

# Operating Instructions

## DEDITEC ToolMonitor

**MCD Deditec**

Project Setup Events Windows Script Info Help

Deditec 0 DigitalOutput

Update (Read back)

1 Channel 1	9 Channel 9	17 Channel 17	25 Channel 25
2 Channel 2	10 Channel 10	18 Channel 18	26 Channel 26
3 Channel 3	11 Channel 11	19 Channel 19	27 Channel 27
4 Channel 4	12 Channel 12	20 Channel 20	28 Channel 28
5 Channel 5	13 Channel 13	21 Channel 21	29 Channel 29
6 Channel 6	14 Channel 14	22 Channel 22	30 Channel 30
7 Channel 7	15 Channel 15	23 Channel 23	31 Channel 31
8 Channel 8	16 Channel 16	24 Channel 24	32 Channel 32

Deditec 0 DigitalInput

Update  Cyclic update

1 Channel 1	9 Channel 9	17 Channel 17	25 Channel 25
2 Channel 2	10 Channel 10	18 Channel 18	26 Channel 26
3 Channel 3	11 Channel 11	19 Channel 19	27 Channel 27
4 Channel 4	12 Channel 12	20 Channel 20	28 Channel 28
5 Channel 5	13 Channel 13	21 Channel 21	29 Channel 29
6 Channel 6	14 Channel 14	22 Channel 22	30 Channel 30
7 Channel 7	15 Channel 15	23 Channel 23	31 Channel 31
8 Channel 8	16 Channel 16	24 Channel 24	32 Channel 32

**Softline**

Modline

Conline

Boardline

Avidline

Pixline

**Application**



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## 1. Foreword

The **DEDITEC monitor** provides the ability to control and visualize the serial DEDITEC modules for digital inputs and outputs. Initially, the following digital modules will be supported:

- RO-SER-O32-M32 (RS-232/RS-485 – digital input/output module with 16 inputs and 16 outputs)
- RO-SER-M64 (RS-232/RS-485 – digital output modules with 64 Opto Out outputs)
- RO-SER-R16 (RS-232/RS-485 - Digitales-Ausgabemodul mit 16 Relais-Ausgängen)
- RO-USB-R16 (USB - Digitales-Ausgabemodul mit 16 Relais-Ausgängen)

Functional overview

- Scanning digital inputs
- Setting and scanning digital outputs

The ToolMonitor has been designed so that additional DEDITEC modules will be able to be integrated easily in the future.

DEDITEC ToolMonitor is based on the MCD Framework for tool monitors. The framework's basic features, such as logging, general settings and licensing, will also be described there.

Additional information about ToolMonitor's framework will be found in the General Help (or description) section of the MCD framework. In particular, this includes the description of the scripting engine, the virtual interface and the user-specific visualization.

The program interface can largely be designed with an open hand and customized to the users' requirements. Once created, configuration can be saved in project files and loaded as needed. All telegrams can be sent and received automatically with the help of an integrated scripting engine. Asynchronous processes can be stored in ToolMonitor. Using third-party software, ToolMonitor can be entirely remote controlled.

COM & DCOM or a .Net assembly may be used as the interface for this. Thereby, ToolMonitor can be integrated into a number of applications, including: Microsoft Visual Studio® (C#, C++ and Visual Basic), Microsoft Office® (such as Excel®), Open Office®, LabView® and MCD TestManager CE. Additional information about this can be found in the **Programming** section and in the General Help about ToolMonitor.

## 2. Software Installation, Drivers

### Prerequisites

- Windows (Windows XP to Windows 8.1, 32- or 64-bit)
- .Net Framework version 3.0

Copying DeditecMonitor.exe to any directory on the target system will suffice to install DEDITEC ToolMonitor.

Alternatively, the installer provided (DEDITECInstall.msi) may be executed.

### 2.1. License

To protect the software against unauthorized use, ToolMonitor must be licensed after installation.

For **demonstration** and **test purposes**, ToolMonitor can be run for **30 minutes** even without a license. Several program features will be disabled in that case.

To **work around the wait period** for activation (such as on weekends), a **license for a 24-hour period** may be activated.

