

UDM35 Modular controller

How to program it ...



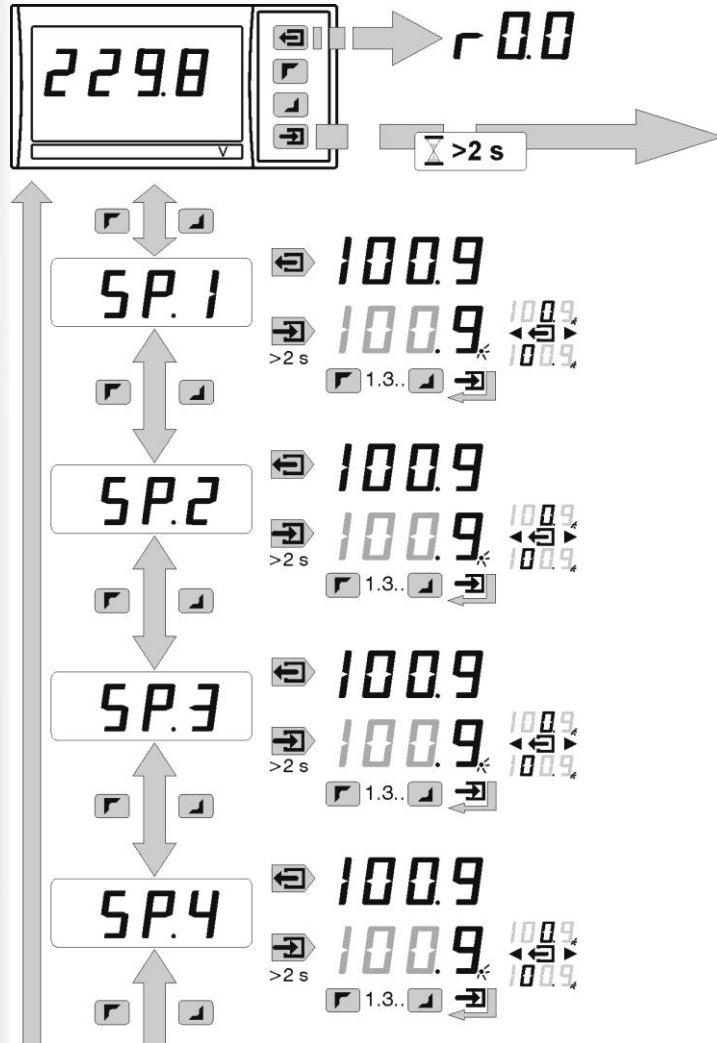
When the **modularity** is not the only important benefit of the **instrument**



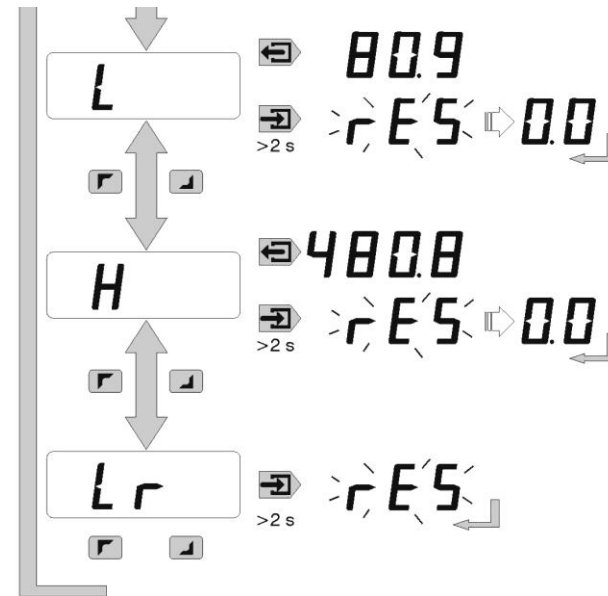
Digital Panel Meters



UDM35 Modular controller



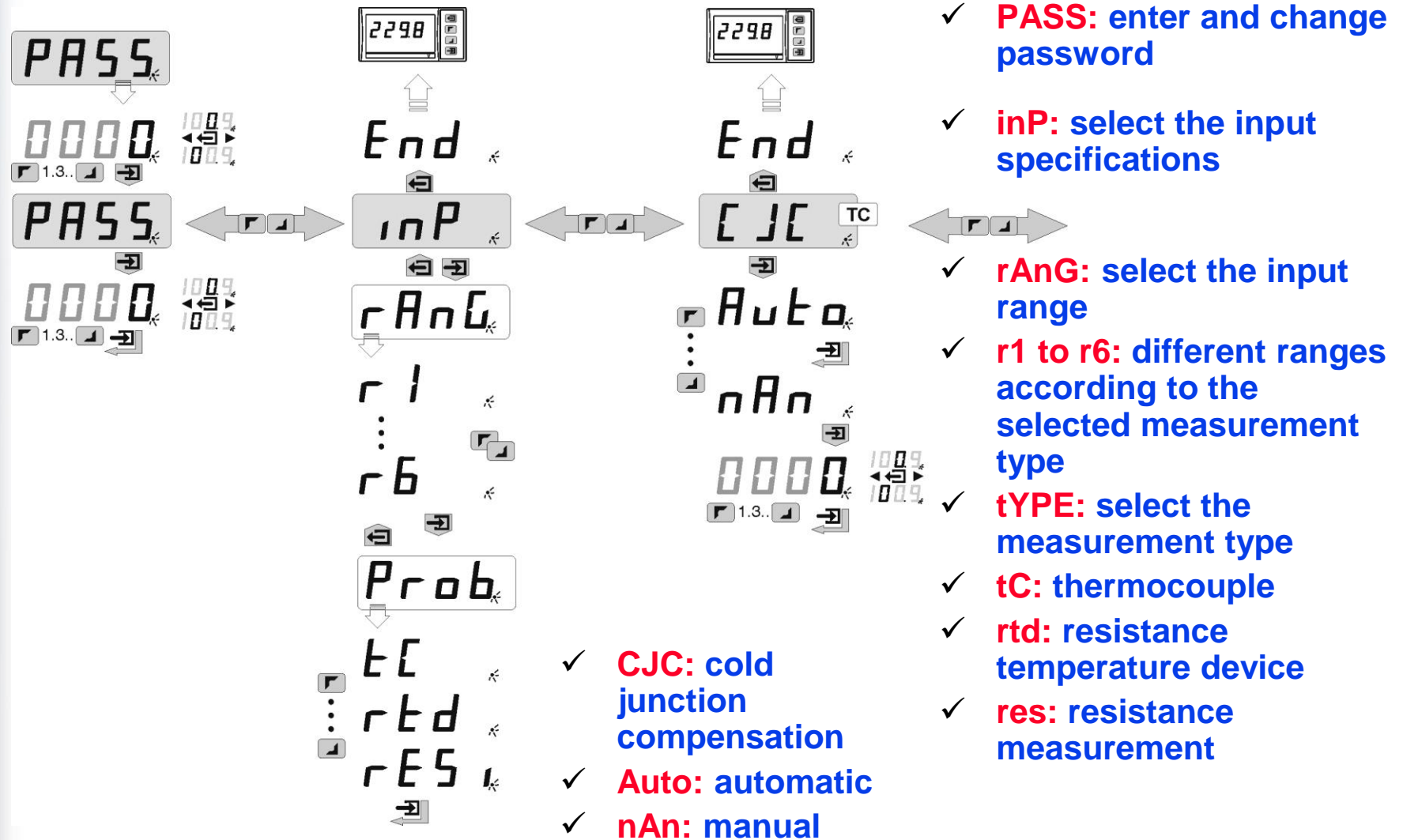
- ✓ **R0.0:** firmware revision
- ✓ **Enter:** enter the programming mode
- ✓ **SP.n:** program the set-points
- ✓ **L:** reset the valley value
- ✓ **H:** reset the peak value
- ✓ **Lr:** reset the latch alarm



Digital Panel Meters



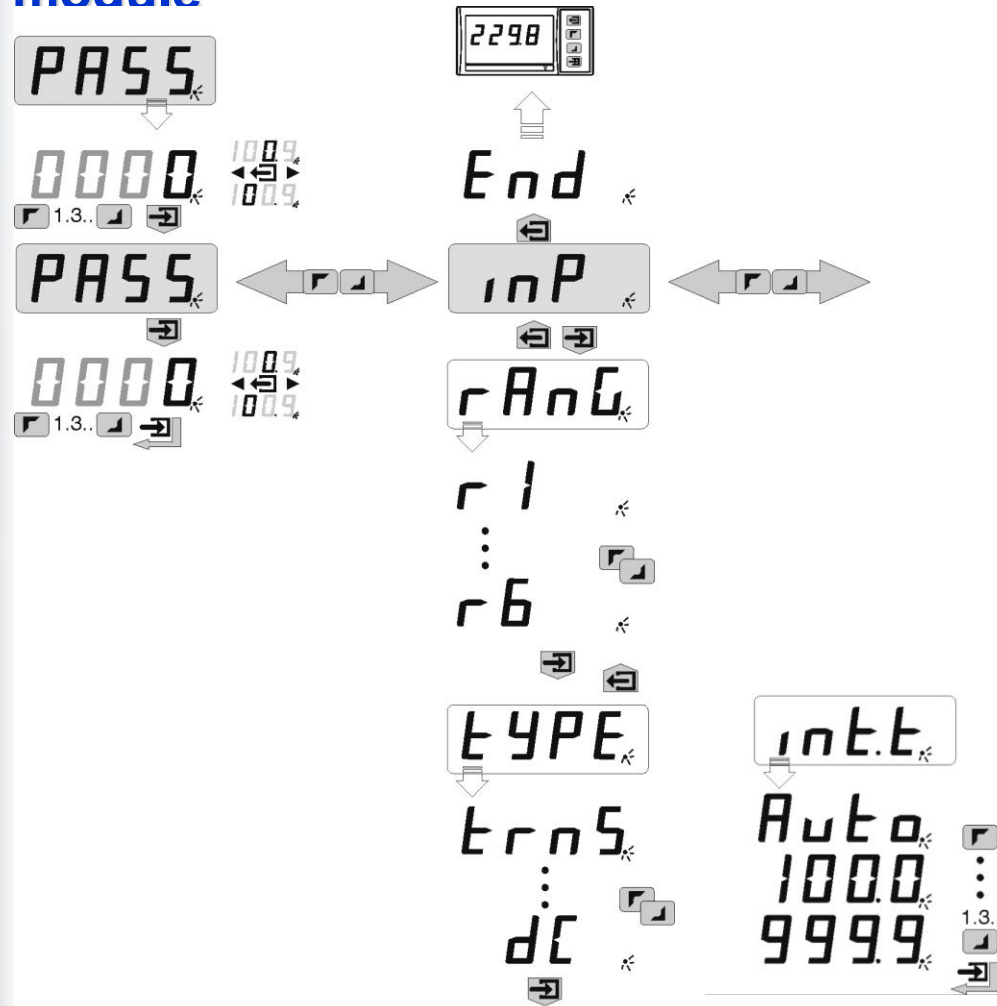
UDM35 Modular controller with TRX input module



