MZ3-V11
Controller/positioner for comfort ventilation

Functions

- Positioner and controller for comfort ventilation with touch panel
- Design according to Feller EDIZIOdue®
- Manual operation with up to 4 Levels, OFF, minimum air, 1st Level, 2nd Level, maximum air
- AUTO operation: The controller activates the ventilation based on controls curve. The controls curve may be adjusted
- Automatic reset of the maximum air level
- One 0…10 VDC controls output to control the ventilation system
- One 0…10 VDC input to measure CO2 or other sensors
- Password protected controls settings

Applications

This device is designed to control ventilation systems for comfort applications. For example, for well insulated residential areas which are required to be ventilated.

General description

The MZ3-V11 is a microprocessor-controlled precision positioner and controller with touch panel. Through user and engineering parameters the positioner may be configured to work for most of the standard ventilation applications. The device is pre-configured according to this documentation. Settings such as switching levels of the control curve and ventilation strengths for each Level may be adjusted. The configuration may be performed using the programming device called OPA-S. This device may be used as well to visualize measuring values.

Ordering

Item	Item code	Variant	Features
MZ3-V11-T4-W	40-100065	Green LED White frame, Without lettering	Compact positioner/controller in a Feller EDIZIOdue® frame, with each one 0-10 VDC in- and output for CO2 sensor. Operation as 4-Level switch with touch panel and AUTO function.
MZ3-V11-T4-S	40-100066	Green LED Black frame Without lettering	
MZ3-V11-B1-T4-W	40-100213	Blue LED White frame Lettering: Minimum, Level I, Level II, Maximum	
MZ3-V11-B-T4-W	40-100209	Blue LED White frame Lettering: Minimum, Normal, Maximum, Party	
MZ3-V11-B2-T3-W	40-100218	Blue LED White frame Lettering: Unoccupied, Occupied, Party	Same basic data, only with 3-Level switch
OPA-S	40-500006	Programming and display device	LCD display for surface mounting or handheld operation.

Interface to the ventilation system

The positioner works with all ventilation systems that are designed with a 0...10 VDC or 2...10 VDC input signal.

Selection of transmitters

The positioner works with all sensors that provide an output signal of 0...10 VDC or 2...10 VDC. The measuring range needs to be observed.

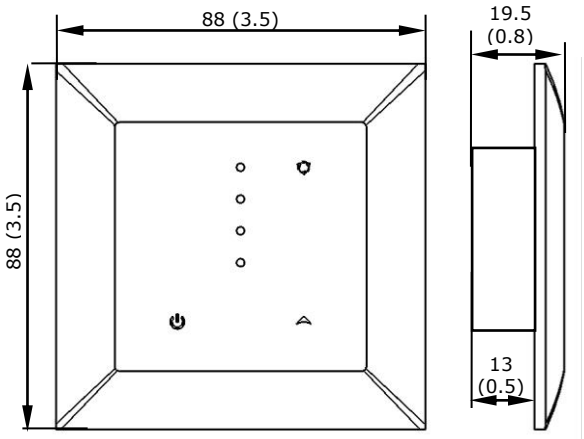
For example: CO2 0...2000 ppm = 0...10 VDC or 2...10 VDC.

