

Technical manual



RIVERTH Analogue signals concentrator

090060635



IT08020000001624



FOREWORD

FOR INSTALLERS

Please follow carefully the specifications about electric and security systems realization further to the manufacturer's prescriptions indicated in the manual provided.

Provide the user the necessary indication for use and system's limitations, specifying that there exist precise specifications and different safety performance levels that should be proportioned to the user needs. Have the user read carefully the instructions provided in this document.

FOR USERS

Carefully check the system functionality at regular intervals making sure all enabling and disabling operations were made correctly.

Have skilled personnel make the periodic system's maintenance. Contact the installer to verify correct system operation in case its conditions have changed (e.g.: variations in the areas to protect due to extension, change of the access modes, etc.)

.....

This device has been designed, assembled and tested with the maximum care, adopting control procedures in accordance with the laws in force. The full correspondence to the functional characteristics is given exclusively when it is used for the purpose it was projected for, which is as follows:

Analogue signals concentrator

Any use other than the one mentioned above has not been forecasted and therefore it is not possible to guarantee the correct functioning of the device. Similarly, any other use of this technical manual other than the one it has been compiled for - that is: to illustrate the devices technical features and operating mode - is expressly prohibited.

The manufacturing process is carefully controlled in order to prevent defaults and bad functioning. Nevertheless, an extremely low percentage of the components used is subjected to faults just as any other electronic or mechanic product.

As this item is meant to protect both property and people, we invite the user to proportion the level of protection that the system offers to the actual risk (also taking into account the possibility that the system was operated in a degraded manner because of faults and the like), as well reminding that there are precise laws for the design and assemblage of the systems destined to these kind of applications.

The system's operator is hereby advised to see regularly to the periodic maintenance of the system, at least in accordance with the provisions of current legislation, as well as to carry out checks on the correct running of said system on as regular a basis as the risk involved requires, with particular reference to the control unit, sensors, sounders, dialler(s) and any other device connected. The user must let the installer know how well the system seems to be operating, based on the results of periodic checks, without delay.

Design, installation and servicing of systems which include this product, should be made by skilled staff with the necessary knowledge to operate in safe conditions in order to prevent accidents. These systems' installation must be made in accordance with the laws in force. Some equipment's inner parts are connected to electric main and therefore electrocution may occur if servicing was made before switching off the main and emergency power. Some products incorporate rechargeable or non rechargeable batteries as emergency power supply. Their wrong connection may damage the product, properties and the operator's safety (burst and fire).

EU DECLARATION OF CONFORMITY

The product complies with current European EMC and LVD directives. The full text of the EU declaration of conformity is available at the following Internet address: elmospa.com – registration is quick and easy.

DISPOSAL INSTRUCTIONS - USER INFORMATIONSI



According to Directive 2012/19/EU on the Waste of Electric and Electronic Equipment (WEEE), it is here specified that this Electrical-Electromechanic Device started to be commercialized after 13th August 2005, and it shall be disposed of separately from ordinary waste products.

IT08020000001624



1. GENERALS

The intrusion control units of the ETR G2 series, Villeggio and other compatible models, can be control an high number of connected inputs to the main board and to the different expansion modules as "CONCENTRATORS". To optimize the installation operation and cables routing, use serial concentrators with several possibility of remote inputs connection.


This manual refers to a special concentrator mod. RIVERTH for the analogue detection (e.g. for industrial and/or commercial installations) in which is alternatively connected to the compatible temperature probes or devices with 4-20mA interface.

The concentrator is equipped by four programmable terminal inputs and a standard connector to connect a relay output board mod. ETRREL4 for four relay activation; in case of ETRREL board equipped by 8 relay, will work only the first four.

To use and program the concentrator is necessary that the control unit is equipped by a compatible firmware and that the PC and software are working.

The max number of concentrators that can be connected are 64 but depends on control unit type.

2. FEATURES

Model:	RIVERTH
Performance level:	I°
Power supply:	12 V  (from 10 to 15V)
Consumption:	14 mA, only board but with control LED RS485 ON.
Inputs number:	4
Inputs interface:	programmable as 4-20mA or in temperature with operation range from -35 to +70 °C.
Default settings:	inputs for temperature probes.
Outputs:	connector for four electronic outputs for ETRREL4 or ETRREL (first 4).
Selections:	dipswitch for programming of the inputs interface, of the identification code, Tamper exclusion.
Signalings:	Internal LED to view the transmitted data in serial line, activity in serial line, Tamper protection status.
Compatible temperature probe:	STRIVER with NTC thermistor equipped with cable 6 meters long. Temperature range: from -35 to +70 °C.
Sensibility:	$\pm 1^{\circ}\text{C}$ with temperature probes, $\pm 0.1\text{mA}$ with devices with output 4-20mA.
Cable to use for the serial line and maximum length:	standard $2 \times 0,75 \text{ mm}^2 + 2 \times 0,22 \text{ mm}^2$ (power supply + signal) shielded, for long distances using sections $2 \times 1 \text{ mm}^2 + 2 \times 0,5 \text{ mm}^2$ or higher. Max length 1000 meters.
Dimensions:	W 120 x H 43 x D 37 mm only housing body, fixing holes 130 x 28 mm.
Weight:	100 g.
Parts supplied:	technical manual, $4 \times 100 \text{ Ohm } 1\%$ resistors, side fixing brackets (not assembled), 2 screws to fix the board ($2.9 \times 6.5 \text{ mm}$)