Digital Panel Meters



UDM35 Modular controller with LSX or HSX input module

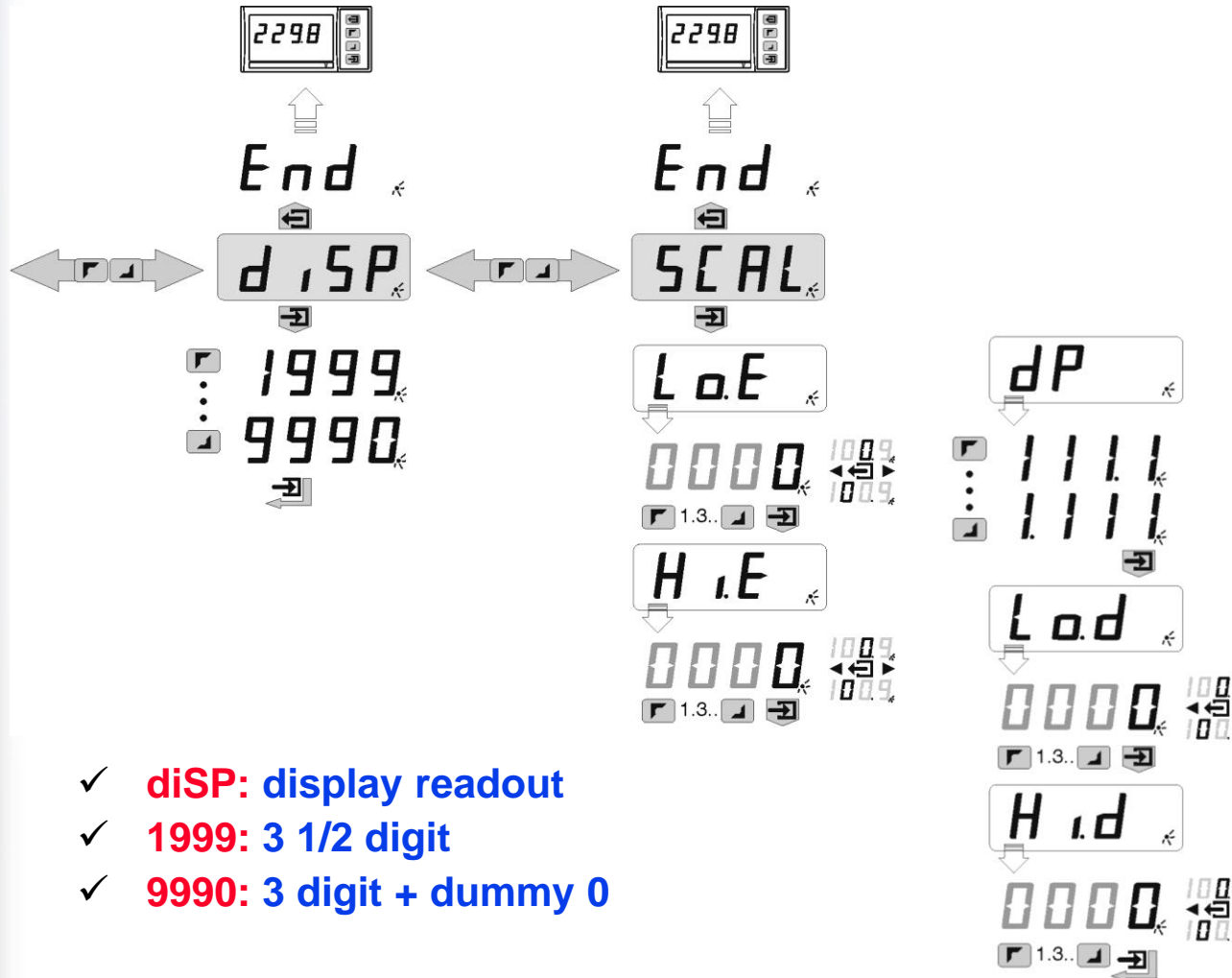


- ✓ **PASS**: enter and change the password
- ✓ **inP**: select the input specifications
- ✓ **rAnG**: select the input range
- ✓ **r1 to r6**: different ranges according to the installed input module
- ✓ **tYPE**: select the measurement type
- ✓ **trnS**: TRMS measurement
- ✓ **dC**: DC measurement
- ✓ **int.t**: input integration time
- ✓ **Auto**: automatic
- ✓ **100.0 to 999.9**: manual

Digital Panel Meters



UDM35 Modular controller



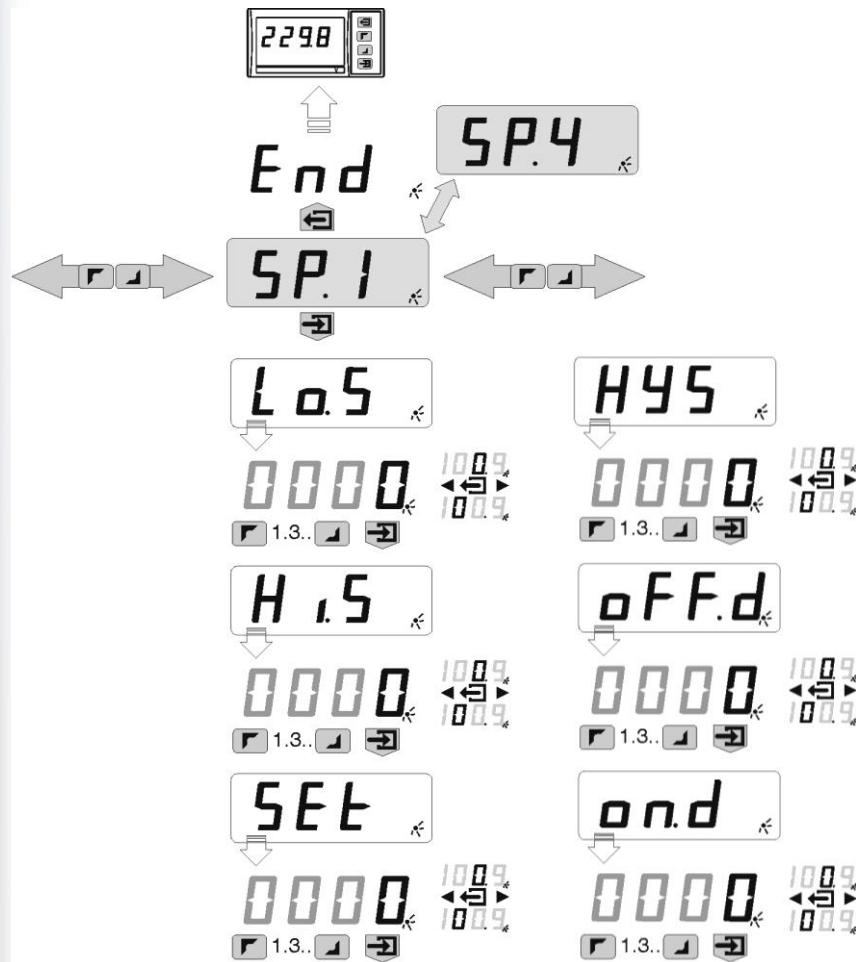
- ✓ **diSP:** display readout
- ✓ **1999:** 3 1/2 digit
- ✓ **9990:** 3 digit + dummy 0

- ✓ **SCAL:** scale the displayed value
- ✓ **Lo.E:** select the minimum input value
- ✓ **Hi.E:** select the maximum input value
- ✓ **dP:** select the decimal point position
- ✓ **Lo.d:** select the minimum displayed value, correspondent to Lo.E
- ✓ **Hi.d:** select the maximum displayed value, correspondent to Hi.E

Digital Panel Meters



UDM35 Modular controller



- ✓ **SP.[n]:** nth alarm menu
- ✓ **Lo.S:** select the lower limit for the nth set-point
- ✓ **Hi.S:** select the higher limit for the nth set-point

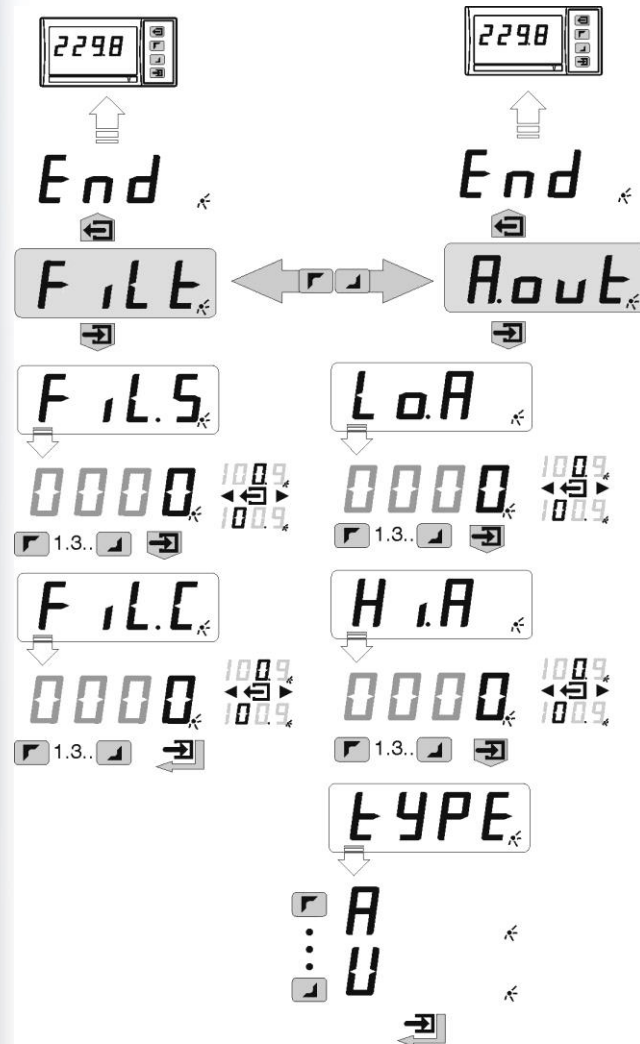
- ✓ **SEt:** nth set-point value
- ✓ **HYS:** select the hysteresis
- ✓ **oFF.d:** select the delay on deactivation
- ✓ **on.d:** select the delay on activation
- ✓ **rLY:** select the normal status of the digital output
- ✓ **oFF:** activation only in over-range conditions
- ✓ **do:** down alarm
- ✓ **uP:** up alarm
- ✓ **d.do:** down alarm (not activated during the meter power-on)
- ✓ **uP.L:** up alarm with latch
- ✓ **do.L:** down alarm with latch



Digital Panel Meters



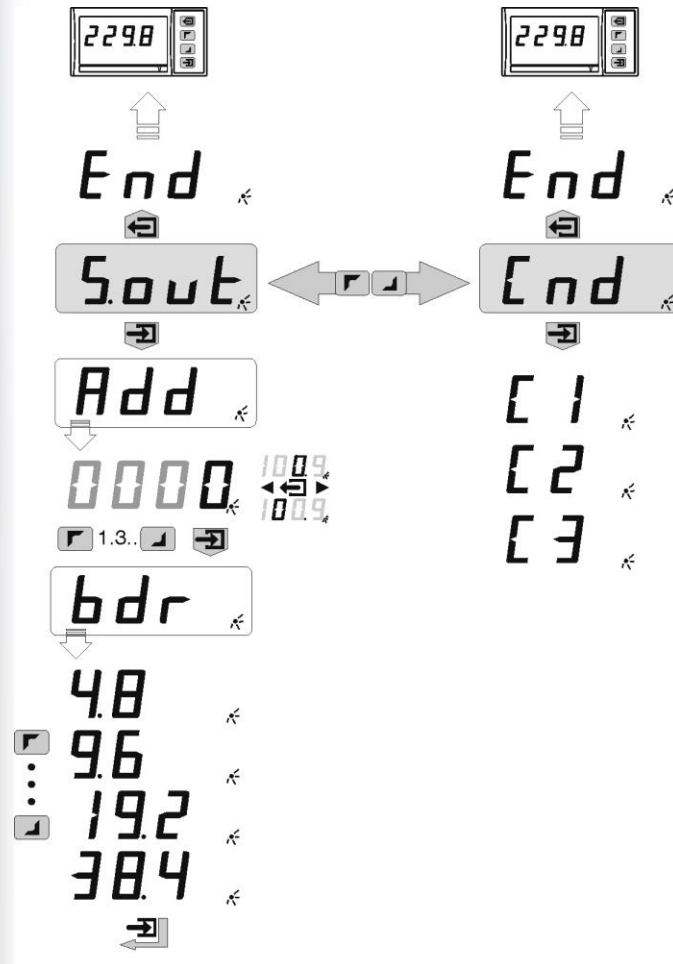
UDM35 Modular controller



- ✓ **FiLt:** enter the digital filter parameters
- ✓ **FiL.S:** select the filtering range
- ✓ **FiL.C:** select the filtering coefficient (1 to 32)
- ✓ **A.out:** enter the analogue output parameters
- ✓ **Lo.A:** enter the percentage of the analogue output full range correspondent to the Lo.D displayed value
- ✓ **Hi.A:** enter the percentage of the analogue output full range correspondent to the Hi.D displayed value
- ✓ **tYPE:** enter the analogue output type
- ✓ **tYPE: 0 to 20 mA**
- ✓ **tYPE: 0 to 10 VDC**



UDM35 Modular controller



- ✓ **S.out:** enter the serial output parameters
- ✓ **Add:** enter the address of the meter (0 to 255)
- ✓ **bdr:** enter the baud rate value
- ✓ **4.8:** 4800 baud
- ✓ **9.6:** 9600 baud
- ✓ **19.2:** 19200 baud
- ✓ **38.4:** 38400 baud
- ✓ **Cnd:** select the function associated to the CND digital input
- ✓ **C1:** hold function
- ✓ **C2:** keyboard disabling
- ✓ **C3:** latch alarm reset

How to program it ...



