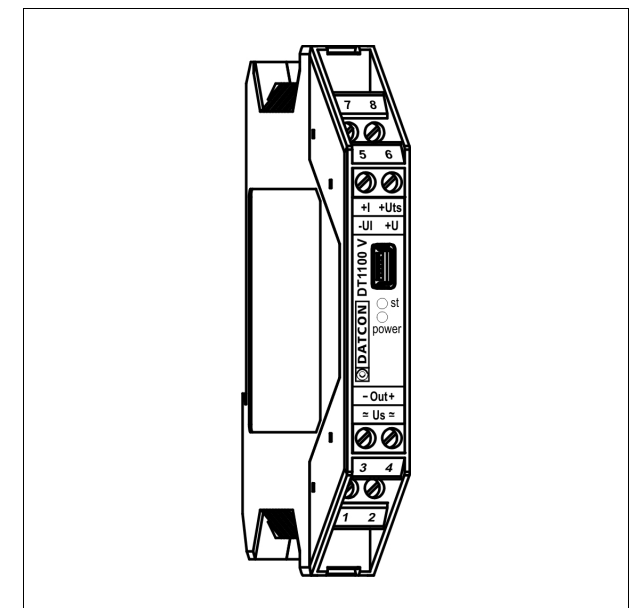


## DT1100 V

Configurable Isolator / Power Supply

## Operating Instructions



## Contents

### 1. About this document

1.1. Function .....	4
1.2. Target group.....	4
1.3. Symbolism used .....	4

### 2. For your safety

2.1. Authorized personnel .....	5
2.2. Appropriate use.....	5
2.3. Warning about misuse .....	5
2.4. General safety instructions.....	5
2.5. CE conformity.....	5
2.6. Environmental instructions .....	5

### 3. Product description

3.1. Delivery configuration.....	6
3.2. Type designation .....	6
3.3. Operating principle .....	7
3.4. Adjustment .....	8
3.5. Indicators, USB connector .....	9
3.6. Storage and transport .....	9

### 4. Mounting

4.1. General instructions .....	10
4.2. Main dimensions of the instrument .....	10
4.3. Mounting procedure .....	11

### 5. Connecting

5.1. Preparing the connection .....	12
5.2. Connecting the passive current transmitter.....	13
5.3. Connecting the active current transmitter .....	14
5.4. Connecting the voltage transmitter .....	15
5.5. Connecting the signal processing unit and the power supply	16
5.6. Put the instrument under supply voltage.....	16

### 6. The first start-up, indicators

6.1. The first start-up .....	17
6.2. Indicators.....	18

## 7. Setting-up

7.1. First steps.....	19
7.2. Analogue input type setting.....	21
7.3. Analogue input range setting.....	22
7.4. Analogue output type setting.....	23
7.5. Analogue output range setting.....	24
7.6. Output limits setting.....	25
7.7. Error setting.....	26
7.8. Averaging setting.....	27
7.9. Enter Password for download.....	28
7.10. New password setting.....	29
7.11. Resetting default setting.....	30
7.12. Display measured data.....	31
7.13. Display errors.....	32

## 8. Fault rectification

8.1. Fault finding.....	33
8.2. Repairing.....	33

## 9. Dismounting

9.1. Dismounting procedure.....	34
9.2. Disposal.....	35

## 10. Appendix

10.1. Technical specification.....	36
10.2. Application example.....	39

## 1. About this document

### 1.1. Function

This operating instructions manual has all the information you need for quick set-up and safe operation of DT1100 V. Please read this manual before you start setup.

### 1.2. Target group

This operating instructions manual is directed to trained personnel. The contents of this manual should be made available to these personnel and put into practice by them.

### 1.3. Symbolism used

#### Information, tip, note

This symbol indicates helpful additional information.



#### Caution, warning, danger

This symbol informs you of a dangerous situation that could occur. Ignoring this cautionary note can impair the person and/or the instrument or it's environ.



#### List

The dot set in front indicates a list with no implied sequence.



#### Action

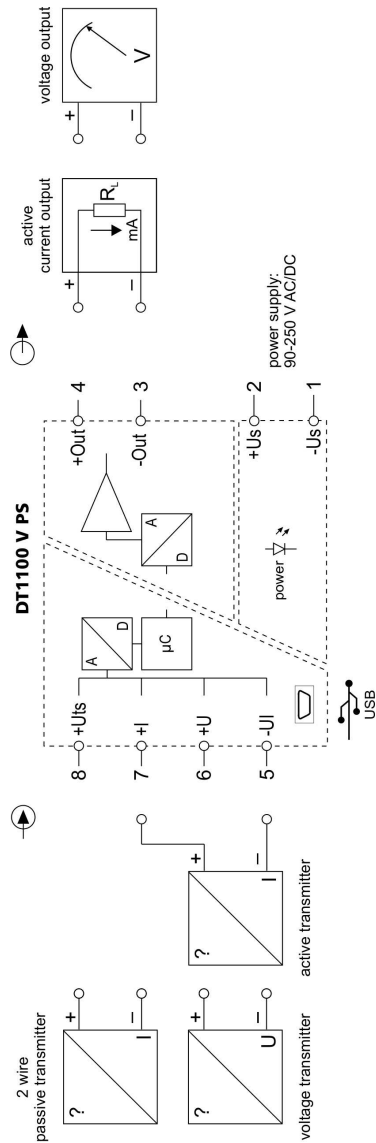
This arrow indicates a single action.



#### Sequence

Numbers set in front indicate successive steps in a procedure.





## 2. For your safety

### 2.1. Authorized personnel

All operations described in this operating instructions manual must be carried out only by trained and authorized specialist personnel. For safety and warranty reasons, any internal work on the instruments must be carried out only by DATCON personnel.



### 2.2. Appropriate use

The DT1100 V is a Configurable Isolator / Power Supply for industrial use. Detailed information on the application range is available in chapter 3. **Product description.**

### 2.3. Warning about misuse

Inappropriate or incorrect use of the instrument can give rise to application-specific hazards, or damage to system components through incorrect installing or adjustment.



### 2.4. General safety instructions

Using the DT1100 V Configurable Isolator / Power Supply requiring the strict observance of standard regulations and guidelines.

The user must take note of the safety instructions in this operating instructions manual, the country-specific installation standards as well as all prevailing safety regulations and accident prevention rules.



### 2.5. CE conformity

The DT1100 V is in conformity with the provisions of the following standards:  
EN 61326-1:2004 (EMC)

### 2.6. Environmental instructions

Protection of the environment is one of our most important duties.