Technical data

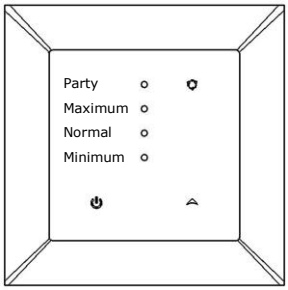
Power supply	Operating voltage	24 V AC/DC ± 10%, 50/60 Hz, Class 2 48 VA max
	Power consumption	Max. 1,0 VA
	Power backup for real time clock	Super cap, keeps clock running for 24 h without power
	Electrical connection	Terminal connectors, wire 0,34-2,5 mm^2 (AWG 22…13)
Signal inputs	Analog input	0..10 VDC
Signal outputs	Analog outputs Output signal Resolution Maximum load	 DC 0...10 VDC 9.76 mV (10 Bit) 10 mA or 1 kΩ
Environment	Operation Climatic conditions Temperature Humidity	To IEC 721-3-3 class 3K5 0...50 ° C (32...122 ° F) < 95% RH non-condensing
	Transport & storage Climatic conditions Temperature Humidity Mechanical conditions	To IEC 721-3-2 and IEC 721-3-1 class 3K3 and class 1K3 -25…70 °C (-13…158 °F) < 95% RH non-condensing class 2MT2
Standards	Degree of protection	Wall mounted: IP40 acc. EN 60529 Not installed: IP00 acc. EN 60529
	Safety class	III (IEC 60536)
General	Housing material:	Fireproof ABS+PC plastic (UL94 class V-0)
	Dimensions (H x W x D)	Front part: 88 x 88 x 6,5 mm (3,5” x 3,5” x 0,25”) Back part: ø 58 x 13 mm (ø 2,3” x 0,5”)
	Weight (incl. packaging)	120 g (4.2 oz)

Dimensions mm (in)

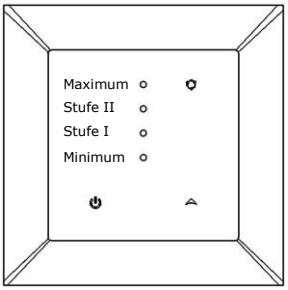
The MZ3-V11 is so designed that it can be incorporated into a commercially available flush box (Feller EDIZIOdue® frame and mounting plate are included).



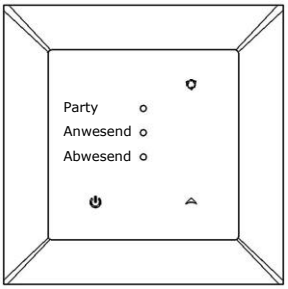
MZ3-V11-B-T4-W



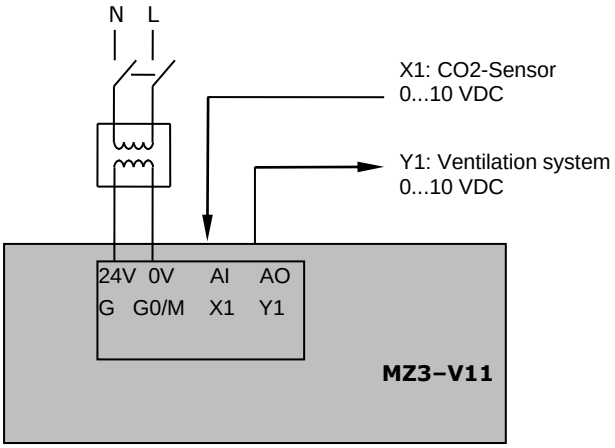
MZ3-V11-B1-T4-W



MZ3-V11-B2-T3-W



Connection diagram



Description:

G0	Power supply:	0 V, -24 VDC, internally connected to signal common
G	Power supply:	24 VAC, +24 VDC
X1	Analog input for sensor	0…10 VDC
Y1	Analog output ventilation:	0…10 VDC

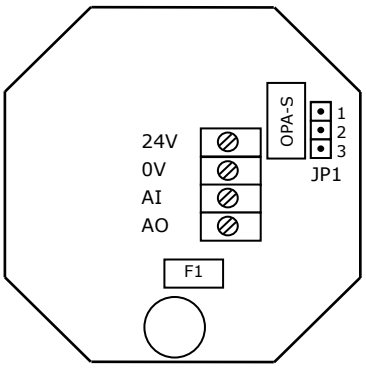
Installation and safety advice

This device is intended to be used as positioner for comfort ventilation systems. Where a device failure endangers human life and/or property, it is the responsibility of the client to add additional safety devices to prevent or detect a system failure caused by such a device failure.
The device contains electronic components and must not be disposed of with household waste.