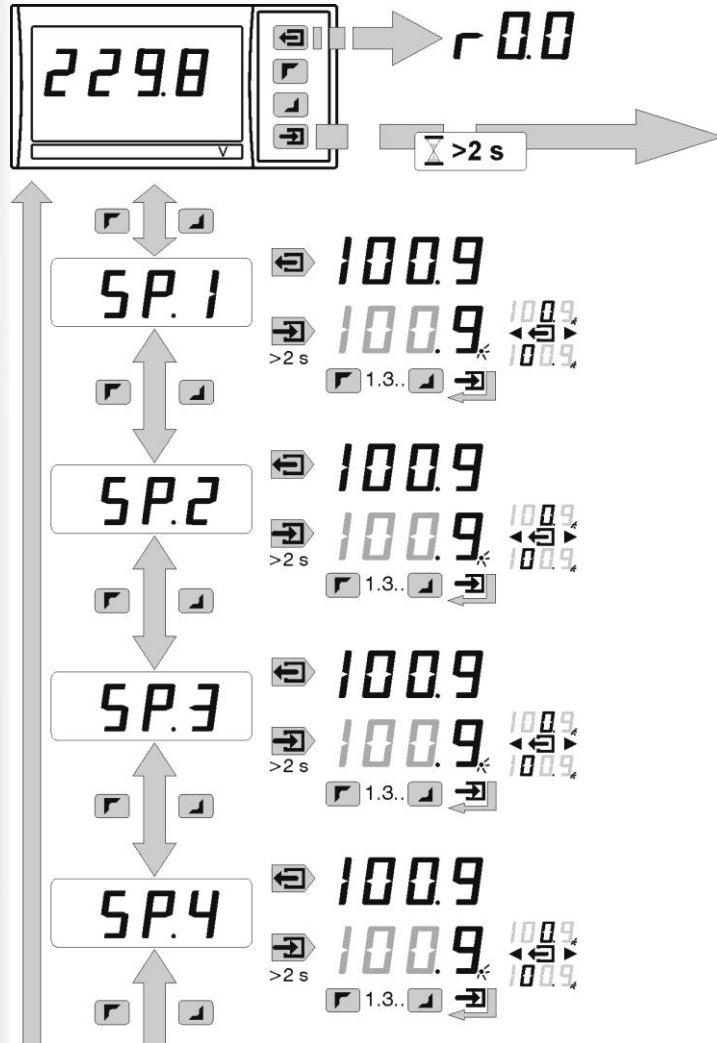
The essence of communicating by means of **colours** the variable status and much more...



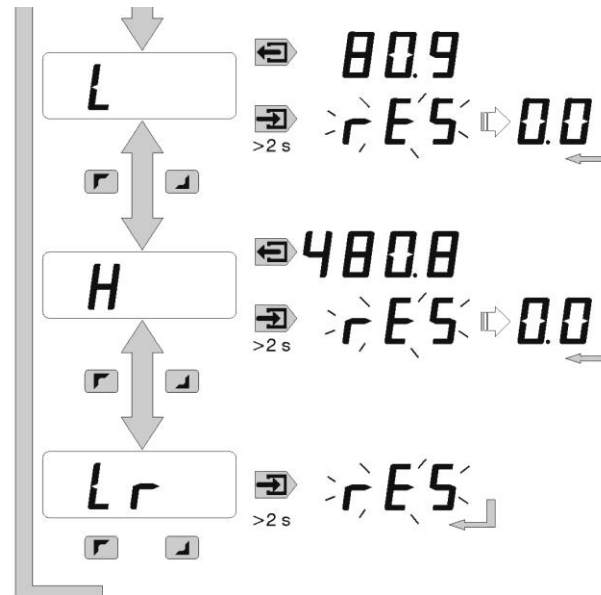
Digital Panel Meters



UDM40 Modular controller



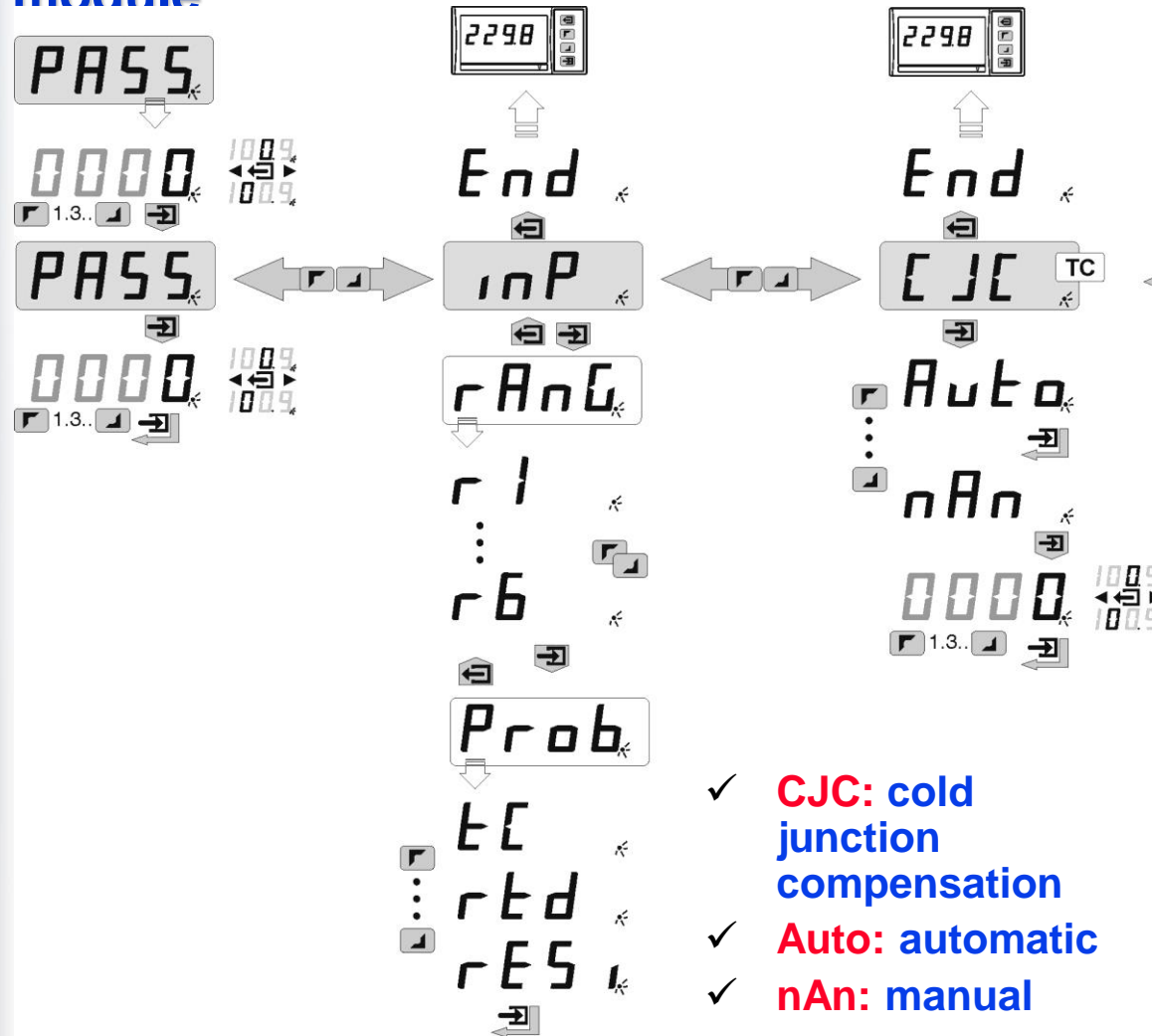
- ✓ **R0.0:** firmware revision
- ✓ **Enter:** enter the programming mode
- ✓ **SP.n:** program the setpoints
- ✓ **L:** reset the valley value
- ✓ **H:** reset the peak value
- ✓ **Lr:** reset the latch alarm



Digital Panel Meters



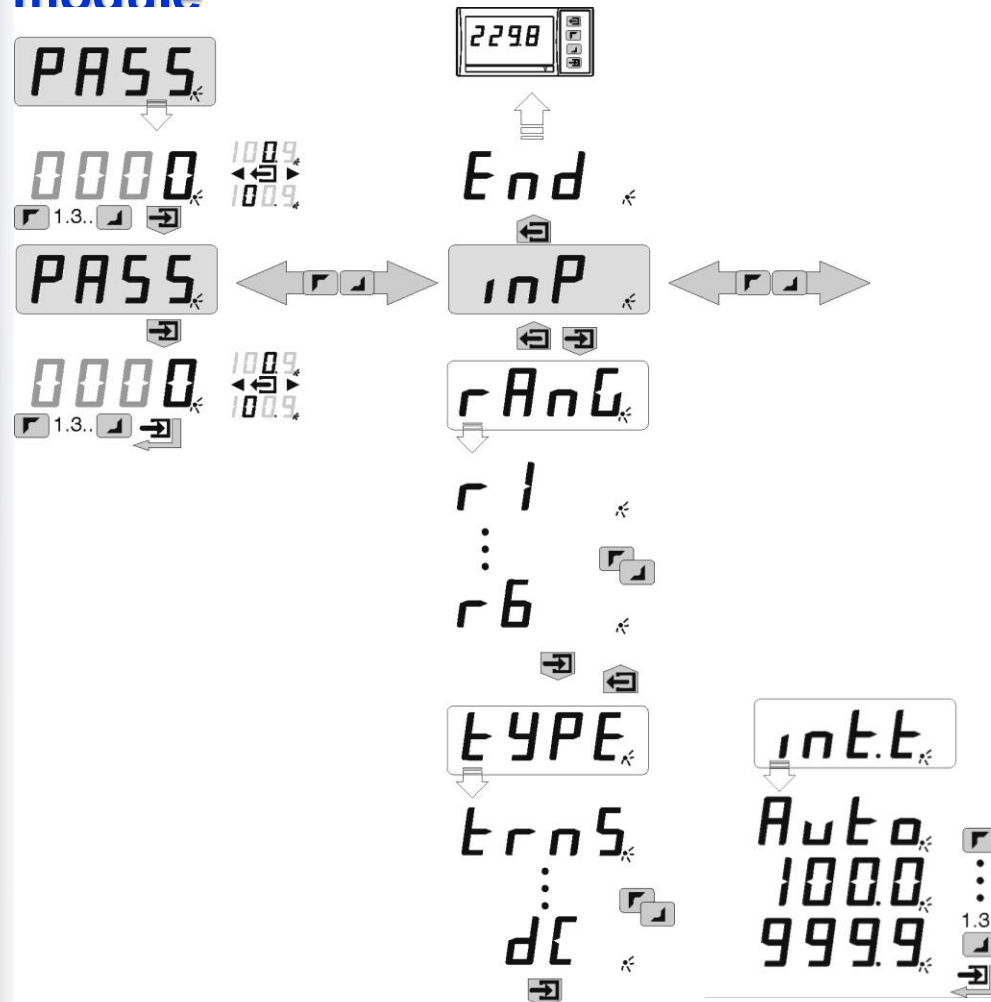
UDM40 Modular controller with TRX input module



- ✓ **PASS:** enter and change password
- ✓ **inP:** select the input specifications
- ✓ **rAnG:** select the input range
- ✓ **r1 to r6:** different ranges according to the selected measurement type
- ✓ **tYPE:** select the measurement type
- ✓ **tC:** thermocouple
- ✓ **rtd:** resistance temperature device
- ✓ **res:** resistance measurement
- ✓ **CJC:** cold junction compensation
- ✓ **Auto:** automatic
- ✓ **nAn:** manual

