

# EdWin – EwinView quick users guide

## 1 Overview

EdWin and EwinView are two software packages for data acquisition and visualisation. **EdWin** controls the connected Hardware, manages all needed settings for the hardware, samples the data after starting the measurement, stores them on the selected storage media and provides them for EwinView which shows the data in realtime.

**EwinView** takes the data from EdWin in realtime and shows them in different, user selectable ways. For the analysis after measurement we have a powerfull software package named **EdasWin**.

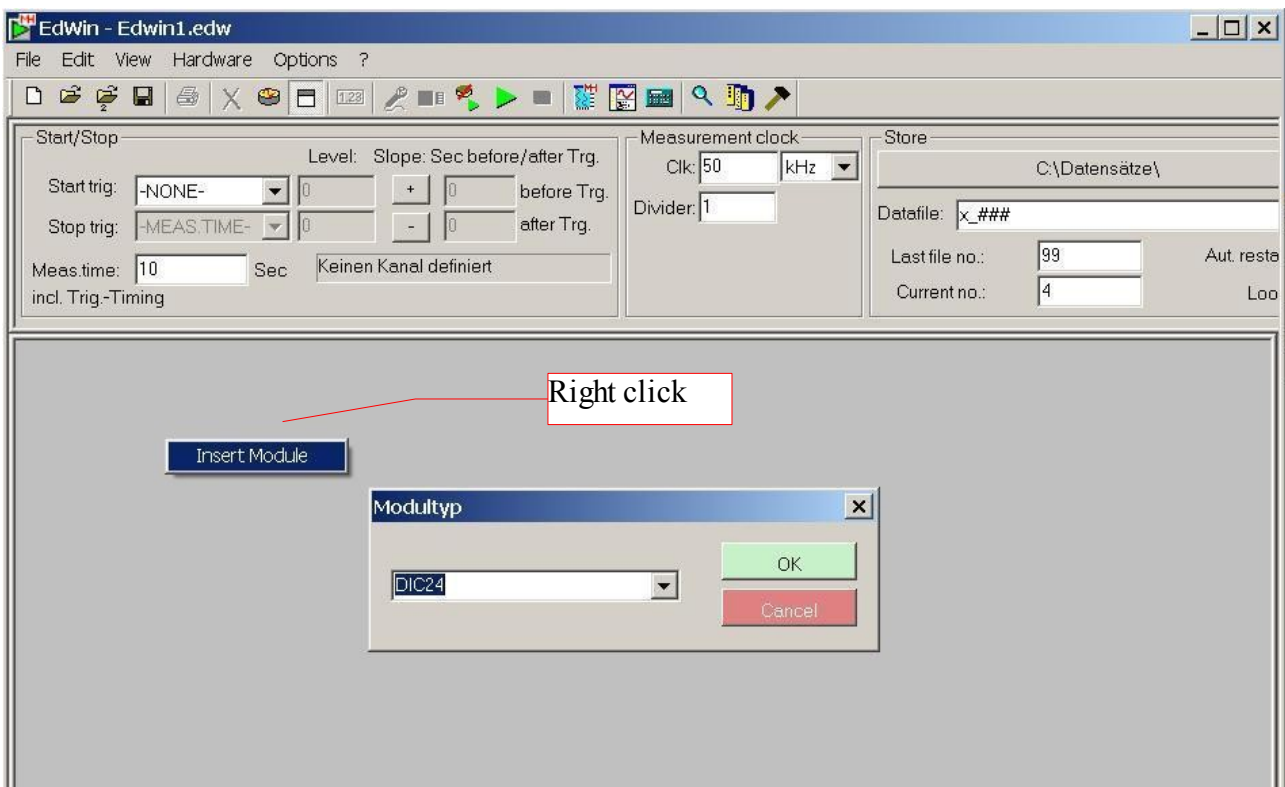
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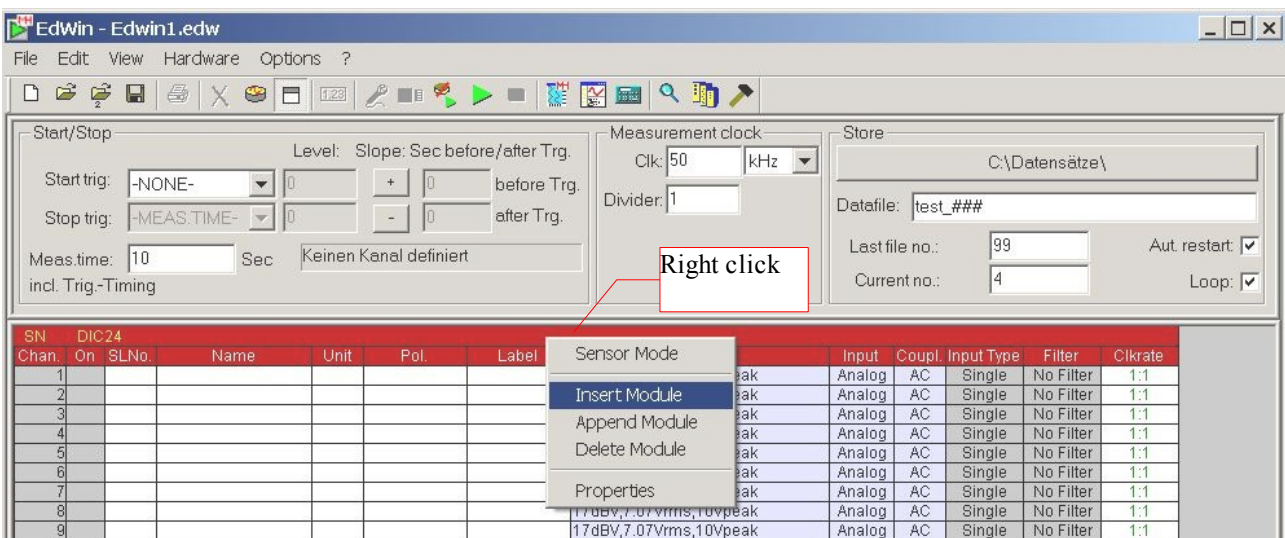
## 2 Work without connected Modules

