

USP | PASSIVE POTENTIOMETER

Mounting and operating instructions



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SAFETY AND PRECAUTIONS



Read all the information, the datasheet, mounting and operating instructions and study the wiring and connection diagram before working with the product. For personal and equipment safety, and for optimum product performance, make sure you entirely understand the contents before installing, using, or maintaining this product.



For safety and licensing (CE) reasons, unauthorised conversion and /or modifications of the product are inadmissible.



The product should not be exposed to abnormal conditions, such as: extreme temperatures, direct sunlight or vibrations. Long-term exposure to chemical vapours in high concentration can affect the product performance. Make sure the work environment is as dry as possible; avoid condensation.



All installations shall comply with local health and safety regulations and local electrical standards and approved codes. This product can only be installed by an engineer or a technician who has expert knowledge of the product and safety precautions.



Avoid contacts with energised electrical parts; always treat the product as if it is live. Always disconnect the power supply before connecting, servicing or repairing the product.



Always verify that you apply appropriate power supply to the product and use appropriate wire size and characteristics. Make sure that all the screws and nuts are well tightened and fuses (if any) are fitted well.



Recycling of equipment and packaging should be taken into consideration and these should be disposed of in accordance with local and national legislation / regulations.



In case there are any questions that are not answered, please contact your technical support or consult a professional.

PRODUCT DESCRIPTION

The USP-X10K-NA is a passive potentiometer intended for controllers that need 0–10 VDC input. The desired output voltage is adjustable steplessly from 0 to the supply voltage (U_s) via a rotary knob. It is equipped with a switch (dry contact) for remote ON / OFF switching of external equipment.

INTENDED AREA OF USE

- Ventilation control in buildings
- EC fans / motors control

TECHNICAL DATA

- Supply voltage: max. 12 VDC
- Output voltage: 0– U_s
- Potentiometer resistance: 10 k Ω
- Built-in switch rating: 4 A / 250 VAC or 10 A / 12 VDC
- Enclosure:
 - plastic R-ABS, UL94-V0
 - grey colour (RAL 7035)
- Operating ambient conditions:
 - temperature: -5–65 °C / 23–149 °F
 - rel. humidity: 5–85 % rH (non-condensing)
- Storage temperature: -20–70 °C / -4–158 °F

STANDARDS

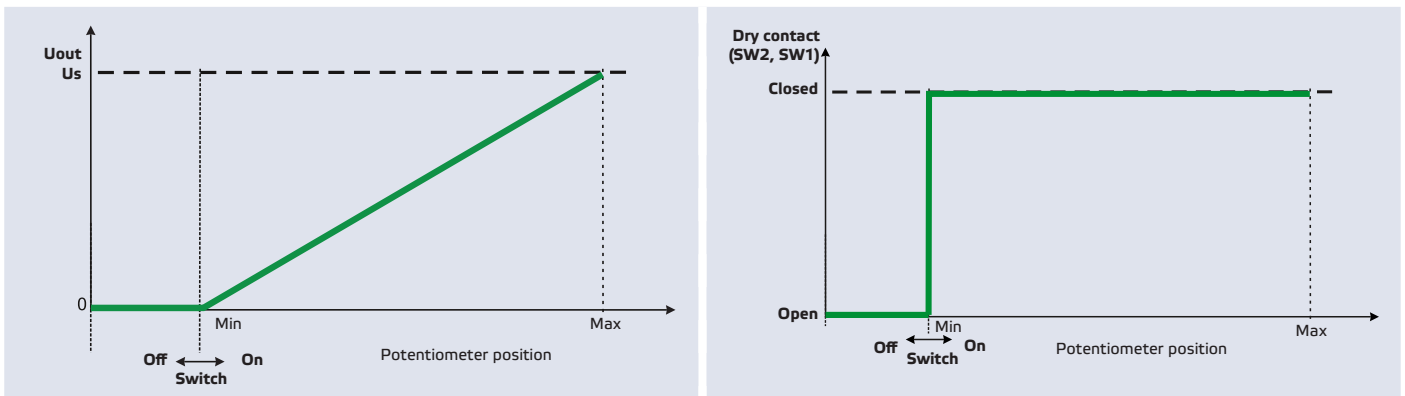
- WEEE Directive 2012/19/EC
- RoHs Directive 2011/65/EC



WIRING AND CONNECTIONS

2 black wires (SW1 and SW2)	Dry contact for remote ON / OFF	
Red wire (U_s)	Supply voltage (U_s)	
Blue wire (+)	Output voltage (0– U_s)	
Grey wire (–)	Ground	
Cable cross section	Dry contact	0,75 mm ² / AWG 18
	Ground, output voltage and supply voltage	0,50 mm ² / AWG 20

OPERATIONAL DIAGRAMS



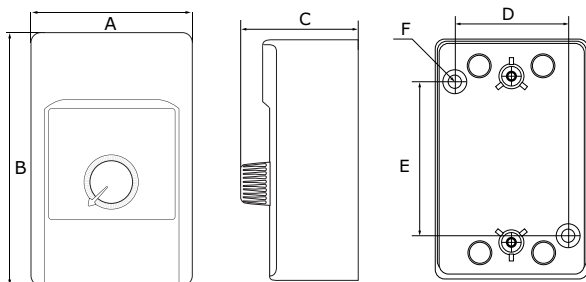
MOUNTING INSTRUCTIONS IN STEPS

Before you start mounting the USP, read carefully **“Safety and Precautions”**. Choose a flat surface for installation (a wall, panel, etc.).