Please take note of the instructions written in the following chapters:

- Chapter 3.6. **Storage and transport**
- Chapter 9.2. **Disposal**

### 3. Product description

#### 3.1. Delivery configuration

##### Delivered items

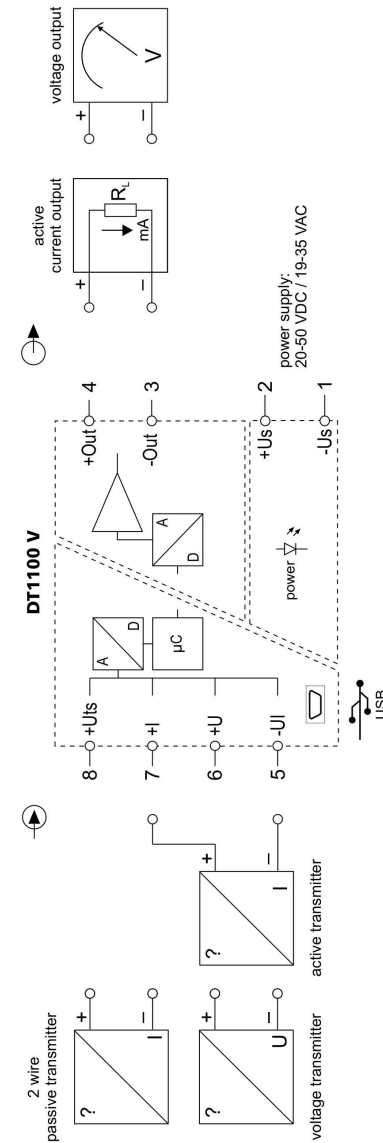
The scope of delivery encompasses:

- DT1100 V
- documentation:
  - this operating instructions manual
  - certification
  - warranty

#### 3.2. Type designation

<b>DT1100 V</b>	<input type="checkbox"/>	<b>PS</b>	20-50 VDC / 19-35 VAC POWER SUPPLY
	<input type="checkbox"/>		90-250 V AC/DC POWER SUPPLY

### 10.2. Application example



### General data

Housing:	TS-35 rail mounting housing material: polyamide PA6.6
Fireproof class:	V2-V0 / UL94
Connection:	screw-terminal
Connecting cable:	1.5 mm <sup>2</sup> (max.)
Dimensions:	12.5 x 99 x 115 mm (width x height x depth)
Mass:	0.15 kg
Ingress Protection (EN 60529):	IP 20

The Manufacturer maintains the right to change technical data.

### Area of application

#### 3.3. Operating principle

The DT1100 V Configurable Isolator / Power Supply provide signal transmission and conversion between transmitters and signal processing units.

The instruments feature complete 3-way isolation: the input, the output and the power supply are isolated from each other.

A DT1100 V providing a 18 VDC @ 20 mA supply on the input - may be used for isolating and supply passive transmitters, but it can be used for active output transmitters too.

The input type and range are configurable (current or voltage). See chapter **10.1. Technical specification**.

The output type and range are configurable (current or voltage). See chapter **10.1. Technical specification**.

Some of the configuration options are: signal filtering, error signaling, etc. The configuration software is capable of storing all the parameters for future re-configurations.

The configuration parameters are downloaded from the PC to the DT1100 V via USB port.

The front panel LED indicators provide information about the operating status of the device.

### Principle of operation



The input current flows through the measuring resistor or the input voltage divides through the attenuator. This voltage drop is led to a 22 bit A/D converter. The digital output signal of the A/D converter is processed by a microcontroller.

The microcontroller produces a pulse width modulated output signal which is proportional to the processed, scaled measuring value. The output pulse is galvanic isolated by an opto coupler. After filtering the pulse is converted into analogue current or voltage signal.

Connecting the instrument to the PC through the USB interface the instrument's communication circuitry come into active state and it is ready for communication with the configuration software.

The configuration software can be downloaded and set some parameters and it can be read the measurement results and settings. The connection remains on hold until you open the virtual serial port.



### Power supply

The USB port and the input are not isolated. If the USB cable is plugged into a grounded PC, then may be balancing current flows between the instrument and transmitter, it can take measurement error.

The DT1100 V is available two different power supply:  
**DT1100 V:** 20-50 VDC / 19-35 VAC, 1.6 W / 1.8 VA  
**DT1100 V PS:** 90-250 V AC/DC, 1.6 W / 1.8 VA

### 3.4. Adjustment

After connecting the DT1100 V is ready to work with the factory default parameters are written in chapter 6.1. **The first start-up.** For working with the default parameters there is no need any adjustment. The detailed description of the setup can be found in chapter 7. **Setting-up.**

### Output parameters

Output signal:	DC current / DC voltage
Output ranges:	0-10 V (voltage output) 0-20 mA (current output)
Overload:	11.5 V (voltage output) 23 mA (current output)
Scaling:	Linear, the range of the initial value and end value can be specified arbitrary within output range.
Load resistance (voltage output):	>500 ohm (voltage output) <600 ohm (current output)
Output resistance:	<0.1 ohm (voltage output) >5 Mohm (current output)
Error @ 25 °C ±2 °C:	±0.05%
Temperature coefficient:	tip.: 25 ppm / °C; max.: 50 ppm / °C
Supply-voltage effect:	practically zero

### Transmitter supply

Transmitter supply voltage	18 VDC @ 20 mA
Overcurrent protection:	25 mA

### Galvanic isolation

Test voltage:	2500 VDC (between input-output, input-power supply terminals) 500 VDC (between output-power supply terminals)
---------------	--

### Power supply

Power supply:	20-50 VDC / 19-35 VAC or 90-250 V AC/DC (PS)
Power consumption:	1.6 W / 1.8 VA

### Ambient conditions

Operating temperature range:	0 - +60 °C
Storage temperature range:	-20 - +70 °C
Relative humidity:	90 % (max., non-condensing)
Mounting position:	vertical (horizontal rail position)

### Electromagnetic compatibility (EMC)

Accordance with the standard EN 61326-1:2004	
Immunity:	-A- criterion ( $U_{in} < 100$ mV, B criterion)
Noise emission:	-A- class

## 10. Appendix

### 10.1. Technical specification

#### Input parameters

Input signal:	DC current / DC voltage
Input ranges:	±12 V (voltage input) ±25 mA (current input)
Minimum of input range	20 mV (voltage input) 0.1 mA (current input)
Overload:	±20 V (voltage input) ±30 mA (current input)
Scaling:	Linear, the range of the initial value and end value can be specified arbitrary within input range.
Input resistance:	1 Mohm (voltage input) 33 ohm (current input)
Error of input @ 25 °C ±2 °C:	±0.05%
Temperature coefficient:	typically: 25 ppm / °C; max.: 50 ppm / °C
Supply-voltage effect:	practically zero

