The transmitters type RV-2F are intended for signal conversion of frequency signals to linear voltage or current signals fully configurable in range 0 ÷ 10V or 0 ÷ 20mA.
Configuring the device is done by connecting the standard converter USB mini B cable to PC using Windows free USB_SET application.
The module is located in a compact DIN rail mounting box.

Connection plan (fig.1):
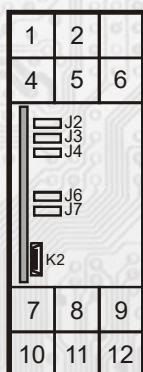
K2... connector USB mini B
J6… record allowed of configuration values
J7… reset

Terminal
1..... positive terminal of power supply
2.....ground terminal of power supply
4......frequency input (IN1)
5......frequency input (IN2)
6.....common input (GND)
7.....output of voltage signal (OUT-U1)
8.....common output (GND)
9.....output of current signal (OUT-I1)
10.....output of voltage signal (OUT-U2)
11....common output (GND)
12....output of current signal (OUT-I2)

Terminals 2,6,8,11 are internally connected

Basic technical parameters

|	
Supply voltage (Ucc)	15 ÷ 30 VDC
Max. consumption without unloaded outputs	15 mA
Max. consumption with unloaded outputs	55mA (OUT-I1 = 20mA, OUT-I2 = 20mA)
Max. rozsah vstupních signálů	configurable: 1Hz ÷ 20kHz
Max. range of voltage input signals	configurable: 0 ÷ 10V
Max. range of current input signals	configurable: 0 ÷ 20mA
Input signal level	3 ÷ 50 Vpp
Type of input signals	sinus, rectangle
Input impedance	≈ 10 kΩ
Loud rezistance of voltage outputs	> 50kΩ
Loud rezistance of current outputs	< (Ucc - 13) x 50[Ω]
Range of recommended working temp. / RH	-30 ÷ 60°C / 0 ÷ 90 %RH without condensation
Range of recommended storage temp. / RH	-30 ÷ 60°C / 0 ÷ 90 %RH without condensation
Ouput galvanic separation	ne
Configuration program	USB_SET; freeware; www.regmet.cz
FW upgrade program	USB_BOOT; freeware; www.regmet.cz
Protection type - box	IP40
Protection type - terminals	IP20
Terminal board	wires max. 2,5 mm ^{2}
Dimension	85 x 22,5 x 65 mm

Connection plan (fig.2)
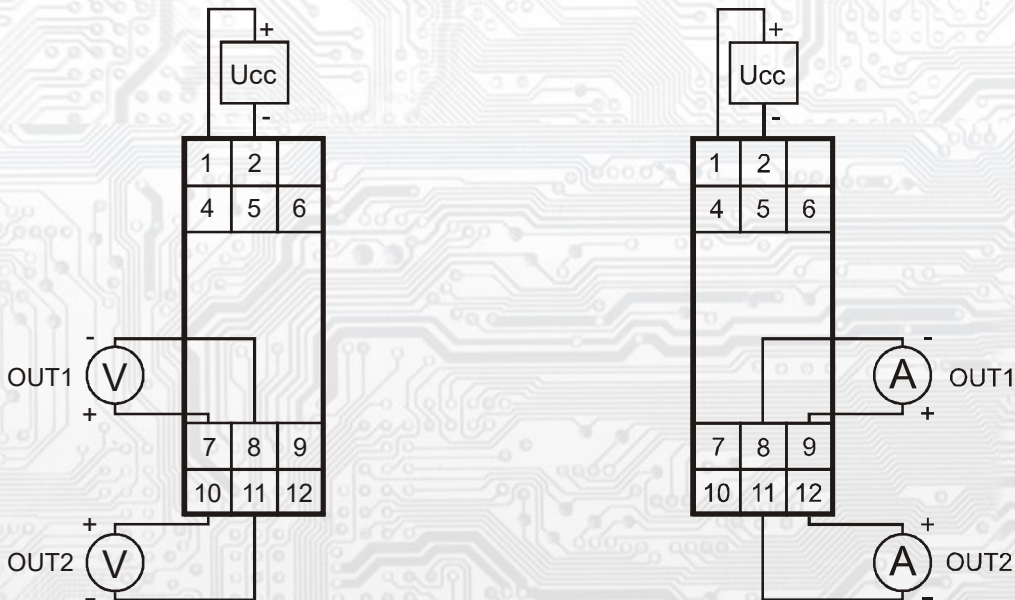
the terminals 2,6,8,11 are galvanically connected

SW configuration of transmitter using the USBset program:

