

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. More information how to make a compliant can be found on the website: www.fif.com.pl/reklamacje



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.

Przeznaczenie

The SZR-278 controller is designed to control the correctness of power lines operation and automatically switch the power supply of the facility into electricity.

The most important features of the SZR-278 are:

- * simultaneous control of two power lines through the measurement of phase voltages on each phase in all power lines.

The control includes:

- control of the presence of phases and correctness of the voltage supply;
- control of the asymmetry of the phase voltages;
- control of the phase sequence.

- * control of both contactors and motor-driven switches.

- * control of the operation of the switchgear devices;

- * monitoring of overcurrent protection activation;

- * configurable parameters of controller operation:

- minimum acceptable supply voltage;

- times of the reaction of the controller to incorrect parameters of the power line and return to the correct parameters;
- delay between switching off one line and switching on the next one;
- phase sequence control;
- the power supply of the controller can be provided both via external N1 and N2 power lines, as well as dedicated 50÷350 V AC/DC input of guaranteed power supply;
- can be used in single-phase circuits.

Technical data

control inputs	
number of inputs	4
functions	control of power presence (correctness of devices operation) control of overcurrent protection error resetting
control voltage	50÷260 V AC
control outputs	
number of relay outputs	4 (K1-K4)
load capacity	16 A/250 V AC (AC-1) 3 A/250 V AC (inductive load – for example contactor coil)
functions	K1-K3 – control of actuators K4 – switching power sources
operating programs	
N1 + N2:	two supply lines N1 + N2. The good or priority line supplies the receiving line.
N1 + N2 + S:	two power lines connected by a coupling. In case of failure of one of the lines, the coupling is closed, which makes it possible to supply all receivers with a good power supply line
network	3-phase, 4-wire
number of controlled power lines	2x 3-phase lines with common neutral wire

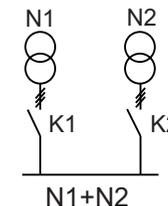
controller power supply	50÷350 V AC 50÷350 V AC/DC
through N1 and N2 lines (terminals 4 i 8)	
guaranteed power supply input (terminal 9)	45÷55 Hz
frequency	yes
phase sequence control	
voltage control	lower threshold 150÷210 V AC upper threshold 270 V AC
delay in switching off the line at too low voltage	1÷15 sec (*)
delay in switching off the line at too high a voltage	0.3 sec (*)
line switching time	0.1÷5 sec
acceptable asymmetry of phase-to-phase voltage	80 V
time of qualifying the line as good	5÷600 sec
environmental conditions	
storage temperature	-40÷85°C
relative humidity	<95% (without condensation of steam and aggressive gases)
pollution class	2
flammability of housing	UL94-V0
dimensions	105x95x65 mm
mounting	on the TH-35 rail
protection level	IP20

(*) If the voltage rises above 300 V or falls below 100 V, the incorrect line will be disconnected after 0.1 s.

Warning!

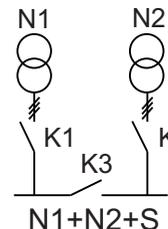
Full operating instructions with examples of application diagrams and a declaration of conformity are available for download at www.fif.com.pl

Work programs



N1	N2	K1	K2
ON	ON	+	-
OFF	ON	-	+
ON	OFF	+	-

Fig. 1. N1 + N2 mode – connection diagram



N1	N2	K1	K2	K3
ON	ON	+	+	-
OFF	ON	-	+	+
ON	OFF	+	-	+

Fig. 2. N1 + N2 + S mode – connection diagram

The scheme of operation is shown in the diagram in the figure below:

- 1 -

- 2 -

- 3 -

- 4 -

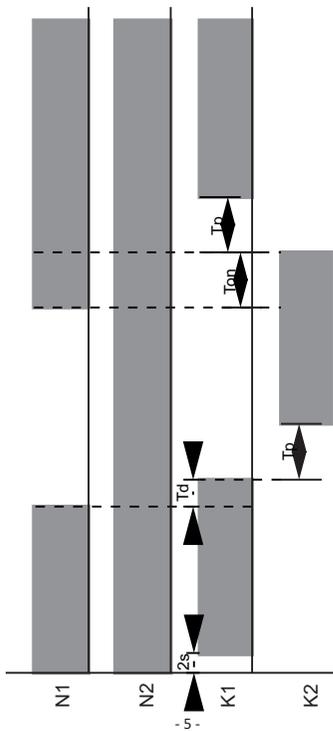


Fig. 3. N1 + N2 mode – switching diagram

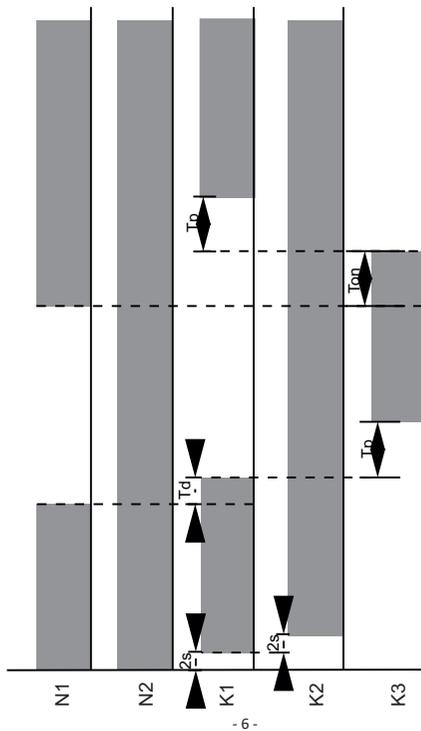
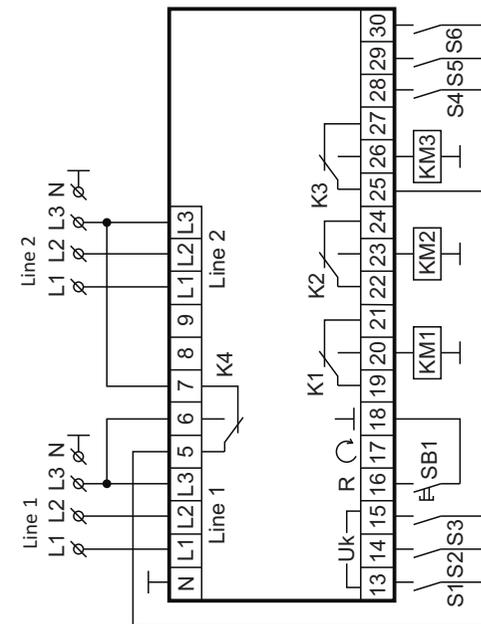


Fig. 4. N1 + N2 + S mode – switching diagram

Connction diagram



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Description of control terminals

No	Contact	Function	Acceptable voltage
1	N	Neutral line	0 V
2	L1	N1 line voltage control	50÷350 V AC
3	L2		
4	L3		
5	COM	Auxiliary relay (power supply for actuators)	50÷350 V AC
6	K4 NO		
7	NC		
9	230 V AC power supply	Controller power supply (guaranteed line)	24÷350 V AC 30÷300 V DC
10	L1	N2 line voltage control	50÷350 V AC
11	L2		
12	L3		
13	S1	Receiving line voltage control	100÷350 V AC
14	S2		
15	S3		
16	R	Reset. A short press of a button connected between terminals 16 and 18 deletes the alarms reported by the controller. Warning! Alarm clearing is possible only if the cause of the alarm has subsided.	0 V

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