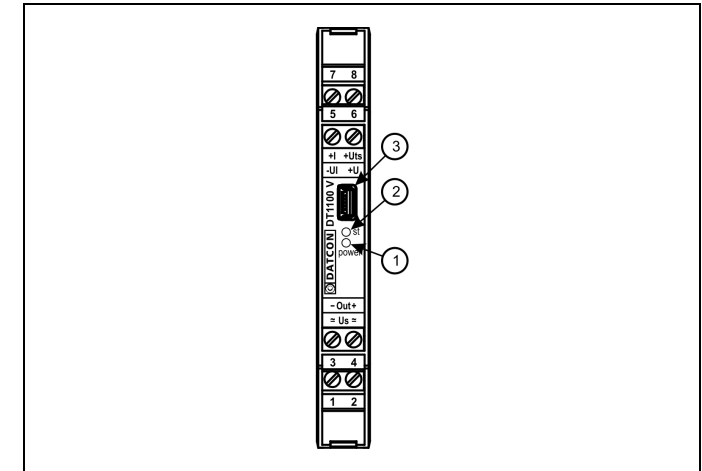
#### Configuration \*

The difference between initial and end value of at least (≥)	Range of input signal:
50 mV	±0.199 V
0.2 V	±0.797 V
0.5 V	±3.188 V
1 V	±12 V

\* The configuration software is the absolute value of the initial and end value max. 300 V, a difference of min. 20 mV was allowed to enter.

### 3.5. Indicators, USB connector

The following figure shows the indicators and USB connector on the DT1100 V front panel.



1. The „power” green indicator has two function:
  - continuous light indicates that the instrument is in measuring mode
  - a short flash indicates that a successful communication has granted with the configuration software.
2. „st” red indicator has two function:
  - continuous light indicates that the instrument is in configuration mode
  - blinking light indicates different error states
3. USB-B mini, 5 pole connector for connecting to the PC at configuration.

### 3.6. Storage and transport

This instrument should be stored and transport in places whose climatic conditions are in accordance with chapter **10.1. Technical specification**, as described under the title: Ambient conditions.

The packaging of DT1100 V consist of environment-friendly, recyclable cardboard is used to protect the instrument against the impacts of normal stresses occurring during transportation. The corrugated cardboard box is made from environment-friendly, recyclable paper. The inner protective material is polyfoam and nylon, which should be disposed of via specialized recycling companies.



## 4. Mounting

### 4.1. General instructions

The instrument should be installed in a cabinet with sufficient IP protection, where the operating conditions are in accordance with chapter **10.1. Technical specification**, as described under the title: Ambient conditions.



#### Mounting position

The instruments are designed in a housing for mounting on TS-35 rail.

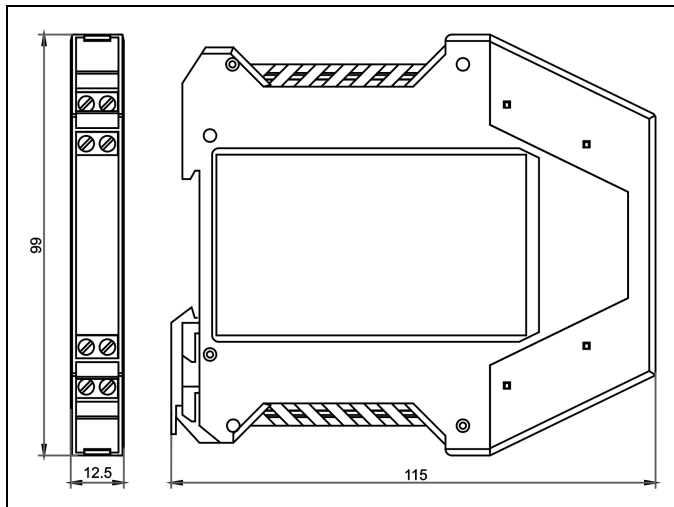
The instruments should be mounted in vertical position (horizontal rail position).



Horizontal mounting may cause overheating and damage of the instrument.

### 4.2. Main dimensions of the instrument

The following figure shows the main dimensions of the instrument.



## 9.2. Disposal

According with the concerning EU directive, the manufacturer undertakes the disposal of the instrument that are manufactured by it and intended to be destroyed. Please deliver it in contamination-free condition to the site of the Manufacturer or to a specialized recycling company.

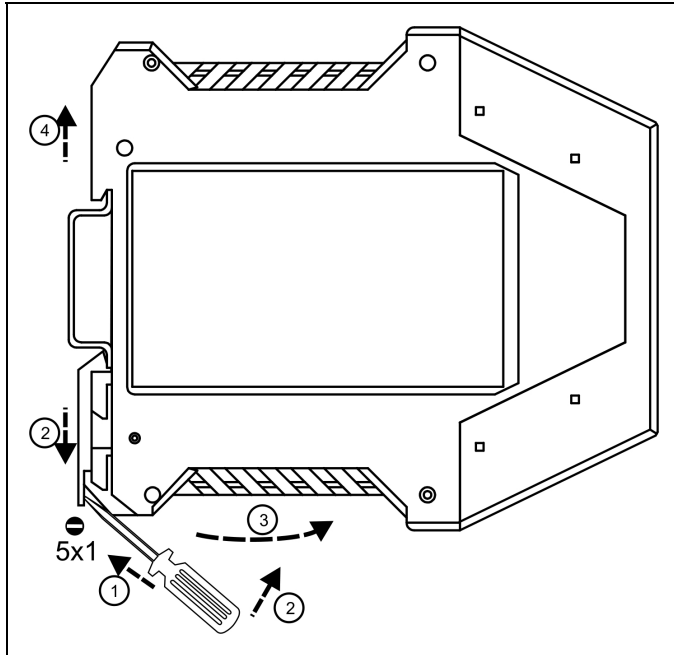
## 9. Dismounting

### 9.1. Dismounting procedure

Before dismounting take note the warnings written in chapter 5.1. **Preparing the connection.**

The following figure shows the dismounting procedures.

