

OPERATING MANUAL



SP-1

FILLING MECHANISM CONTROLLER

Version DC12

SP-1 Controller.

SP-1 controller is a microprocessor device designed to control mechanism filling various kinds of containers (e.g. solid fuel boiler feeders, e.t.c.). the controller may be cooperating with either one or two capacitive proximity sensors.

Working with two level Sensors.

The diagram of connecting the device cooperating with two sensors is shown in picture 1. The bottom capacitive Sensor should be connected to IN-1 input, whereas the upper one to IN-2 input. In the configuration presented, the SP-1 unit is meant to protect the level of substance not to exceed the upper sensor. The filling starts when the level of substance lowers below the bottom sensor (both the bottom and the upper sensors cannot 'see' the substance). The filling lasts until the substance is detected by the upper sensor.

Working with a single level sensor.

The diagram of connecting the device cooperating with a single sensor is shown in picture 2. The sensor should be connected to the IN-2 input. The IN-1 input remains disconnected. In the configuration presented the SP-1 unit is meant to ensure the level of substance is in the scope of the sensor. The filling mechanism is activated when the sensor fails to 'see' the substance, and is turned off when it is detected.

Protection against the continuous work of the mechanism.

When the substance cannot be detected in the scope of the adequate sensor for a specified period of time after the SP-1 unit has been activated, then the filling mechanism output will be turned off, and the SP-1 unit enters the alarm mode indicated by the power light blinking. The usual work is resumed after the power supply is turned off and on again. The maximum duration of filling the container is regulated by the Tx input:

- The time protection is deactivated when the contacts of the Tx input are closed.
- The time of protection is set to 10 minuts when the 1k Ω resistor is connected to the Tx input.
- The time of protection is set to 20 minuts when the 2k Ω resistor is connected to the Tx input.
- The time of protection is set to 30 minuts when the Tx input remains disconnected.

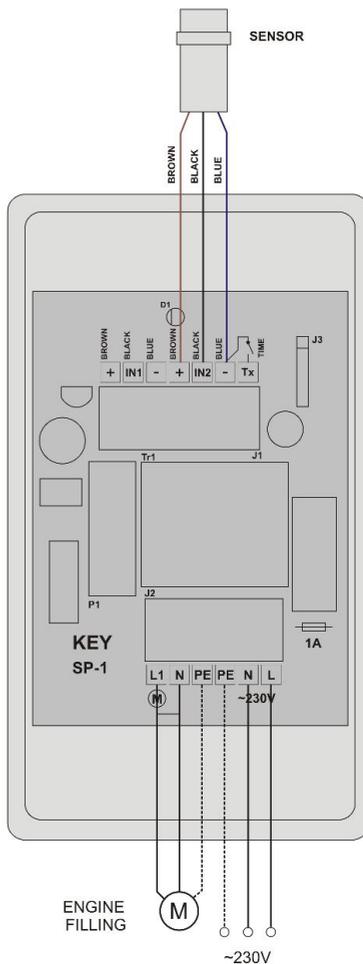
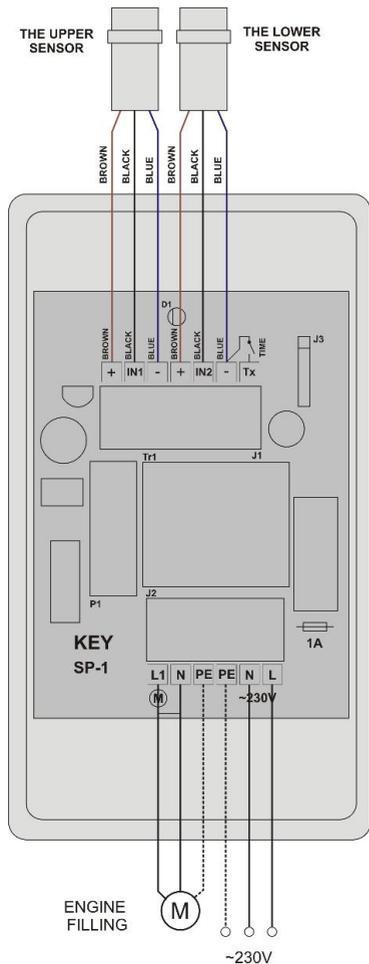
The configuration of the Tx input is registered only when the power supply is switched to the unit. It means that the change in the value of resistance while operating will not cause the change of the time protection. The registered configuration is signalled by the power light indicator when the unit is turned on:

- When the power light indicator is on permanently after switching the unit to the power supply – the protection is off.
- When the power light indicator is on for 4 seconds, blinks once and then is on permanently – the protection is set to 10 minuts.
- When the power light indicator is on for 4 seconds, blinks twice and then is on permanently – the protection is set to 20 minuts.
- When the power light indicator is on for 4 seconds, blinks three times and then is on permanently – the protection is set to 30 minuts.

Technical specifications.

Power supply
 Wattage (filling mechanism not included)
 Tolerance of the mechanism output of
 Dimensions (HxWxL)

230V ± 10%, 50Hz
 2W maximum
 1A
 120x80x50



Rys 1. The diagram of connecting the device cooperating with two sensors

Rys 2. The diagram of connecting the device cooperating with a single sensor

Producer:

P.W. KEY
 11-200 Bartoszyce, ul. Bohaterów Warszawy 67
 tel. (89) 763 50 50, fax. (89) 763 50 51

DECLARATION OF CONFORMITY

Manufacturer:Przedsiębiorstwo Wielobranżowe KEY
11-200 Bartoszyce, ul. Bohaterów Warszawy 67

hereby declares that the product:

SP-1

is in conformity with provisions of the following directives:
2006/95/WE (Low Voltage Directive)
2004/108/WE (Elektromagnetic Compatibility Directive),
on basis of compliance with the following harmonised directives:

EN 60730-1:2000 (PN-EN 60730-1:2002)
EN 60730-2-9:2010 (PN-EN 60730-2-9:2011)
EN 61000-3-2:2006 (PN-EN 61000-3-2:2007)
EN 61000-3-3:2008 (PN-EN 61000-3-3:2011)

eng. Zdzisław Kluczek


owner

Information on disposal

This appliance is marked according to the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).



The symbol on the product, or the documents accompanying the product, indicates that this appliance may not be treated as household waste. The appliance shall be handed over to the applicable collection point for used up electrical and electronic equipment for recycling purpose.

Ultimate disposal of the appliance shall follow according to applicable local regulations on waste utilization. For more information about disposal, utilization and recycling please contact your local authorities, household waste disposal service or the shop where you purchased the product.