Working without hardware is always necessary if the hardware is not available, but a measurement has to be prepared

A right click in the empty EdWin table range shows a popup menu. „Insert Module“ shows the „Module type“ dialog. Please select a module from the combo box and confirm with ok.



You can insert or append more modules by right clicking in the header of a module.

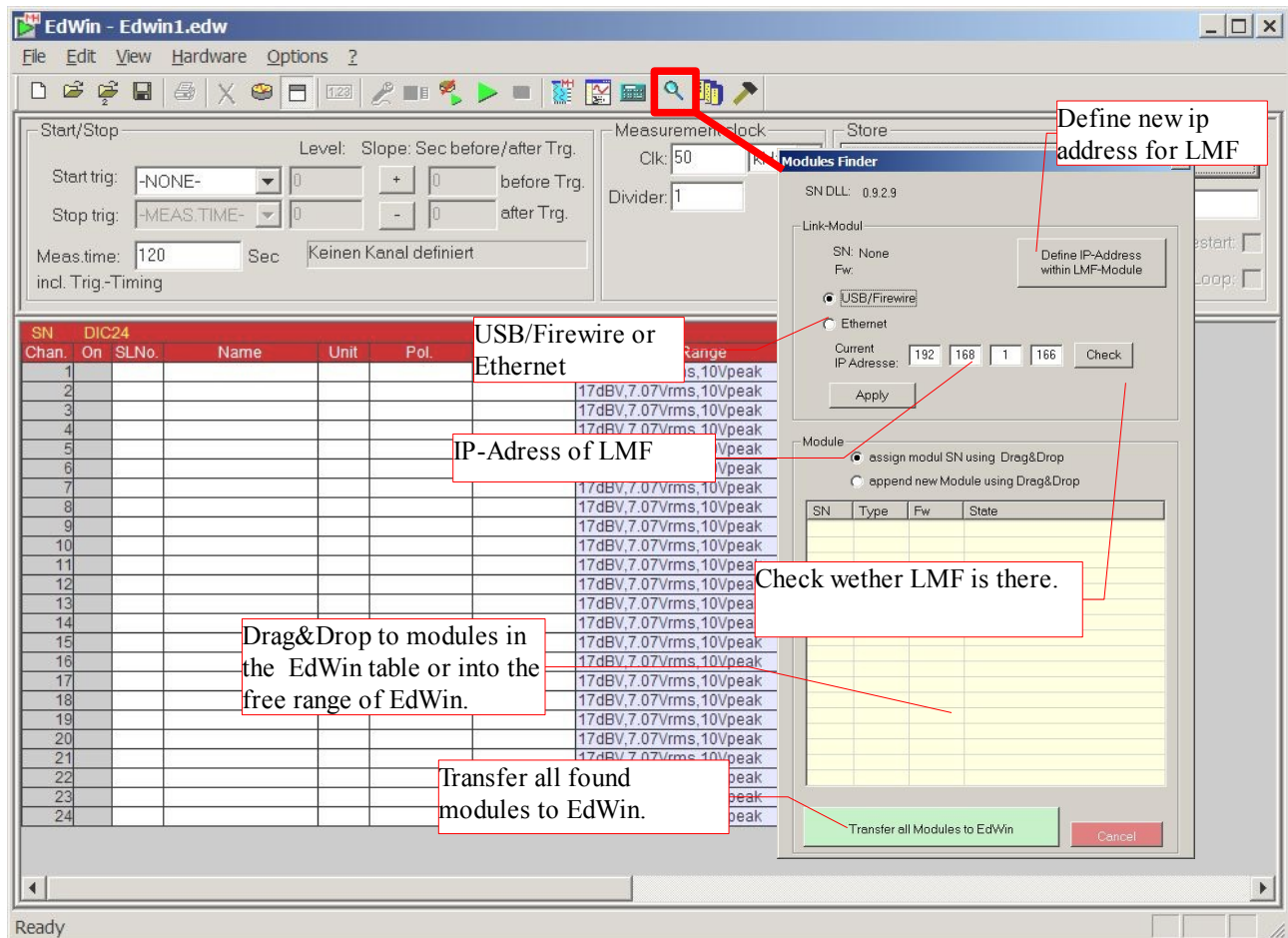


Later if you connect real modules to the system, you can assign the real modules to the defined modules per drag&drop. Look at 3.

### 3 Working with connected modules

You can connect the modules to the PC with USB, Firewire or Ethernet. Please select the desired interface.