Setting of the device to keep fan running in minimal volume in OFF mode

If JP1 in position 1-2, the output is off in OFF mode. Ventilation switches off.
If JP1 in position 2-3 or removed, the output stays in OFF mode in Level 0 (minimum air volume)

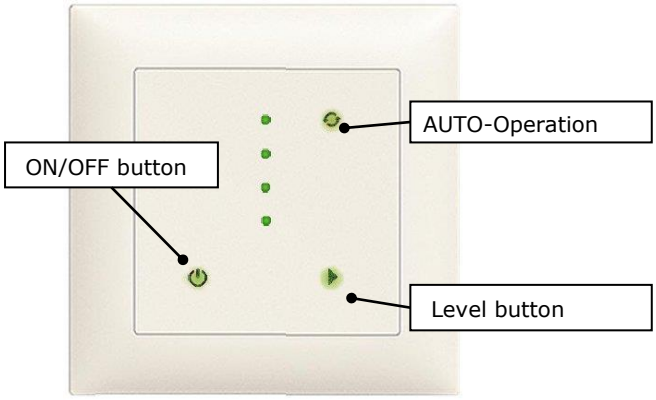
View back side



Display & Operation

ON/OFF operation

The device is activated by pressing the ON/OFF button. Depending on the position of JP1, the minimum air volume remains active even during OFF mode. In OFF mode, the operating mode symbol lights up with reduced intensity



Manual operation

The following operation modes will be activated through repeated pressing of the Level button:
Level 0 = Minimum air volume
Level 1
Level 2
Level 3 = Maximum air volume
Auto operation

The operating modes are activated after 2 seconds. This prevents unnecessary switching when setting the device. The Level-indication and buttons light up in green or blue depending on the type of device.
The device is equipped with proximity detection. When approaching a distance of approx. 10 cm, the luminosity of the LED increases. After 30 seconds without interaction, the LEDs dim down again and thus save energy.

AUTO operation

The automatic operation of the device is enabled once a sensor signal is detected at the input. During AUTO operation the levels are switched by a control signal. The switching levels are defined under IP04 – IP06.
The hysteresis defined with IP07 prevents rapid switching of levels in auto mode.

Function: A level activates once the input signal exceeds the activation limit (IP04-IP06). It deactivates once the input signal drops below the activation limit minus the hysteresis. For example, with a hysteresis of 10% and an activation limit of 40%, the level activates with a 40% input signal and switches down to the next lower level with a 30% input signal. Automatic switching for certain levels may be disabled by setting an activation limit of 0. The sensor signal will then not be able to activate this particular level. This may proof useful for the highest level. (boost mode)
IP08 defines a reset time after which the unit returns to automatic operation once placed into manual.
Setting this time to 0, prevents the automatic reset.

Software configuration

The MZ3-V11 is designed to work for most comfort ventilation applications. It is however possible to fine tune it to fit perfect into the application at hand. The parameters can be changed during operation through an operation unit called OPA-S. The operating unit OPA-S must be connected for the adjustment of the parameters with the MZ3-V11. This connection must not be disconnected earlier than five seconds after the last keystroke.

Input configuration

Parameter	Description	Range	Default
IP00	Input signal show percent	ON, OFF	ON
IP01	Samples taken for averaging input signal	1…255	3
IP02	Offset of input signal (Uout = Uset+Offset)	-10…10	0
IP03	Input signal type OFF = 0-10V, ON = 2-10V	ON, OFF	OFF
IP04	Activation limit for level 1 in auto mode	0...100%	40%
IP05	Activation limit for level 2 in auto mode. Note: Setting this Level to 0, disables it for automatic operation.	0...100%	60%
IP06	Activation limit for level 3 in auto mode Note: Setting this Level to 0, disables it for automatic operation.	0...100%	80%
IP07	Hysteresis in auto mode.	0...100%	10%
IP08	Reset time manual to auto 0: Never reset	0...255 min	0 min

Output configuration

Parameter	Description	Range	Default
OP00:	Output level 0	0...100%	20% = 2 V
OP01:	Output level 1 Note: setting a level to 0 disables it	0...100%	40% = 4 V
OP02:	Output level 2 Note: setting a level to 0 disables it	0...100%	60% = 6 V
OP03:	Output level 3 Note: setting a level to 0 disables it	0...100%	100% = 10 V
OP04:	Automatic reset time of the highest level to the 2nd highest level. The reset is deactivated with setting = 0	0...255 min	120 min