3. INSTALLATION

The RIVERTH has a plastic housing RIVER series. If necessary can be removed the electronic board and separate the right part without components flexing around the pre-breaking line. It is obtained a board of reduced size that can be insert for example in a junction box (also recessed) such as the mod. 503.

For this type of board installation, disconnect the against-opening protection of the housing by moving to ON the dipswitch No. 7. Insulate the electronic board and the junction box should be equipped with tamper protection against opening created by the installer.

The board use of invalidates the first performance level.



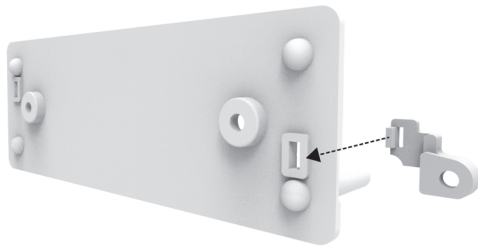
The installer must operate without electrostatic charges, already from the housing opening. Make sure that the electronic board of the detector can be damaged by electrostatic discharge.

The precautions must be observed during the installation phase and during maintenance.

Side bracket assembling (optional)

Slot each bracket into its designated area.

See picture below.



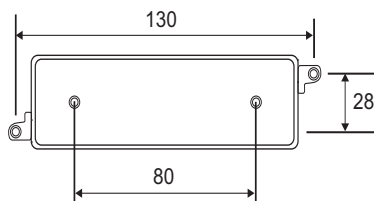
Cable feeding

Remove the plastic from one of the areas indicated below (on the inner side of the cover).

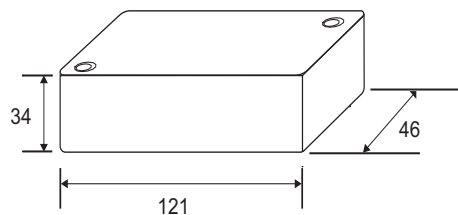


View of the housing

BOTTOM:

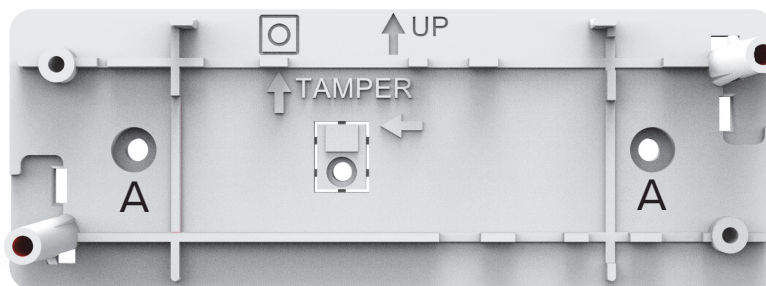


COVER:



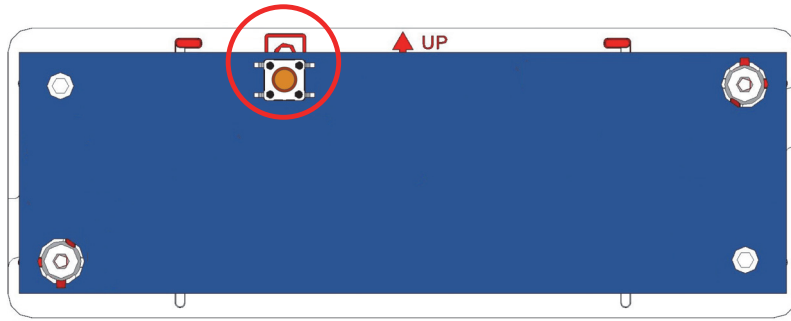
DIMENSIONS IN mm

Assembling operations

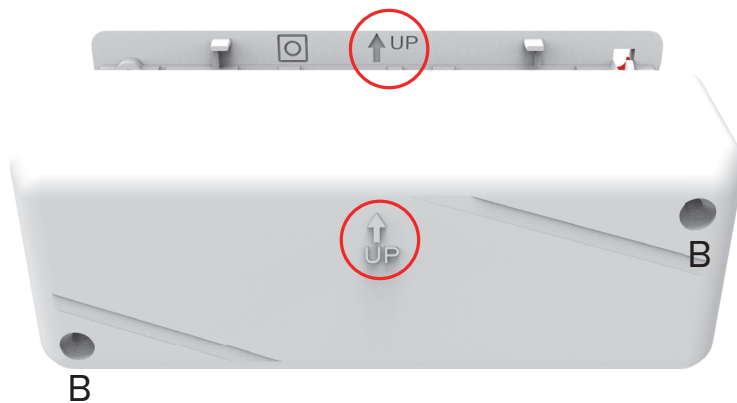


Fix the case base to the mounting surface with screws and plugs, using holes A.