If you select ethernet you must enter the ip-address of the Link Module (LMF). With the button „Check“ you can check whether there is a LMF at the entered address.



If modules are connected, you can assign them in two ways.

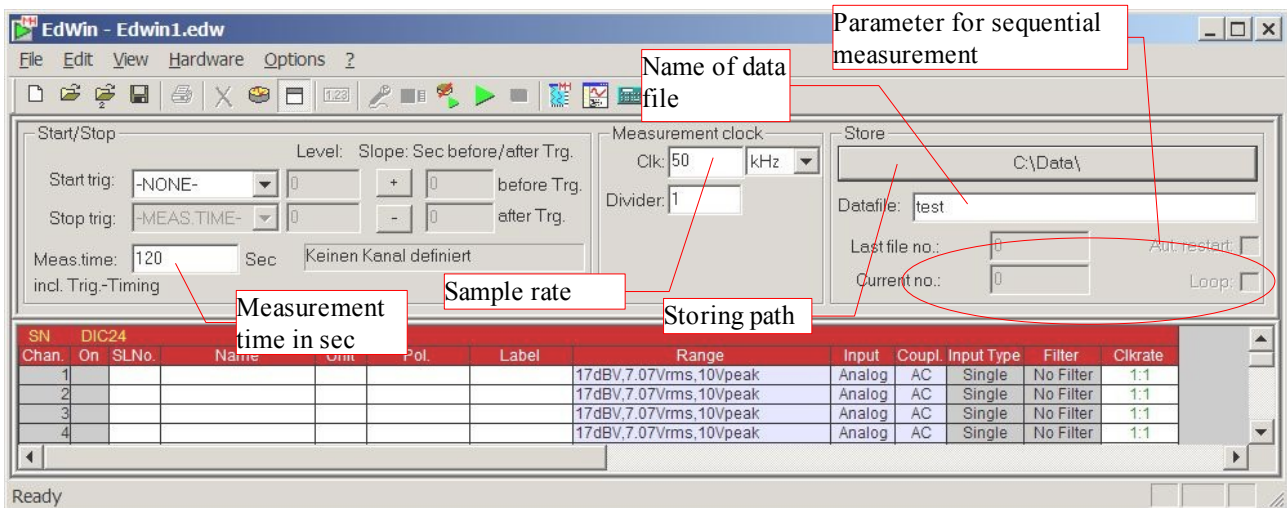
1. If modules are already defined (look at 2.1) you must assign the real modules, found with the „Module Finder“, by drag&drop.
2. If no modules are defined in EdWin, you can define them in EdWin by drag&drop or you can define all found modules with the button „Transfer all Modules to EdWin“.