Dismounting from the rail



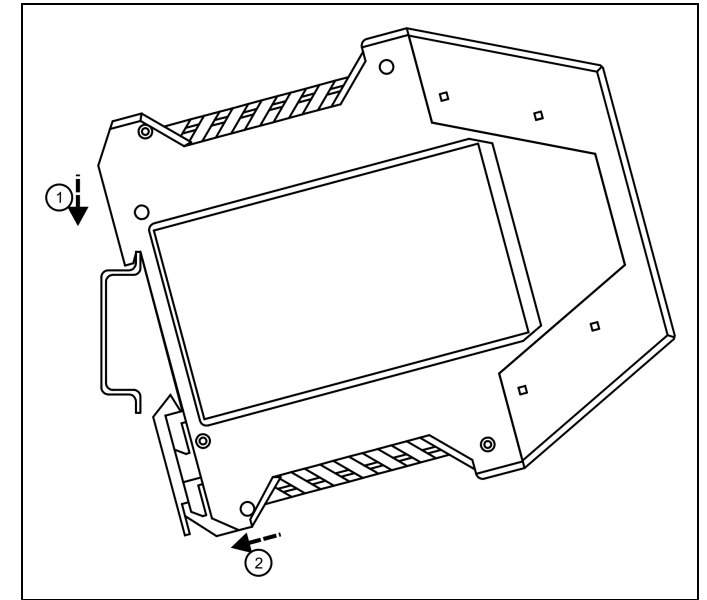
The dismounting procedure needs a screwdriver for slotted screws.

1. Before dismounting disconnect all wires.
2. Put the screwdriver end into the fixing assembly's hole (figure step 1.).
3. Lift the screwdriver handle until it possible to open the fixing assembly (figure step 2.).
4. Keeping the screwdriver in this position lift the instrument bottom from the bottom edge of the rail (figure step 3.). Lift the whole instrument (you may put out the screwdriver) (figure step 4), the instrument will be free.

## 4.3. Mounting procedure

The following figure shows the mounting procedures (fixing on the rail):

Mounting on the rail



The mounting doesn't need any tool.

1. Tilt the instrument according to the figure; put the instrument's mounting hole onto the upper edge of the rail (figure step 1.).
2. Push the instrument's bottom onto the bottom edge of the rail (figure step 2.), you will hear the fixing assembly closing.
3. Check the hold of the fixing by moving the instrument firmly.

## 5. Connecting

### 5.1. Preparing the connection

Always observe the following safety instructions:

- The connection must be carried out by trained and authorized personnel only!
- Connect or disconnect only in the complete absence of supply voltage
- You should take note the data concerning on the overcurrent protection in installation
- Use only a screwdriver with appropriate head.



#### Select connection cable

Take note the suitability of the connecting cable (wire cross-section, insulation, etc.).

The wire cross-section should be 0.25-1.5 mm<sup>2</sup>.

You may use either solid conductor or flexible conductor.

In case of using flexible conductor use crimped wire end.



#### Preparing cables

For the input connection we recommended to use screened cable. It's an important rule that the power cables and signal cables should lead on a separate way.

Prepare the cable for the connection.  
Strip approx. 8 mm insulation.

## 8. Fault rectification

### 8.1. Fault finding

The fault finding must be carried out by trained and authorized personnel only!

- The green indicator is dark → check the power supply. If the supply voltage is OK: the instrument is defective.
- There is no output signal → check the device connected to the input.

When the result of fault finding is that the DT1100 V is defective call the manufacturer service department.

### 8.2. Repairing

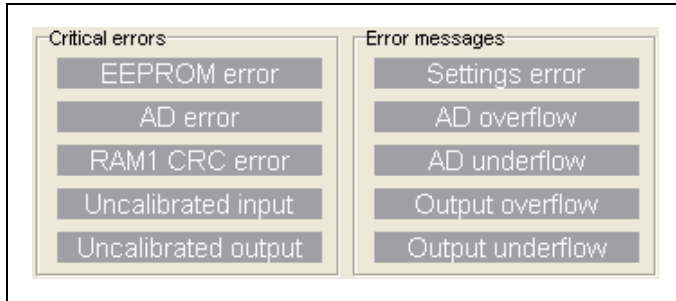
There is no user repairable part inside the instrument. In accordance with Point 2.1.: **For safety and warranty reasons, any internal work on the instrument must be carried out only by DATCON personnel.**



**Function**

**7.13. Display errors**

The program can read out and display the error messages when the serial port is open. When the error occurs, the error message background color is changing to red.



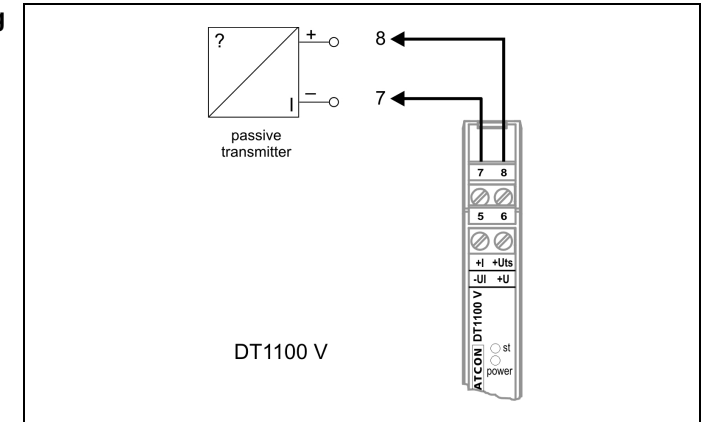
When the critical errors occur, must call the manufacturer. When the next errors occur:

- Settings error: Please read out the settings from the instruments, and check them. If you find bad setting, please fix it, and download new settings to the instrument.
- AD overflow: The input signal is too high (input current > +55 mA or input voltage > +14 V). Please check the transmitter which connects to the input.
- AD underflow: The input signal is too low (input current < -55 mA or input voltage < -14 V). Please check the transmitter which connects to the input.
- Output overflow: The output signal is too high (output current / voltage > "High limit" value). Please check the transmitter which connects to the input and the input/output ranges.
- Output underflow: The output signal is too low (output current / voltage < "Low limit" value). Please check the transmitter which connects to the input and the input/output ranges.

**5.2. Connecting the passive current transmitter**

The following figure shows the wiring plan, connecting the passive current transmitter:

**Wiring plan, connecting the passive current transmitter**  
(see also "Application example")



Be careful the polarity of the cables

1. Loosen terminal screws.
2. Insert the wire ends into the open terminals according to the wiring plan.
3. Screw the terminal in.
4. Check the hold of the wires in terminals by pulling on them firmly.

