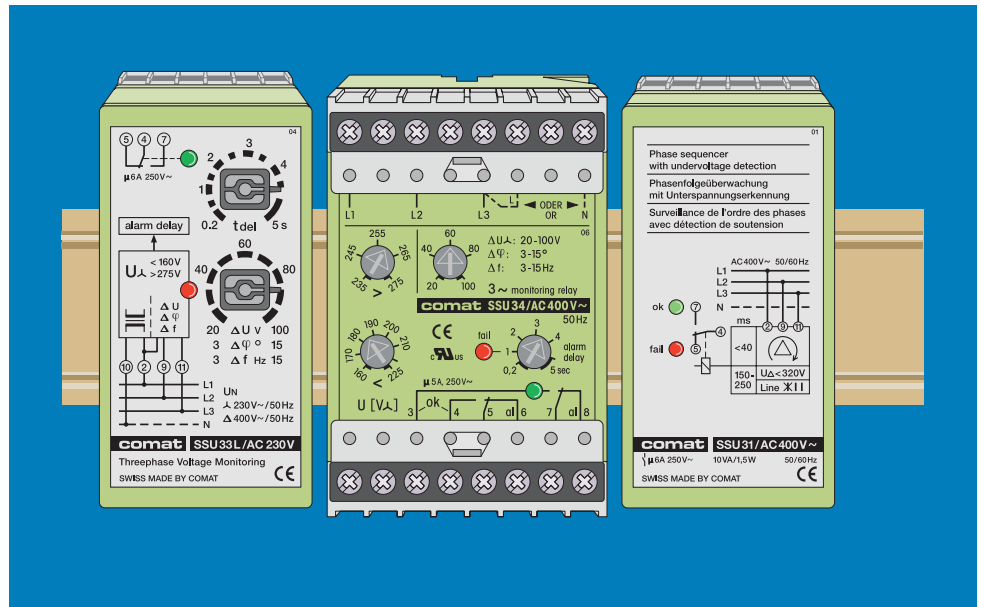


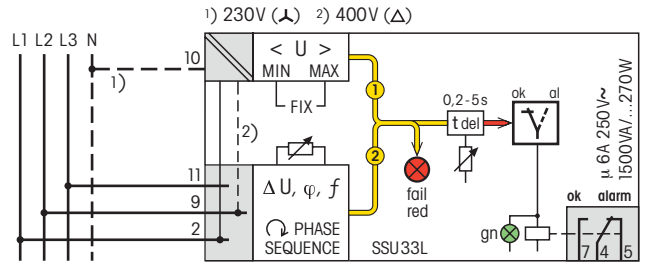
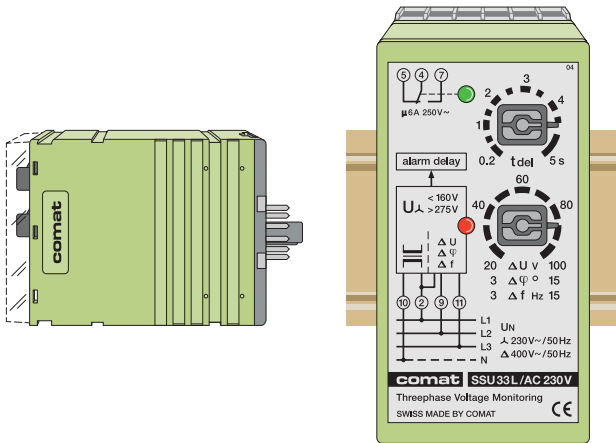
Monitoring Relays

# Mains Monitoring



Comat products comply with different international standards and are certified accordingly.

Lloyd's; IEC 61810; EN 60974



SSU33L

The SSU33 (50Hz) provides comprehensive monitoring of three-phase mains supplies with or without neutral.

The following mains faults are monitored:

**Error signal 1 U (V<sub>λ</sub>, V<sub>Δ</sub>):**

Exceeding or dropping below the fixed voltage values U<sub>min</sub>/U<sub>max</sub> for L1-N or L1-L2 (no differential voltage, phase position or frequency fault).

**Error signal 2 ΔU, Δφ, Δf:**

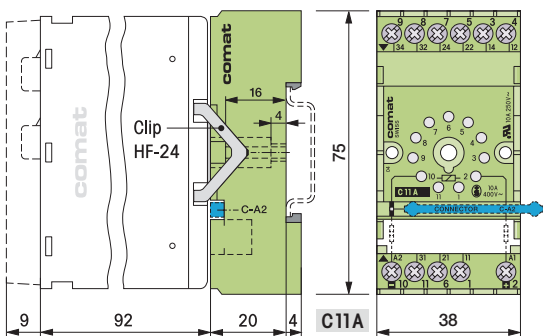
One or more of the three voltages, phase positions, phase sequence or the mains frequency are diverging from the required value.

Depending on the nature of their occurrence Δ-errors are evaluated cumulatively.