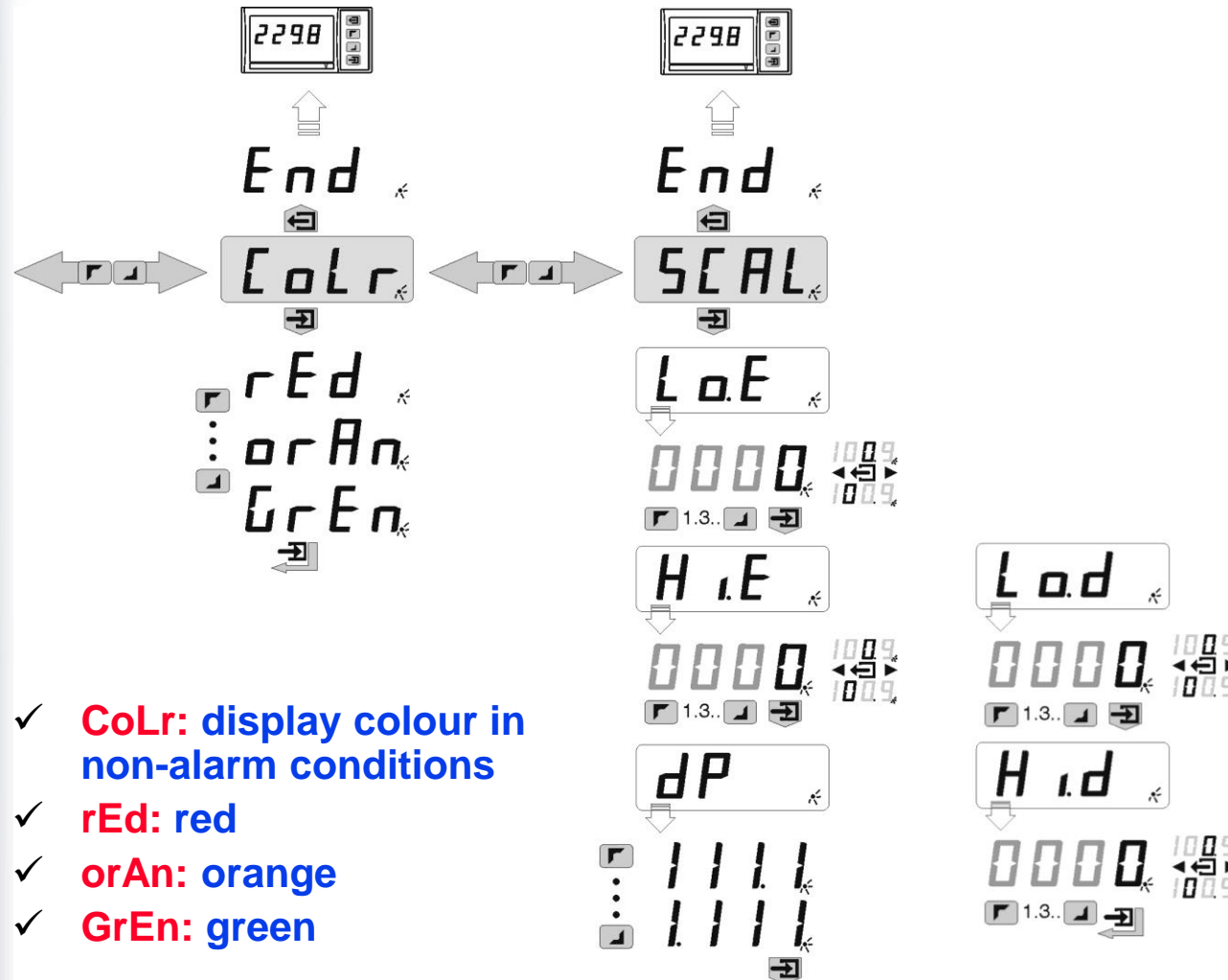


UDM40 Modular controller with LSx or HSX input module



- ✓ **PASS:** enter and change the password
- ✓ **inP:** select the input specifications
- ✓ **rAnG:** select the input range
- ✓ **r1 to r6:** different ranges according to the installed input module
- ✓ **tYPE:** select the measurement type
- ✓ **trnS:** TRMS measurement
- ✓ **dc:** DC measurement
- ✓ **int.t:** input integration time
- ✓ **Auto:** automatic
- ✓ **100.0 to 999.9:** manual

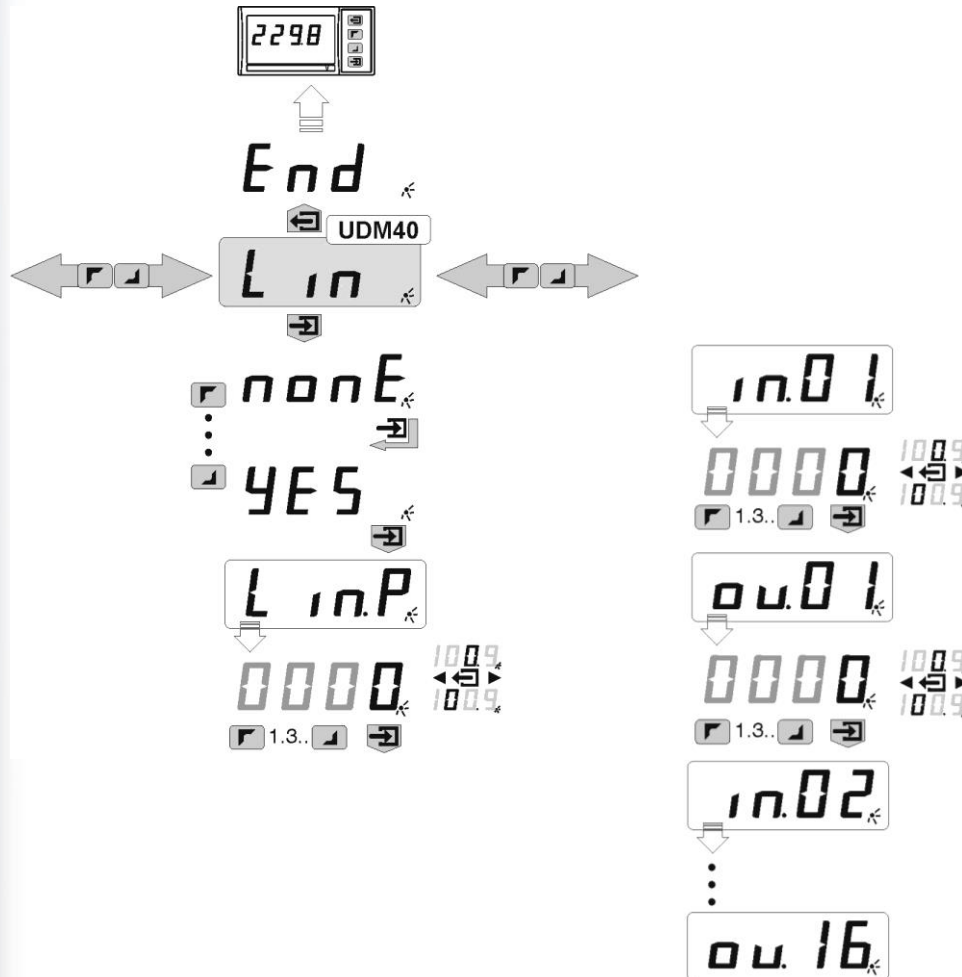
UDM40 Modular controller



- ✓ **CoLr:** display colour in non-alarm conditions
- ✓ **rEd:** red
- ✓ **orAn:** orange
- ✓ **GrEn:** green

- ✓ **SCAL:** scale the displayed value
- ✓ **Lo.E:** select the minimum input value
- ✓ **Hi.E:** select the maximum input value
- ✓ **dP:** select the decimal point position
- ✓ **Lo.d:** select the minimum displayed value, correspondent to Lo.E
- ✓ **Hi.d:** select the maximum displayed value, correspondent to Hi.E

UDM40 Modular controller



- ✓ **Lin:** enter the linearization parameters
- ✓ **nonE:** linearisation disabled
- ✓ **YES:** linearisation enabled
- ✓ **Lin.P:** enter the desired number of linearization points
- ✓ **in.01:** first input point
- ✓ **ou.01:** first output point
- ...
- ✓ **in.[P]:** last input point
- ✓ **ou.[P]:** last output point

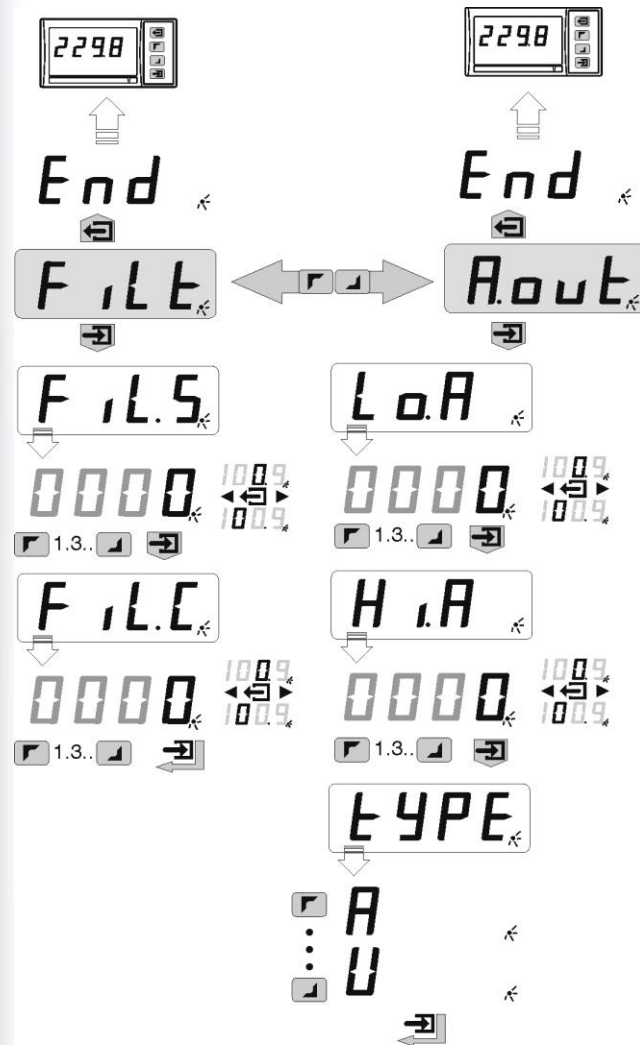


UDM40 Modular controller



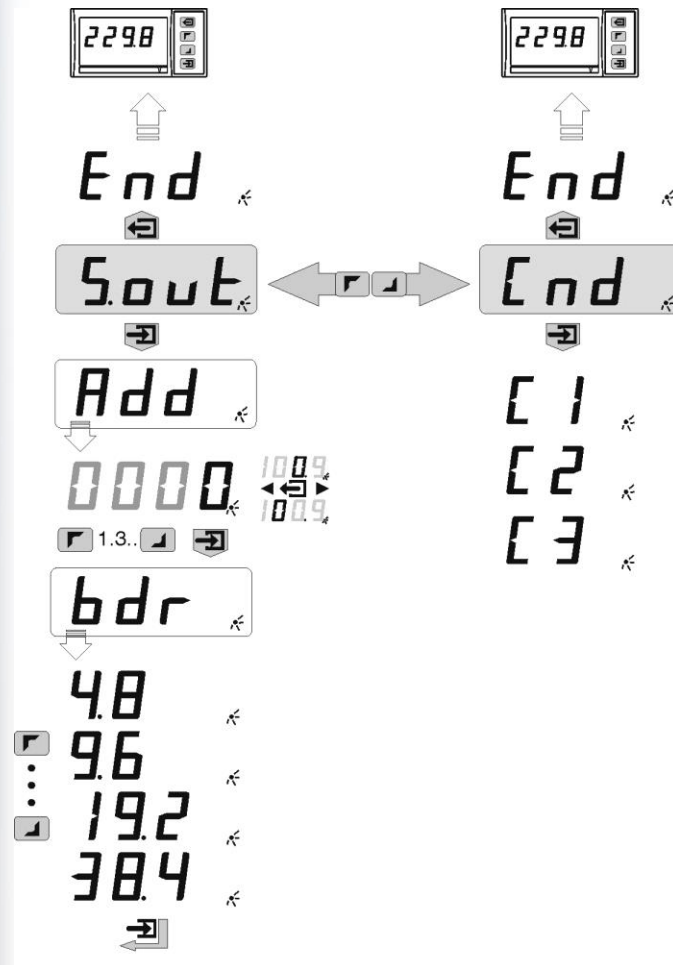
- ✓ **SP.[n]:** nth alarm menu
- ✓ **Lo.S:** select the lower limit for the nth set-point
- ✓ **Hi.S:** select the higher limit for the nth set-point
- ✓ **SEt:** nth set-point value
- ✓ **HYS:** select the hysteresis
- ✓ **oFF.d:** select the delay on deactivation
- ✓ **o.n.d:** select the delay on activation
- ✓ **rLY:** select the normal status of the digital output
- ✓ **oFF:** activation only in over-range conditions (value higher than Hi.d)
- ✓ **do:** down alarm
- ✓ **uP:** up alarm
- ✓ **d.do:** down alarm (not activated during the meter power-on)
- ✓ **uP.L:** up alarm with latch
- ✓ **coLr:** select the colour associated to the nth alarm
- ✓ **rEd, orAn, GrEn:** alarm colour
- ✓ **nonE:** no colour change in alarm conditions

UDM40 Modular controller



- ✓ **FiLt:** enter the digital filter parameters
- ✓ **FiL.S:** select the filtering range
- ✓ **FiL.C:** select the filtering coefficient (1 to 32)
- ✓ **A.out:** enter the analogue output parameters
- ✓ **Lo.A:** enter the percentage of the analogue output full range correspondent to the Lo.D displayed value
- ✓ **Hi.A:** enter the percentage of the analogue output full range correspondent to the Hi.D displayed value
- ✓ **tYPE:** enter the analogue output type
- ✓ **tYPE:** 0 to 20 mA
- ✓ **tYPE:** 0 to 10 VDC

UDM40 Modular controller



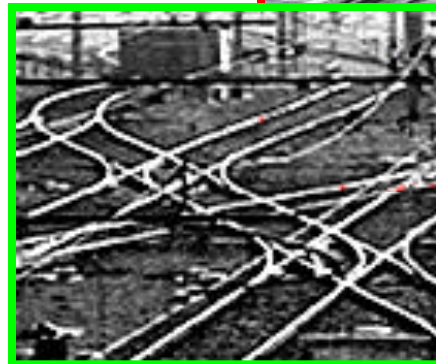
- ✓ **S.out:** enter the serial output parameters
- ✓ **Add:** enter the address of the meter (0 to 255)
- ✓ **bdr:** enter the baud rate value
- ✓ **4.8:** 4800 baud
- ✓ **9.6:** 9600 baud
- ✓ **19.2:** 19200 baud
- ✓ **38.4:** 38400 baud
- ✓ **Cnd:** select the function associated to the CND digital input
- ✓ **C1:** hold function
- ✓ **C2:** keyboard disabling
- ✓ **C3:** latch alarm reset



USC-DIN Universal signal conditioner

How to program it ...