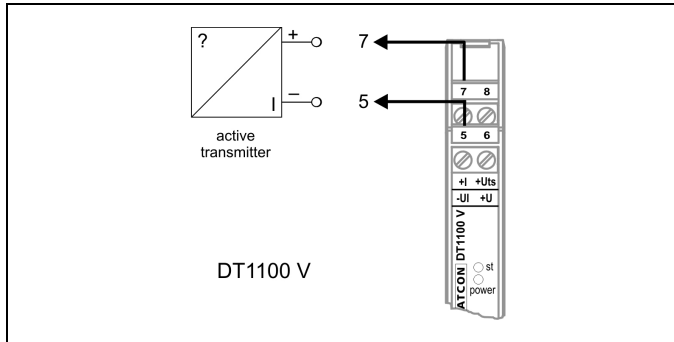
**Checking the Connections**

Check if the cables are connected properly (have you connected all the cables, have you connected to the right place, do not the cable-ends touch each other).

**5.3. Connecting the active current transmitter**

The following figure shows the wiring plan, connecting the active current transmitter:

**Wiring plan, connecting the active current transmitter**  
(see also "Application example")



Be careful the polarity of the cables

1. Loosen terminal screws.
2. Insert the wire ends into the open terminals according to the wiring plan.
3. Screw the terminal in.
4. Check the hold of the wires in terminals by pulling on them firmly.

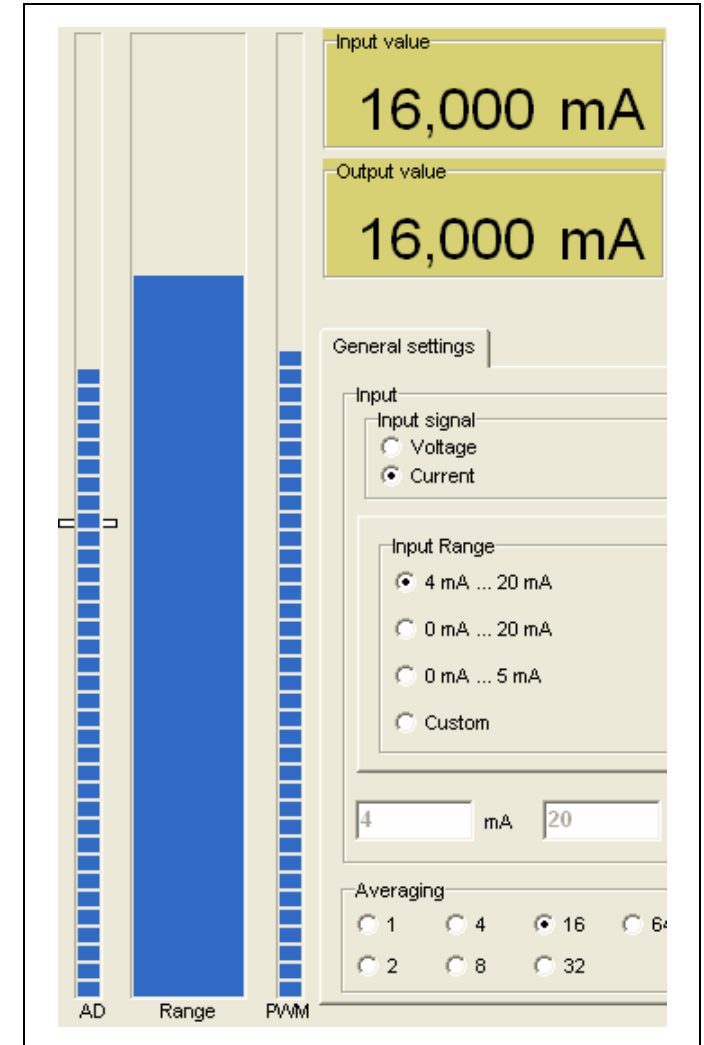
**Checking the Connections**

Check if the cables are connected properly (have you connected all the cables, have you connected to the right place, do not the cable-ends touch each other).

**Function**

**7.12. Display measured data**

The program can read out and display the measured input and output values when the serial port is open.



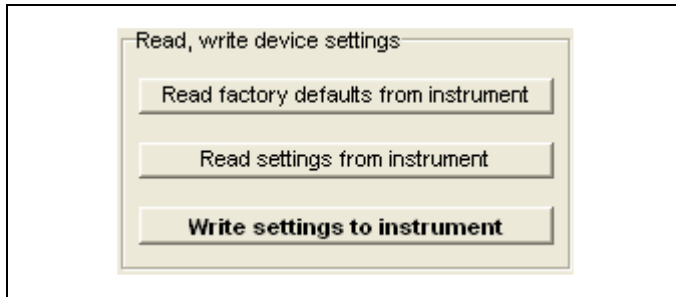
**7.11. Resetting default setting**

**Function**

In this case all the settings are deleted, and the default settings are restored. Using this function makes sense in that case, when the settings of the instrument have changed so much, that it is easier to start the setting-up process from the default factory setting.

**Sequence of operations**

1. Click on the „Read factory defaults from instrument” button. The default settings are uploaded from instrument.
2. If necessary change the settings.
3. At the end of the settings click on the “Download settings” button, the new settings are written into the instrument.

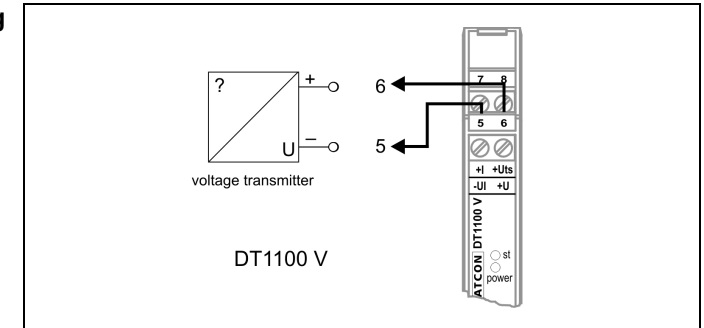


**5.4. Connecting the voltage transmitter**

The following figure shows the wiring plan, connecting the voltage transmitter:

**Wiring plan, connecting the voltage transmitter**  
(see also “Application example”)

Be careful the polarity of the cables



1. Loosen terminal screws.
2. Insert the wire ends into the open terminals according to the wiring plan.
3. Screw the terminal in.
4. Check the hold of the wires in terminals by pulling on them firmly.