Any error is signalled by the red LED and is reported after expiry of the set alarm-delay time (t<sub>del</sub> 0,2...5s) via 7-4-5.

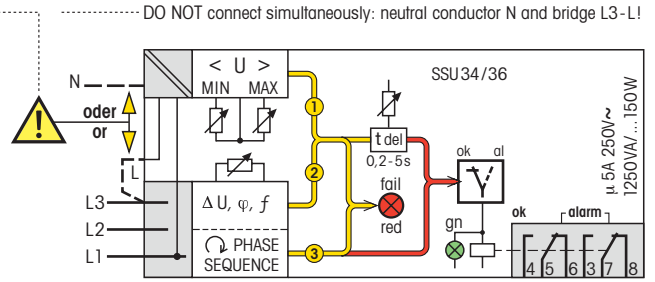
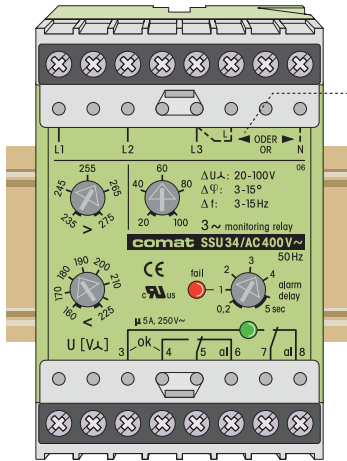
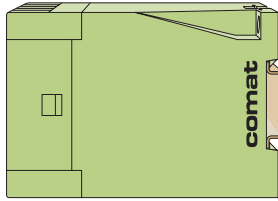
In the correct status (ok) the green LED is illuminated (4-5 open, 4-7 closed).

		3x230 (400) V	3x400 V
1	Overvoltage > (U <sub>max</sub> )	U <sub>λ</sub> > 275V U <sub>Δ</sub> —	— > 480V
	Undervoltage < (U <sub>min</sub> )	U <sub>λ</sub> < 160V U <sub>Δ</sub> —	— < 280V
2	Differential range	ΔU <sub>λ</sub> 20 - 100V ΔU <sub>Δ</sub> 35 - 173V Δφ/f 3-15°/3-15Hz	20 - 100V 35 - 173V 3-15°/3-15Hz
		Order no. <b>SSU33L/AC 230V</b> <b>SSU33L/AC 400V</b>	



Accessories

Socket	C11A
Retaining clip	HF-24
Front mounting	FZ-23



In case of power failure the alarm is activated without delay!

SSU34, SSU36

The SSU34 (50Hz) and the SSU36 (60Hz) provide comprehensive monitoring of three-phase mains supplies with or without neutral.

The following mains faults are monitored:

**Error signal 1 U (Vλ, VΔ):**

Exceeding or dropping below the set voltage values Umin/Umax for L1-N or L1-L3,L (no differential voltage, phase position or frequency fault).

**Error signal 2 ΔU, Δφ, Δf:**

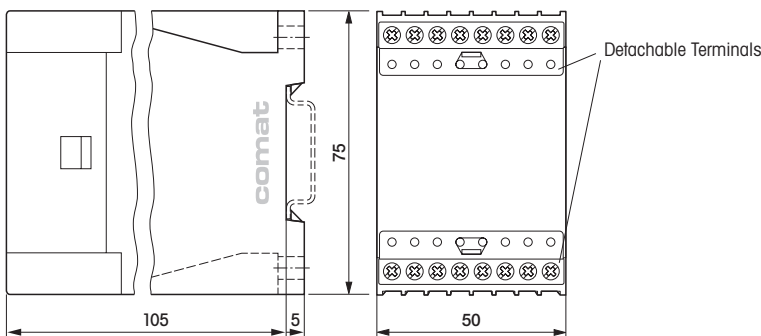
One or more of the three voltages, phase positions, or the mains frequency are diverging from the required value. Depending on the nature of their occurrence Δ-errors are evaluated cumulatively.

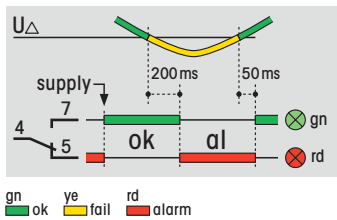
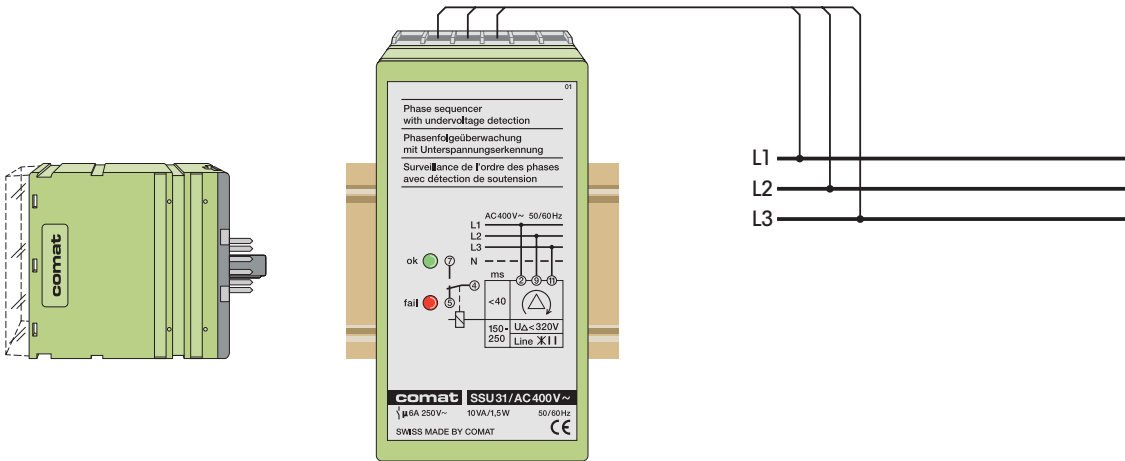
**Error signal 3:**

