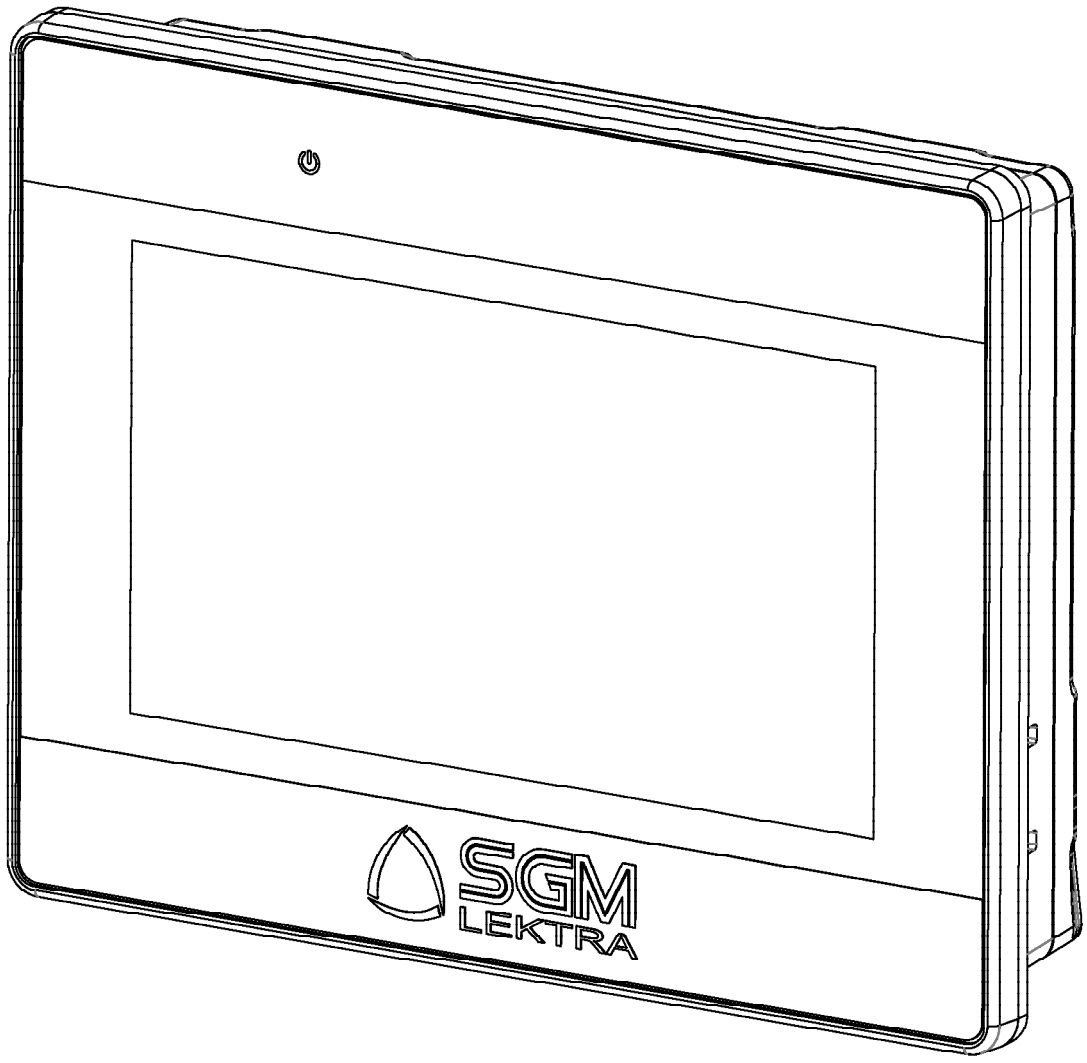
AGRITHERM T5

Display unit for small plants



technical documentation GB Rev. of 02/09/2024

sgm lektra

INDEX

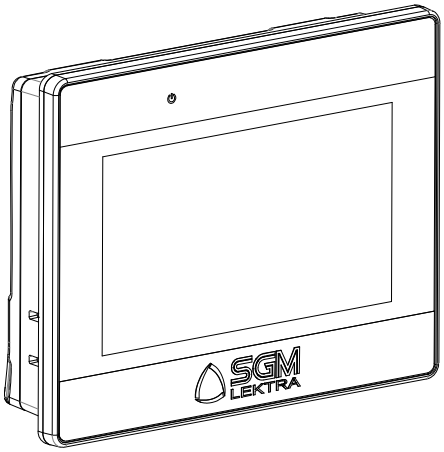
1-WARRANTY	page 3
2-PRODUCT	page 4
3-TECHNICAL FEATURES	page 5
4-DIMENSIONS	page 6
5-INSTALLATION	page 7
6-ELECTRIC CONNECTIONS	page 9
7-DISPLAY	page 19
8-SETTING	page 21
9-SETTING UPDATE	page 23
10-FACTORY TEST AND QUALITY CERTIFICATE	page 24

1-WARRANTY

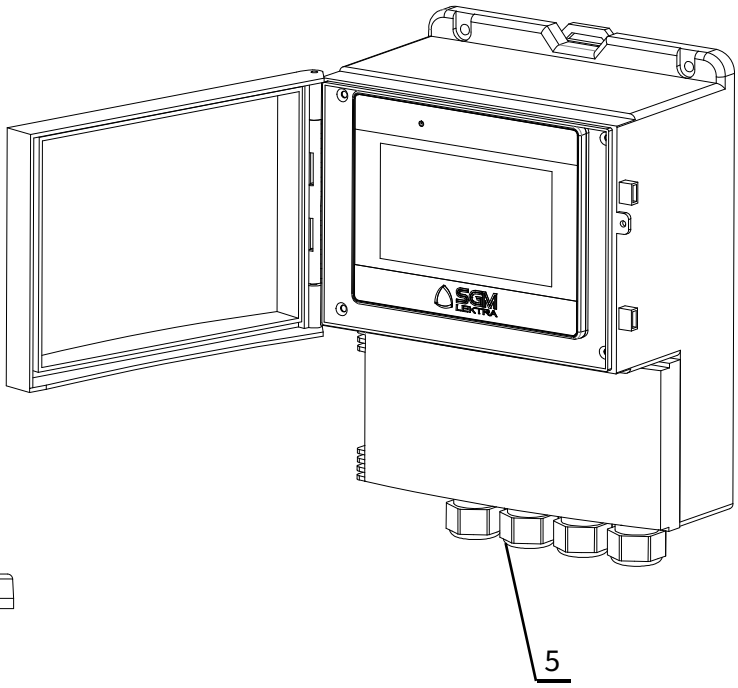
Products supplied by SGM LEKTRA are guaranteed for a period of 12 (twelve) months from delivery date according to the conditions specified in our sale conditions document.
SGM LEKTRA can choose to repair or replace the Product.
If the Product is repaired it will maintain the original warranty terms, whereas if the Product is replaced it will have 12 (twelve) months of warranty. The warranty will be null if the Client modifies, repairs or uses the Products for other purposes than the normal conditions foreseen by instructions or Contract.
In no circumstances shall SGM LEKTRA be liable for direct, indirect or consequential or other loss or damage whether caused by negligence on the part of the company or its employees or otherwise howsoever arising out of defective goods.

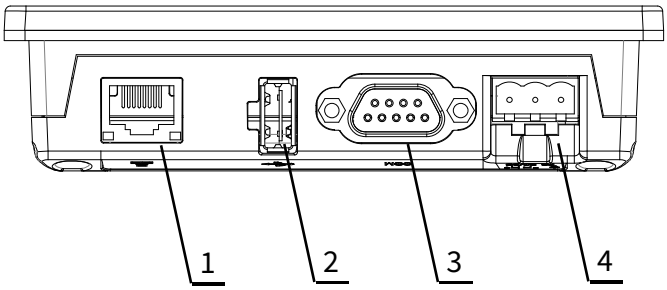
2-PRODUCT

VERSION FRONT PANEL



VERSION WALL OR DIN RAIL

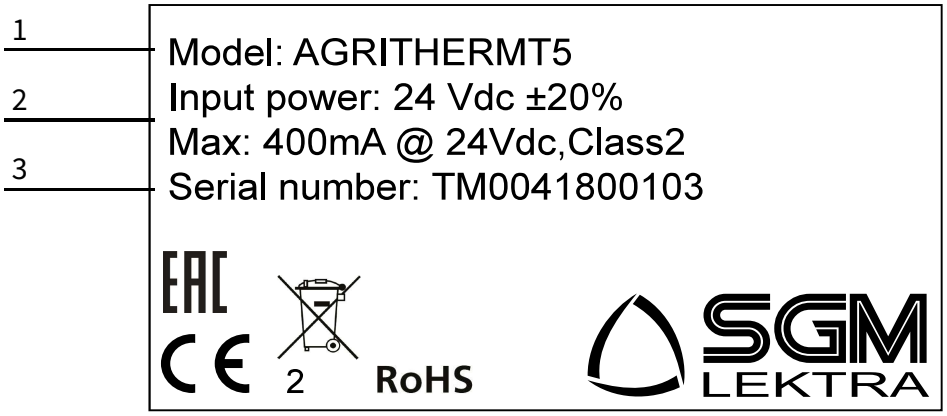




1. Ethernet
2. USB Host
3. COM1 RS-232, RS-485 2W/4W
   COM3 RS-485 2W
4. Removable power connector
5. Skintop M20x1.5

2.1 IDENTIFICATION

Every instrument is supplied with an adhesive plate with the main data:



1. Model
2. Power supply
3. Serial Number

3-TECHNICAL FEATURES

Display
4.3” TFT color LCD resistive touch screen, 480 x 272 resolution, LED backlight (Life Time >30000h)

Digital port
USB 2.0 (1x) for set up upload. COM port: COM1 RS485 Isolated Half Duplex for TM probes connection or MUX02

RTC battery
Integrated

Power supply
Version “A” 24Vdc ±20%
Version “B” 85-265Vac (50/60Hz) ; 24Vdc

Consumption
Version “A” Max 500mA, 12W@24Vdc
Version “B” Max 14W (display + with 10 points)

Dimensions l x h x w (mm)
Version “A” 128x102x32
Version “B” 183.5x250x126

Drilling template for panel mounting version “A” (mm)
119x93

Mounting
Version “A” front panel
Version “B” wall or DIN rail, with ABS enclosure with transparent lid

Frontal IP rating
Version “A” IP65 / NEMA4 - Version “B” IP66

Storage temperature
-20°÷60°C

Working temperature
0÷50°C

Relative humidity
10÷90% (not condensing)