To activate ToolMonitor, open the **License Registration** dialog using the **License -> Registermenu** options.



Open the Registration Dialog

1. The current status of your license will be displayed on the **Current License** dialog.



Display License Status

2. To request a **permanent license** for your software, proceed as follows.

- Select the **Request License** tab page.
- Enter the **number** required (for your PC) in the **Number of Licenses** entry.
- Confirm this entry using the **Created Request File** button.
- The next dialog will then open, which will ask you to **save the MCD Licenser Request (\*.mlr)** file.
- Save this file and then send it **via email to the following address:** [info@mcd-elektronik.de](mailto:info@mcd-elektronik.de)  
Please enter a contract or project number to assist with the licensing process.
- Afterwards, you will receive an email message with your **MCD License Key (\*.mlk)** file as an attachment from MCD Elektronik.
- Finally, **save** this file either in the **C:\Windows** directory or in the directory, where the EXE file is stored.
- After your software **has been restarted**, its **full scope of features** will then be enabled.



Request for a Permanent License

3. To activate a **license for a 24-hour period**, select the **Short-term License** tab page. Then, enter the **sequence of numbers from the left pane into the entry on the right**. If you cannot read the numbers, click the new number button, to get a **new number**. Once you entered the number correctly, you will be able to activate this short-term license by clicking the **Activate License** button. Please note that the short-term license will expire as soon as you shutdown the software. You may however **re-activate** the short-term license **as often as desired**.



Request Short-term License

## 2.2. Register the COM Server

The ToolMonitor can be registered as a COM server using this menu option. This will be necessary if ToolMonitor is to be controlled remotely by other programs (such as MCD TestManager).

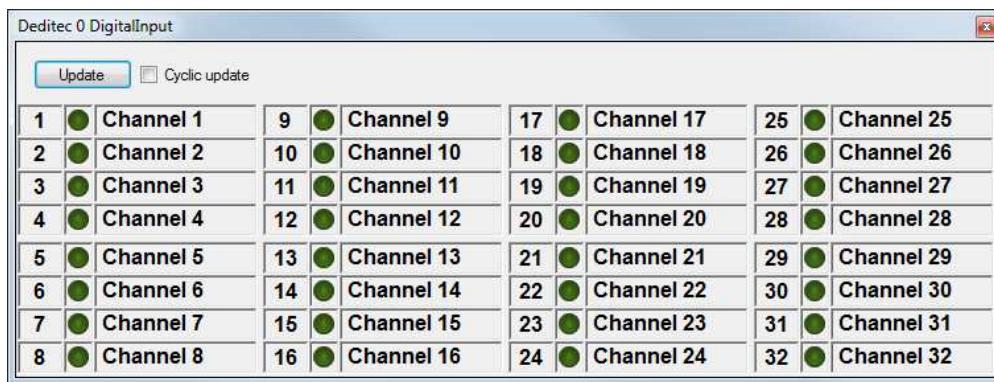


Register the COM Server

## 3. DEDITEC ToolMonitor Modules

### 3.1. Digital Input

The status of the digital inputs can be queried and displayed using this dialog window. The current state of the outputs can be read by clicking the Update button. In addition, a cyclic update can be enabled. In this case, the inputs will be updated at intervals of 250 ms. Cyclic updates will only occur if the dialog is visible. If the DEDITEC monitor has been started and there is a connection to hardware, the current status of the inputs will automatically be read once.

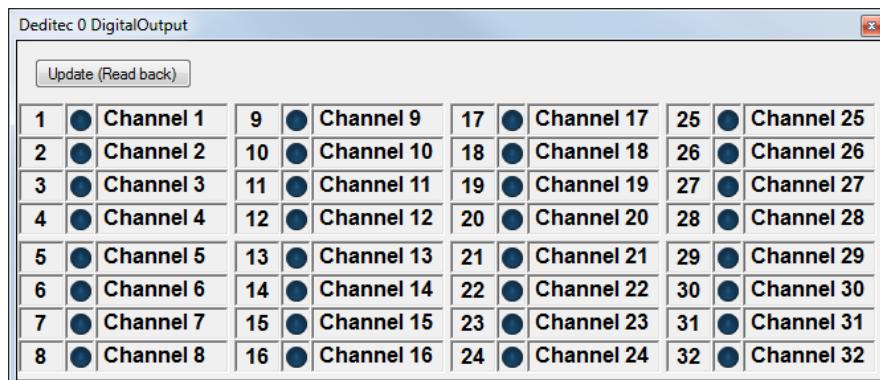


The Digital Input Dialog

Programming ToolMonitor's digital inputs through the virtual interface will be described in the help file (Help.chm).