Switch from the usual transducers track ...



... get top flexibility and top performances by USC




USC-DIN Universal signal conditioner



UscSoft
Software to program the working parameters of USC instruments

Software for the remote programming of the working parameters of USC instruments by RS232 or RS485 or auxiliary reset interface.



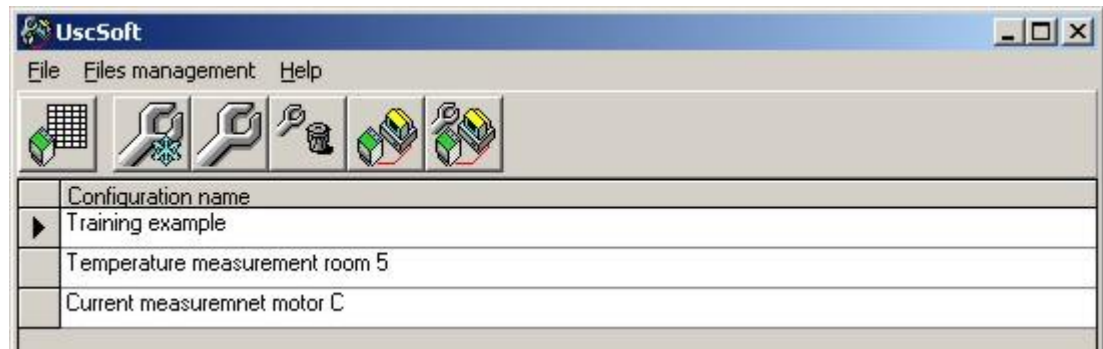
CARLO GAVAZZI

32-bit Windows systems
Version 1.102.1

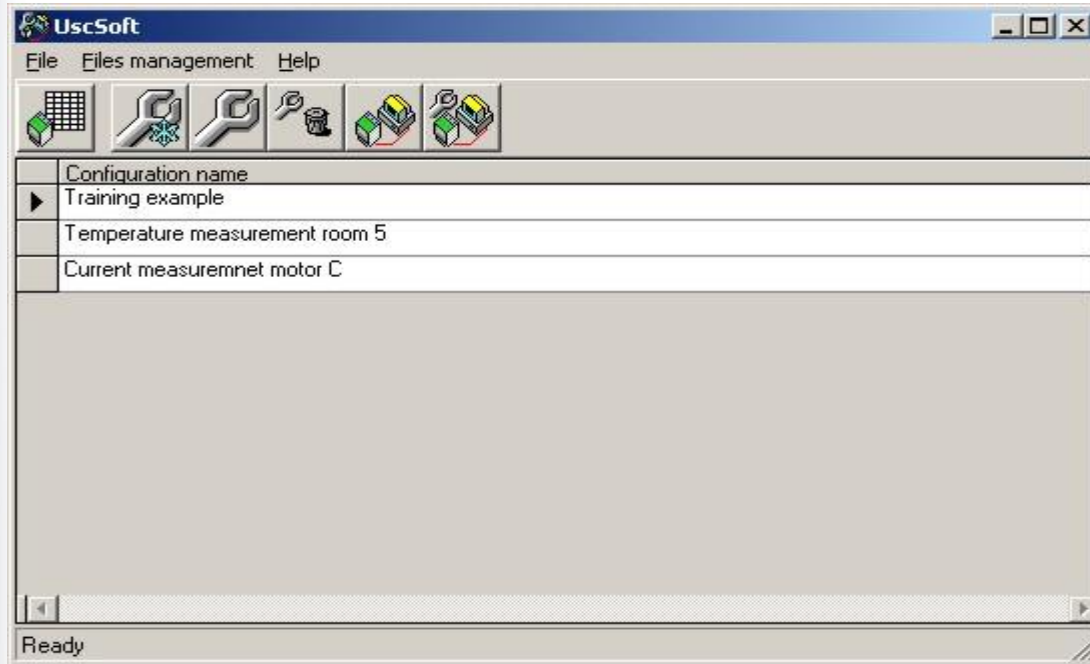
Made by CGC S.p.A.
Copyright (c) 2004 CGC S.p.A.

WARNING: The present application is safeguarded by copyright laws, by the laws on author's rights and international treaties. The non-authorized re-production or the non-authorized distribution of this application, or part of it, will be civilly and penally prosecuted.

- ✓ **UscSoft:** programming software for USC-DIN configuration and real time variable reading



USC-DIN Universal signal conditioner

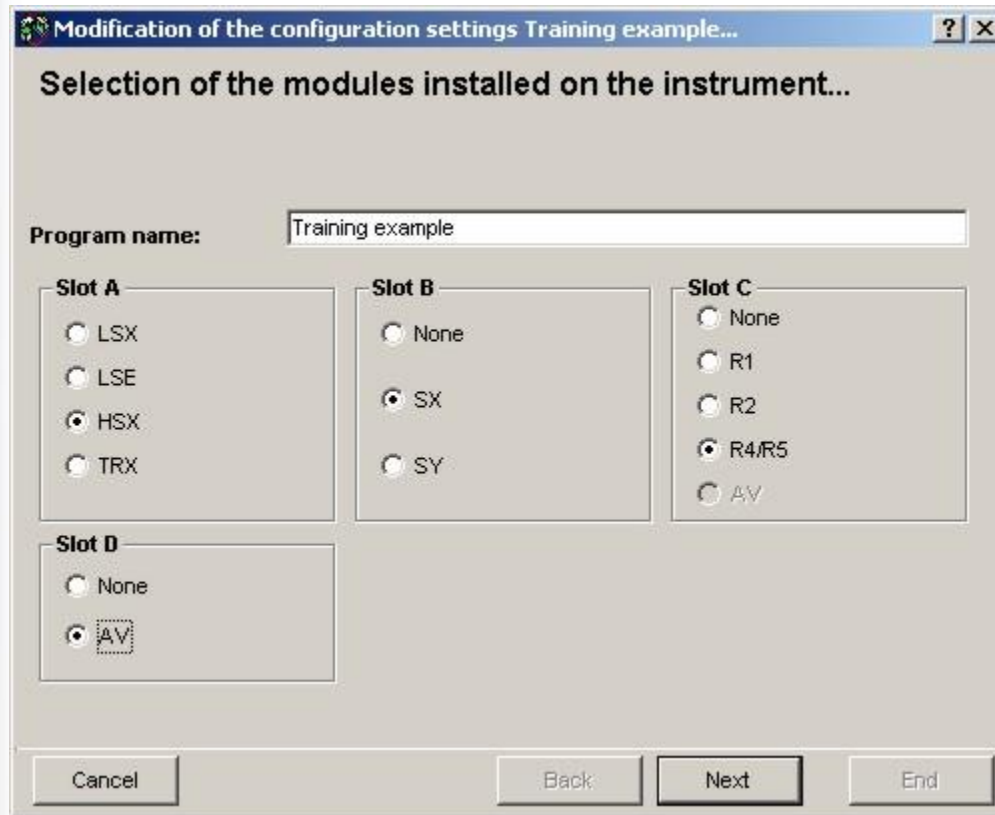


- ✓ **Configuration:**
- **list of the available USC-DIN configuration files**

- **View USC-DIN real time measurement**
 - **Edit and store a new configuration file**
 - **Modify an existing configuration file**
 - **Delete a configuration file**
 - **Transmit a configuration file to USC-DIN**
 - **Download and modify the present configuration**