The conguration application USBset is freely available at producer´s web pages. The transmitter is connected with PC using the cable of USB mini B type. With connected cable the USB communication has the priority over the line RS485. After the launching of USBset program, the basic window is opened and the connected sensor is automatically connected with the hosting PC.
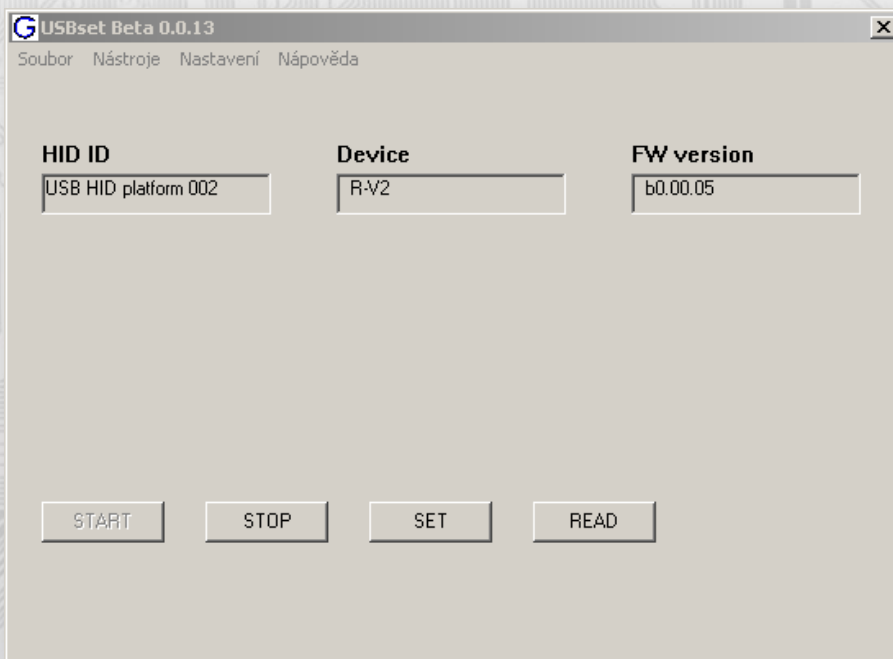
By clicking the "READ" button, a window is opened with currect input values

Frekvence
0,0 Hz

Frekvence
0,0 Hz

Cancel

By clicking the "SET" button, a window is opened.

RV2

Textové pole

RV2 Regmet s.r.o

Kanál 1

○ Proud   ● Napětí

Vstup Lo [Hz]   Vstup Hi [Hz]
10   100

Výstup Lo [V]   Výstup Hi [V]
0.0   10.0

Safety hod. [V]
0.0

Kanál

○ Proud   ● Napětí

Vstup Lo [Hz]   Vstup Hi [Hz]
10   100

Výstup Lo [V]   Výstup Hi [V]
0.0   10.0

Safety hod. [V]
0.0

Načíst   Zapsat   Přednastavení   Cancel

By clicking the "**Načíst**" (**Load**) button, the configuration values are read from the sensor's flash memory.

The custom text field is determined for the client´s identification of the device.

Channel 1:
Choice of voltage or current output
Specify a range of input frequency signal in range 1 to 20 kHz (can also be entered inversely)
For the range of the input signal is assigned a range of output signal in the max. range 0 ÷ 10V or 0 ÷ 20mA. They can be also inverse.
The Safety value is used for entering the safe value, to which the output is set after startup or reset of the devices before it starts working properly.

Channel 2:

Choice of voltage or current output

Specify a range of input frequency signal in range 1 to 20 kHz (can also be entered inversely).

For the range of the input signal is assigned a range of output signal in the max. range 0 ÷ 10V or 0 ÷ 20mA. They can be also inverse.

The Safety value is used for entering the safe value, to which the output is set after startup or reset of the devices before it starts working properly.

After setting the required values and quantities, the new configuration values can be written into the sensor's flash memory by clicking the "**Zapsat**" (**Write**) button. To be able to write in the flash memory, it is necessary to insert jumper J6 (enabling writing the configuration values) prior to clicking the "**Zapsat**" (**Write**) button.

By clicking on the button "Cancel" the configuration windows gets closed. After disconnecting the USB cable, remove jumper J6; now the device is ready for operation.

Default factory settings:

Canal 1:   10 ÷ 100Hz = 0 ÷ 10V

Canal 2:   10 ÷ 100Hz = 0 ÷ 10V

Therefore, the sensor is set to the values that are in the image of the window. This means that the sensor is set to the values indicated in the illustration of the configuration window. These values can be loaded by clicking the "**Přednastavení**" (**Preferences**) button.

