OPERATING INSTRUCTIONS

Dinel®

SSU-1212-D
SSU-1212-AD

POWER SUPPLY AND SWITCHING UNITS

Unit designed for sensors RFLS with diagnostic function.

- **Unit designed for RFLS sensors with diagnostic function.**
- **Monitoring the correct function of the connected sensor.**
- **Remote parameterization of connected sensors (SSU-1212-AD)**
- **Use for safety applications.**

Technical specifications		
Supply voltage		230 V / 50 Hz
Power demand		4 VA
Output voltage (terminals 5,6 - 1,2)		12 V DC
Allowed supply voltage tolerance		± 5 %
Maximum total load current		150 mA
Short-circuit output current		type 500 mA
Maximum short-circuit duration at output		unlimited
Short circuit current of inputs		max. 6 mA
Input terminals	after switching after disconnection tipping level	min. 2 mA max. 1 mA type 1,5 mA
Contact load capacity	max. current max. voltage max. power	3 A 250 V 500 VA
Max. switching frequency of loaded contacts		360 / h
Contact lifetime		min. 10^6 cycles
Electric strength - mains 230V - output 12 V		4 kV
Ambient working temperature		-20 °C ...+ 50 °C
Cover protection box Cover protection terminals		IP 20 IP 20
Housing material		polycarbonate
Terminal material		CuBe
Max. / recommended conductor cross-section		4 mm^2 / 0,5 ÷1 mm^2
Weight		approx. 0,2 kg
Connection to 230 V mains only trough a switch or circuit breaker		
Internal protection on 230 V side by fuse T 500 mA		
Electrical equipment of protection class II		
Electrical safety requirements due to EN 61010-1		
EMC EN 61000-4-2,-3,-4,-5,6,-11, EN 55011, EN 61326-1		

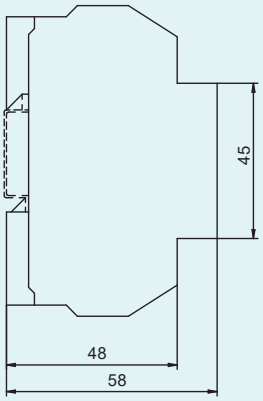
BASIC FEATURES

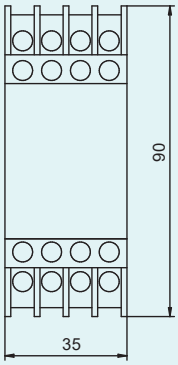
The power supply unit contains one input for connecting a working sensor (marked IN, terminal no. 3). The working sensor provides control of the working relay (terminals no. 14, 15, 16). The unit is equipped with a diagnostic function to monitor the correct function of the connected sensor. The SSU-1212-AD variant is equipped with a function of remote parameterization of the connected sensor by means of a programming wire. The programming wire is connected to the terminal marked P (terminal no. 7).

Description of the diagnostic function

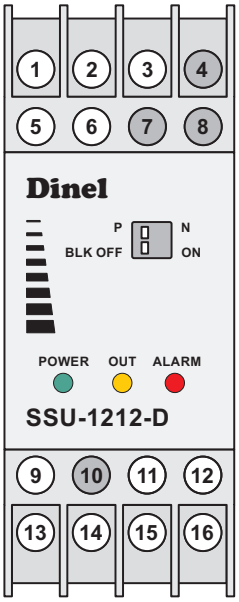
The unit is equipped with a diagnostic function that monitors the correct function of the connected sensor. The connected sensor must be equipped with an output that contains diagnostic pulses. The unit shall monitor the presence of diagnostic pulses, i.e. their repetition rate, which are tied to the output signal of the sensor. The repetition rate shall be used to determine whether the sensor is correctly set and whether it is in a fault condition. If the sensor is incorrectly set or malfunctioning, an alarm is triggered. and the red signal LED will flash (in case of wrong setting) or light up (in case of malfunction). The emergency relay (terminals no. 11 and 12) is disconnected. When the sensor is set correctly or the fault is corrected, the alarm is deactivated and the unit goes into standard operation.

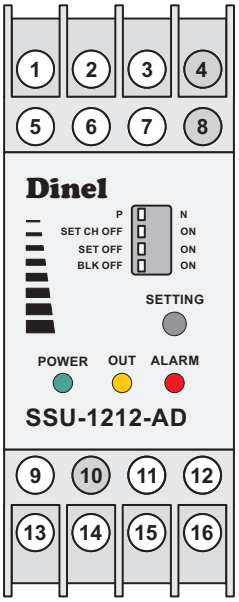
DIMENSIONS





FRONT PANELS AND TERMINAL NUMBERING





Signalling LEDs
- SSU-1212-D, SSU-1212-AD

Green „**POWER**“

- ON - 230 VAC power connection, correct function
- OFF - fault (short circuit at power terminals)

Orange „**OUT**“

- ON - output relay switched on, contacts 15, 16 connected
- OFF - output relay released, contacts 14, 15 connected