Make sure the UP arrow is on the upper side.

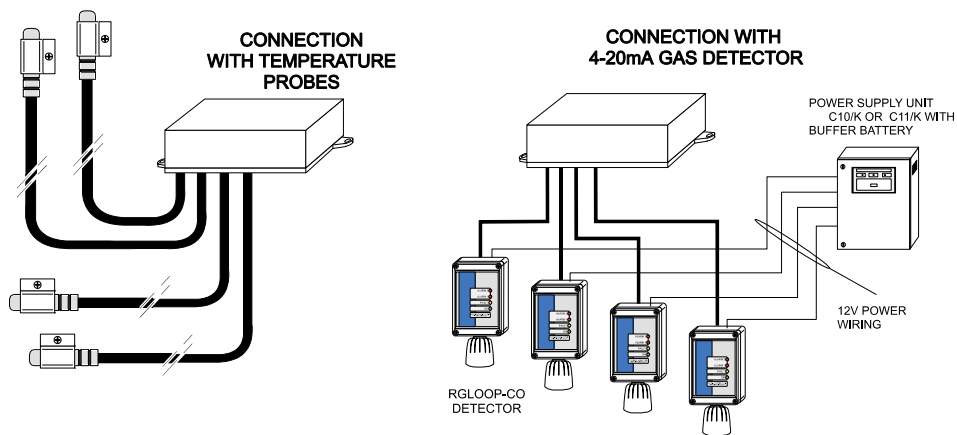


Insert the PCB on the plastic supports (the board in the picture is for reference only).
Make sure the tamper switch against opening (on board top) is on the upper side as indicated by the symbol reported on case base.



Position the cover on the base.
Make sure the arrow on the cover is on the upper side, like the one on the base.
Insert screws on B holes to close the cover. Make sure the spring for tamper protection fits properly.

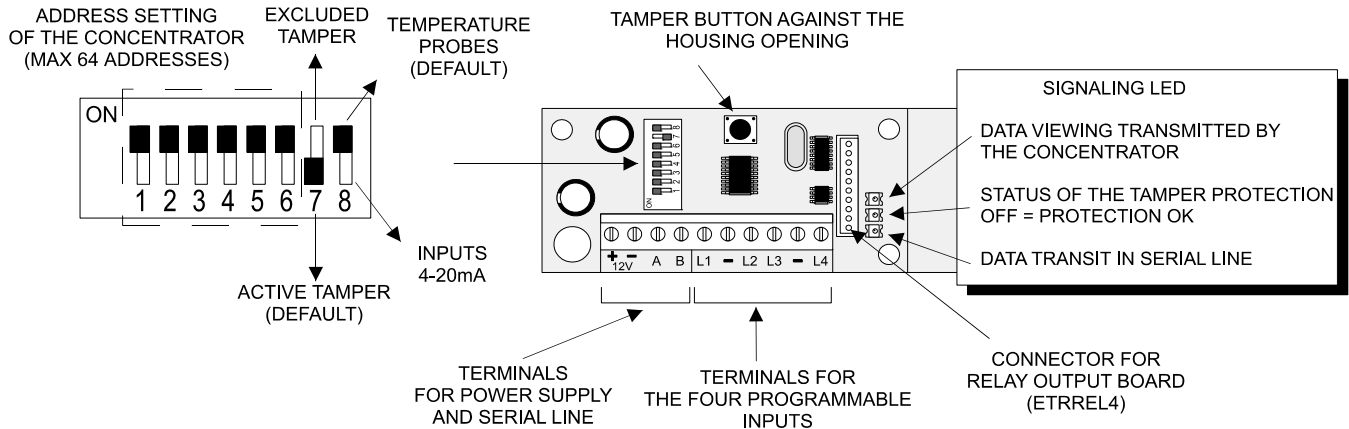
Possible examples of use:



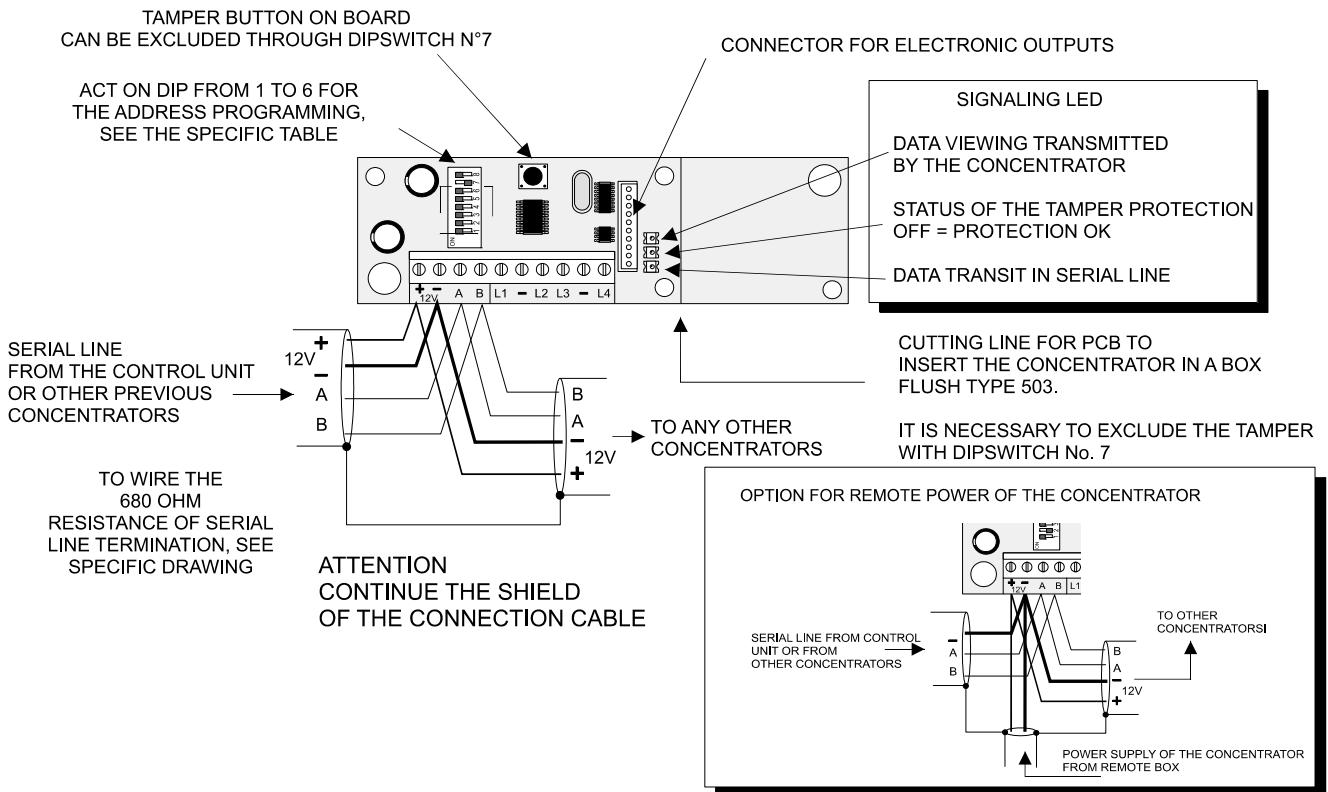


4. ELECTRICAL CONNECTIONS

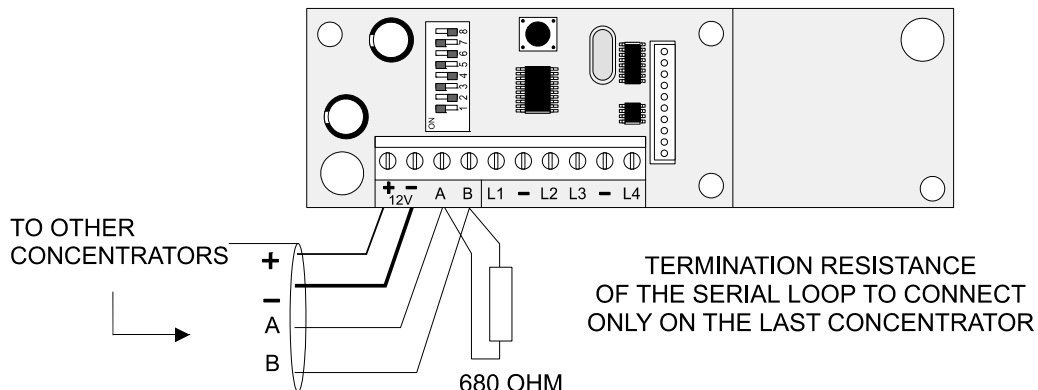
Board viewing.



Connections of the serial line.

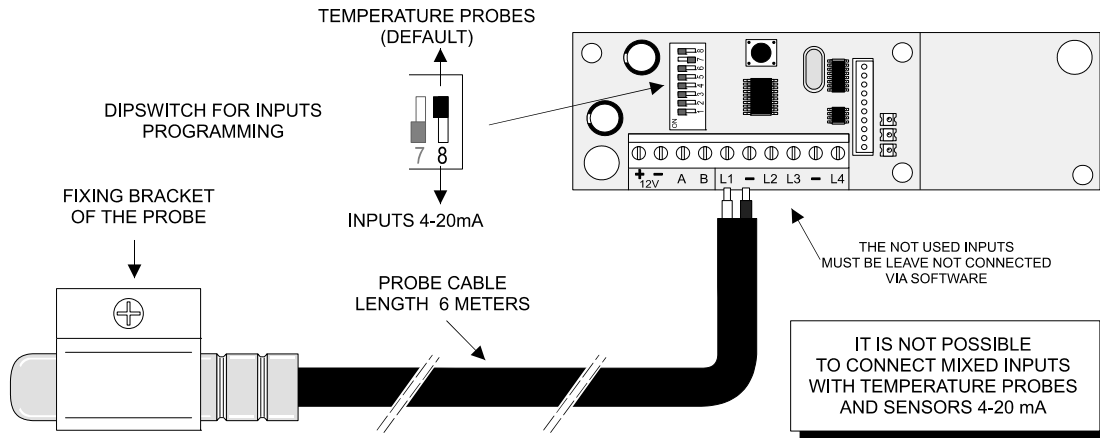


Serial line balancing.

