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## AS-225D

12-channel  
cascade controller



**Do not dispose of this device in the trash along with other waste!**

According to the Law on Waste, electro coming from households free of charge and can give any amount to up to that end point of collection, as well as to store the occasion of the purchase of new equipment (in accordance with the principle of old-for-new, regardless of brand). Electro thrown in the trash or abandoned in nature, pose a threat to the environment and human health.



### Purpose

The AS-225D controller is designed for cascade control of 12÷24 V staircase lighting, which allows to achieve the effect of light following a person walking up or down the stairs.

### Features

- » Control of cascading multi-point lighting system;
- » The ability to set the number of controlled light points (from 3 to 12);
- » The ability to connect controllers in series to increase the number of controlled circuits;
- » Additional control inputs:
  - permanent light switching (for example during houseworks);
  - light switching lock (for example brightness sensor signal);
- » Control of light using a variety of setters including bell buttons, motion sensors, optical barriers, pressure sensors, etc.
- » Adjustable "soft start" feature – soft brightening and dimming of lighting;

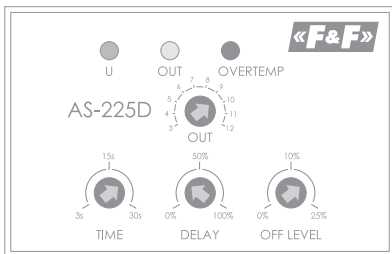


The "soft start" feature requires dimmable light sources.

- » "Night light" feature – the ability to set the brightness level when off, so that the stairs are never completely dark;
- » Installation of the controller on a DIN rail;
- » Built-in thermal protection.

## Operator panel

The operating parameters of the AS-225D controller are set using the knobs on the front of the unit. The operating status is indicated by LEDs,



Function	Description
OUT	<p>Set the number of controlled output circuits. Setting range from 3 to 12. The first controlled circuit is always OUT 1 (when the DOWN button is pressed, the cascade will start from OUT 1). The setting of this knob determines which controlled circuit will be the last So if, for example OUT is set to 9, the last output to be controlled will be OUT 9 (when the UP button is pressed the cascade will start from OUT 9).</p>
TIME	<p>Switch-on duration of a single output. Setting range from 3 to 30 seconds.</p> <p><b>Warning!</b> This is the minimum switch-on duration of the output. If the UP or DOWN input is triggered for a long time, it will increase the output switch-on duration accordingly.</p>
DELAY	<p>Delay between switching on subsequent outputs of the controller. The setting range (0÷100%) refers to the set time of switching on of the output. So if, for example, the switch-on duration of a single output is set to 15 seconds, then:</p> <p>Delay 0 %: The next segment will switch on as soon as the previous segment is switched on.</p> <p>Delay 50 %: The next segment will switch on 7.5 s after the previous segment is switched on.</p> <p>Delay 100 %: The next segment will switch on 15 s after the previous segment is switched on.</p>

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OFF  
LEVEL

Brightness level in the off state. Setting range from 0 to 25 %. This parameter enables the "night light" feature - setting a non-zero brightness level will cause the lights to glow gently all the time, and only when the cascade is triggered will they light up to full brightness.

**Warning!** The "night light" feature should be combined with an external brightness sensor connected to the OFF input. Such will cause the controller and the "night light" feature to work only at the actual low brightness level.

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## LED signalling

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U      Controller power indication

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OUT    Output circuit power indication

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OVER-  
TEMP

Signalling that the acceptable temperature inside the controller is exceeded.

**Warning!** The AS-225D controller is equipped with thermal protection to prevent excessive overloading of the output circuits.

If the temperature limit is exceeded, the protection starts to work and limits the maximum brightness level first. It is only when the temperature continues to rise that the controller outputs are completely disconnected.

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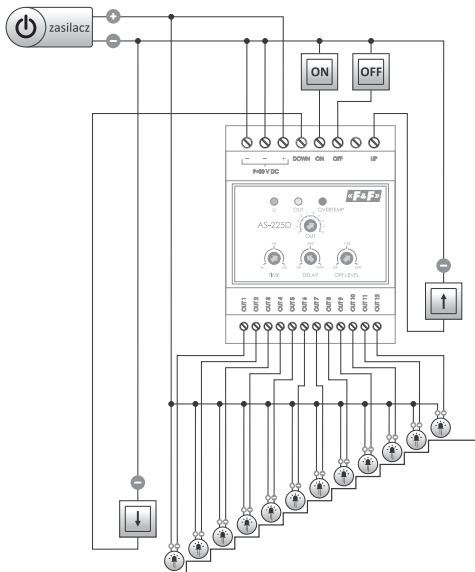
## Identification of the fault reported by the OVERTEMP signal light

State	Description
Off	Normal operation
Slow flashing	Warning temperature exceeded, output brightness level limited to 1/2 the maximum value.
Fast flashing	Alarm temperature exceeded, output brightness level limited to 1/8 the maximum value.
On	Persistent exceeding of the alarm temperature, controller outputs turned off.



If the thermal protection is tripped, normal operation is restored automatically as soon as the temperature falls to a safe level.