## 4 Measuring time, Sample rate and Storing

The sample rate depends from your application and must be twice as big as the highest frequency you want to measure. The minimum measurement time is 10sec. The maximum measurement time is only limited by the free space on your storage media.

You must define your storage location (for example :Harddisk, Net device or USB stick).

Additionally you must define a file name. If „#“ characters are defined it is a sequential measurement. If so you must additionally define the biggest number and the starting sequential number.



## 5 Definition of sequential measurement

Instead of one big data file you can store the same data without loss of measurement points in many small files. This is useful if there is a possibility that modules or pc crashes. For example in a test drive session.

### First example:

*Measurement task:*

*you shall measure 10 minutes.*

*Settings:*

<b>Start/Stop</b>		<b>Measurement clock</b>		<b>Store</b>	
Start trig: <input type="text" value="-NONE-"/>	Level: 0	Slope: +	Sec before/after Trg.: 0	C:\Data\	
Stop trig: <input type="text" value="-MEAS.TIME-"/>	0	-	0	Datafile: <input type="text" value="test_##"/>	
Meas.time: <input type="text" value="60"/> Sec	Keinen Kanal definiert			Last file no.: <input type="text" value="9"/>	Aut. restart: <input checked="" type="checkbox"/>
incl. Trig.-Timing				Current no.: <input type="text" value="0"/>	Loop: <input type="checkbox"/>

After start of the Measurement the file **test\_00.edt** will be streamed. After 60 sec this file will be closed, and the next data file named **test\_01.edt** will be opened and streamed. And so on until data file **test\_09.edt**. Because the Check box „Loop“ is not set the measurement will be stopped. Now you have 10 files one for every minute. In **EdasWin** you can process these files as one big file. For example: if there was a failure after 7 minutes the files named 1 to 7 would be safe and closed, the files 8-10 may be lost depending on the state of the PC

### Second example:

*Measurement task:*

The production of glass panes should be continuously monitored. The data of the last 24 hours will be analyzed at any time.

*Settings:*

<b>Start/Stop</b>		<b>Measurement clock</b>		<b>Store</b>	
Start trig: <input type="text" value="-NONE-"/>	Level: 0	Slope: +	Sec before/after Trg.: 0	C:\Data\	
Stop trig: <input type="text" value="-MEAS.TIME-"/>	0	-	0	Datafile: <input type="text" value="test_####"/>	
Meas.time: <input type="text" value="60"/> Sec	Keinen Kanal definiert			Last file no.: <input type="text" value="1439"/>	Aut. restart: <input checked="" type="checkbox"/>
incl. Trig.-Timing				Current no.: <input type="text" value="0"/>	Loop: <input checked="" type="checkbox"/>

After 1440 files (equivalent to 24 hours) the measurement starts again at test\_0000.edt. (Ring buffer = on). The analysis has access to all files, except those that are currently open for writing. Thus, the analysis of data in near real time (t - 1 minute) measurement is possible. This runs until you stop measurement with F5 or the Stop button.