Power supply for optional relay module
20.4÷28.8Vdc

Power consumption for optional relay module
2.5W

Mounting for optional relay module
DIN rail

Optional relay module output
< 250Vac, 30Vdc - 2A for single contact

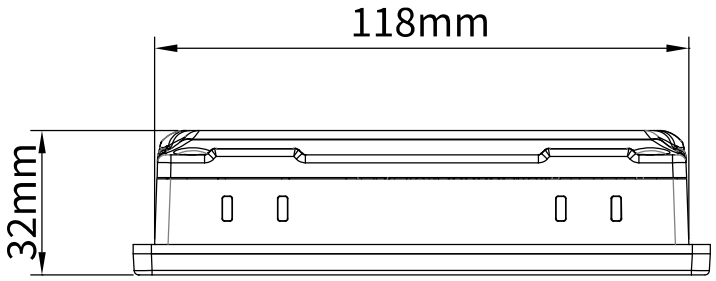
Optional relay module storage temperature
-25°÷+70°C

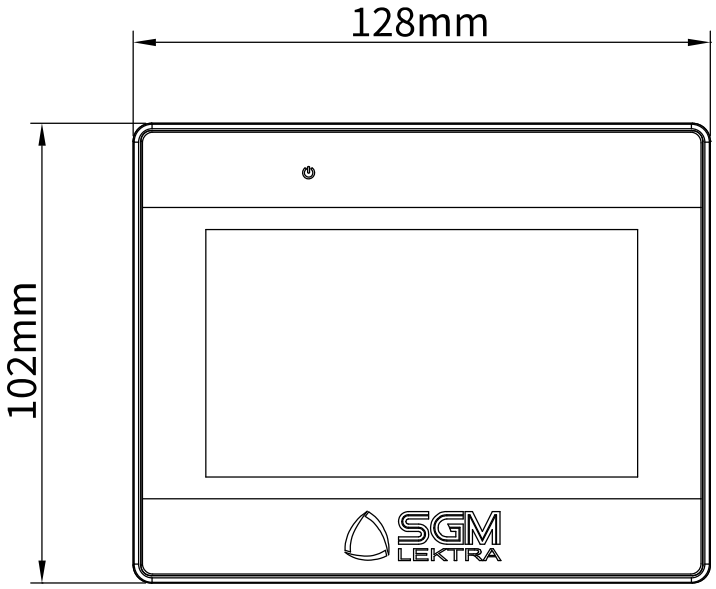
Optional relay module working temperature
5÷55°C

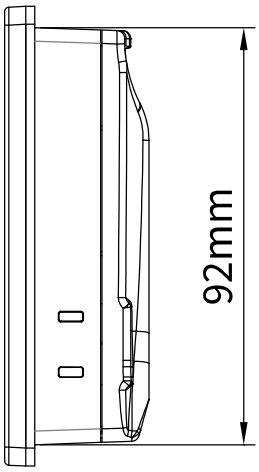
Optional relay module Relative humidity
5÷95% (not condensing)

4-DIMENSIONS

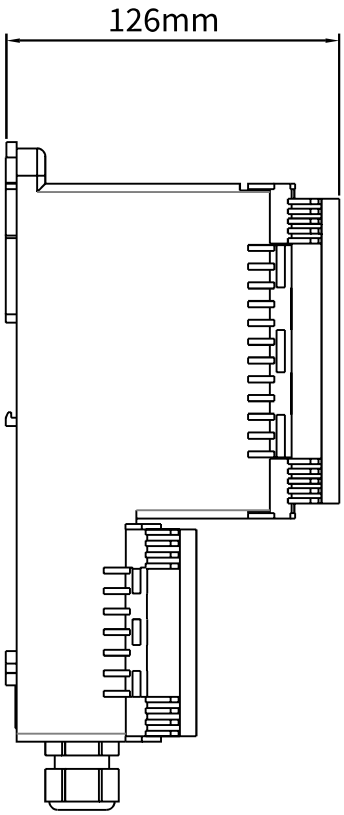
4.1 MECHANICAL DIMENSIONS VERSION “A/D”

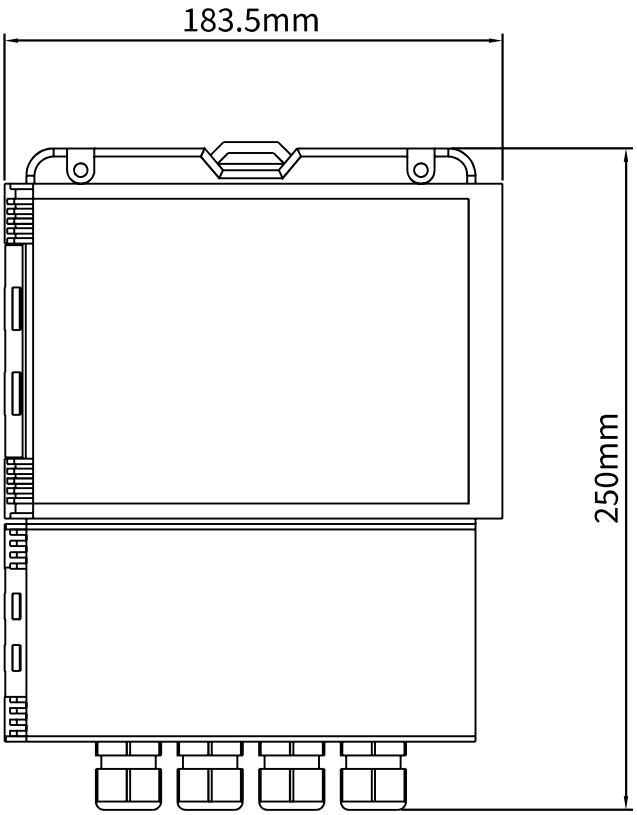






4.2 MECHANICAL DIMENSIONS VERSION “B/E”

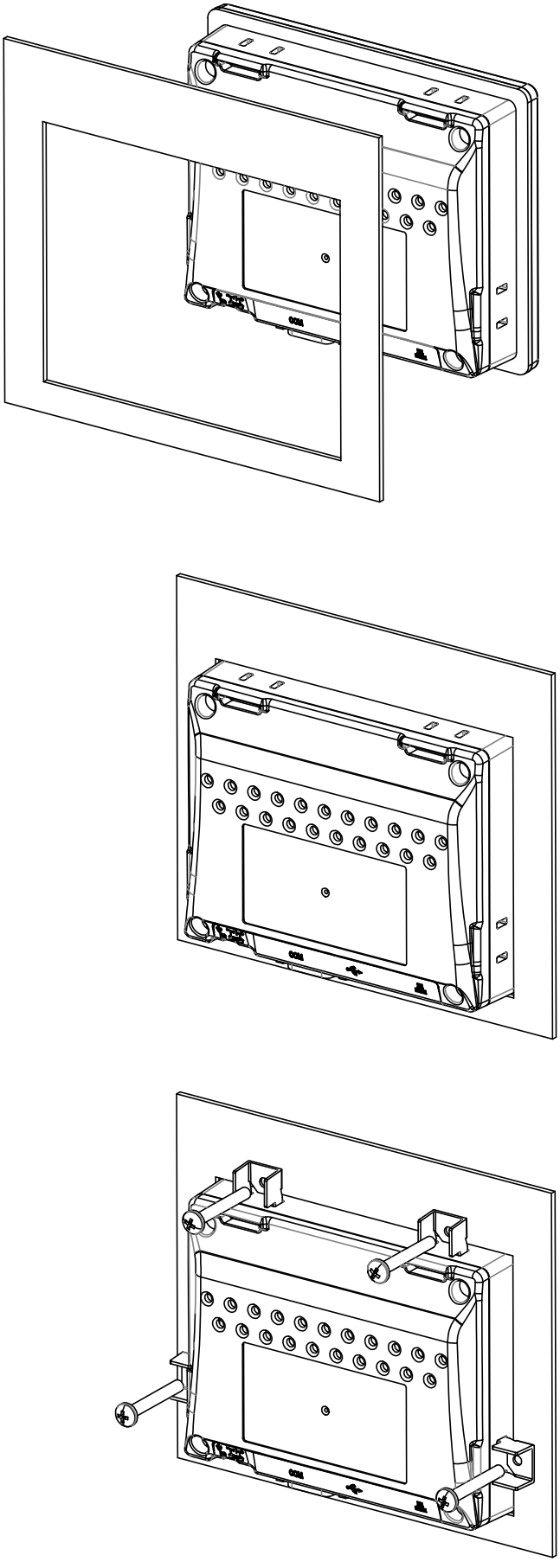




5-INSTALLATION

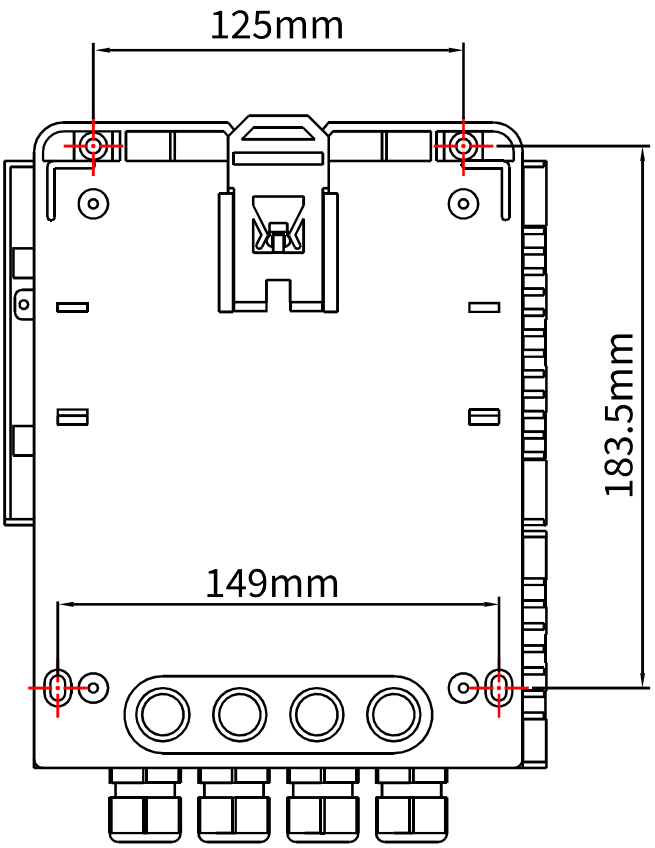
5.1 PANEL MOUNTING VERSION “A/D”