**Checking the Connections**

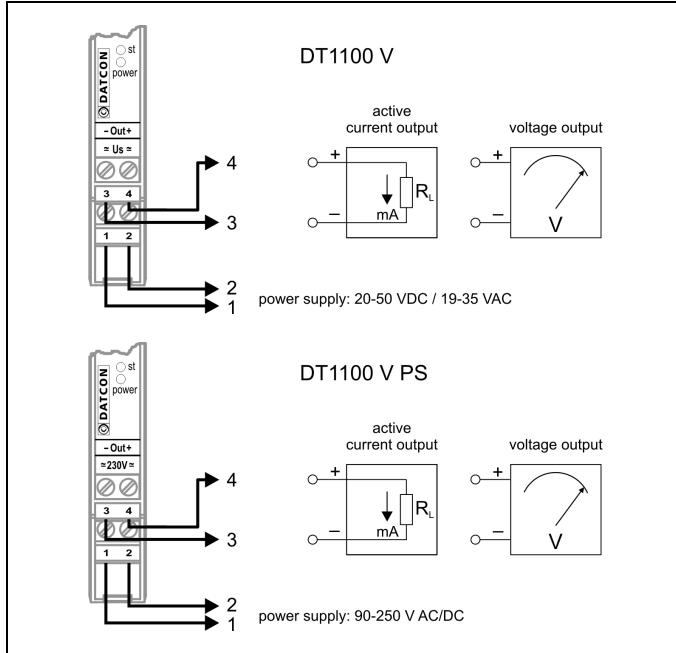
Check if the cables are connected properly (have you connected all the cables, have you connected to the right place, do not the cable-ends touch each other).

**5.5. Connecting the signal processing unit and the power supply**

The following figure shows the wiring plan, connecting the signal processing unit and the power supply:

**Wiring plan, connecting the signal processing unit and the power supply**  
(see also “Application example”)

Be careful the polarity of the cables



1. Loosen terminal screws.
2. Insert the wire ends into the open terminals according to the wiring plan.
3. Screw the terminal in.
4. Check the hold of the wires in terminals by pulling on them firmly.

**Checking the Connections**

Check if the cables are connected properly (have you connected all the cables, have you connected to the right place, do not the cable-ends touch each other).

**5.6. Put the instrument under supply voltage.**

After you have completed the connections, put the instrument under supply voltage. If the connection is correct the green indicator gives light and you can measure an output signal according to the measured value on the input.

**Put the instrument under supply voltage**

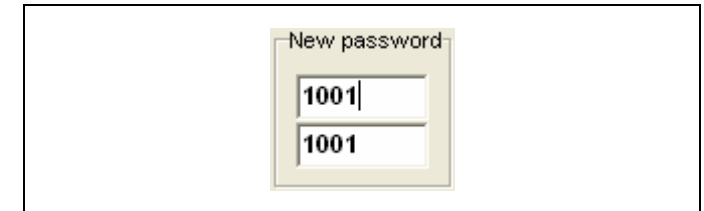
**7.10. New password setting**

**Function**

Here you can exchange the factory password for a new one.  
The range is: 1-65535.  
[Factory default: 1000]

**Sequence of operations**

1. Type-in the new password into the upper field. (1-65535)
2. Type-in one more time the new password into the lower field.
3. Type-in the old password into the “Password” field. (1-65535)
4. At the end of the settings click on the “Download settings” button, the new settings are written into the instrument.  
The figure shows an example, when the typed password is: „1001”.



When the two passwords are not the same the software announces it and you have to type-in twice the new password.



**Note:**  
If you change your mind and don't want to exchange the password simple clear the password typed-in the two fields.



**Warning!**  
Do not forget the password!  
If you forget the password it can be reset the factory default in the factory only!

**Function**
**7.9. Enter Password for download**

The password is five characters long. It ensures that no unauthorized person can change the settings.  
[Factory default: 1000]

**Sequence of operations**

1. Type-in the password into the "Password" field. (1-65535)
2. At the end of the settings click on the "Download settings" button, the new settings are written into the instrument.

The figure shows an example, when the selected password is: „1000“.


**6. The first start-up, indicators**
**6.1. The first start-up**

After connecting the DT1100 V is ready to work with the factory default parameters.

When you are going to use other parameters you should set-up the instrument according to chapter 7. **Setting-up.**



Factory default settings:

- Input type: Current input.
- Input range: 4-20 mA.
- Output type: Current output.
- Output range: Current output: 4-20 mA.
- Error signaling: Enabled.
- Current output error value: 3.2 mA.
- Averaging: 16 measurements.
- Password: "1000".

**6.2. Indicators**

- (1) **power** (green): mode an communication indicator
- (2) **st.** (red): mode and error indicator

The two indicator gives information in conjunction as follows:

• **Measurement mode:**

power: light, st.: dark.

• **Error state:**

power: light, st.: blinking.

The number of blinks gives the error information while the output current/voltage is forced into error value. (depends on setting).

**1 blink:** fatal error. (repairing: in factory service only).

**2 blinks:** not used

**3 blinks:** not used

**4 blinks:** measuring value out of range.

**5 blinks:** analog output scaling error (the instrument is unable to convert the measured value into the output range, while the output current/voltage is forced into error value. (depends on setting, see chapter 7. **Setting-up.**).

• **Configuration mode:**

After connecting the instrument to the PC USB port, starting the configuration program and opening the proper virtual serial port, the instrument is ready to communicate with the program (for selecting the proper virtual port begin with the last and then try the others).

st.: light, power: short flash in a case when a successful communication has granted.

**7.8. Averaging setting**

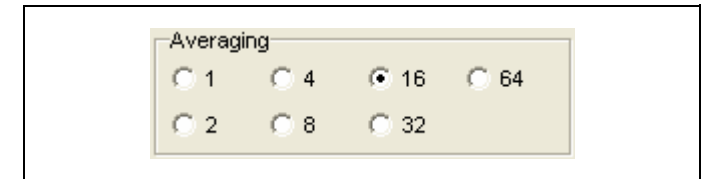
The instrument performs cca. 12 measurements in each second. The measurement result is generated as the average of several measurements.

Here you can define the number of measurements that should be used for calculating the averaged numerical value. By increasing this number the signal stability increases, but the signal settling time becomes lower. [Default factory setting: 16]

**Sequence of operations**

1. Select the appropriate averaging by clicking the button.
2. At the end of the settings click on the "Download settings" button, the new settings are written into the instrument.

The figure shows the factory default setting.



Note: Selecting the „1” value the last measured result will be transmitted. Measured results - measured before the last measurement - have no effect on the output signal.

Settling time after stabilizing the input signal:

Averaging number:	Settling time (sec):
1	0.1
2	0.2
4	0.4
8	0.7
16	1.4
32	2.7
64	5.4

Function

7.7. Error setting

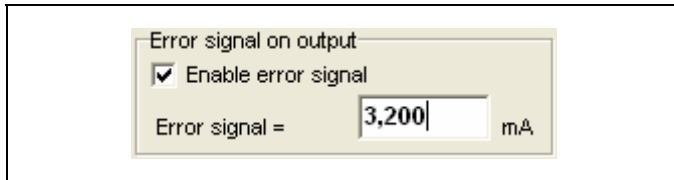
The error signaling can be set. If necessary the instrument can be signaling the error state (e.g.: input/output overflow/underflow, ADC overflow/underflow). The value of output error signal can be set 0-22 mA/0-10 V. This value must be out of range of output signal (e.g.: the output range is 4-20 mA, and the "Error signal" value is 20.1 mA or 3.2 mA).