## 6 Channel setting

### 6.1 Sensor location number

The sampling number is used to uniquely identify a measurement signal. It can be used in real-time visualization and also in the offline analysis. The name of a channel can be changed by the user.

For example, as a sampling number of the vehicle speed 133 is selected, then a subsequent calculation of this number can be defined. If the name of the channel changed, for example: depending on the user's native language, it remains the pre-defined calculations still valid. A change of channel allocation is therefore without effect. Edwin supports the definition of sensor location numbers associated with the name, unit and measuring range with the program SignalDB. These entries can be transferred by drag & drop to Edwin.

### 6.2 Polarity

Polarity describes how a positive signal is to be understood. For example: An accelerometer for longitudinal acceleration of a vehicle. If it is installed in the wrong direction it delivers a negative signal if you speed up and delivers a positive signal if you slow down. The polarity documents this behavior. Edwin can operate with the specified polarity.

### 6.3 Setting in standardmode

Edwin offers two types of measuring definitions:

Easy mode in which you define the measuring range in volts. You are responsible for the conversion into other physical units.

DIC6B												
Chan.	On	SLNo.	Name	Unit	Pol.	Label	Range	Input	Coupl.	Input Type	Filter	Clkrate
1		133	Speed	km/h	+	sen1	17dBV, 7.07Vrms, 10Vpeak	Analog	DC	Single	No Filter	1:1
2							17dBV, 7.07Vrms, 10Vpeak	Analog	AC	Single	No Filter	1:1
3							17dBV, 7.07Vrms, 10Vpeak	Analog	AC	Single	No Filter	1:1

Sensor location number

Selection of Measurement range

Left click switches channel on and off. If channel is empty default settings are used.

### 6.4 Sensor mode

Right-click on the module header opens a popu menu. Here you can select the sensor mode.

Label	MR from	MR to	MR user from	MR user to	Sensor	Sn	V from	EU from	V to	EU to	Input
sen1	-250	250	0	250	ssm	A-432245	0	0	5	250	Analog
	-1	1	-1.0	1.0			-1.0	-1.0	1.0	1.0	Analog

True range. Calculates from sensor parameters and measurement range of modul channel.

Desired range in physical unit.

Sensor name and sensor serial number

Calculation with 4 points  
UE is the sensor signal in V  
EU is the corresponding phys. signal.



In sensor mode, you define the signal from the sensor, and the physical equivalent. Therefore you define a voltage range your sensor delivers and according to the pair of values of the physical area. The real-time visualization and offline analysis shows the values in the right physical range.

### First example:

You have a temperature sensor which delivers at 0 Grad -1.5 Volt and at 100 Grad 6.8 Volt.

SN	DIC6B	Chan.	On	SLNo.	Name	Unit	Pol.	Label	MR from	MR to
1	342	1	1	1	Temperature	Deg		T354	-102.41	138.55

MR from	MR to	MR user from	MR user to	Sensor	Sn	V from	EU from	V to	EU to	Input	Coupl.	Input Type	Filter	Clkrate
-102.41	138.55	-50	100	TL1	34223	-1.5	0	6.8	100	Analog	DC	Single	No Filter	1:1

True range.

Desired measurement range  
-50 bis 100 Grad

-1,5 Volt

0 Grad

100 Grad

6.8 Volt

DC input

Edwin calculates the amplifier setting from the given the range. The amplifier setting and the sensor parameters define the true range.

### Second example:

You have a acceleration sensor with a data sheet stating the sensitivity of 10mV/g

SN	DIC6B	Chan.	On	SLNo.	Name	Unit	Pol.	Label	MR from	MR to
1	2623	1	1	1	Longitudinal accel.	g	+forward	B645		

Physical unit

+ can be analysed from EdasWin

MR from	MR to	MR user from	MR user to	Sensor	Sn	V from	EU from	V to	EU to	Input	Coupl.	Input Type	Filter	Clkrate
-2	2	-2	2	C-5453	5646546	0	0	0.01	1	Analog	DC	Single	No Filter	1:1

Desired Measurement range  
+/- 2g

0 Volt

0 g

10 mV

1 g

## 6.5 Setting with sensor location number and sensor definition list with the program SignalDB.

The program SignalDB manages sensor location lists and sensors. You can insert them into EdWin by drag&drop. This makes channel setting very fast and flawless. Diese Methode bietet sich immer dann an, wenn wiederkehrende Messstellen und Sensoren in verschiedenen Messaufgaben verwendet werden.