Changing the FW Application Part:

The FW upgrade of the **USB_BOOT** application and the latest FW versions are freely available on the manufacturer's website.
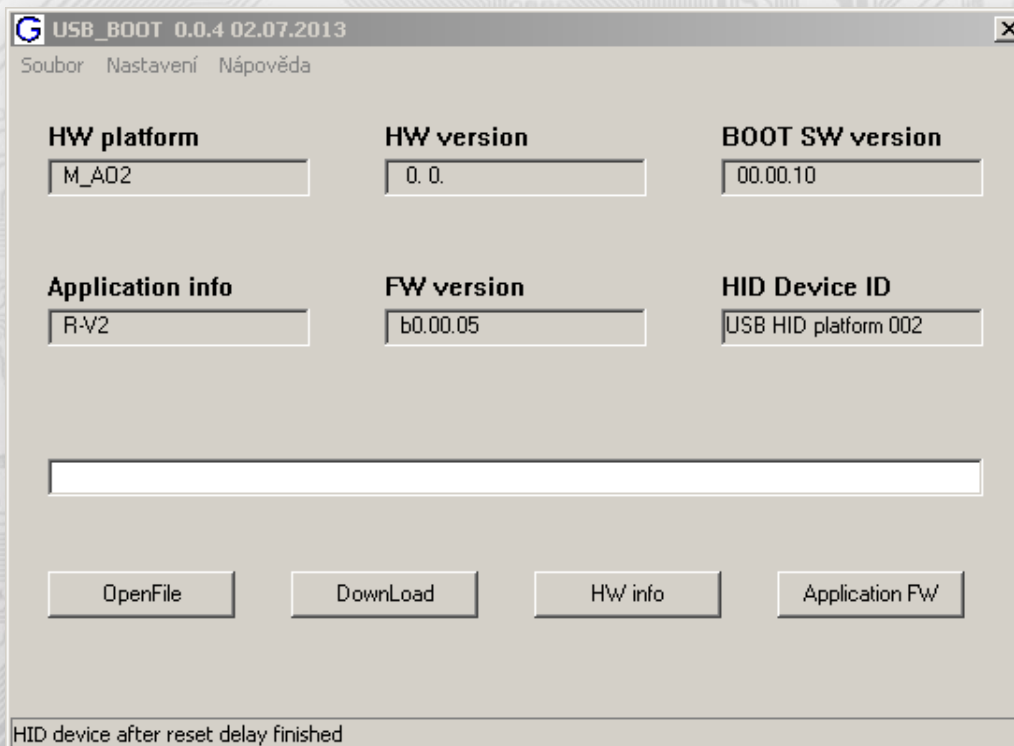
To work with the USB_BOOT application, jumper J6 must be inserted (enabling writing the configuration values).
Start the host application USB_BOOT on the PC, select a new application FW by clicking the "OpenFile" button and start downloading the FW update by clicking the "DownLoad" button; this process is managed automatically by the PC and device. For maximum simplicity and safety, each device bears a unique HW platform identification. This designation describes the HW topology, defining also the FW firmware that can be used for given HW. This information can be loaded using the PC application USB_Boot and "HW info" button. Application FW is distributed in the data format ".reg". When updating the application, information on the HW platform and version is loaded after connecting the PC. At the same time, the HW platform descriptors and HW version are loaded from the ".reg" file. If the HW platform is not compatible with given HW version, the FW is not replaced.
. If the communication is interrupted during the update of application FW (e.g. as a result of power supply drop-out), then the application SW will not be functional. In such case, the automatic startup of the "bootloading" process is not functional and HW info cannot be loaded automatically. The device's bootloader is always activated after the reset; this means that it must be restarted manually. This can be done using the RESET jumper or simply by disconnecting and re-connecting of the supply voltage.
If the automatic sequence of FW update start is damaged:
- Shutdown the device or connect the jumper to the RESET pins
- Start the bootloading process using the "DownLoad" button
- Switch on the power supply or release the RESET jumper
The delay between activating the "DownLoad" button and switching on or RESET of the device must not exceed 2 s.

After disconnecting the USB cable, remove jumper J6 and reset the device by brief short-circuiting the RESET jumper (J7).

Integrity check of the memory content:
The bootloader as well as applications are protected by checksums. In case the data integrity or the content of the MCU's flash memory is corrupt, the corrupted program will not be started

Installation and connection:

The transmitter has to be fastened with the the help of a holder on the mounting bar DIN EN50022. First we set the upper mandrel of transmitter box holder on the upper bar edge and with the help of a screwdriver push out the lower arrestment mandrel lock. We pull the lower box part to the bar and then free the lock. The transmitter is fastened now. We connect the inputs, outputs and power supply into the respective clamps (see fig. 1 and 2). We recommend the connecting cable with the wires cross section 0,35...2 mm 2 , for the active signals with the screening.