## Wiring diagram



## Description of terminals

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—		Power supply of the controller <b>Warning!</b> Maintain proper power supply polarity as indicated on the enclosure.
—	Power supply	<b>Warning!</b> If the simultaneous load of the controller exceeds 12÷16 A, connect two independent power wires "—" to the first and second terminal of the controller and lead them to the power supply unit.
+		

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DOWN	Control input	<p>A short press on the DOWN button starts the cascade moving from the bottom to the top. The circuits will be switched on starting from OUT 1, OUT 2, OUT 3 and so on until the last controlled output is reached. Each of the outputs will be switched on for the time TIME (set by the knob on the controller). The delay between switching on subsequent outputs is set on the controller with the DELAY knob.</p> <p><b>Warning!</b> If the DOWN button remains pressed the lights remain on for the duration of the pressing. The shutdown sequence of each output will begin when the DOWN button is released.</p>
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UP

Control  
input

A short press on the UP button starts the cascade moving from top to bottom. The last circuit controlled will be switched on first, then the penultimate circuit, and so on until the first circuit OUT 1 is reached. Each of the outputs will be switched on for the time TIME (set by the knob on the controller). The delay between switching on subsequent outputs is set on the controller with the DELAY knob.

**Warning!** If the UP button remains pressed the lights remain on for the duration of the press. The shutdown sequence of each output will begin when the UP button is released.

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ON

Control  
input

Triggering the ON input causes simultaneous activation of all controlled output circuits of the controller. The circuits remain switched on as long as the ON input is triggered. In this mode, the operation of the DOWN and UP inputs is locked.

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OFF

Control  
input

Triggering of the OFF input (for example by an external brightness sensor) switches off all controlled output circuits. The lights in this mode are completely off, regardless of the OFF LEVEL parameter setting. Operation of the DOWN and UP buttons in this mode is also disabled.

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OUT1  
÷  
OUT12

Output  
circuits

Outputs for connecting light sources. Pay attention to the order of connection and the power of the light source. Connect the "-" wire of the lights to the OUT terminals, and connect the "+" wire directly to "the +" of the power supply (according to the installation diagram above).

**The maximum current of a single lamp shall not exceed 4 A, while the total current of all lamps switched on at the same time shall not exceed 24 A.**

**Warning!** Provide a power supply unit of sufficient capacity to guarantee proper powering of both the controller and all operating sources. Overloading the power supply usually results in a power cut, which will interrupt the controller operation.

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OUT1  
÷  
OUT12      Output  
                 circuits

**Warning!** It is possible to split the power supply of the output circuits to several power supply units.

In this case, you should:

- » divide the output circuits into a required number of groups and connect the wires ("+") of the group to the chosen power supply unit,
- » connect the power supply of the controller ("+" and "-") to one of the power supply units,
- » the wires ("-") of all power supplies should be connected with each other and with the terminals ("-") of the AS-225D controller.

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## Cascade control



Starting another cascade while the previous one is running will not interrupt the work of the first one, but will start the next one in the set direction. The exception here is the situation described in the next comment.

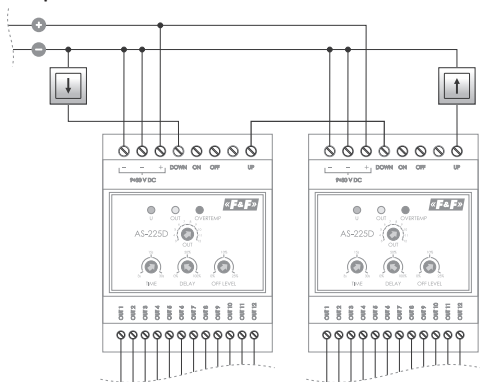


If during the cascade execution the last light is already switched on and at the same time an input (DOWN or UP) is triggered at the end of the cascade, the controller will interpret such action as the first person leaving the staircase and therefore will not trigger the cascade of lights in the opposite direction.



When the number of controlled output circuits exceeds 12, the system can be expanded by connecting several AS-225D controllers in series. A sample wiring diagram is shown in the figure below.

### Example of cascade control



According to the above scheme, any number of controllers can be combined.

## Technical data

input	
power supply	9÷30 V DC
output	
number of channels	12
type	transistor (OC – open collector)
maximum load current (1 channel)	4 A
maximum total load (12 channels)	24 A
maximum voltage	30 V DC
input type	potential-free
switch-on duration (1 channel)	3÷30 s
delay in switching on the next channel	0÷switch-on duration
power consumption	
standby	<1 W
on	<4 W
terminal	2.5 mm <sup>2</sup> screw terminals
tightening torque	0.4 Nm
working temperature	-15÷50°C
dimensions	4 modules (52.5 mm)
mounting	on TH-35 rail
ingress protection	IP20

## Warranty

The F&F products are covered by a warranty of the 24 months from the date of purchase. Effective only with proof of purchase. Contact your dealer or directly with us.

## CE declaration

F&F Filipowski sp. j. declares that the device is in conformity with the essential requirements of the Electromagnetic Compatibility (EMC) Directive 2014/30/UE.

The CE Declaration of Conformity, along with the references to the standards in relation to which conformity is declared, can be found at [www.fif.com.pl](http://www.fif.com.pl) on the product page.

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