## 7 Triggered measurement

Edwin allows the definition of a start trigger and a stop trigger. The measuring time before and after the trigger can be defined. In addition, it may be defined, whether after triggering the measurement should be started again. (see 4)

### Example:

*A measurement in a ground vehicle: Data should only be measured when the speed of 50km / h is exceeded. The measurement shall be stopped when the speed drops below 40km / h. As this occurs repeatedly in the cycle, a sequential measurements will be defined and the "Aut. Restart" = on is set to restart the measurement after triggered stop.*

The screenshot shows the Edwin software interface with the following settings:

- Start/Stop:** Start trig: 133 Speed, Stop trig: 133 Speed, Meas. time: 60 Sec, incl. Trig-Timing: checked.
- Level:** Slope: Sec before/after Trg., before Trg.: 2, after Trg.: 2.
- Measurement clock:** Clk: 1 kHz, Divider: 1.
- Store:** C:\Data\, Datefile: x\_###, Last file no.: 30, Current no.: 0, Aut. restart: checked, Loop: checked.

Annotations on the screenshot:

- Start trigger:** Points to the 'Start trig' dropdown.
- Stop trigger:** Points to the 'Stop trig' dropdown.
- Measurement time is without meaning, because the measurement will be stopped by stop trigger.** Points to the 'Meas. time' field.
- Sequential measurement measures automatic 31 cycles, then stops.** Points to the 'Loop' checkbox.
- Restart after stop by stop trigger.** Points to the 'Aut. restart' checkbox.

SN	DIC68	Chan	On	SLNo	Name	Unit	Pol	Label	MR from	MR to	MR user from	MR user to	Sensor	Sn	V from	EU from	V to	EU to	Input	Coupl	Input Type	Filter	Clkrate
1	133	Speed				km/h																	
2	133	Speed				km/h																	

## 8 Programing the amplifier modules

The modules will be programmed with starting the measurement. If something is wrong an error log dialog pops up.

Alternatively you can program the modules with the before starting measurement. The advantage is, that all bugs can be eliminated before starting the measurement.. Pressing the start button starts the measurement ensuring its correct and reliable.

The screenshot shows the Edwin software interface with the error list dialog open. The error list contains the following entries:


Cha.	Error
0	Module doesn't exist
1	Module doesn't exist
2	Module doesn't exist
3	Module doesn't exist
4	Module doesn't exist


Annotations on the screenshot:

- Program before starting.** Points to the pencil icon in the toolbar.
- Error list. Left click on line navigate to the channel if he is not visible in the window.** Points to the error list dialog.