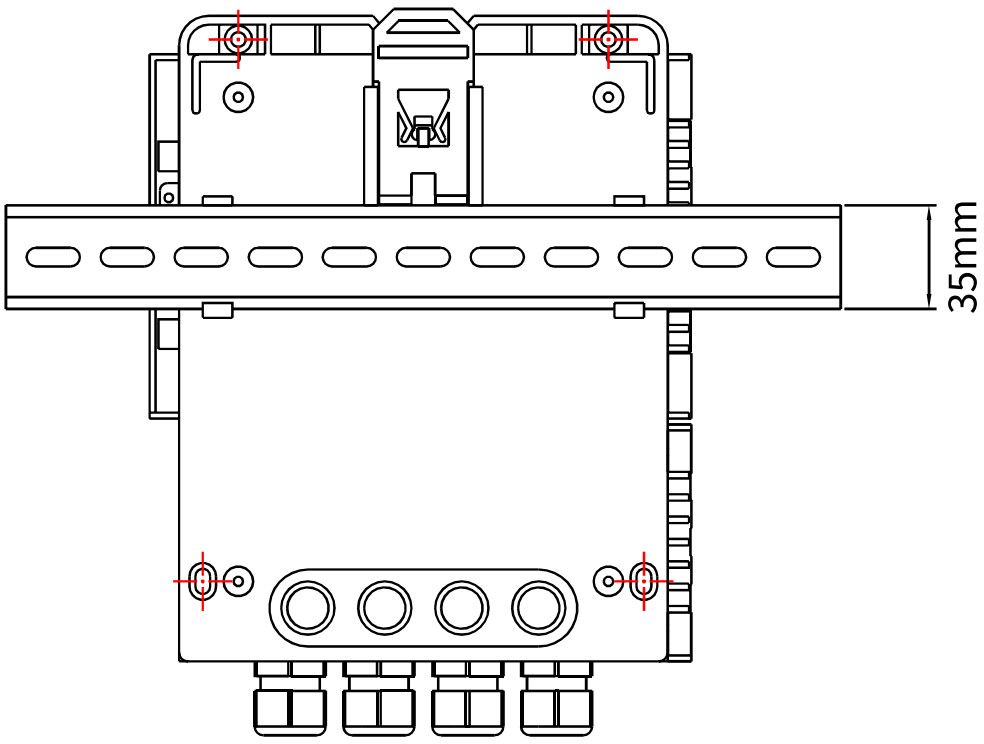
Secure the instrument into the arranged hole (119x93mm) using the provided brackets and screws.
(Screw torque: 0.3÷0.45 Nm for reaching waterproof effect and preventing the panel from being deformed)



5.2 WALL OR DIN RAIL MOUNTING VERSION “B/E”

- Installation must be only performed by qualified personnel and in accordance with local governing regulations.
- Make sure that the housing material is compatible with environmental conditions. In case of outdoor installation it is recommended to protect the unit from the direct sunlight and from the rain.
- An improper use of the unit can cause serious injuries to operators and damages to the product and to the connected equipments.

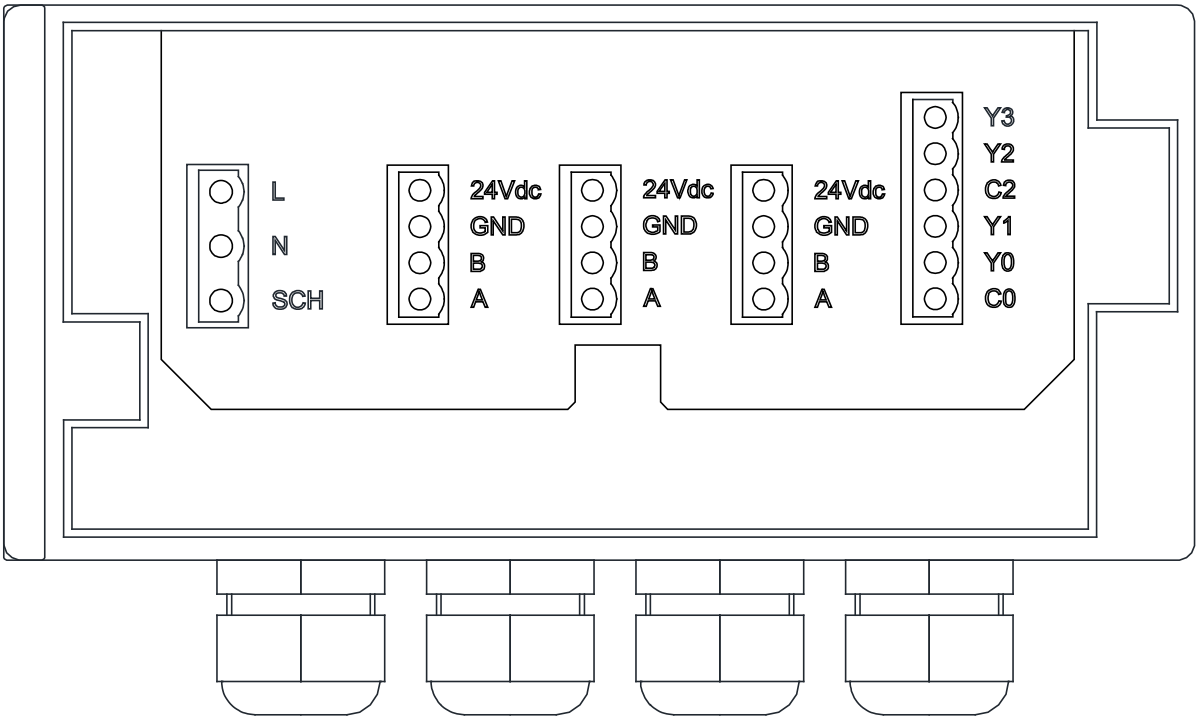




6-ELECTRICAL CONNECTION

6.1 TERMINAL CONNECTION VERSION "B"

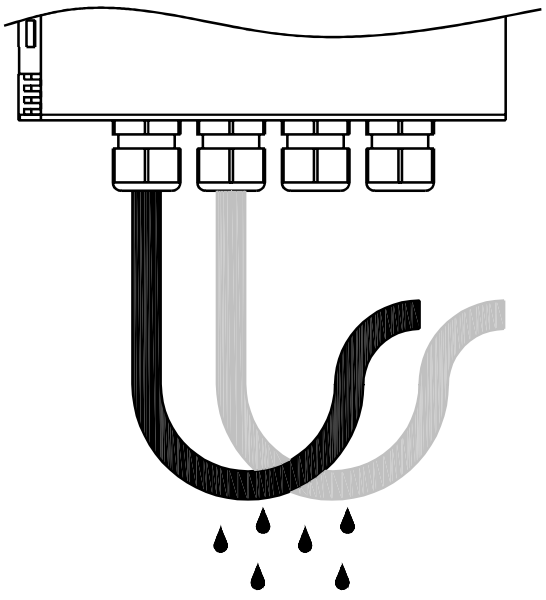
1) Separate the power cables of the Agritherm T5 from the signal cables
2) Remove the plugs of the cable glands and open the lid unscrewing the screws.
3) Insert the cables into the transmitter through the cable glands.
4) Close the lid and tighten the cable glands.



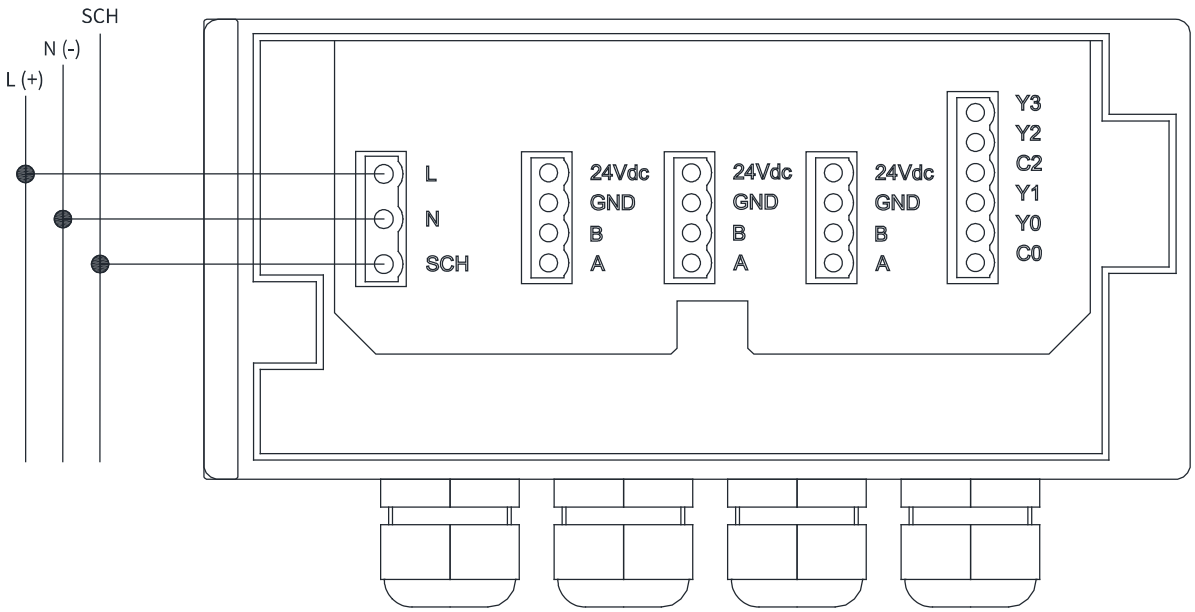
6.2 HUMIDITY INFILTRATIONS

In order to avoid humidity infiltrations inside the enclosure it is recommended:

- to use a cable with outer diameter of 6÷12mm and to fully tighten the M20 cable glands.
- to close the lid well
- to position the cable so that it forms a downward curve at the M20 output; in this way the condensate and/or the rain water will tend to drip from the bottom curve.



