



The USV-8/010-PA is an active potentiometer (supply voltage 85–264 VAC / 50–60 Hz) with 0–10 VDC / 0–20 mA / PWM output and is developed to control EC fans / motors or other devices that require a 0–10 VDC / 0–20 mA / PWM input signal.

Key features

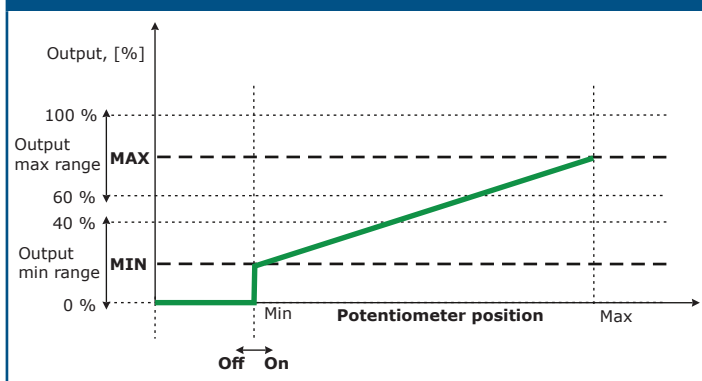
- Adjustable output value from minimum to maximum with indexed zero-output at leftmost position
- Analog / modulating output type selectable via jumper
- Minimum and maximum output value adjustable via two internal trimmers
- Wide supply voltage range

Technical specifications

Supply voltage	85–264 VAC / 50–60 Hz	
Analog output types	0–10 VDC mode:	min. load 50 kΩ ($R_L \geq 50 \text{ k}\Omega$)
	0–20 mA mode:	max. load 500 Ω ($R_L \leq 500 \Omega$)
	PWM mode:	PWM Frequency – 1 kHz, amplitude – 14 VDC, min. load 50 kΩ ($R_L \geq 50 \text{ k}\Omega$)
Minimum output	0–40 %	
Maximum output	60–100 %	
Imax	15 mA	
Ambient conditions	Operating temperature	-5–65 °C / 23–149 °F
	Rel. humidity	5–85 % rH (non-condensing)
Storage temperature	-20–70 °C / -4–158 °F	



Operational diagrams



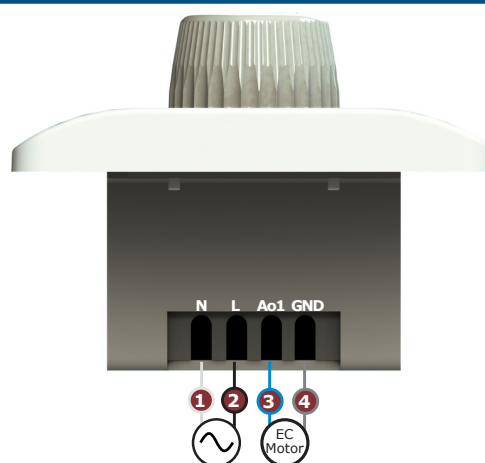
Standards

- Low Voltage Directive (LVD) 2014/35/EC
- EN 60335-1:2012 Household and similar electrical appliances - Safety - Part 1: General requirements Amendments A11:2014 and AC:2014 to EN 60335-1:2012
- EN 60730-1:2011 Automatic electrical controls for household and similar use Part 1: General requirements
- EN 62233:2008 Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure
- Amendment AC:2008 to EN 62233:2008
- Electromagnetic Compatibility (EMC) Directive 2014/30/EC
- EN 60730-1:2011 Automatic electrical controls for household and similar use - Part 1: General requirements
- EN 61000-6-1:2007 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light industrial environments
- EN 61000-6-3:2007 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments Amendments A1:2011 and AC:2012 to EN 61000-6-3:2007
- WEEE 2012/19/EC
- RoHS Directive 2011/65/EC

Area of use

- Fan speed control in ventilation systems or air-conditioning systems
- Direct EC fan / motor control of whole house fans, fireplace blowers, humidifiers, range hoods, etc.

Wiring and connections



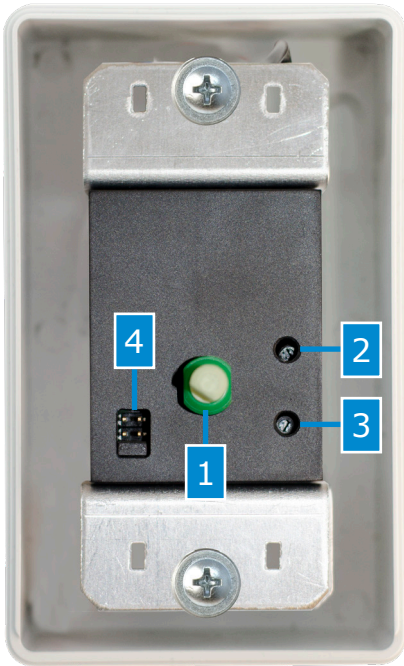
1 - White wire (N)	Neutral	
2 - Black wire (L)	Power supply, phase 85–264 VAC / 50–60 Hz	
3 - Blue wire (Ao1)	Analog / modulating output to motor: 0–10 VDC / 0–20 mA / PWM	
4 - Grey wire (GND)	Ground	
Cable cross section	Supply cables	0,75 mm ² / AWG 18
	Output cables	0,50 mm ² / AWG 20




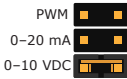


USV

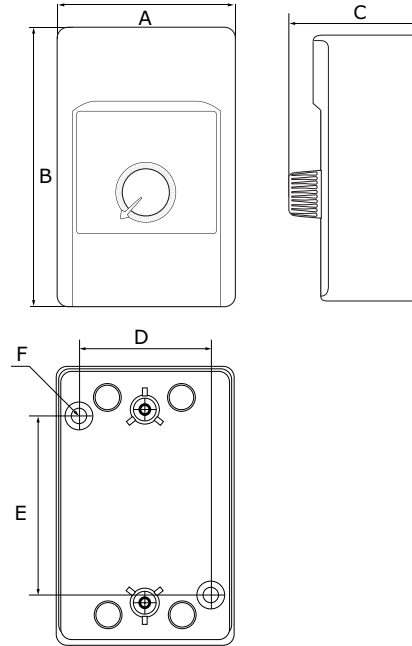
Active potentiometer

Settings



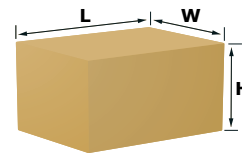
1 - Output voltage potentiometer		Adjusts the output voltage
2 - Maximum output trimmer		Adjusts the max. value from 60 to 100 %
3 - Minimum output trimmer		Adjusts the min. value from 0 to 40 %
4 - Output selection jumper		Sets the output mode: 0—10 VDC / 0—20 mA / PMW

Fixing and 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 "

Packaging



Article code	Packaging	Length	Width	Height	Net weight	Gross weight
USV	Unit (1 pc.)	125 mm / 4,94 "	80 mm / 3,14 "	70 mm / 2,76 "	0,18 kg / 0,40 lb	0,24 kg / 0,53 lb
	Box (70 pcs.)	590 mm / 23, 23 "	380 mm / 14, 96 "	500 mm / 19, 69 "	12, 60 kg / 27,78 lb	18,03 kg / 39,74 lb