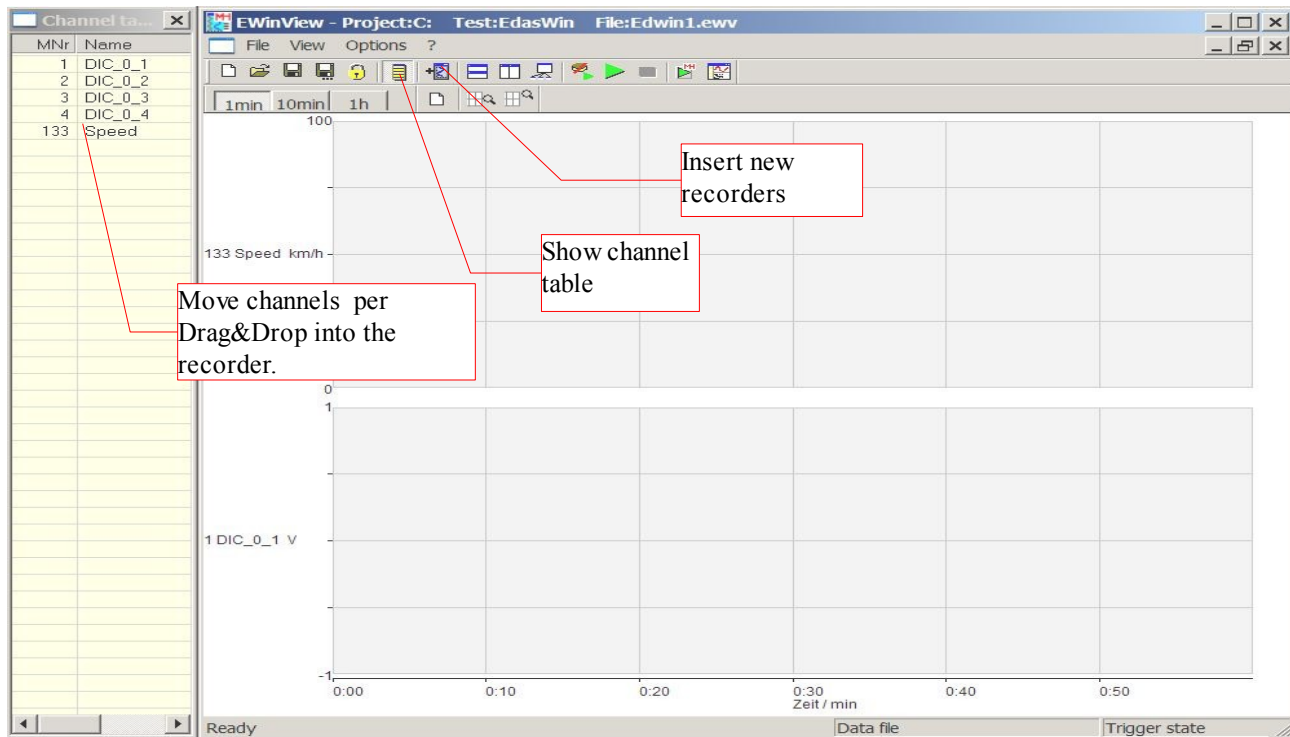


## 9 Starting and stoping the masurement

Measurement will be started with the function key „F4“ or the  button.

Measurement will be stopped after the defined measurement time intervall or the stop trigger or with function key „F5“ or with  button.

## 10 Setting the realtime visualization

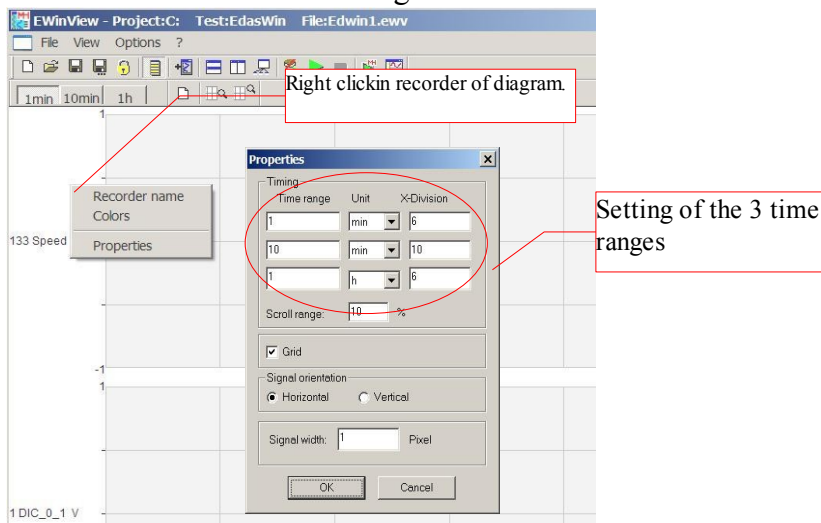


The real time visualization software EwinView will come to front with pressing the button .

EwinView represents you any number of different recorders. By default EwinView starts with the synchronous data recorder. Here you can insert signals from the channle table by drag & drop. You can do this before or during the measurement.

### 10.1 Setting the time axis

There are 3 definable time ranges. You must define them before starting measurement.



## 10.2 Setting the Y-axis

You can define the y-axis before or during the measurement.