Use the NAMUR NE43 recommendation. [Factory default: Enable error signaling, Error signal value is 3.2 mA.]

Sequence of operations

1. Type-in the value of the error signal into the "Error signal" field.
  2. Check the "Enable error signal" by clicking the checkbox.
  3. At the end of the settings click on the "Download settings" button, the new settings are written into the instrument.
- The figure shows the factory default setting.



7. Setting-up

7.1. First steps

For setting-up you need:

- mini USB A (5 pin)-USB A cable
- DT1100 V.exe configuration software
- PC

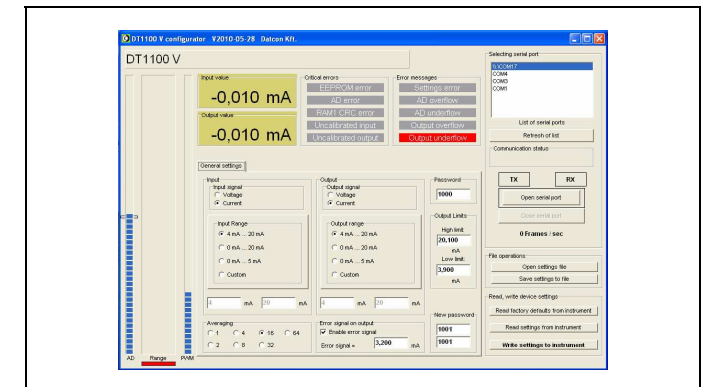
Necessary tools

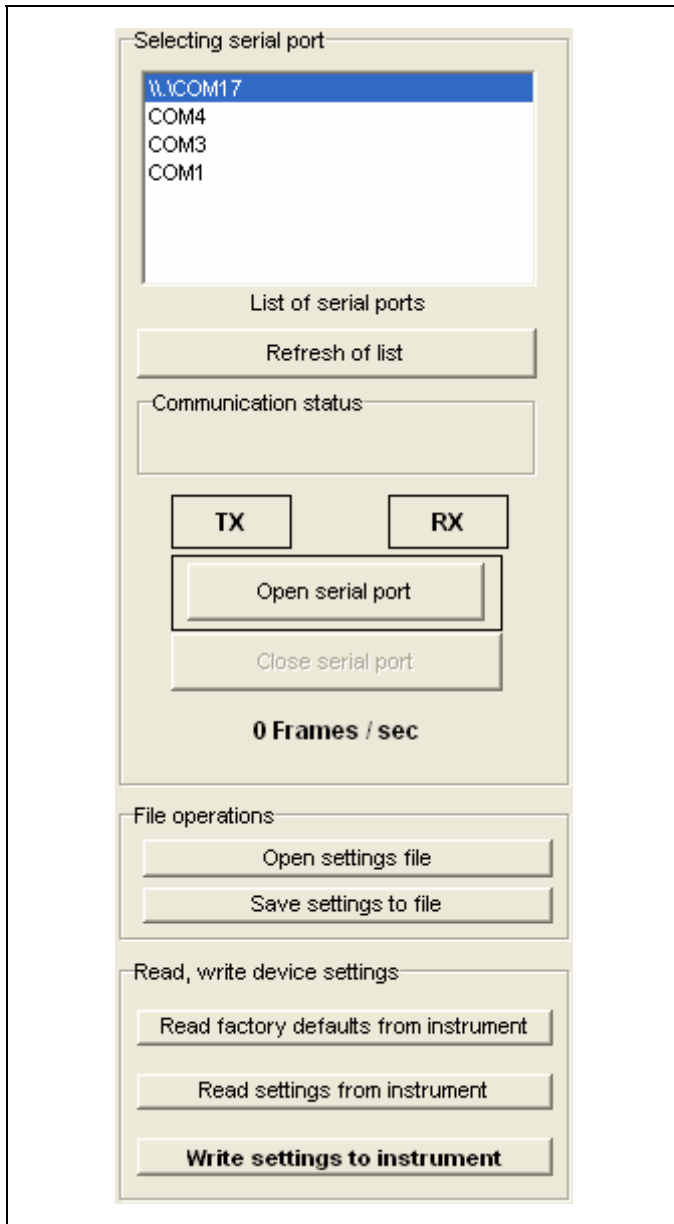
Software

Easy to use DT1100 V.exe configuration software (free of charge). Simple copy it into an optional folder, click on the "Start" button and you can configure the instrument.

Setting-up

1. Connect the instrument with the USB cable to the PC USB port and put it under supply voltage.
2. Start the DT1100 V.exe configuration program.
3. Select the appropriate serial port.
4. Click on the „Open Serial Port” button.
5. st. (red) indicator gives light, signing that the instrument is configuration mode.
6. power (green) indicator signs with a short flash the successful communication between the program and the instrument.
7. Use the configuration software as is written on the following pages.
8. Write the password into the "Password" field.
9. At the end of the settings click on the "Download settings" button, the new settings are written into the instrument.
10. Click on the „Close Serial Port" button for finishing the configuration procedure and disconnect the USB cable.





**Function**



**7.6. Output limits setting**

The range of transmitted value can be limited. This means that you can specify a range that the output can never be exceeded (except in error case).

**Warning!** This function may cause fault.

For example:

It is used temperature measuring.

Input range is 4-20 mA.

Temperature transmitter range:

4 mA = -20 °C, 20 mA = 200 °C

“High limit” is 18 mA.

“Enable error signal” is unchecked.

In this case the highest transmitted current is 18 mA which corresponds to 172.5 °C, even if the transmitter is measuring 200 °C. This can cause overheating.

