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PROGRAMMING INTERFACE

IF-2013U

USER'S GUIDE

Spis treści

1. Description

IF-2013U interface is used for programming of settings of following devices:

- TEH, TED and TEHM temperature transmitters,
- LMH-21 and LMH-22 monitors,
- TP-995/A and TP-995/V temperature sensors.

For device programming are needed:

- computer with USB port and Windows® system installed,
- E-config application.

The electronic system is assembled on single PCB and put in the casing of plastics. It has the USB-B socket from one side and the disconnectable screw terminal for device connection on the other side. The interface is being powered from the USB port and it is providing with the supply voltage for programmed device.

A galvanic separation is ensured computer - programmed device. Two LED diodes are indicating direction of transmission:

RxD (green) - the computer is receiving, TxD (yellow) - the computer is sending data.

2. Software installation

At first you should install interface drivers. An attached CD ROM contains them along with appropriate instruction. After the installation an additional virtual serial port will appear in system.

Application E-config doesn't require the installation. It will be sufficient to copy E-config.exe file from CD ROM folder Programs to the chosen folder on the hard disk.

It is possible to download the latest version of software from www.czaki.pl website (Technical support bookmark or the product page).

3. Connection diagrams

The interface is being linked with the USB socket of the computer with the USB cable A-B, and with preset device with 2-wire cable. Aditionally interface terminals

D and + should be connected together.

An appropriate cables are being delivered in the set with the interface.

During the programming the device is being supplied from the interface.

Other of connecting, e.g. of sensor, aren't required.

Below presented connection diagrams for TEH and TED temperature transmitters.

Schemes for other devices are in their operating manuals.
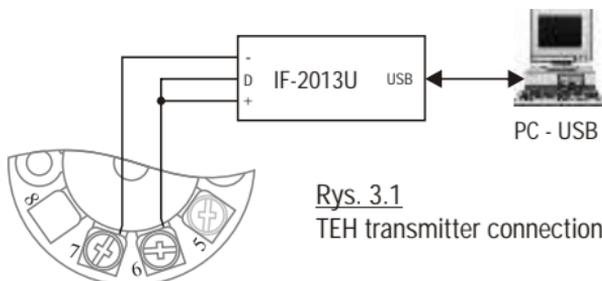
Rys. 3.1
TEH transmitter connection
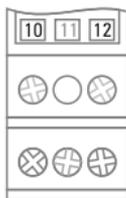
Rys. 3.2
TED transmitter connection

4. Device programming

4.1. Communication start

After software installation it is possible to start programming device parameters.

To establish the connection with device you should perform the following activities:

1. Launch E-config application and select language.

2. Click Start button and perform activities described in message window:

    "Connect IF-2013U interface to PC USB port.

    If it is already connected, disconnect it and connect again".

    If the interface is identified, the description of the button will change on

    Connect, and a name and a number of a virtual serial port created during

    the installation of drivers will appear under it.

    In case of the failure an announcement is shown:

    "No response from IF2013U !!! Retry or cancel."

    A wrong port number in the E-config.ini file can be a cause.

    You should close application, delete E-config.ini file and lanch the application

    again. An appropriate serial port will be found automatically and new

    E-config.ini file will be created. In this case user must be logged in the

    Windows system as the administrator.

3. Connect appropriate wires of the cable device-interface to device terminals

    + and -. The plug must be taken out of the interface socket.

4. Click Connect button and a message box will appear:

   "Connect device to IF-2013U and immediately press OK.".

   After the click OK the computer is reading data from the device, and the progress bar is indicating this process.

   After reading data all elements of the application window should appear (Fig.4.1.), and the description of the Connect button should change on Disconnect. In case of the failure an announcement is shown:

   "No response from device !!! Retry or cancel.".

   Selecting Retry you should perform activities described in one by one appearing announcements.