### 3.2. Digital Output

The status of the digital outputs can be set, queried and displayed using this dialog window. The current state of the outputs can be read by clicking the **Update** button. If the DEDITEC monitor has been started and there is a connection to hardware, the current status of the outputs will automatically be read once.

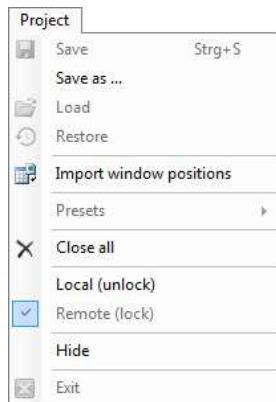


The Digital Output Dialog

Programming ToolMonitor's digital outputs through the virtual interface will be described in the help file (Help.chm).

## 4. Project Management

The current settings and the ToolMonitor layout can be saved and loaded from the menu options under the Project menu (all windows can be positioned freely and adjusted according to the user's own needs).



The Project Menu

### Save/ Save as...

All current settings can be saved in a project file by clicking the Save menu item. Even the current window positions will be stored in the file.

### Load

Previously saved settings can be re-loaded by clicking the Load menu item. Even the original window positions will be recreated.

### Import window positions

The Import Window Positions menu item allows the window positions to be imported from a saved setup file. All original settings will not be affected by this.

### Presets

Predefined settings can be set using this menu item.

### Close all

This menu item will close all open forms. ToolMonitor will continue to run.

### Local

If ToolMonitor is remote controlled or the setup has been protected with a password, most user actions are protected against direct entry. Activating Local mode removes this protection and all operating controls will be accessible again. If the setup process included the entry of a password, it must be entered to release ToolMonitor.

### Remote

Activating this menu item will return ToolMonitor to protected mode.

### Hide

Activating this menu item will hide ToolMonitor, but keep it running. If it is not controlled remotely, ToolMonitor can be re-activated using an icon on the taskbar.

### Exit

Activating this menu item will terminate ToolMonitor (the item will be disabled when ToolMonitor is controlled remotely).

## 5. Events

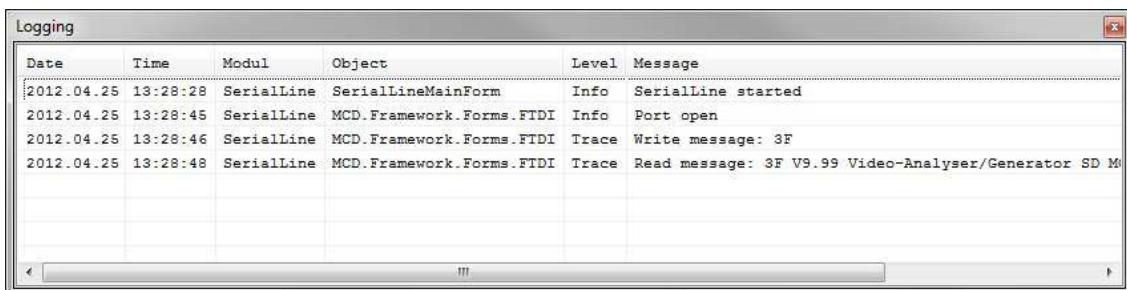
The logging and trace message displays can be accessed from this menu.