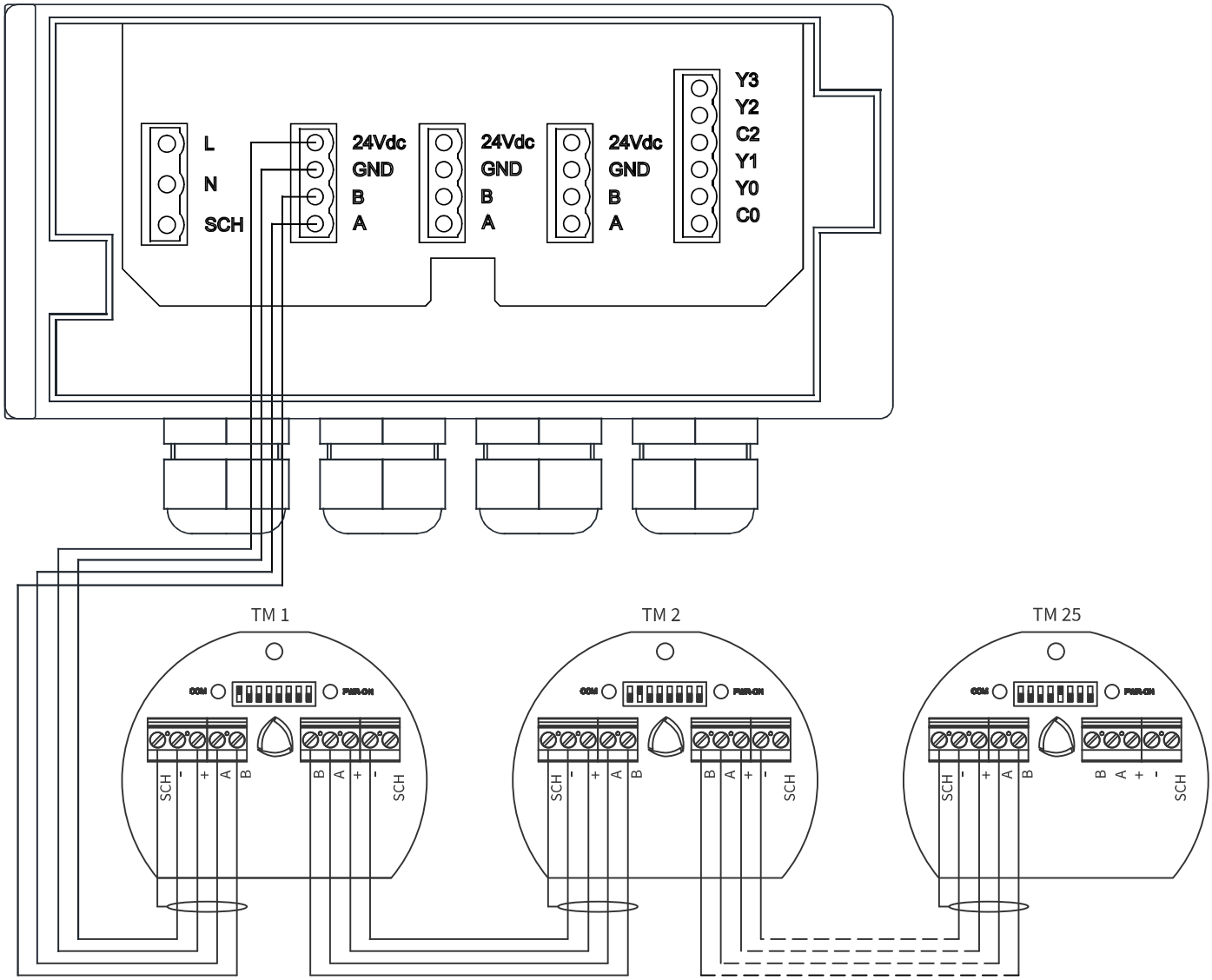
6.3 POWER SUPPLY CONNECTION OF "B/E" VERSIONS



6.4 ELECTRIC CONNECTIONS VERSION B (WALL MOUNTING)

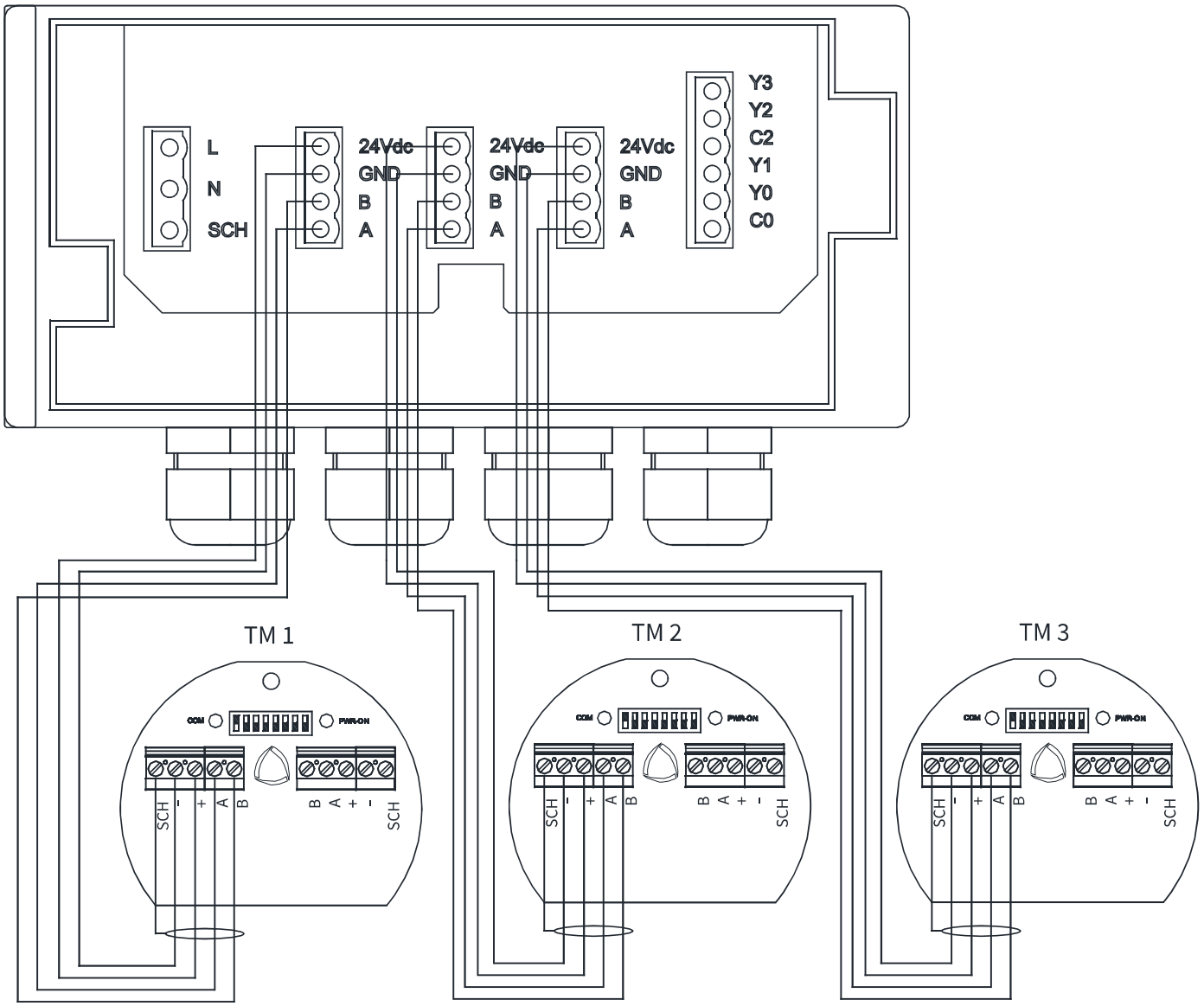
6.4.1 SERIES CONNECTION TO TM PROBES

We suggest to connect TM probes (n.25 max) to AgrithermT5 as shown below.
In case of number of probes greater than 25, it's necessary to provide an external 24Vdc power supply.
N.B.- to set the TM probes with UID addresses from 9 upwards, see paragraph 8.3 of this manual.



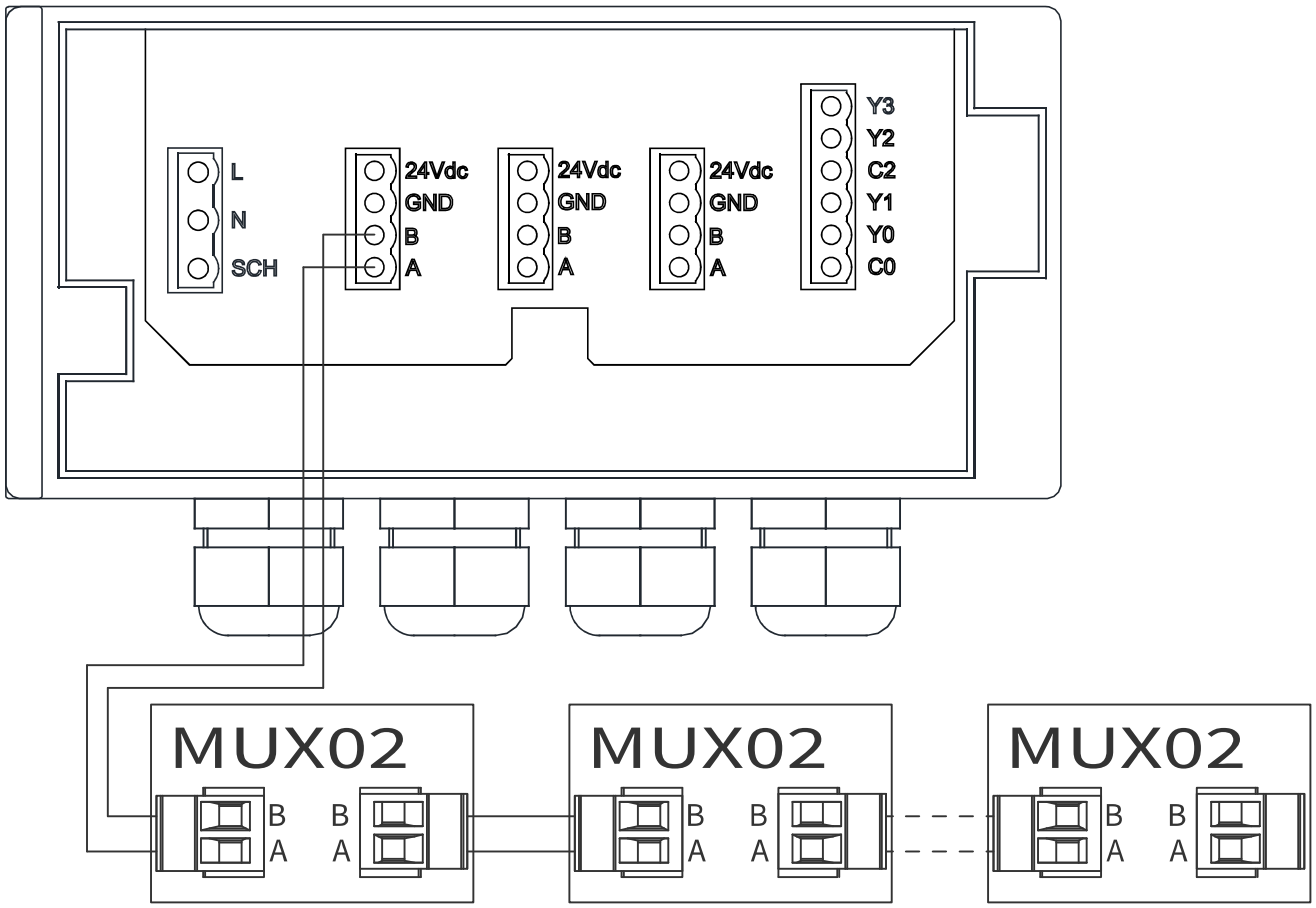
6.4.2 STAR CONNECTION TO TM PROBES

It is possible to make an electric star connection with max. 3 TM probes, but the max. cable length between AgrithermT5 and TM must be 25m.