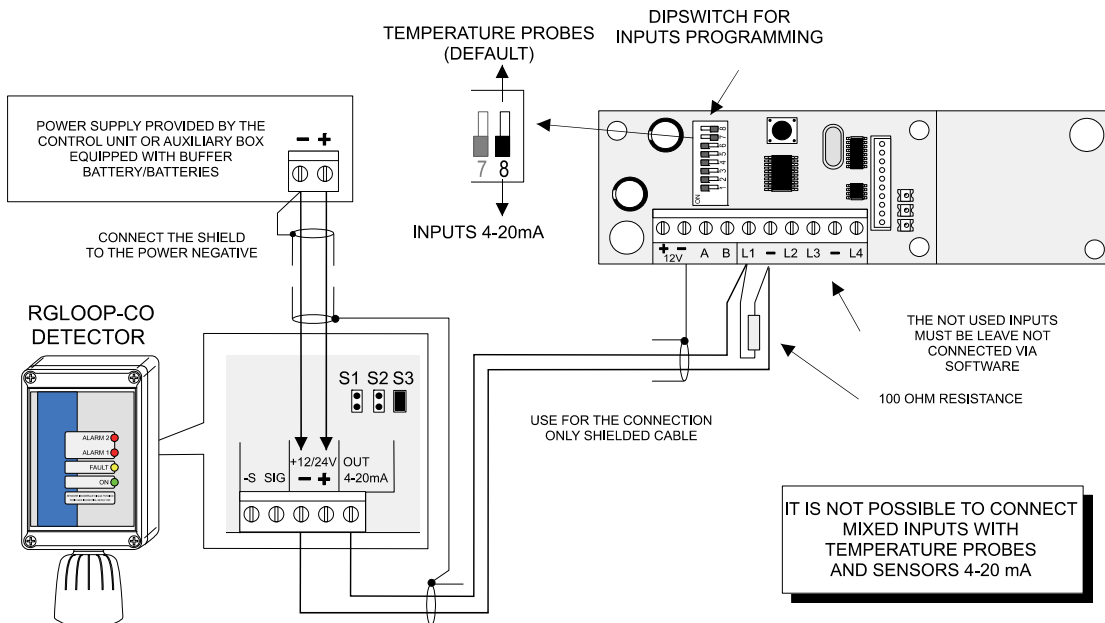




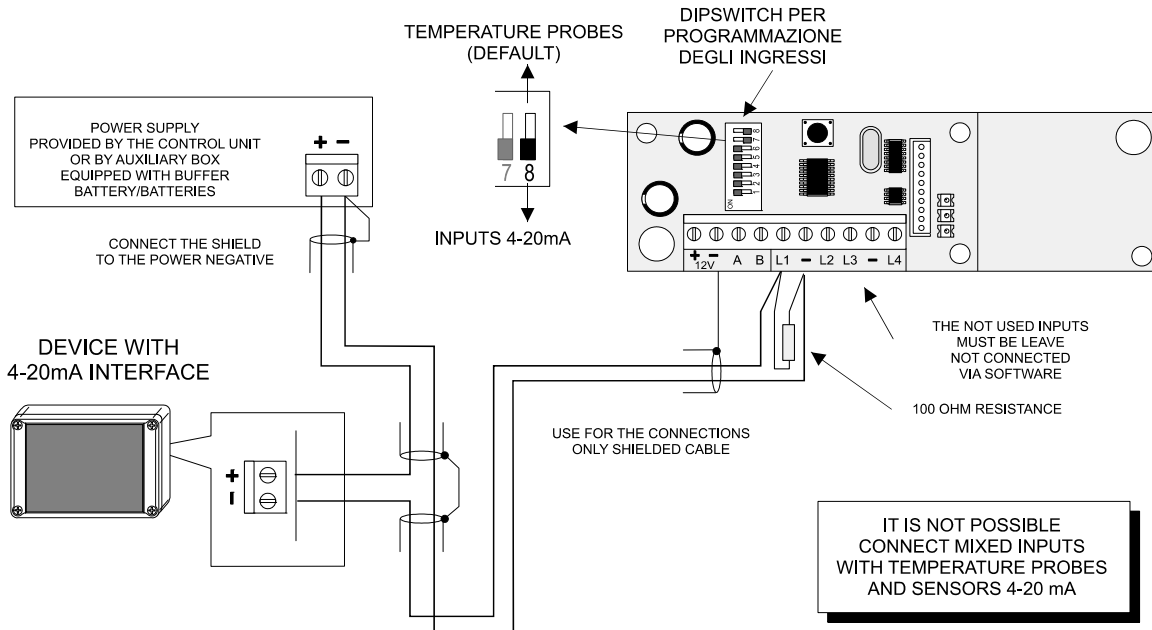
Inputs connection with the temperature probe mod. STRIVER.