The Events Menu

### Logging

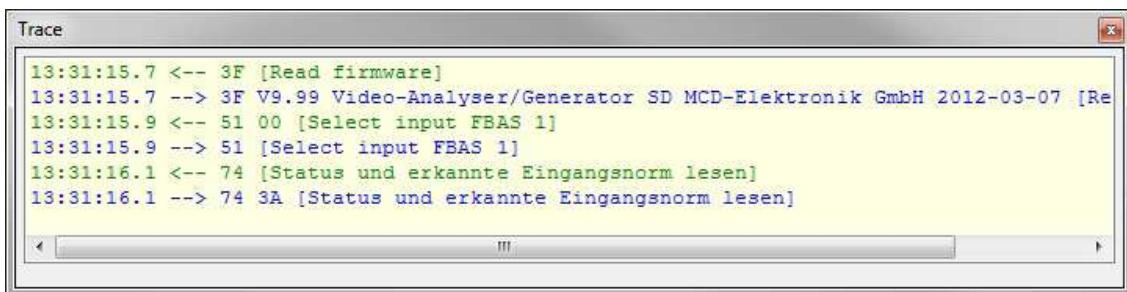
The logging messages for general events, warnings, errors and so forth will be displayed using this menu option.



Log Monitor

### Trace

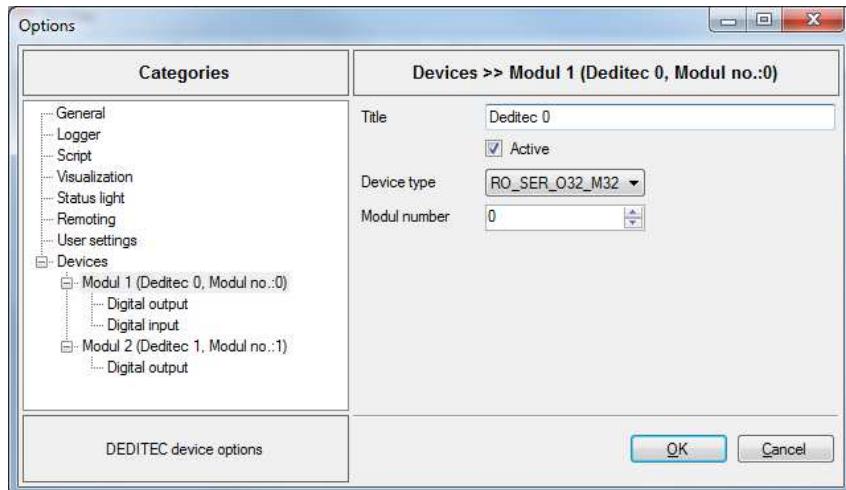
The trace messages (sent or received messages) will be displayed using this menu option.



Trace

## 6. Setup

The type of the connected module can be selected from the basic settings. If the device configured does not agree with the actual device connected, an error message will appear. Several modules connected to various interfaces can be controlled from a ToolMonitor.



Modules can be created and deactivated, if they are not present. In this case, the corresponding dialog windows will appear and the outputs can be set for simulation. If the inputs are queried, they will return 0 values.

### 6.1. Configuring the Devices

Before assigning the Module Number, the corresponding module must have been setup using DEDITEC's configuration tool and the configuration must have been saved. Essentially, this involves assigning the serial interface to the corresponding DEDITEC module. This information will be stored in the Windows Registry. There are two versions of DEDITEC's configuration tool: 32- and 64-bit. Because ToolMonitor will run as a 32-bit application, the 32-bit version of the configuration tool should also be used for configuration purposes.