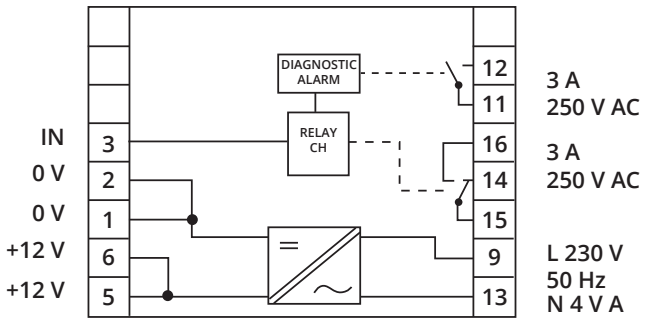
Red „**ALARM**“

- ON - emergency relay released, contacts 11, 12 disconnected
- OFF - emergency relay switched on, contacts 11, 12 connected

ELECTRICAL CONNECTION

BLOCK AND WIRING DIAGRAM SSU-1212-D

Connection to sensors with NPN, PNP output	
+ U of sensor	terminal No. 6
output (Q) of sensor	terminal No. 3
0 V of sensor	terminal No. 2
Connection to sensors with output „S“, Namur, contact	
+ U of sensor	terminal No. 3
0 V of sensor	terminal No. 2



Sensor type selection

switch „P / N“

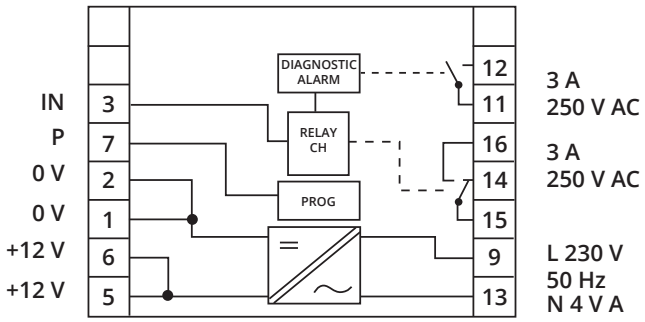
- position P
  - the unit responds to the current flowing into the input terminal (No. 3)
  - for PNP type sensors
- position N
  - the unit responds to the current flowing from the input terminal (No. 3)
  - for NPN, „S“, Namur, or voltage-free contact output sensors

switch „BLK OFF / ON“

- position OFF
  - the status of the emergency relay does not affect the status of the operating relay
- position ON
  - emergency state of the emergency relay blocks the function of the working relay and puts it into a relaxed state - contacts No. 15, 16 are disconnected

BLOCK AND WIRING DIAGRAM SSU-1212-AD

Connection to sensors with NPN, PNP output	
+ U of sensor	terminal No. 5 or 6
output (Q) of sensor	terminal No. 3
0 V of sensor	terminal No. 1 or 2
output (P) of sensor	terminal No. 7
Connection to sensors with output „S“, Namur, contact	
+ U of sensor	terminal No. 3
0 V of sensor	terminal No. 1 or 2



Sensor type selection

switch „P / N“

- position P
  - the unit responds to the current flowing into the input terminal (No. 3)
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  - the unit responds to the current flowing from the input terminal (No. 3)
  - for NPN, „S“, Namur, or voltage-free contact output sensors

switch „SET CH OFF / ON“

- position OFF
  - the function of setting the sensor connected to the IN terminal (No. 3) is disabled
- position ON
  - the function of setting the sensor connected to the IN terminal (No. 3) is switched on

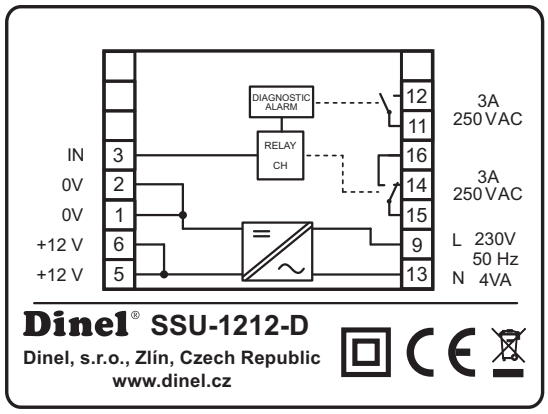
switch „SET OFF / ON“

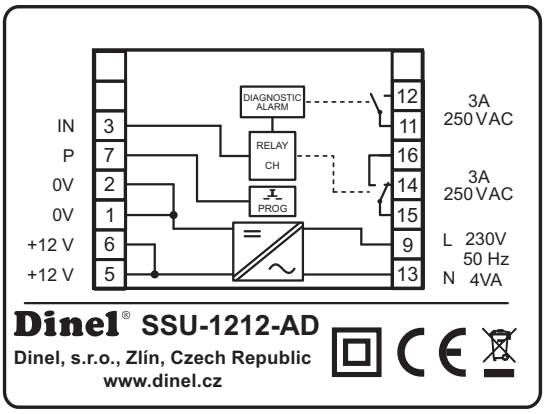
- position OFF
  - adjustment of the sensor disconnection
- position ON
  - sensor switching setting

switch „BLK OFF / ON“

- position OFF
  - the status of the emergency relay does not affect the status of the operating relay
- position ON
  - emergency state of the emergency relay blocks the function of the working relay and puts it into a relaxed state - contacts 15, 16 are disconnected