Follow these steps:

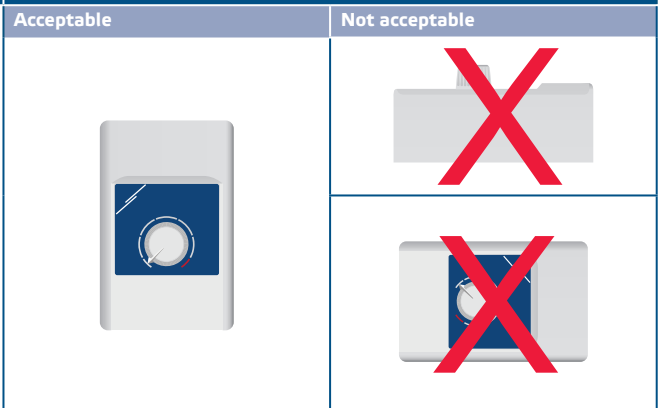
1. Remove the potentiometer knob and unscrew the nut to open the cover of the enclosure.
2. Remove any of the four pre-stamped cable entries on the rear of the enclosure to insert the wires.
3. Mount the unit onto the wall or panel using suitable fasteners. Mind the correct mounting position and unit mounting dimensions. (See **Fig. 1** and **Fig. 2**)

Fig. 1 Mounting dimensions



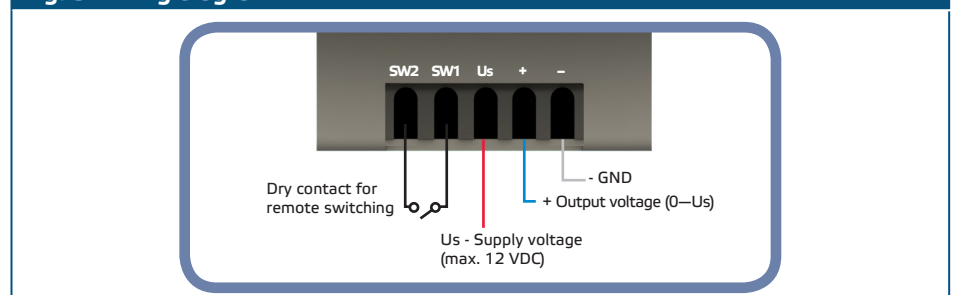
A	B	C	D	E	F
70 mm / 2,76 "	115 mm / 4,52 "	58 mm / 2,28 "	51 mm / 2,01 "	80 mm / 3,15 "	2 x Ø 4,8 mm / 0,19 "

Fig. 2 Mounting position



4. Do the wiring according to the wiring diagram (see **Fig. 3**) adhering to the information from section **“Wiring and connections”**.

Fig. 3 Wiring diagram



5. **OPTIONAL:** Connect the two black wires (dry contact) to the remote equipment. If you do not need the remote ON/OFF function, skip this step.
6. Connect the grey, blue and red wires as indicated in the product datasheet.

ATTENTION

Make sure you use cables with an appropriate diameter.

ATTENTION

Make sure the connections are correct before you power the unit.

7. Put back the cover and fix it. Put back the knob.
8. Switch on the power supply.

VERIFICATION OF INSTALLATION INSTRUCTIONS

ATTENTION

Mind that the cables are live. Take the relevant safety measures.

- Switch on the power supply.
- Set the output voltage via the rotary knob.
- The potentiometer is intended for voltage controllable equipment. In case of faulty operation, please check if:
 - ▶ the right voltage is applied;
 - ▶ all connections are correct;
 - ▶ the regulated device is functioning.

TRANSPORT AND STOCK KEEPING INFORMATION

Avoid shocks and extreme conditions; stock in original packing.

WARRANTY INFORMATION AND RESTRICTIONS

Two years from the delivery date against defects in manufacturing. Any modifications or alterations to the product after the date of publication relieve the manufacturer of any responsibilities. The manufacturer bears no responsibility for any misprints or mistakes in this data.

MAINTENANCE

In normal conditions this product is maintenance-free. If soiled, clean with a dry or dampish cloth. In case of heavy pollution, clean with a non-aggressive product. In these circumstances the unit should be disconnected from the supply. Pay attention that no fluids enter the unit. Only reconnect it to the supply when it is completely dry.