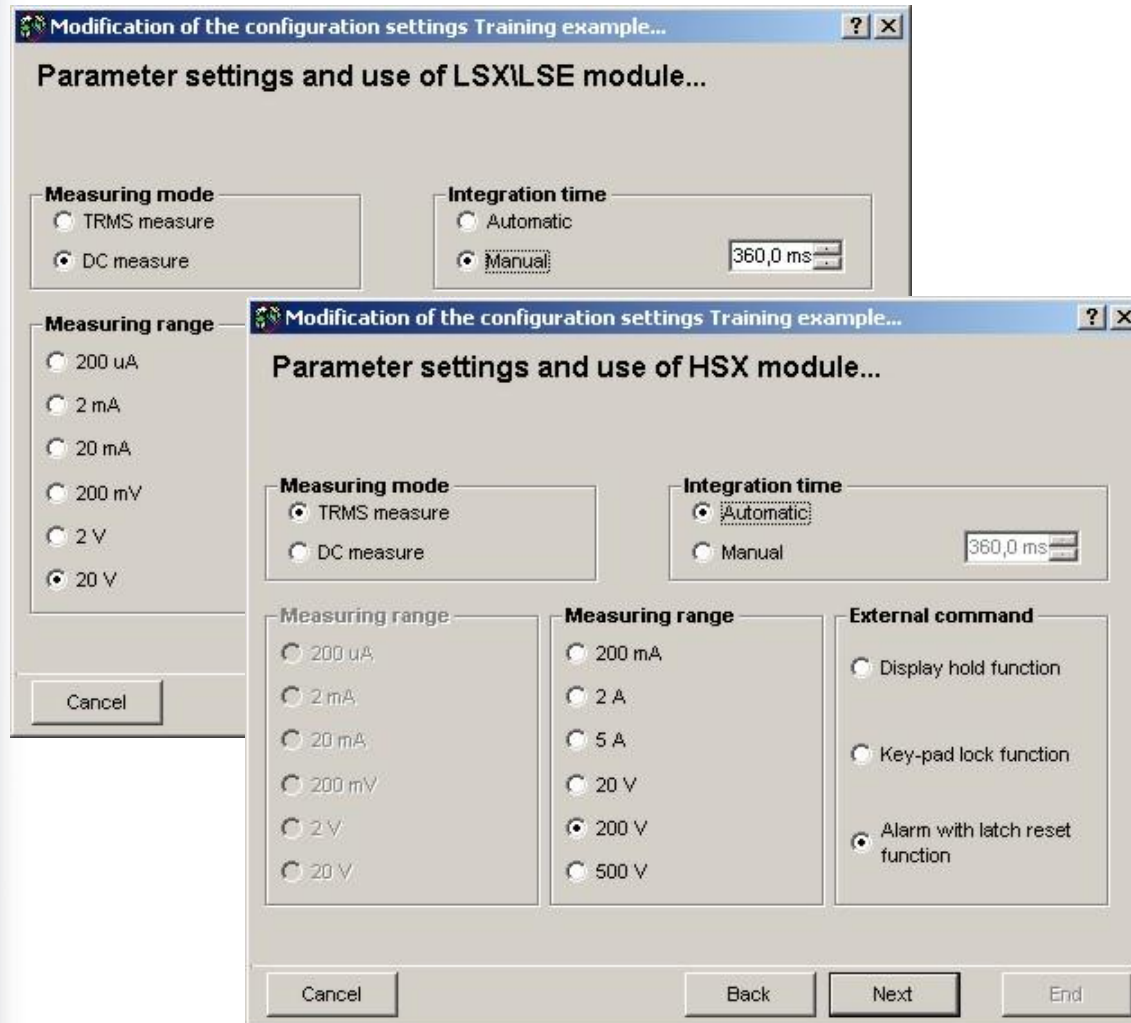


USC-DIN Universal signal conditioner



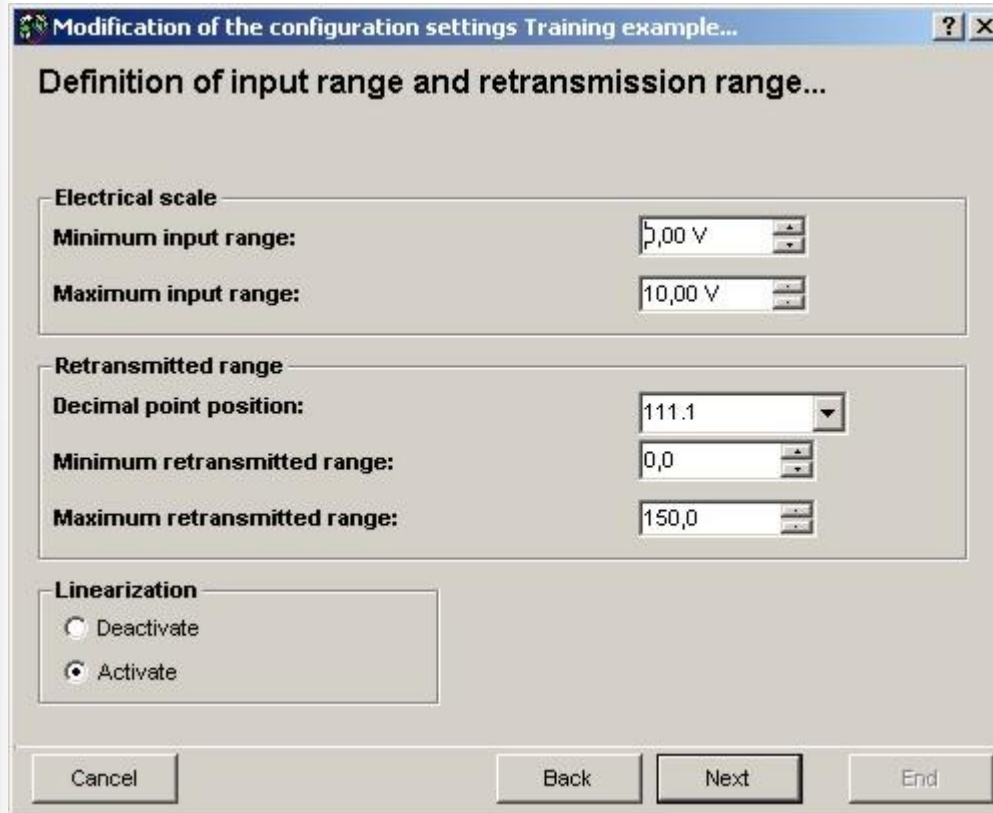
- ✓ **Modules configuration:**
 - **Name the configuration**
 - **Select the modules inserted in each slot**

USC-DIN Universal signal conditioner



- ✓ **Input module configuration:**
- Select a measurement mode (AC or DC)
 - Select the input range
 - Select the input integration time, if needed
 - Select the function of the auxiliary digital input

USC-DIN Universal signal conditioner



Modification of the configuration settings Training example...

Definition of input range and retransmission range...

Electrical scale

Minimum input range: 0,00 V

Maximum input range: 10,00 V

Retransmitted range

Decimal point position: 111.1

Minimum retransmitted range: 0,0

Maximum retransmitted range: 150,0

Linearization

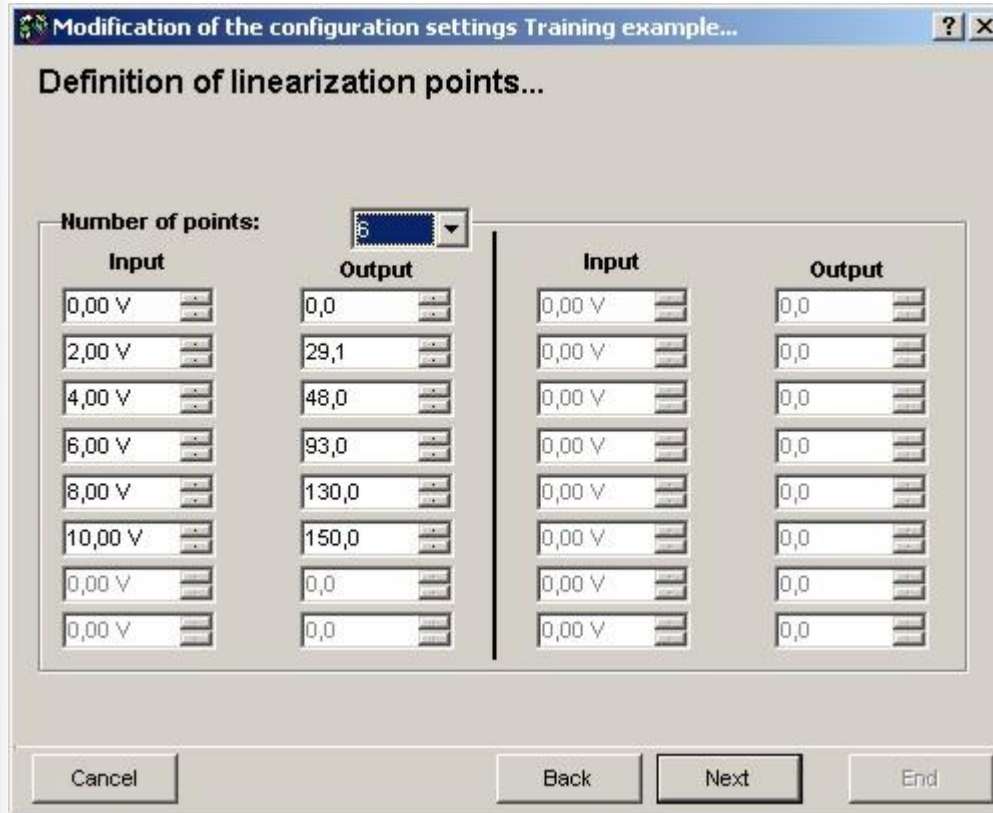
Deactivate

Activate

Cancel Back Next End

- ✓ **Ranges definition:**
- **Select the expected range of the input signal**
 - **Select the decimal point position of the retransmitted value**
 - **Select the range of the retransmitted value (correspondent to the input range)**
 - **Enable the input linearization, if needed**

USC-DIN Universal signal conditioner



Modification of the configuration settings Training example...

Definition of linearization points...

Number of points: 5

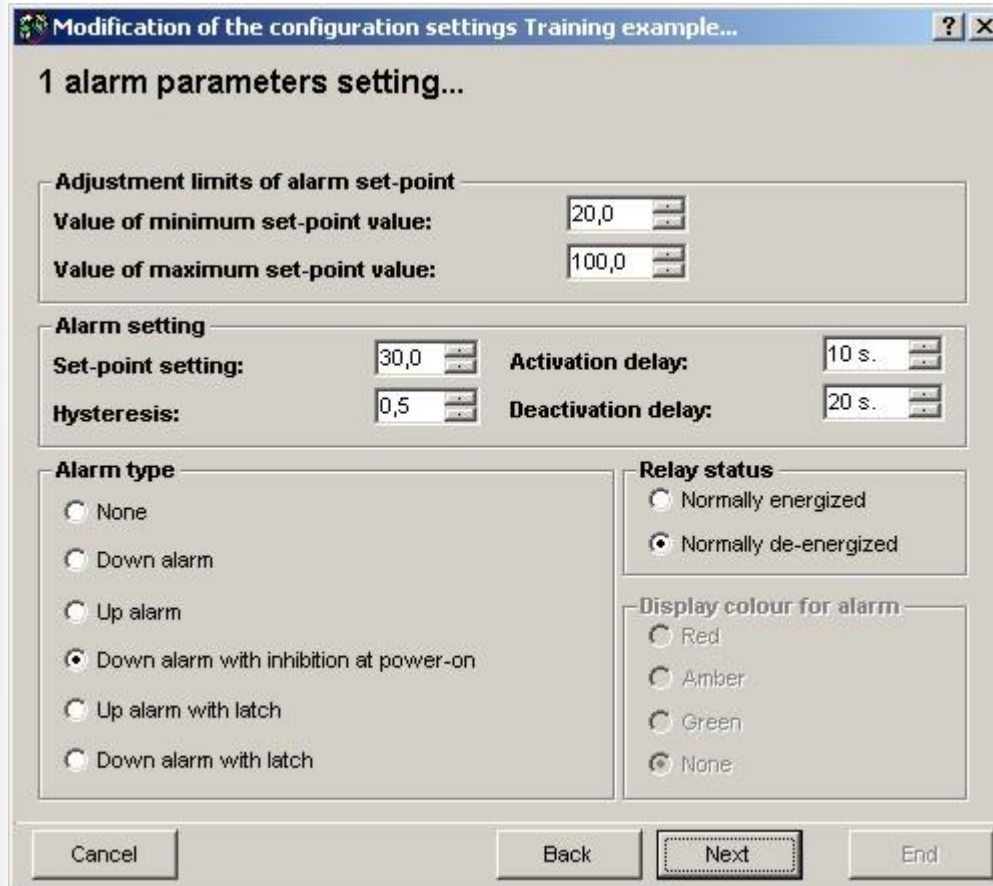
Input	Output	Input	Output
0,00 V	0,0	0,00 V	0,0
2,00 V	29,1	0,00 V	0,0
4,00 V	48,0	0,00 V	0,0
6,00 V	93,0	0,00 V	0,0
8,00 V	130,0	0,00 V	0,0
10,00 V	150,0	0,00 V	0,0
0,00 V	0,0	0,00 V	0,0
0,00 V	0,0	0,00 V	0,0

Cancel Back Next End

- ✓ **Linearization*:**
 - Select the number of linearization points (up to 16)
 - For each linearization point, select the output value correspondent to the input value

(*) only if enabled in the “ranges definition” page

USC-DIN Universal signal conditioner



Modification of the configuration settings Training example...

1 alarm parameters setting...

Adjustment limits of alarm set-point

Value of minimum set-point value: 20,0

Value of maximum set-point value: 100,0

Alarm setting

Set-point setting: 30,0 Activation delay: 10 s.

Hysteresis: 0,5 Deactivation delay: 20 s.

Alarm type

None

Down alarm

Up alarm

Down alarm with inhibition at power-on

Up alarm with latch

Down alarm with latch

Relay status

Normally energized

Normally de-energized

Display colour for alarm

Red

Amber

Green

None

Cancel Back Next End

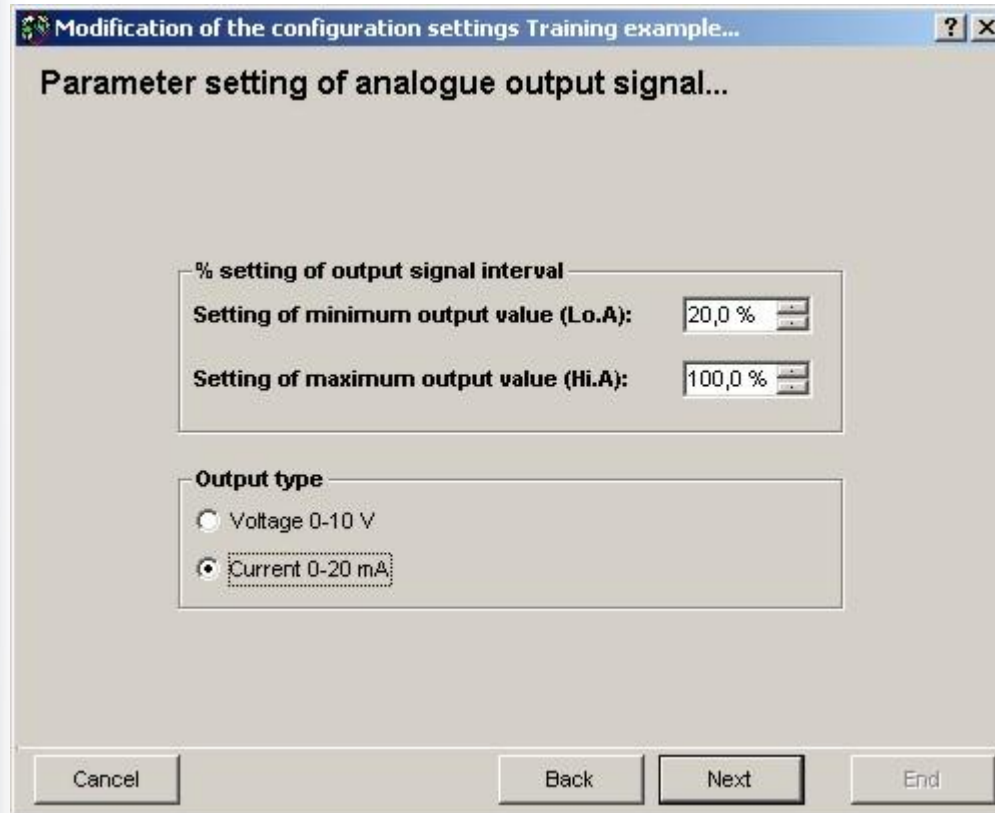
- ✓ **Alarm configuration*:**
- **Select the limits within which the set-point can be modified**
 - **Select the set-point value and the relevant hysteresis**
 - **Select the activation and the deactivation delays**
 - **Select the alarm type**
 - **Select the relay status**

