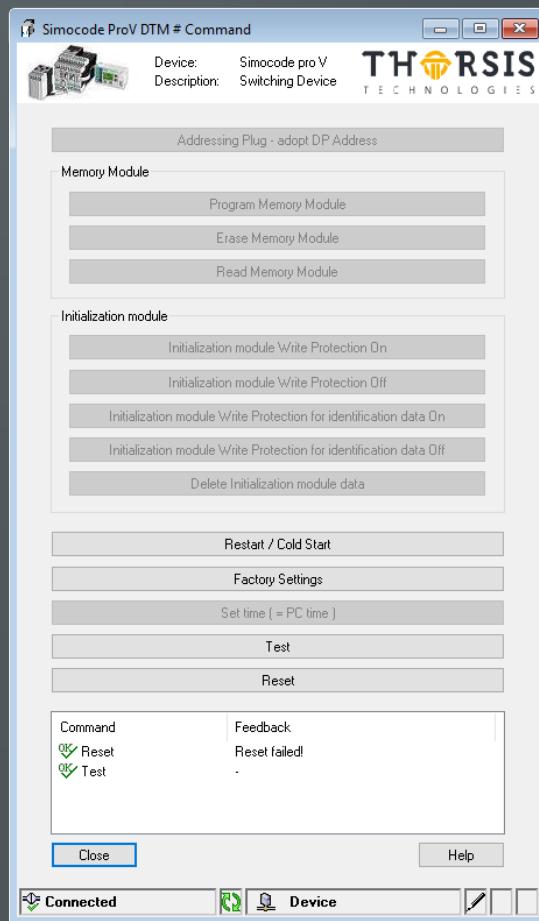
Image 15: Command dialog

1.3.4.14 Password

The dialog "Password" is used to enable access to the device parameters (if password is set in device).
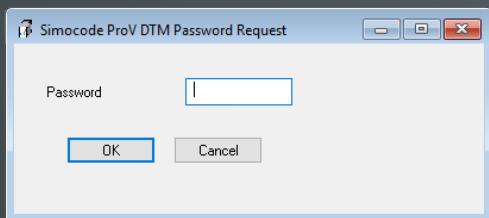
Image 16: Password dialog

In order to configure the password in the device, a password configuration dialog is provided.

Image 17: Password configuration

1.3.4.15 GUI less Functions

The DTM allows to set all parameters to pre-defined values.
It is possible to pre-set the following Applications (control functions, depending on device type):

- **Overload Relay (Pro C/V)**
- **Direct Online Starter (Pro C/V)**
- **Reversing Starter (Pro C/V)**
- **Moulded Case Circuit Breaker (MCCB) (Pro C/V)**
- **Star-delta starter (Pro V)**
- **Star-delta-reversing starter (Pro V)**
- **Dahlander starter (Pro V)**
- **Dahlander reversing starter (Pro V)**
- **Pole-changing starter (Pro V)**
- **Pole-changing reversing starter (Pro V)**
- **Solenoid valve (Pro V)**
- **Positioner 1-5 (Pro V)**
- **Softstarter (Pro V)**
- **Softstarter with reversing contactor (Pro V)**

1.3.5   Functional Design

The DTM is a DeviceDTM. The DTM accesses Communication Channels with protocol PROFIBUS.
Process Channels of the DTM provide a description of I/O values.

1.3.5.1   Establishing Connection

When accessing the device the first time, the DTM verifies whether it is connected to the correct device type and whether the device is ready to be used by the DTM.

If verification is successful, the connection to the device is established. If verification fails, the problem is reported (error message) and the connection is terminated.

1.3.5.2   Acyclic Communication

Communication to the device is based on PROFIBUS DPV1 MSAC2.

1.3.5.3   Support of FDT Engineering Tools

The DTM provides BusMasterConfiguration and Process Channels. This information is fix for the two different device types Pro C/ Pro V.

- SIMOCODE Pro C:
- Module "Basic Type 2"
- BusMasterConfiguration="

00F90000000000000000000000000000E0000000000000000800008D4 8101000500000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000 0000000000000000000000000000000000000000000000000000000 0000000000005C0818300020002"

- 33 Process Channels

- SIMOCODE Pro V:
- Module "Basic Type 1"
- BusMasterConfiguration="

0025000000000000000000000000000000C0000000000000000800008000 5C0838900020002"

- 37 Process Channels

2. Manual Update

version	date	description
1.0	04.11.2008	Initial version
1.1	10.11.2010	Update version
1.2	01.10.2019	THORWARE version

© *last change on the 1th of October*

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