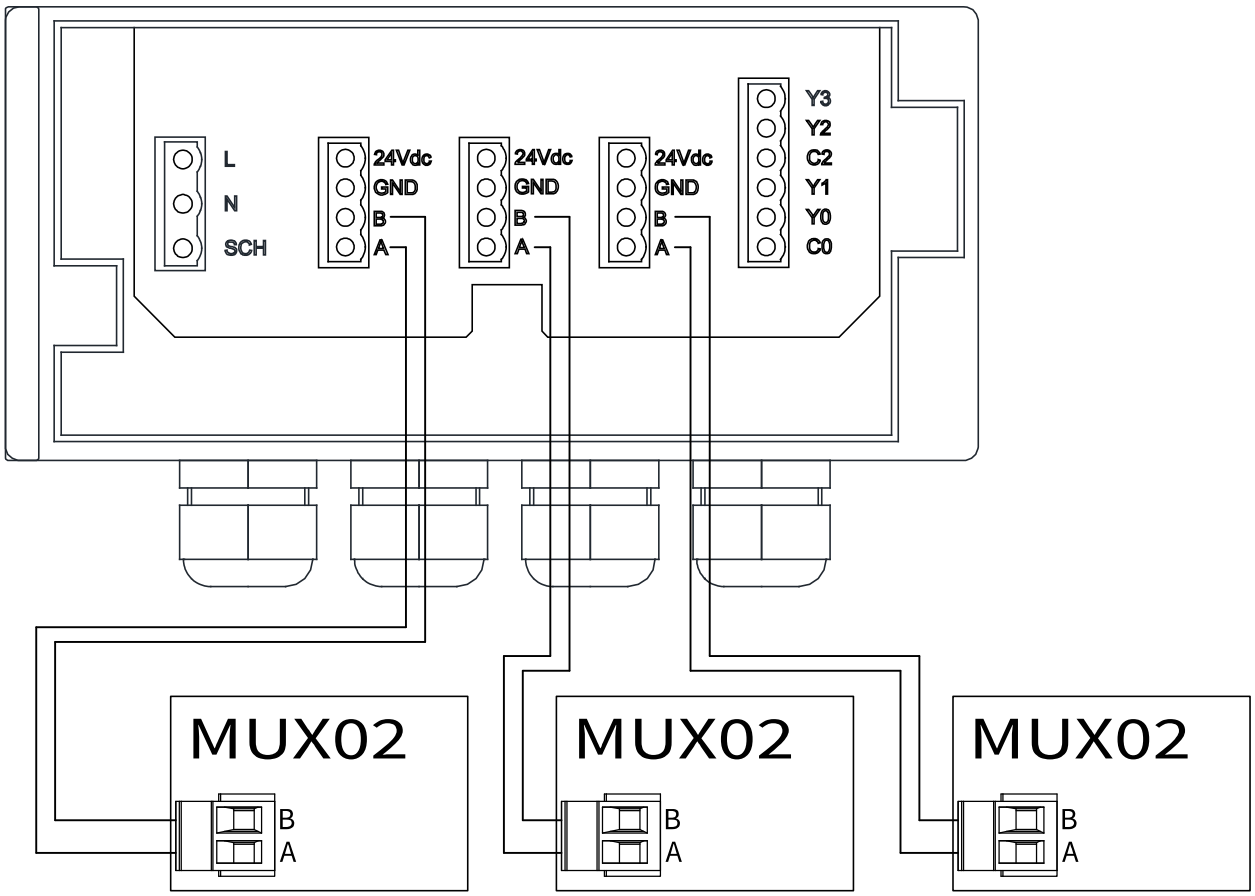
6.4.3 SERIES CONNECTION OF MUX02 CONCENTRATOR

The series connection between MUX02 and AGRITHERMT5 is recommended, as shown in the following wiring diagram.



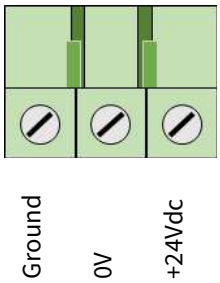
6.4.4 STAR CONNECTION TO MUX02 CONCENTRATORS

It's possible to make a star connection with max 3 MUX02, but the maximum length of the connection cable between AGRITHERT5 and MUX02 must not exceed 25m.



6.5 24VDC POWER SUPPLY CONNECTION OF "A/D" VERSIONS

24Vdc power supply must be connect to the removable power connector.



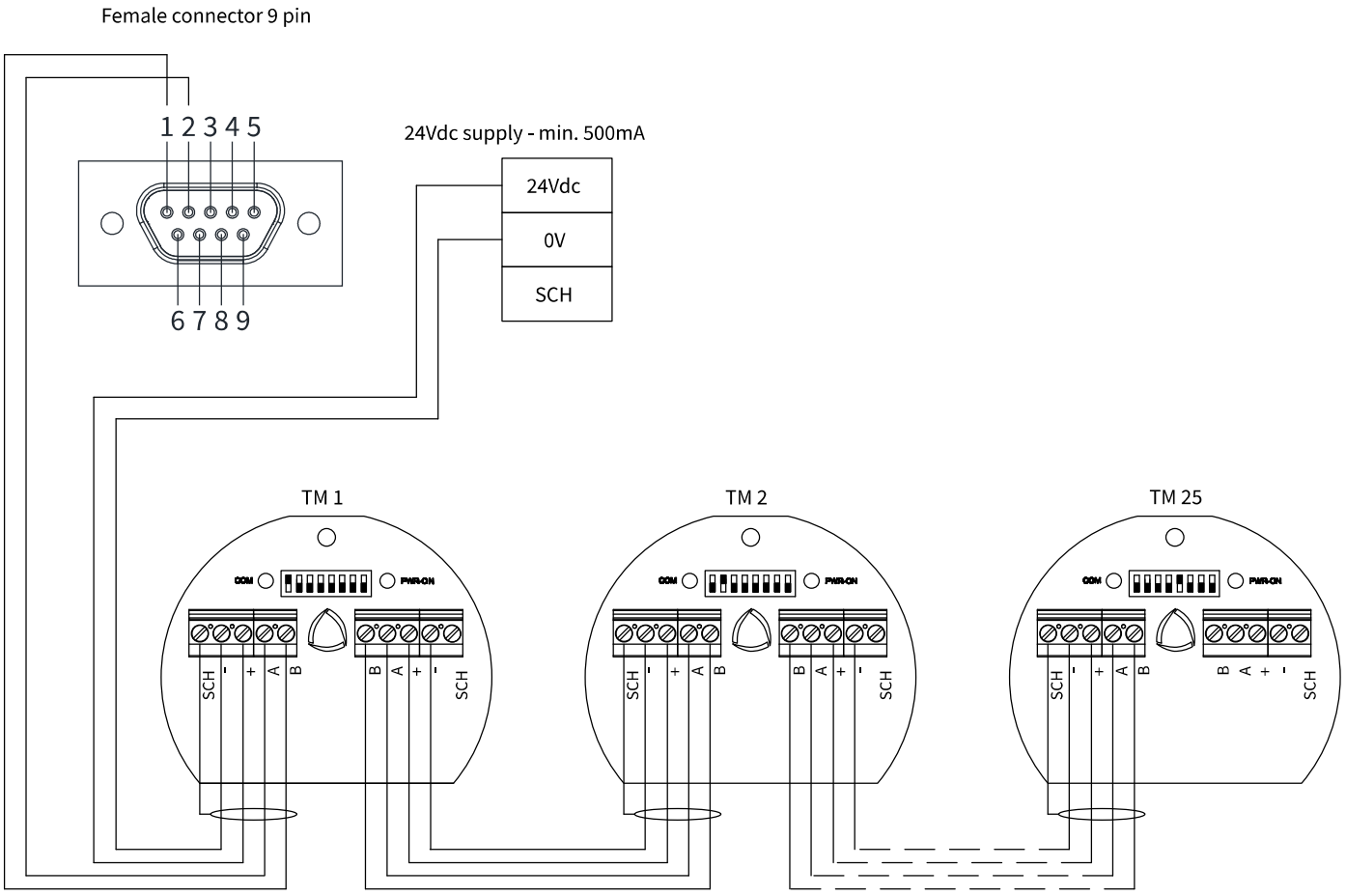
6.6 ELECTRICAL CONNECTION VERSION "A/D" (PANEL MOUNTING)

CONNECTION TO TM PROBES (n.5 max) VIA MODBUS PORT
MODBUS connection to TM probes or MUX02 must be made with 2 wires in COM1 [RS485]:

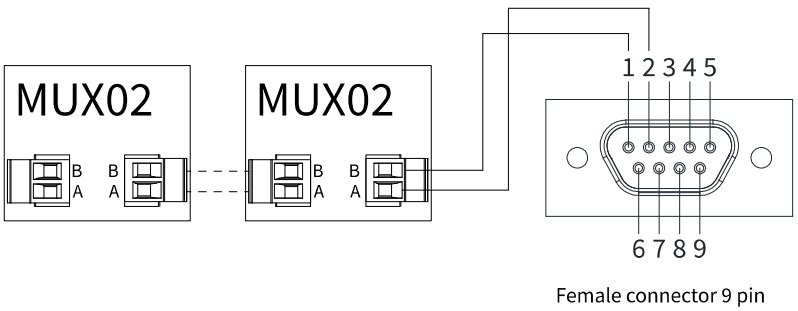
- Pin 1 > B
- Pin 2 > A

6.6.1 SERIES CONNECTIONS OF TM PROBES

N.B.- to set the TM probes with UID addresses from 9 upwards, see paragraph 8.3 of this manual