Inputs connection with gas detectors with 4-20mA interface, e.g. RGLOOP-xx.



Another type of inputs connection with devices equipped with 4-20mA interface.

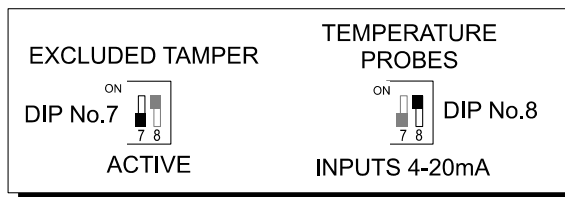
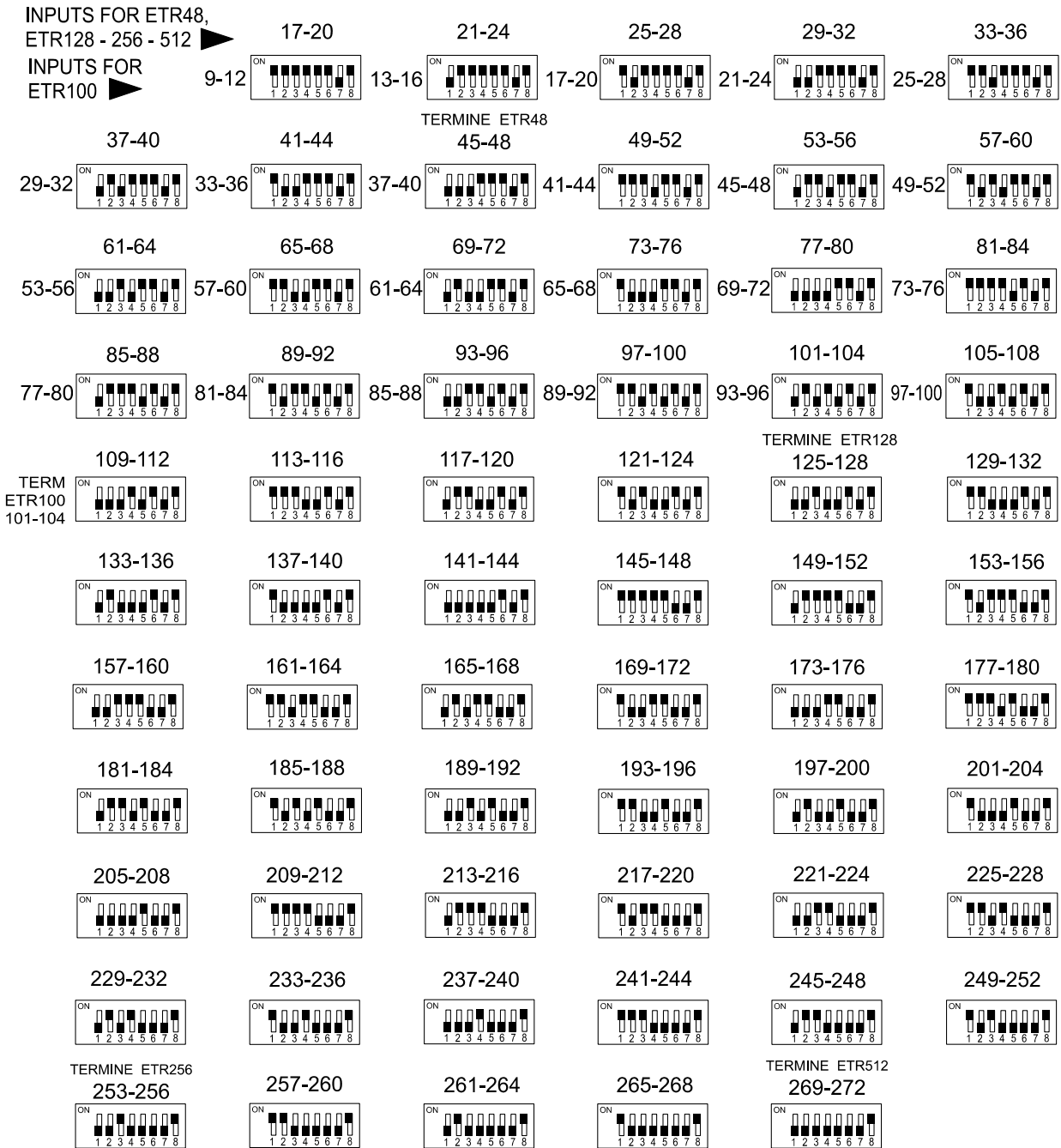




