



SF25

Phase Selector

- SF25 - additional level of security in the overall power supply system
- Monitoring the voltage of each phase from the three-phase mains connection
- Supplying one-phase user by choosing priority phase (Vac > 180 Vac) from a three-phase main connection
- Maximum load current 25 A
- Voltage and time hysteresis during restore of the correct phase



Power Electronics

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connections*

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Applications

Phase Selector is a device whose input is three-phase voltage and one phase is forwarded to the output. Neutral is directly forwarded to the output.

- SF25 continuously monitors all present phases present and based on the fact the phases are correct or not and their mutual priorities, determine which phase will be forwarded to the user (output).
- Line is correct if the phase voltage is greater than the minimum. In this way, phase selector plays the role of an additional level of security throughout the whole power supply system.
- With disappearance of one or two phases, user did not stay without main power supply

Basic functions

- The user is connected to one phase only. The control electronics determines which phase form the input will be forwarded to the output. Selector switches off the active phase when registering their disappearance or too low voltage. After that connects the load to the next correct phase, in accordance with the priority of the phase that is determined in advance.
- Switching is performed by relays. The time between fault phase detection, the incorrect phase switch-off and move to the next correct phase, is about 100 msec.
- For each phase there is a voltage and time hysteresis.
- Voltage hysteresis means that, when the phase come on again, after disappearance, voltage must be greater than the upper threshold of hysteresis (eg. 200 Vac), to forward this phase to user again. During the work, phase voltage must be greater than the lower hysteresis threshold (eg. 170 Vac), to consider the phase is correct.
- Time hysteresis means that, after the detection of phase failure, during the one period of time (about 7-8 seconds), return of the same phase to user is stopped (although it is correct and have a greater priority than the current active phase). In this way, it overcomes the problem of instability of the main power network during disappearance of one of the phases.
- Local monitoring of the SF25 functioning and situation with phases can be done via leds.
- SF25 can be delivered to customer already wired

TECHNICAL DATA

Input

Input voltage per phase	230 Vac nom.
Frequency	50 Hz nom.
Input current per phase	25 Aac max

Phase selector operating parameters

Time hysteresis	5 sec min.
Hysteresis voltage	40 V min.
Phase switch-off (for European standard)	180 Vac nom. Fixed Adjustable 165 – 210 Vac

Input/output terminal connections

Terminals, for cable cross-section (min)	6 mm ²
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Local LED signalization

Control electronics	green LED
Correct phase	green LED (one per phase)

Designed and tested according to

Safety standard EN60950 (UL1950)

Environmental

Ambient operating temperature	- 25C ⁰ to +50C ⁰
Air circulation	Natural

Dimensions

Plastic box (WxDxH)	200 x 155 x 80 mm
Enclosure protection	IP55, IP56

Block diagram SF25