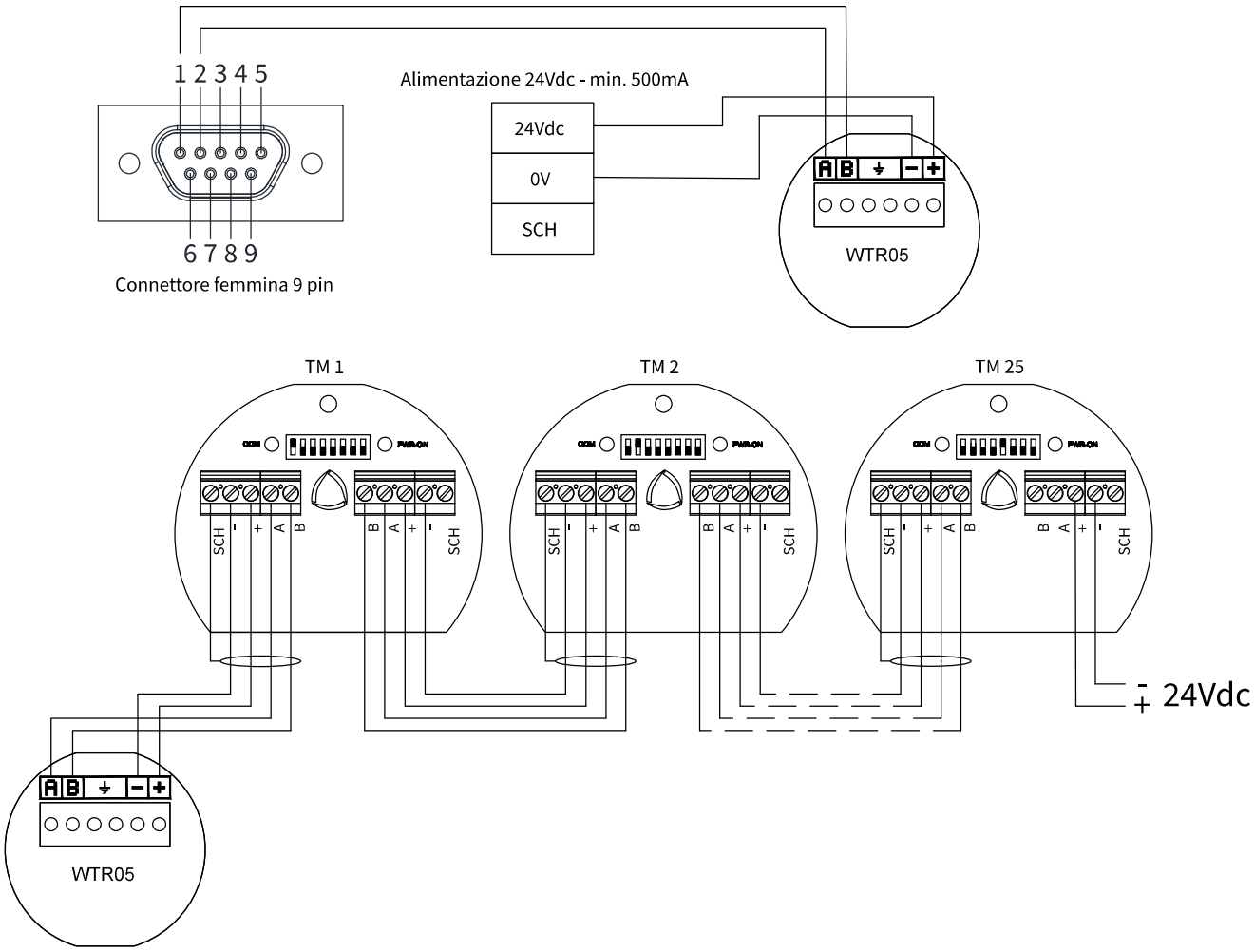


6.6.2 SERIES CONNECTIONS OF TM PROBES

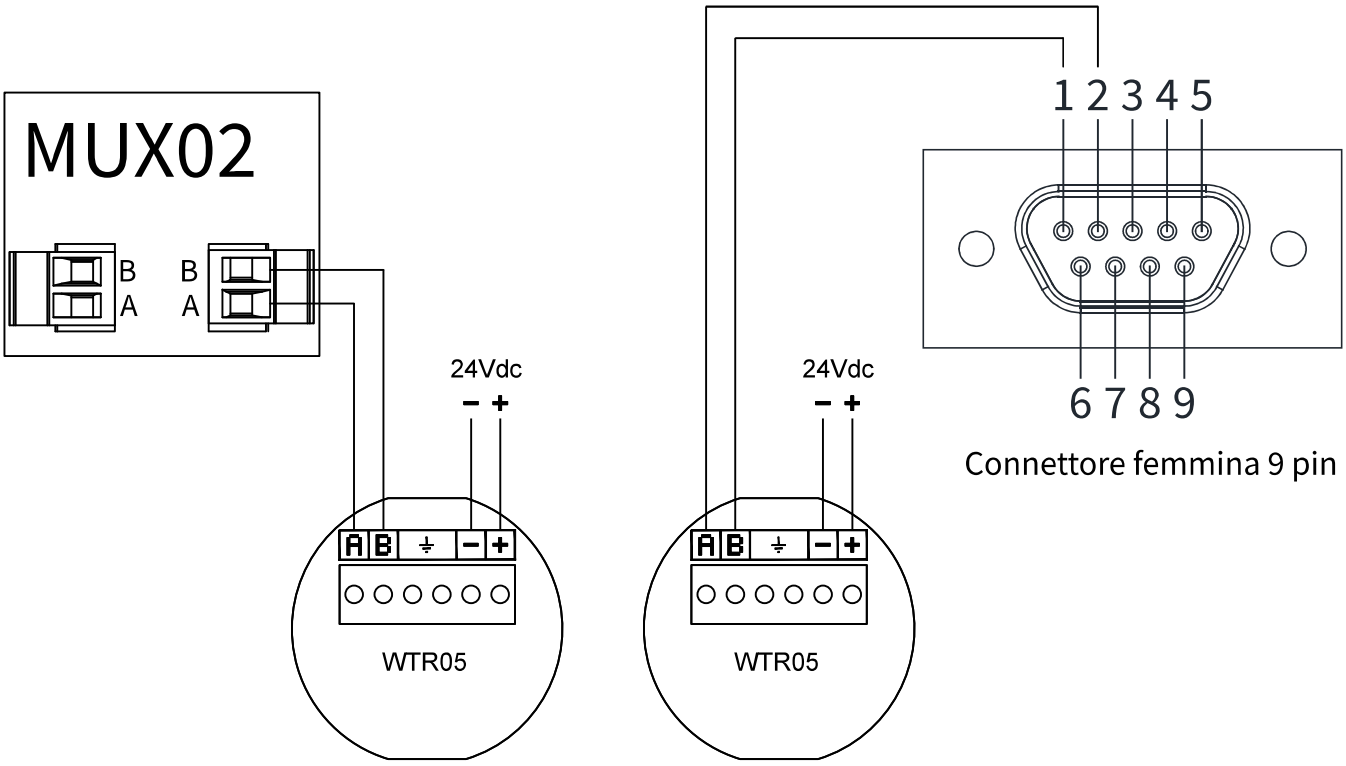


6.7 CONNECTION WITH WIRELESS MODBUS TRANSMITTER WTR05

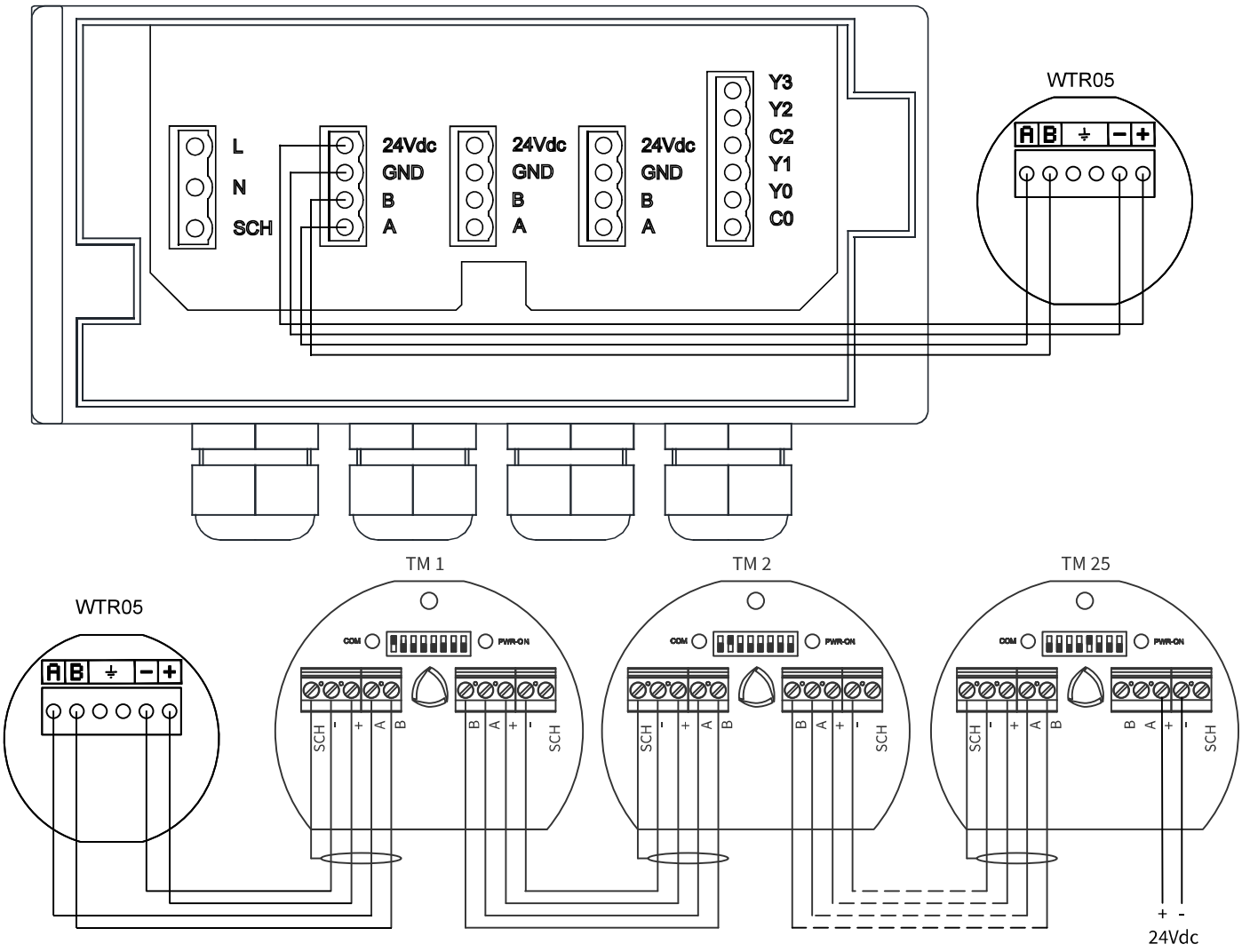
6.7.1 ELECTRICAL CONNECTIONS “A/D” VERSION (FRONT PANEL MOUNTING) TO WTR05



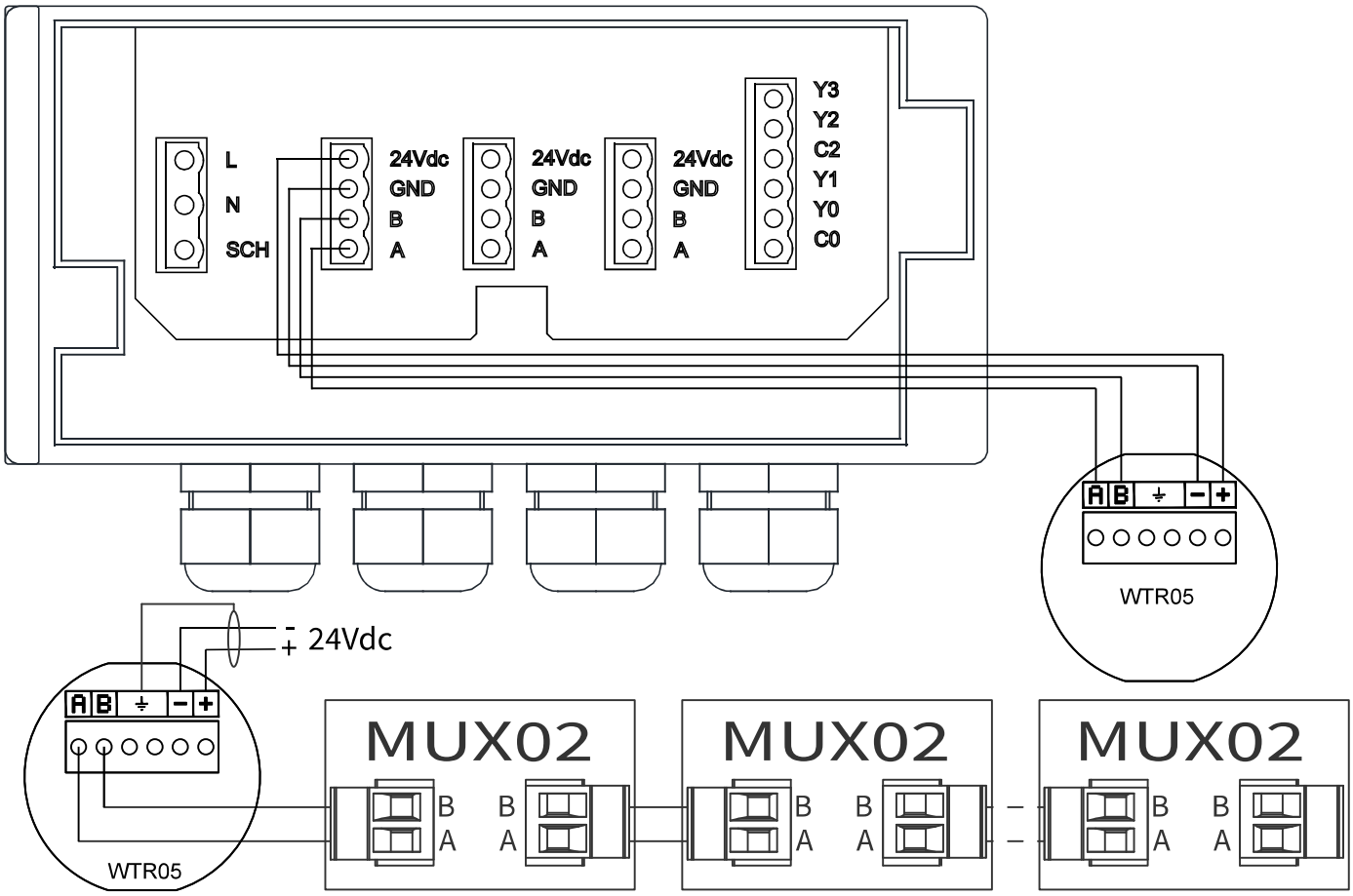
6.7.2 SERIES CONNECTION OF MUX02 CONCENTRATORS WITH WTR05



6.7.3 ELECTRICAL CONNECTIONS VERSION B (WALL MOUNTING) WITH WTR05

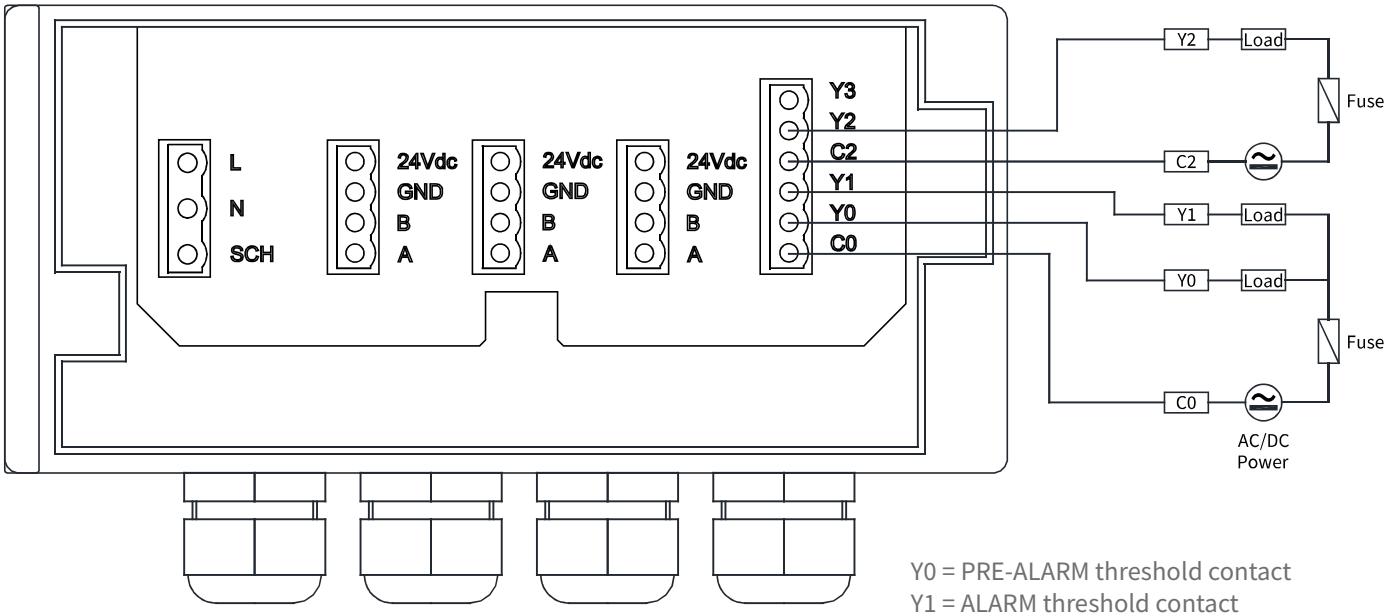


6.7.4 STAR CONNECTION TO MUX02 CONCENTRATORS WITH WTR05



6.8 ELECTRICAL CONNECTIONS WITH OPTIONAL RELAY MODULE

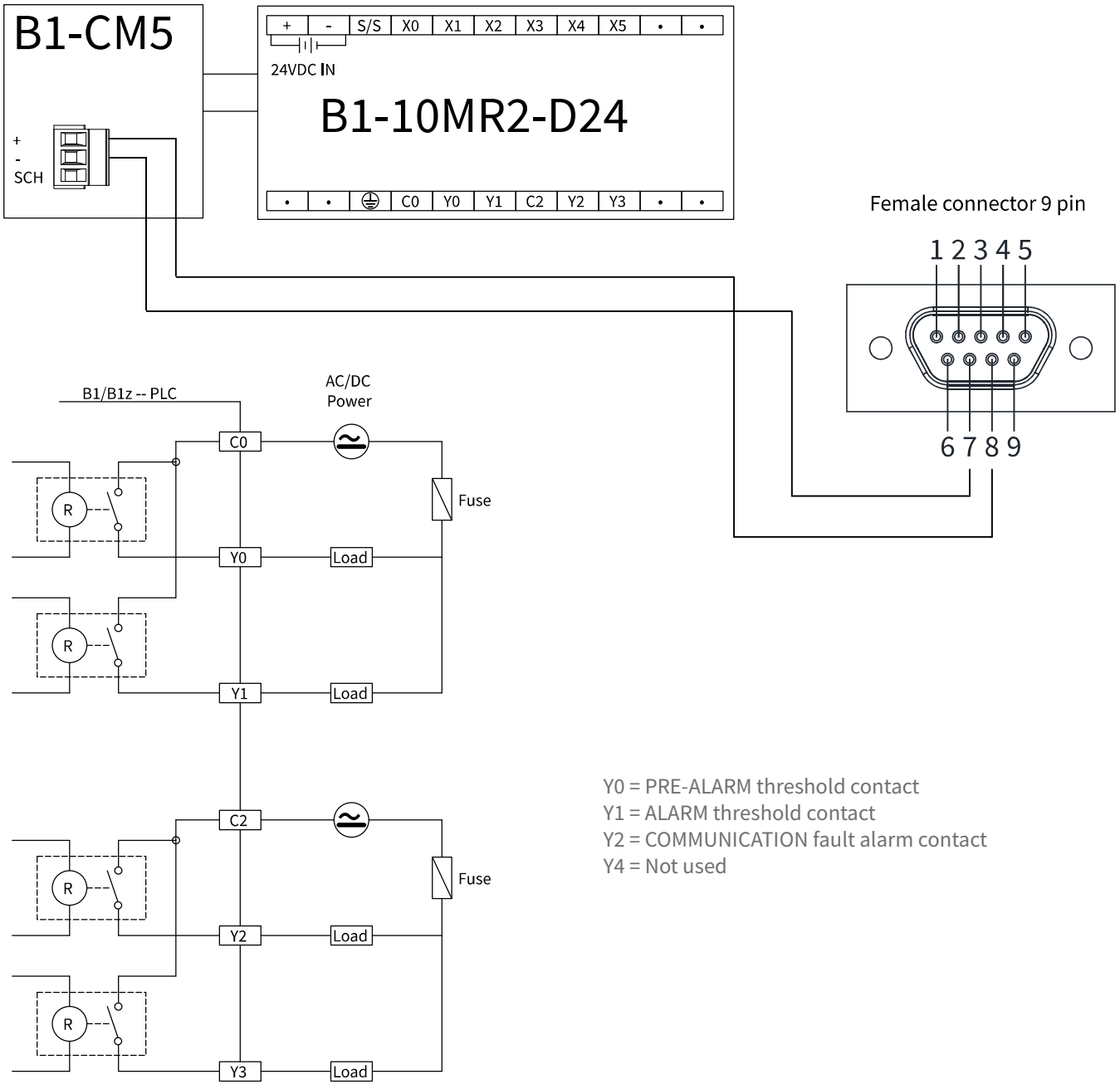
6.8.1 “E” VERSION FOR WALL MOUNT



Y0 = PRE-ALARM threshold contact
Y1 = ALARM threshold contact
Y2 = COMMUNICATION fault alarm contact
Y4 = Not used

6.8.2 “D” VERSION FOR PANEL MOUNT