5. ADDRESS SETTING

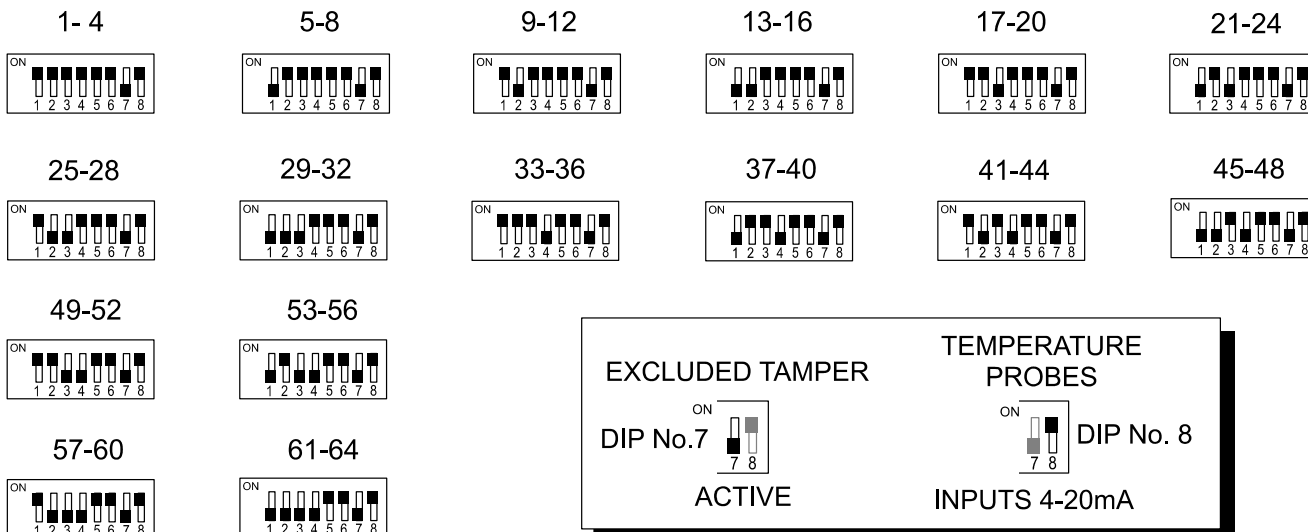
Address setting for using with ETR G2 control units.

CODE TABLES OF THE INPUTS FOR RIVERMINI4





Address setting for the VIDOMO control unit.





6. RIVERTH PROGRAMMING WITH THE SOFTWARE

The concentrator can be programmed only using the module of the control unit compatible with BrowserOne software. The correspondence between the control unit software and firmware version are:

Software	Firmware
BrowserOne v.2.3.5	
ETR100G2 v.1.1.9 control unit	v. 1.3 or higher
ETR128G2 v.1.1.9 control unit	v. 1.3 or higher
ETR256G2 v.1.1.9 control unit	v. 1.3 or higher
ETR512G2 v.1.1.9 control unit	v. 1.3 or higher
Vidomo v.5.4.3 control unit	v. 5.0.6.0 or higher

To detect the concentrator already wired and coded:

- Start the connection with the control unit.
- Read the configuration of the control unit and detect the devices 485 devices eventually connected.
- Select it in the list of the connection types for the corresponding input and connect it in the "Concentrators" label - device with 4 inputs

	Name	Connected	4 inputs dev.	Real outputs	Lower threshold	Upper threshold	Histeresys
▶ 037	Input n. 037	<input checked="" type="checkbox"/>	X	<input checked="" type="checkbox"/>	5.0 °C	40.0 °C	1.0 °C
038	Input n. 038	<input checked="" type="checkbox"/>	X	<input checked="" type="checkbox"/>			
039	Input n. 039	<input checked="" type="checkbox"/>	X	<input checked="" type="checkbox"/>			
040	Input n. 040	<input checked="" type="checkbox"/>	X	<input checked="" type="checkbox"/>			

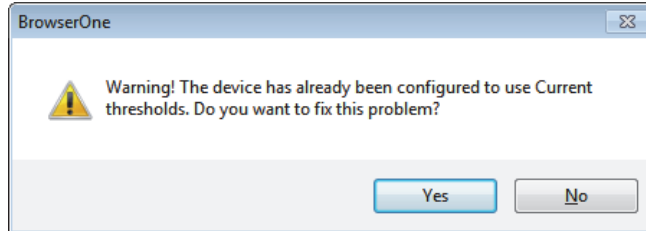
In the example is viewed a concentrator with only an input connected to the temperature probe. The thresholds are displayed such as example and, if necessary, can be enabled the below or above thresholds. The condition is normal if the detected value remains within the two thresholds; an alarm is generated if it exceeds the threshold value.

Note: It can set the common hysteresis value to the two thresholds. For security reasons, there is a fixed and not visible hysteresis threshold that prevents the values of the upper threshold - Hysteresis and Lower threshold + hysteresis with equal values.