MARKING OF LABELS

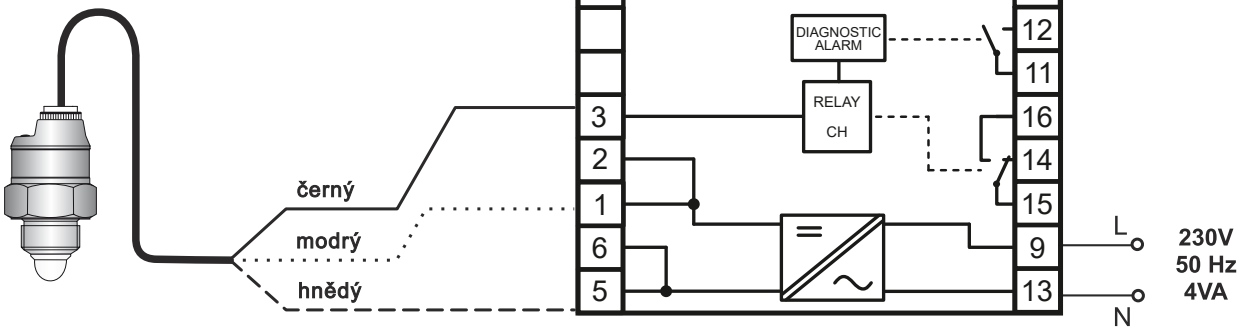




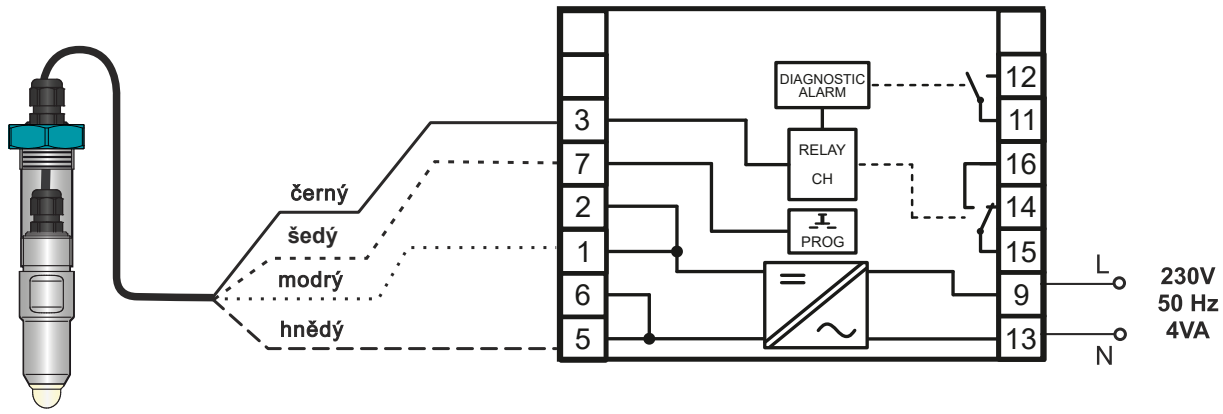
Symbol of producer: logo Dinel®
Internet address: www.dinel.cz
Country of origin: Made in Czech Republic
Double insulation sign (equipment protection class II.): ⧈
Compliance mark: CE
Electro-waste take-back system mark:
Block and wiring diagram.

WIRING SSU-1212-XD

SSU-1212-D



SSU-1212-AD



SAFETY, PROTECTION, COMPATIBILITY

The units include overload or short circuit protection at the output terminals. Electrical equipment of protection class II.

Connection to 230 V mains only via a switch or circuit breaker.

Electrical safety according to EN 61010-1. Electromagnetic compatibility (EMC) is ensured by compliance with EN 61000-4-2, -3, -4, -5, -6 and -11; EN 55011 and EN 61326-1.

The device must only be connected to the power supply via an easily accessible switch with marked off/on positions and must be protected by a fuse or circuit breaker with a maximum value of 16 A!

The electrical connection must only be made in a voltage-free state!

⚠ **The switch or circuit breaker used as a disconnecting means must comply with IEC60947-1 and IEC60947-3, must be marked and must not be in the mains supply.**

All operations described in these operating instructions must only be carried out by a trained person or a certified person. Warranty and post-warranty repairs must be carried out only by the manufacturer.

⚠ **Improper use, installation or adjustment can lead to application failures (tank overfilling or damage to system components).**

The manufacturer is not liable for misuse, work loss resulting from either direct or indirect damage, or expenses incurred in the installation or use of the unit.

Dinel, s.r.o.
U Tescomy 249, 760 01 Zlín, Czech Republic
tel.: +420 577 002 000
e-mail: sale@dinel.cz