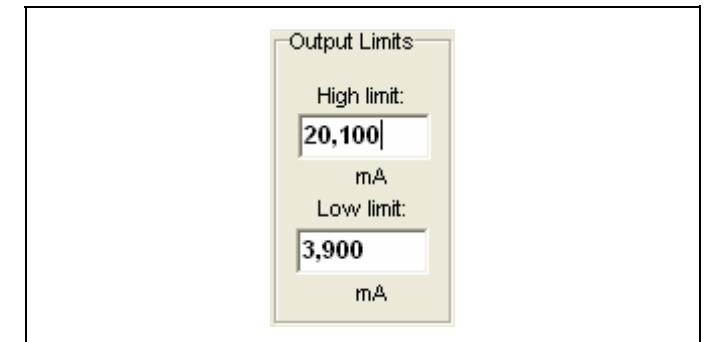
[Factory default: High limit 20.1 mA; Low limit 3.9 mA]

**Sequence of operations**

1. Type-in the value of the start point of the range or scale into the “Low limit” field. The output of instrument is not going to transmit lower value than “Low limit”, except in case error (if the “Error signal” value lower than “Low limit”).
2. Type-in the value of the end point of the range or scale into the “High limit” field. The output of instrument is not going to transmit higher value than “High limit”, except in case error (if the “Error signal” value higher than “High limit”).
3. At the end of the settings click on the

“Download settings” button, the new settings are written into the instrument.

The figure shows the factory default setting.



**7.5. Analogue output range setting**

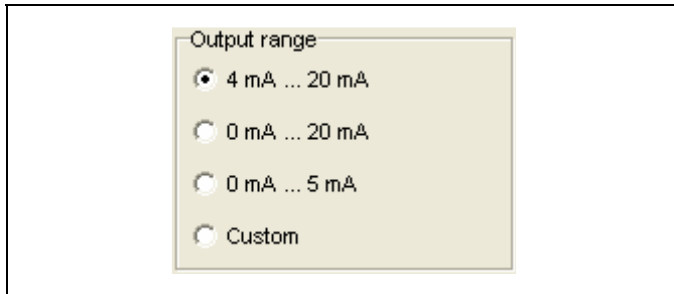
**Function**

Standard output ranges:  
4-20 mA, 0-20 mA, 0-5 mA / 0-10 V, 2-10 V, 0-5 V

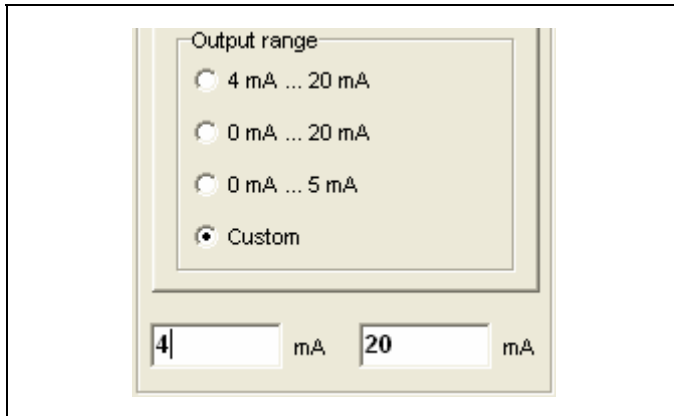
User configurable ranges:  
0-20 mA / 0-10 V  
The range of the initial value and end value can be specified arbitrary within this range.  
[Factory default: 4-20 mA]

**Sequence of operations**

1. Select the appropriate output range by clicking the button.
2. At the end of the settings click on the "Download settings" button, the new settings are written into the instrument.  
The figure shows the factory default setting.



If the "Output range" is "Custom" position, then the range of the initial value (left field) and end value (right field) can be specified arbitrary.



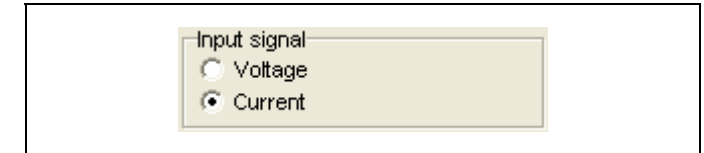
**7.2. Analogue input type setting**

**Function**

The instrument has two different inputs. The selectable input signal can be current or voltage.  
[Factory default: Current input]

**Sequence of operations**

1. Select the appropriate input mode by clicking the button.
2. At the end of the settings click on the "Download settings" button, the new settings are written into the instrument.  
The figure shows the factory default setting.



**7.3. Analogue input range setting**

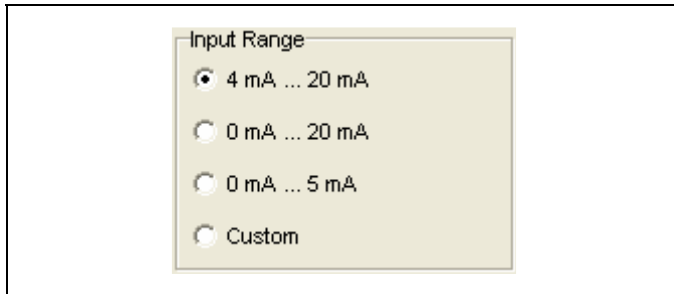
**Function**

Standard input ranges:  
 4-20 mA, 0-20 mA, 0-5 mA /  
 0-10 V, 2-10 V, ±10 V, 0-5 V, 0-60 mV, ±60 mV

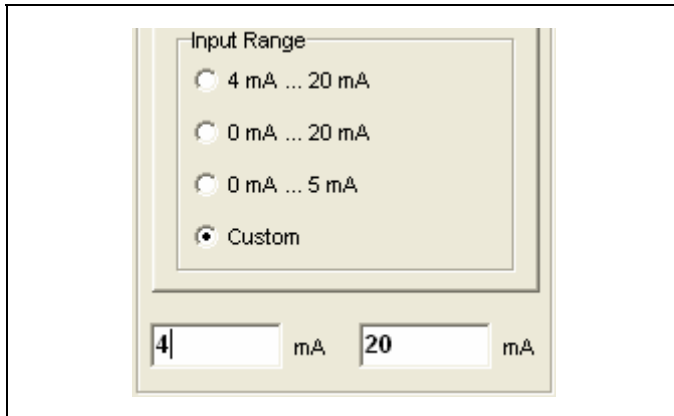
User configurable ranges:  
 ±25 mA / ±12 V  
 The range of the initial value and end value can be specified arbitrary within this range.  
 [Factory default: 4-20 mA]

**Sequence of operations**

1. Select the appropriate input range by clicking the button.
2. At the end of the settings click on the "Download settings" button, the new settings are written into the instrument.  
 The figure shows the factory default setting.



If the "Input range" is "Custom" position, then the range of the initial value (left field) and end value (right field) can be specified arbitrary.



**7.4. Analogue output type setting**

**Function**

The instrument has one output. The selectable output signal can be current or voltage.  
 [Factory default: Current output]

**Sequence of operations**

1. Select the appropriate output mode by clicking the button.
2. At the end of the settings click on the "Download settings" button, the new settings are written into the instrument.  
 The figure shows the factory default setting.