Connection polarity reversal (wrong phase-sequence). Any error is signalled by the red LED "fail" and is reported after expiry of the set alarm-delay time (t del 0,2...5s) (for error signal 3 undelayed) via 5-6 and 7-8.

In the correct status (ok) the green LED is illuminated (5-6 and 7-8 open, 5-4 and 7-2 closed).

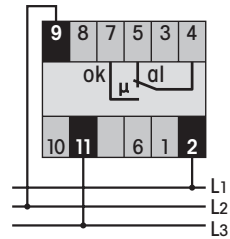
	50 Hz	50 Hz	50 Hz	60 Hz	60 Hz	60 Hz
	58/100V~	230/400V~	290/500V~	120/208V~	265/460V~	277/480V~
Ⓚ	Overvoltage > (Umax)	Uλ UΔ	Uλ UΔ	Uλ UΔ	Uλ UΔ	Uλ UΔ
	60-70V	235-275V	300-350V	125-145V	270-320V	284-232V
	105-121V	410-480V	520-600V	216-250V	470-550V	490-575V
①	Undervoltage < (Umin)	Uλ UΔ	Uλ UΔ	Uλ UΔ	Uλ UΔ	Uλ UΔ
	40-55V	160-225V	200-280V	85-115V	185-260V	194-270V
	70-95V	280-390V	350-485V	148-200V	322-450V	336-470V
⚠	Differential range	ΔUλ ΔUΔ Δφ/f	ΔUλ ΔUΔ Δφ/f	ΔUλ ΔUΔ Δφ/f	ΔUλ ΔUΔ Δφ/f	ΔUλ ΔUΔ Δφ/f
	5-25V	20-100V	20-100V	10-50V	20-100V	20-100V
	10-50V	35-173V	35-173V	17-87V	35-173V	35-173V
	3-15°/3-15Hz	3-15°/3-15Hz	3-15°/3-15Hz	5-24°/3-22Hz	4-21°/3-19Hz	4-21°/3-19Hz
Order no.	SSU34/AC100V	SSU34/AC400V	SSU34/AC500V	SSU36/AC208V	SSU36/AC460V	SSU36/AC480V



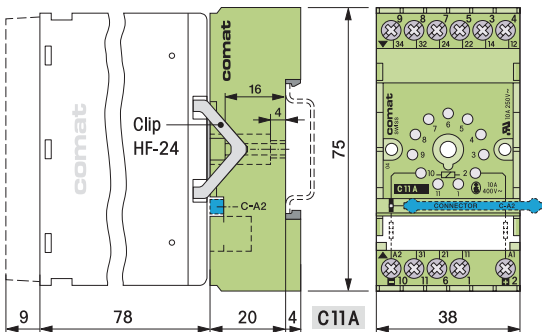


SSU31

The SSU31 serves as a phase-sequence, three-phase undervoltage and phase failure monitor. The monitoring function helps to ensure the correct rotation direction of pumps, motors and conveyors in mobile devices with connection to different power outlets. The defined undervoltage and phase failure protects against malfunction and damage caused by overheating.



	Data at Tamb. = 20°C
Supply	...1,2 · UN
Cut-off undervoltage	UN -20%
Hysteresis	3% / UN
Power consumption	10VA / ≤ 1,5W
Switching current/voltage	6A 250V~
Switch rating AC1/DC1	1500VA/...200W
Mechanical switching cycles	30x10 <sup>6</sup>



Order no.  
 50/60 Hz  
**SSU31/AC 400V**  
**SSU31/AC 208V**

Accessories	
Relay socket	C11A
Retaining clip	HF-24
Front mounting	FZ-23



**Kühn Controls AG**

**Notes:**

You want more information about this product, please call us: tel: +49 (0)7082-940000 or send us a fax: +49 (0)7082-940001, or email: [sales@kuehn-controls.de](mailto:sales@kuehn-controls.de) or visit our Website: [www.kuehn-controls.de](http://www.kuehn-controls.de)