USC-DIN Universal signal conditioner



- ✓ **Digital filter configuration:**
 - **Select the filter operating range (from 0 to the programmed full scale)**
 - **Select the filter coefficient (from 1 to 32)**

USC-DIN Universal signal conditioner

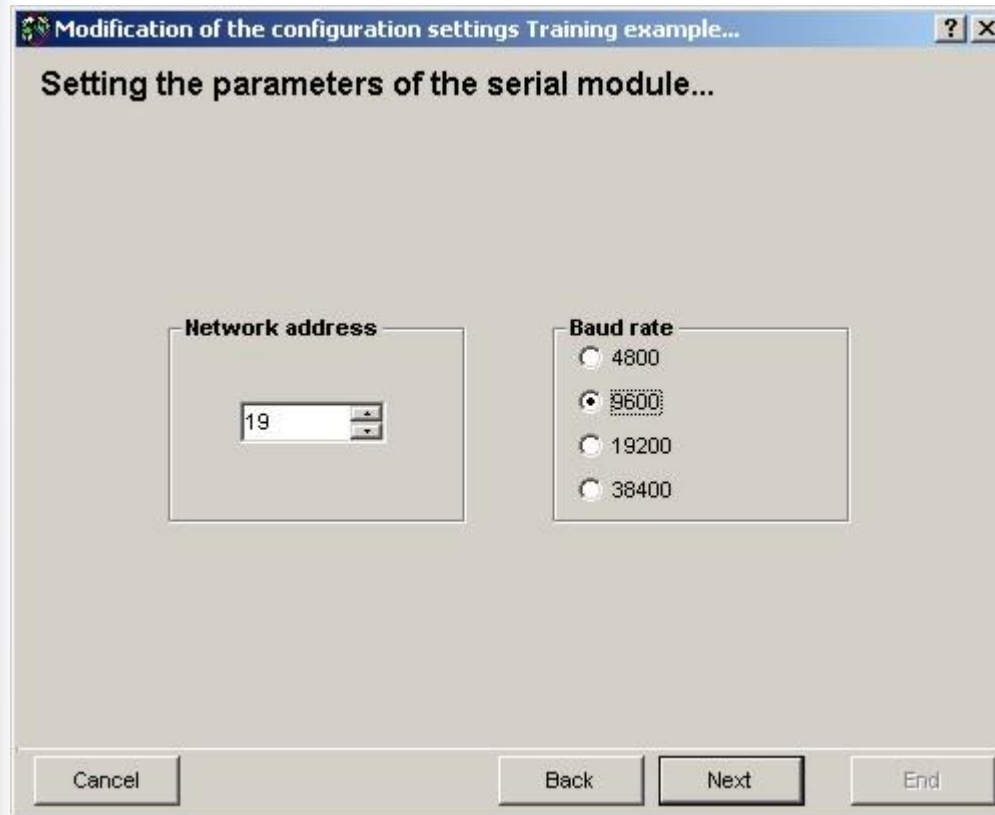


- ✓ **Analogue output configuration*:**
 - **Select the range of the analogue output signal (correspondent to the input range) in % of the output full scale**
 - **Select the output type (0 to 10VDC or 0 to 20mADC)**

(*) only if an analogue output module is inserted



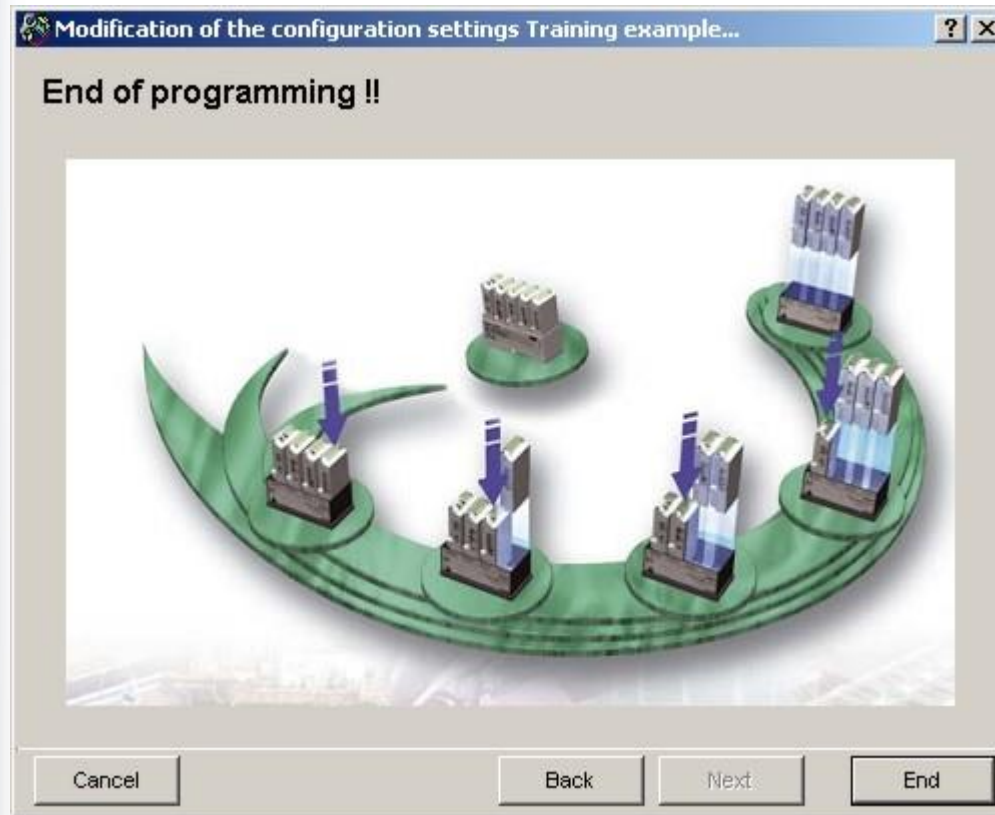
USC-DIN Universal signal conditioner



- ✓ **Serial output configuration*:**
- **Select the serial address of the instrument**
 - **Select the baud rate**

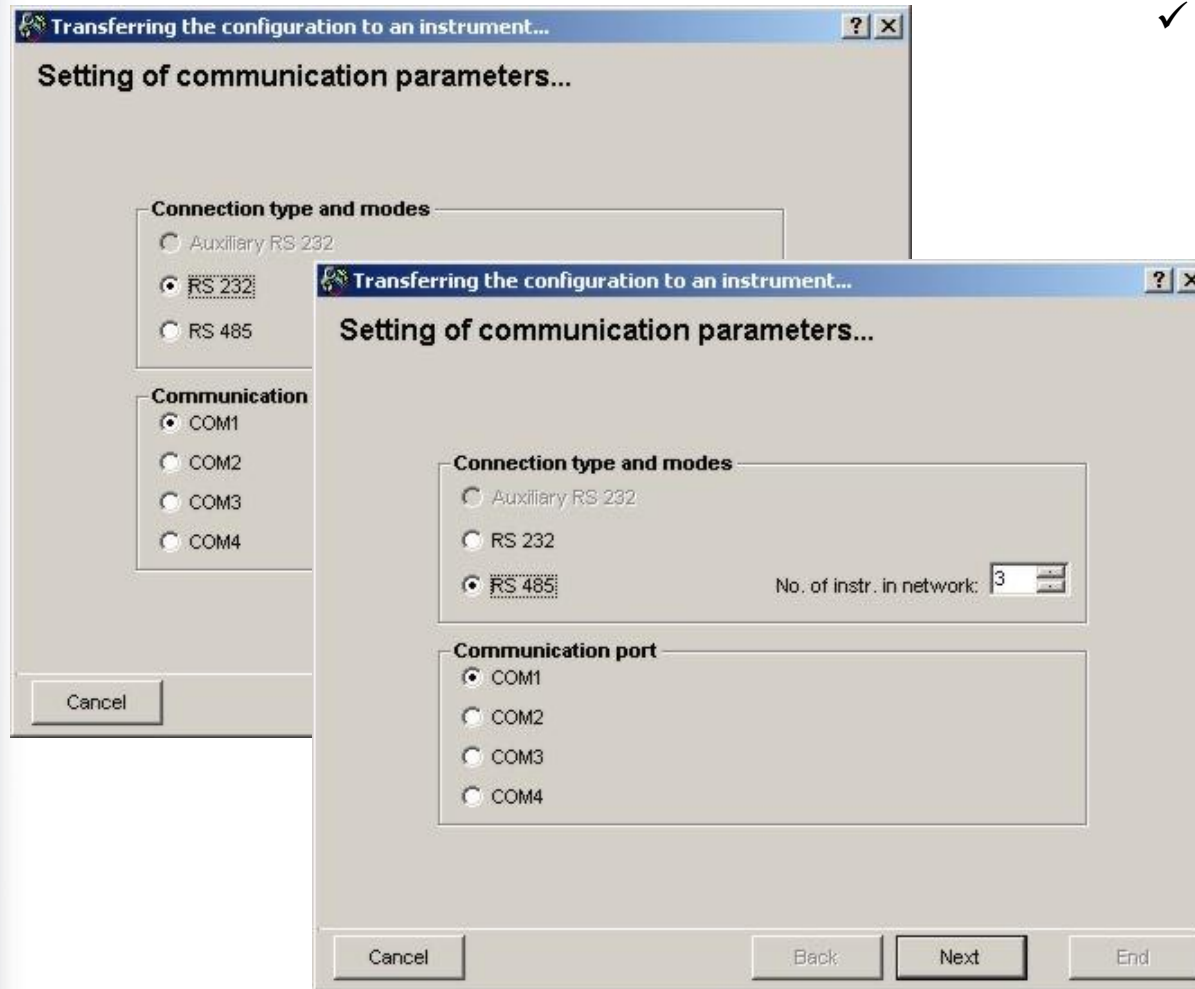
(*) only if a serial output module is inserted

USC-DIN Universal signal conditioner



- ✓ **End of programming:**
- **All the parameters have been duly programmed**
 - **Cancel, modify or save the configuration**

USC-DIN Universal signal conditioner



✓ **Configuration transferring**
:

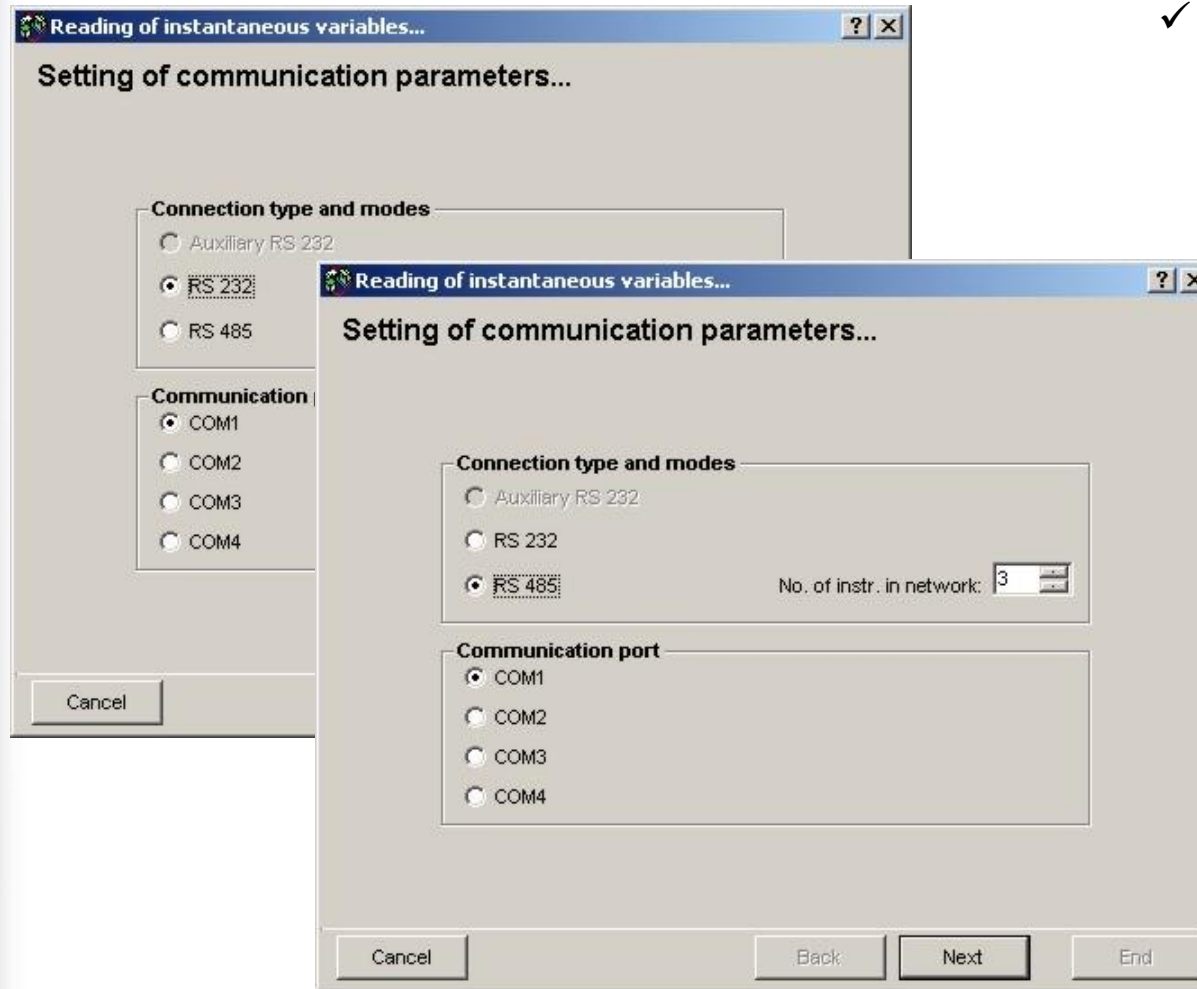
- **Select how to establish the communication between PC and USC-DIN (RS232 or RS485)**

USC-DIN Universal signal conditioner



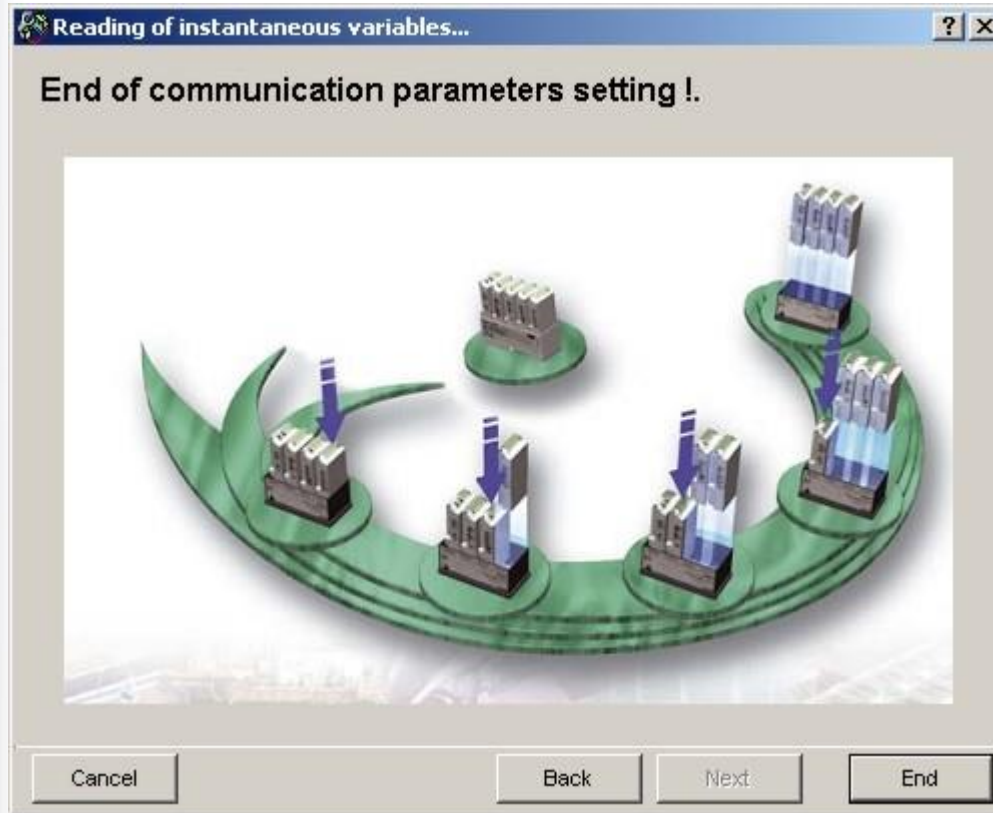
- ✓ **Configuration transferring:**
- **Select the instrument or instruments to which the configuration must be uploaded**
 - **Start the transmission of the new configuration**

USC-DIN Universal signal conditioner



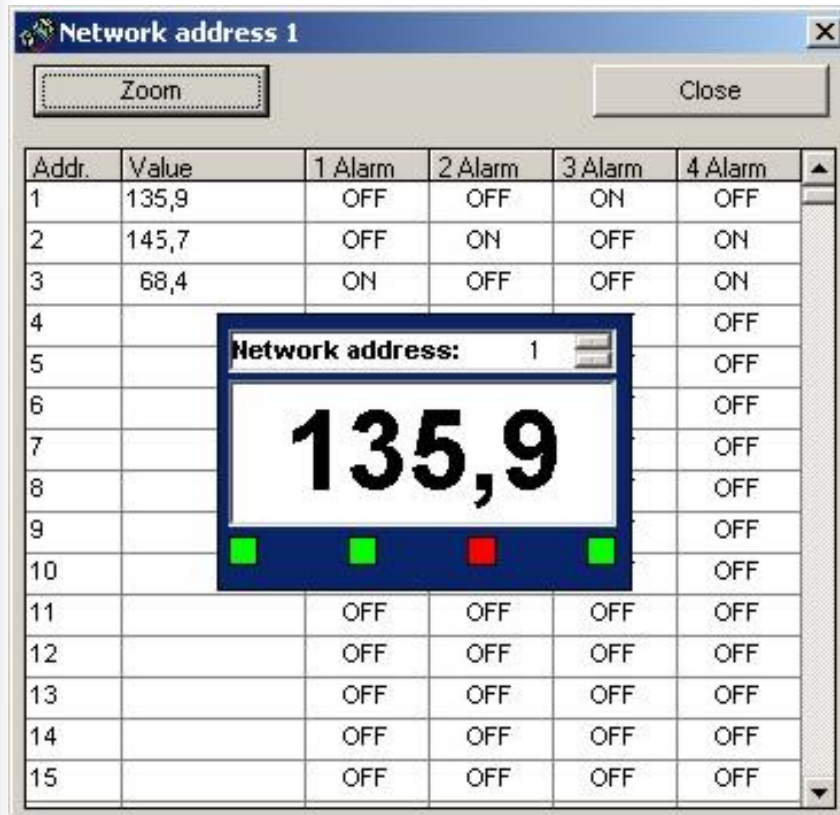
- ✓ **Real time values:**
- **Select how to establish the communication between PC and USC-DIN (RS232 or RS485)**

USC-DIN Universal signal conditioner



- ✓ **Real time values:**
 - Ready to establish the communication between PC and USC-DIN (RS232 or RS485) for real time reading
 - Cancel, modify the communication parameters or start the reading

USC-DIN Universal signal conditioner



The screenshot shows a software window titled "Network address 1" with a "Zoom" button and a "Close" button. Below the buttons is a table with 15 rows and 6 columns. The first row is highlighted, and a zoomed-in window is overlaid on it, showing the value "135,9" and four colored indicator lights (green, green, red, green).

Addr.	Value	1 Alarm	2 Alarm	3 Alarm	4 Alarm
1	135,9	OFF	OFF	ON	OFF
2	145,7	OFF	ON	OFF	ON
3	68,4	ON	OFF	OFF	ON
4					OFF
5					OFF
6					OFF
7					OFF
8					OFF
9					OFF
10					OFF
11		OFF	OFF	OFF	OFF
12		OFF	OFF	OFF	OFF
13		OFF	OFF	OFF	OFF
14		OFF	OFF	OFF	OFF
15		OFF	OFF	OFF	OFF

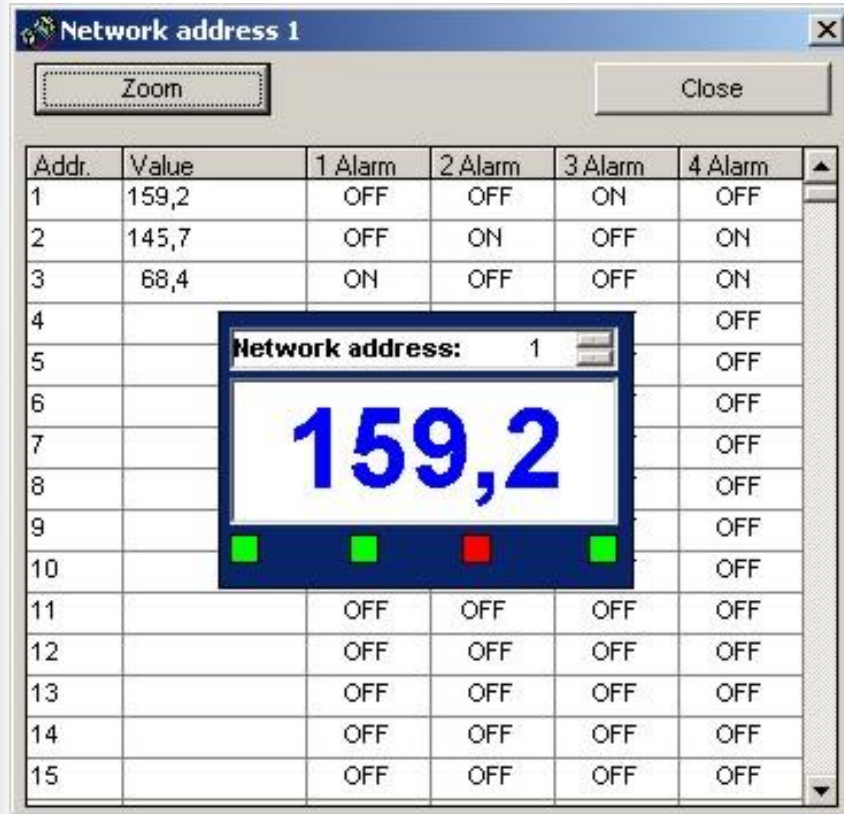
✓ **Instrument #1:**

- **Value 135.9** (within the selected input range)
- **Alarm 3 ON**

✓ **Real time values:**

- **Real time table with values and alarm status of all the connected USC-DIN**
- **Enable the zoom window relevant to the selected instrument**
- **Zoom window including the address, the instantaneous value and the alarm status (by colours) of the selected instrument**

USC-DIN Universal signal conditioner



Addr.	Value	1 Alarm	2 Alarm	3 Alarm	4 Alarm
1	159,2	OFF	OFF	ON	OFF
2	145,7	OFF	ON	OFF	ON
3	68,4	ON	OFF	OFF	ON
4					OFF
5					OFF
6					OFF
7					OFF
8					OFF
9					OFF
10					OFF
11		OFF	OFF	OFF	OFF
12		OFF	OFF	OFF	OFF
13		OFF	OFF	OFF	OFF
14		OFF	OFF	OFF	OFF
15		OFF	OFF	OFF	OFF

✓ **Instrument #1:**

- Value 159.2 (without the selected input range)
- Alarm 3 ON

✓ **Real time values:**

- Real time table with values and alarm status of all the connected USC-DIN
- Enable the zoom window relevant to the selected instrument
- Zoom window including the address, the instantaneous value and the alarm status (by colours) of the selected instrument