B1-10MR2-D24 external relay module must be connected to COM3 port with connection interface B1-CM5 as shown below.



Y0 = PRE-ALARM threshold contact
Y1 = ALARM threshold contact
Y2 = COMMUNICATION fault alarm contact
Y4 = Not used

7-DISPLAY

7.1 KEYS LEGEND

UP ARROW

DOWN ARROW

LEFT ARROW

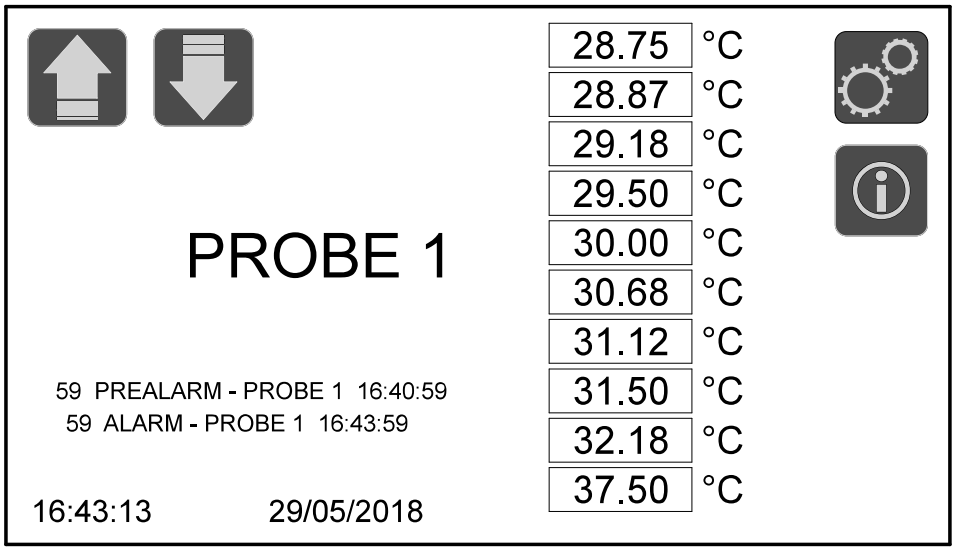
SETUP

INFO

ENTER

7.2 TEMPERATURES DISPLAY

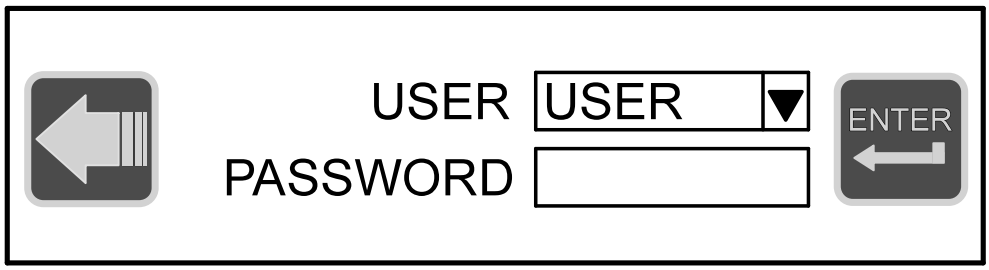
The temperatures detected by the probes are automatically and cyclically shown on the display.
The system automatically scrolls the pages every 20 seconds.
The values in yellow indicate that the average temperature has been exceeded and the values in red indicate that the maximum temperature has been exceeded.
Scrolling notices (in yellow and red) indicate which probe is detecting a temperature alarm.