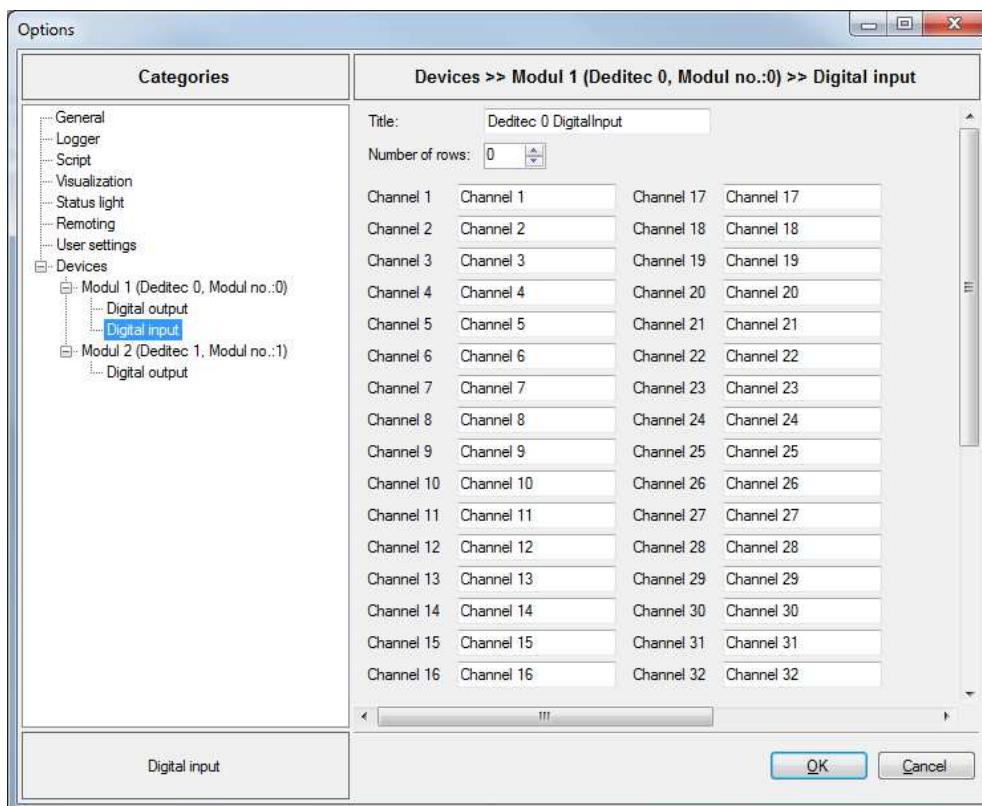


DEDITEC Configuration Tool

DEDITEC will determine the preferred mode, which should be used for the module's baud rate and addressing. The baud rate should always be set to 115200 baud and the device address to 0. The drivers provided with Windows will not support other settings.

## 6.2. Digital Input

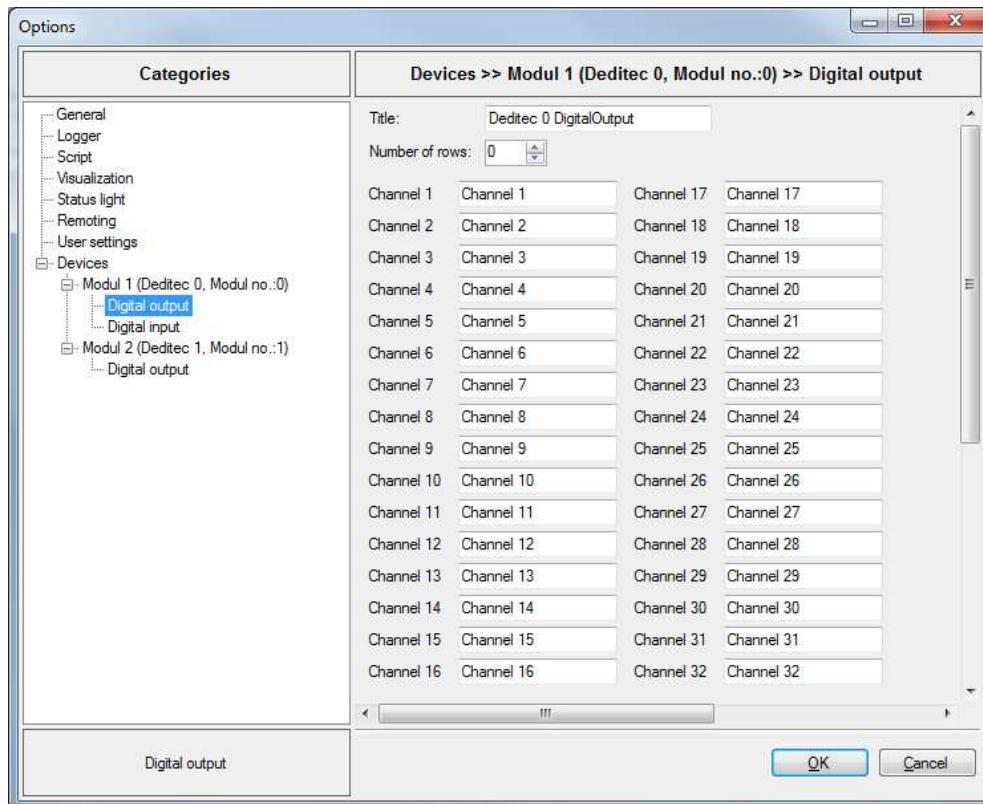
Each dialog window can be given a name when setting up the digital inputs. This name will be displayed as the title on the window or tab page. In addition, each channel can be assigned an independent channel name, which will also be displayed. These names (for the window and the channel) can also be used for control purpose through the virtual interface. These name assignments will be checked for uniqueness. The same name cannot be used multiple times. The **Number of Rows** setting will adjust the number of rows representing the channels on the corresponding dialog.