   Expression "immediately" means maximum 4 seconds. After passing of this time device starts working in "normal" mode and communication with it becomes impossible.
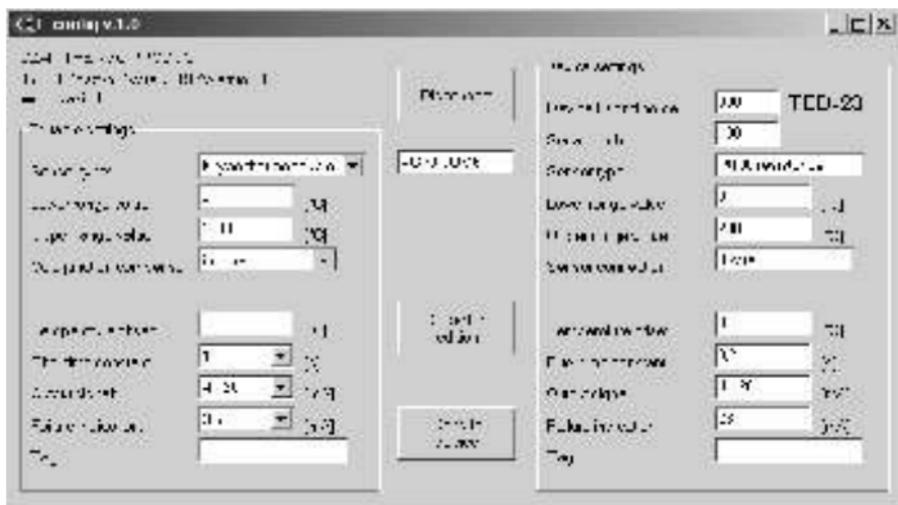
Fig. 4.1
E-config application window

There are two groups of edit windows:

1. Editable settings, of which it is possible to change the content through deleting and writing the new value down or select from the drop-down list box oneself after the click of the window with the arrow on the right.

   The amount and meaning of individual windows are changing depending on remaining contents, for example from the type of the sensor.

2. Device settings, of which it is impossible to change the content.

Buttons are in a centre of the application window which the click is calling described farther actions. Between elements of the application most comfortably you is to move with the mouse cursor and to use the left key for activating windows, of marking the text for the removal and for pressing buttons. It is possible also to use the tab key, and to start the activated button with the space bar.

As the decimal point for numerical values you should use the character defined in Windows regional settings (the comma or the dot) or dots on the numeric keypad. While entering numerical values a control of their correctness is being conducted. After leaving the editing window or his new click incorrect values are being corrected.

Copy for edition button is used for a copying values from Device settings group to Editable settings group.

After modifying settings it is possible to save them in the device memory by pressing the button Send to the device. This process lasts about 5 seconds. A progress bar appears, and the yellow TxD diode of the interface is indicating the data transmission in the direction to the device. Directly after the recording his verification consisting on the reading and comparing data is taking place. The green RxD diode of the interface is indicating the data transmission in the direction to the computer. This process lasts about 10 seconds.

Before the physical disconnection of the converter you should press Disconnect button.

If you want to start work with the next device, it will be sufficient to perform activities 3 and 4 described in the chapter 4.1.

5. Technical data

• Computer side connector	USB-B socket
• Computer signal standard	USB1.1, USB2.0
• Supply current	ca. 25 mA (programming)
	max. 150 mA (programmed
	device terminals shorted)
• Galvanic insulation between connectors	500 V AC
• Programmed device supply voltage	20 ± 2 V DC
• Programmed device supply output resistance	250 W
• Ambient temperature	$0...+50$ °C
• Dimensions	50 x 35 x 20 mm
• Weight	ca. 20 g
• Length of USB A4-B4 cable in set	1,8 ... 2,0 m
• Length of cable for connecting device in set	0,4 m

6. Contens of package

- IF-2013U interface
- USB A4-B4 cable
- Interface - programmed device cable
- Software on CD ROM
- User's Guide