From this condition it is possible to set the concentrator for the device management with 4-20mA interface:

- the new wiring concentrator.
- Move dip No. 8 to OFF.
- select in the image shown above, the right pane of the threshold value (mA).
- confirm by clicking on "Yes" in the following picture.



- Set thresholds upper, lower and the hysteresis that should be monitored.

	Name	Connected	4 inputs dev.	Real outputs	Lower threshold	Upper threshold	Histeresis
▶ 037	Input n.037	<input checked="" type="checkbox"/>	X	<input checked="" type="checkbox"/>	5.0 mA	15.0 mA	1.0 mA
038	Input n.038	<input checked="" type="checkbox"/>	X	<input checked="" type="checkbox"/>	5.0 mA	15.0 mA	1.0 mA
039	Input n.039	<input checked="" type="checkbox"/>	X	<input checked="" type="checkbox"/>	5.0 mA	15.0 mA	1.0 mA
040	Input n.040	<input checked="" type="checkbox"/>	X	<input checked="" type="checkbox"/>	5.0 mA	15.0 mA	1.0 mA

Zone | Assign Areas/Partitions | Concentrators

Assigned to 4 zones concentrator no. 6

Zone assigned to:

- 8 inputs device
- 4 inputs device
- 2 inputs device
- 1 input device
- Virtual concentrator

Input n.037

- Fast
- Sensitivity:
- Integration:

Output

- Real
- Virtual

RiverTH - Input n.037

- Upper threshold (mA):
- Lower threshold (mA):
- Histeresis (mA):
- Upper threshold (°C):
- Lower threshold (°C):
- Histeresis (°C):

Concentrator setup

In order to use the current thresholds set the Dip8 to OFF.


Advanced devices configuration

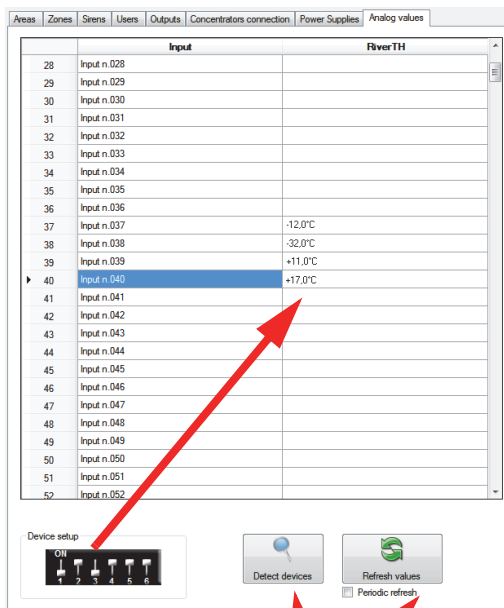
No supported device on zone 37.

- Write the new configuration by selecting from the drop-down menu "Actions - Writing setup".

Note: the process is similar even if you want to switch from concentrator for the devices management with 4-20mA interface to temperature probes.

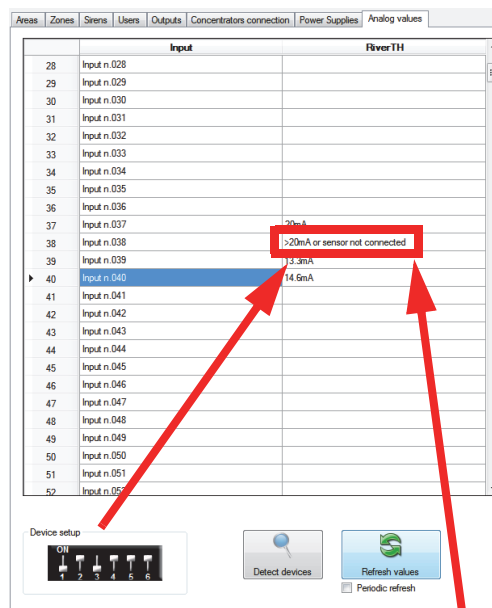
7. MONITOR THE RIVERTH OPERATION

With the function of the status control  is possible to control the operation thresholds of the detector connected to RIVERTH.



The sensitivity in temperature is 1 ° C, without decimals.

Detection buttons of the device and the screen updates



The current sensitivity includes the decimal.

Standard indications of off-scale or no connected detector.

8. PROGRAMMING COMPLETION

To complete the programming of the control unit that manage RIVERTH connected to temperature probes or devices equipped with 4-20mA interface, following some examples:

Temperature probes	Detectors with 4-20mA interface
In the " Name " field, the appropriate name of the input.	
In the " Details " field, the information relating to the installed sensor model.	
In the " Properties " field, select the input active 24H .	
In the " Event " field, the Technological No. x event.	In the " Event " field, the Gas alarm .
In the " MFT " section, create the automated activity that must follow the event generated by the input.	
In the " Dialer " section, set the communications that should follow the event generated by the input.	