Configuring the Setup of the Digital Inputs

### 6.3. Digital Output

Each dialog window can be given a name when setting up the digital outputs. This name will be displayed as the title on the window or tab page. In addition, each channel can be assigned an independent channel name, which will also be displayed. These names (for the window and the channel) can also be used for control purpose through the virtual interface. These name assignments will be checked for uniqueness. The same name cannot be used multiple times. The **Number of Rows** setting will adjust the number of rows representing the channels on the corresponding dialog.



Configuring the Setup of the Digital Outputs

## 7. Programming

### 7.1. DigitalInput

DigitalInput class for the DEDITEC monitor

This class implements the module for querying and displaying the digital inputs.

#### 7.1.1. GetValueNames

Names for querying values

The state of the individual ports can be queried using the GetValue function.

Example:

```
GetValue( "Channel 1" );
```

Additional input channel attributes can be queried using the names listed below.

Example:

```
GetValue( "Channel 1.HasAutoRange" );
```

List of Names

<i>HasAutoRange</i>	Indicates if the channel has an AutoRange feature (always false or 0 in this case)
<i>MaxRangeIndex</i>	Returns the maximum range index (always 0 in this case)
<i>MaxAverages</i>	Returns the maximum number of possible averages (always 1 in this case)

### 7.1.2. SetValueNames

Names for setting values

Additional input channel attributes can be set using the SetValue function.

Example:

```
SetValue( "Channel 1.Averages" , 1);
```

List of Names

<i>Averages</i>	Sets the number of averages (always 1 in this case)
<i>MeasurementRange</i>	Set the measurement range (always 1 in this case)
<i>RangeIndex</i>	Set the current measurement range based on the index (always 0 in this case)
<i>MeasurementType</i>	Sets the current type of measurement (always VoltDC in this case). Whether or not a name represents a valid type of measurement can be determined by using the “IsValidMeasurementType.VoltDC” attribute name.
<i>Speed</i>	Sets the speed of measurement (Fast, Slow or Normal). As currently implemented, this parameter does not have any effect.

## 7.2. DigitalOutput

DigitalOutput class for the DEDITEC monitor

This class implements the module for controlling and displaying the digital outputs.

### 7.2.1. DigitalOutputEvents

Names for setting values and triggering events

The state of the individual ports can be set using the SetValue function.

Example:

```
SetValue( "Channel 1", 0); //Deactivates the port  
SetValue( "Channel 1", 1); //Activates the port
```

Additional values can be set, or events triggered, using the names listed below.

Example:

```
SetEvent( "Reset" );
```

List of Names

<b>Reset</b>	Resets the output channels (all channels will be set to “off”)
--------------	--

### 7.2.2. SetValueAttributes

Names for setting additional attributes.

Example:

```
SetValue( "Channel 1.Flash", 1000); // Flashing with 1000 ms cycle time
```

Mit den unten aufgeführten Namen werden zusätzliche Werte gesetzt oder Ereignisse ausgelöst

List of Names :

Flash	Flashing of the output port
FlashInverse	Inverse flashing of the output port

## 8. MCD Contact Information

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