The operator can proceed with a manual scroll by Taping UP ARROW (next probe) and DOWN ARROW (previous probe).
INFO key opens the pop up window of System Info. With LEFT ARROW the display will go back to previous page.

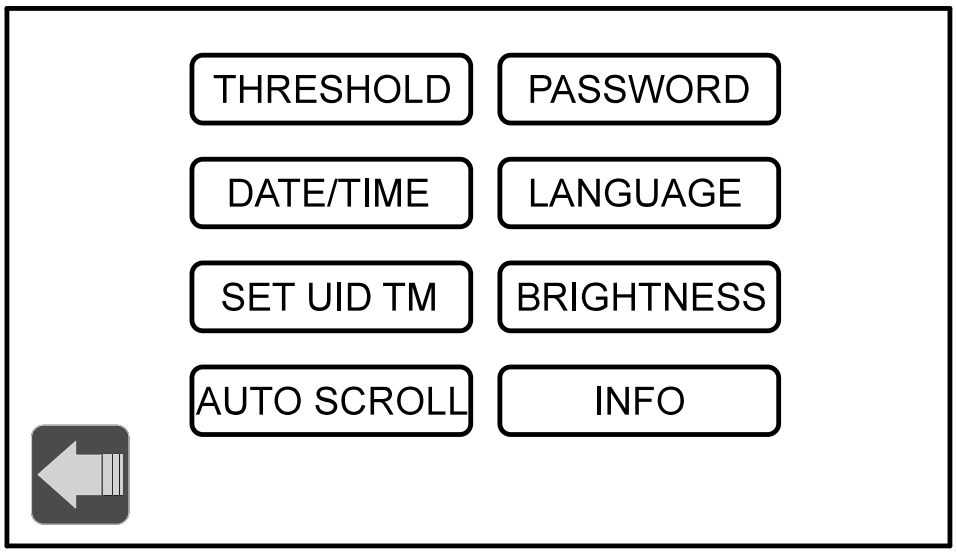
8-SETTING

Tap on SETUP button to enter the setting menu.



Password entering:

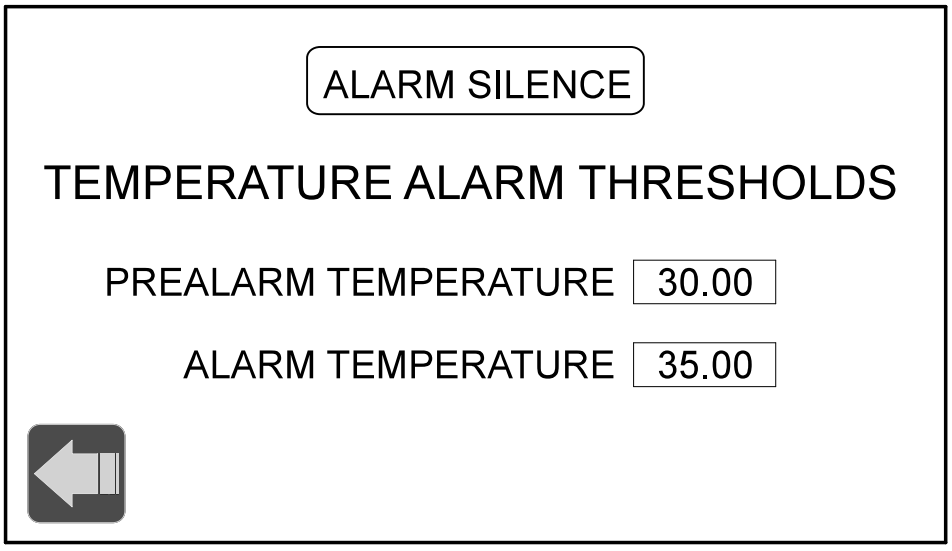
Open the drop-down list ▼ and select USER, then Tap on “password” field for the input keypad.
Digit the default password 12345 (which can be modified in the advanced settings) and Tap ENTER.
To enter the setting menu Tap ENTER again.



Tap LEFT ARROW to go back to SET UP menu.

8.1 THRESHOLD

Tap on “THRESHOLD” to modify the displayed temperature alarm thresholds.



Tap on the grey value field to display the input keypad and digit the value. Tap ENTER to confirm.
Tap LEFT ARROW to go back to SET UP menu.

8.1.2 ALARM SILENCE (ONLY FOR VERSION WITH RELAY ALARM MODULE)

Press the “ALLARM SILENCE” key to reset the relay alarm condition.

8.2 DATE/CLOCK

Tap on “DATE/CLOCK” to modify day, month, year, hour, minutes or seconds.
Tap on the date field to display the input keypad and proceed with the modification.
Tap ENTER to confirm.
Tap LEFT ARROW to go back to SET UP menu.

8.3 SET UID TM

Push on “SET UID TM” to access UID address settings. (Only for UID from 9 to 35).
In order to set UID on TM probe, proceed as follow:

1) Disconnect the probe that needs new UID setting.
2) Set the first 4 dip switch ON, others on OFF.
3) Connect the probe to AGRITHERMT5 and turn on power supply.
4) Push on “STARTING THE PROCEDURE”.
5) Pushing on “NEW UID ADDRESS” a numeric keypad will appear. Set the UID value
6) The window “STORED UID ADDRESS?” will confirm the right setting.

The function “TM INITIALIZATION” is usefull in case of auto-setup for new electronic units of TM probes (E.g. electronic parts replacement); for auto-setup proceed as follow:

1) Disconnect the probe that needs to be setted.
2) Set the first 4 dip switch ON, others on OFF.
3) Connect the probe to AGRITHERMT5 and turn on power supply.
4) Push on “START PROCEDURE”.
5) Push on “TM INITIALIZATION”.

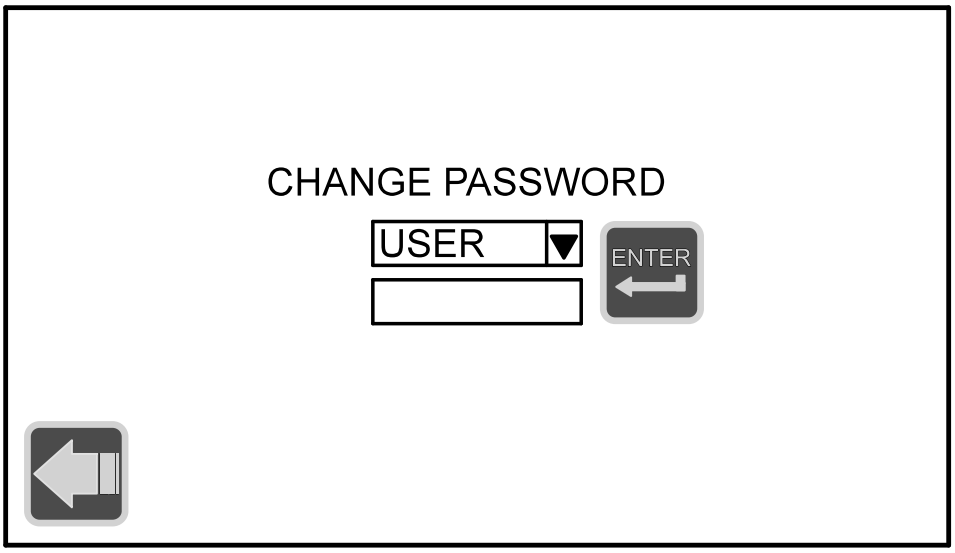
Premendo su FRECCIA SINISTRA si torna alla pagina precedente.

8.4 AUTO SCROLL

Push on “AUTO SCROLL” to access the settings.
Act on switch to enable or disable the automatic pages scroll function.

8.5 PASSWORD

Tap on “PASSWORD” to modify the default password.



Tap on the empty field to display the input keypad and digit the new password.
Tap “ENTER” to confirm, and then “ENTER” again to save it.
Tap LEFT ARROW to go back to SET UP menu.

8.6 LANGUAGE

Tap on “LANGUAGE” and select the flag corresponding to the required language:

- Italian
- English
- French
- Spanish
- German
- Portuguese
- Russian
- Chinese

Tap LEFT ARROW to go back to SET UP menu.

8.7 BRIGHTNESS

Tap on BRIGHTNESS to adjust the display brightness.
Tap LEFT ARROW to go back to SET UP menu.

8.8 INFO

Tap on “INFO” to display the instrument data.
Tap LEFT ARROW to go back to SET UP menu.

9-SETTING UPDATE VIA USB

AGRITHERMT5 is supplied with customized setting according to customer's requirements.

In case of implementation/modification of the plant, the new setting (902A005A) will be supplied by SGM LEKTRA on an USB pendrive.
In order to upload the new setting file proceed according to the following steps:

1) Insert the pendrive into AGRITHERMT5 USB port (for version "B" it is accessible by unscrewing the display panel); the "Download / Upload" dialogue box will be automatically shown
2) Select "Download".
3) Input the download password (the serial number of the instrument without the first letters).
4) In "Download Settings" flag both "Download project files" and "Download history files"
5) Tap "OK".
6) In "Pick a Directory", select: usbdisk\disk_a_1
7) Tap "OK".

10-FACTORY TEST AND QUALITY CERTIFICATE

With reference to the equipment:

(Display unit)

I certify that materials, dimensions, and product performance are in compliance with our production and inspection specifications.

Quality Control: ..... Date of production and test: .....

SGM-LEKTRA S.r.l.
Via Papa Giovanni XXIII, 49
20053 Rodano (MI) - ITALY
tel: ++39 02 95328257
fax: ++39 02 95328321
e-mail: info@sgm-lektra.com
web: sgm-lektra.com