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CZF-334 TRMS

Phase loss sensor
with adjustment,
without N-wire



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.



Purpose

The CZF-334 phase loss microprocessor sensor without neutral wire is designed to protect electric motor powered from the 3-phase network in following cases:

- » voltage loss in at least one phase;
- » voltage drop in at least one phase below 320 V;
- » voltage increase in at least one phase above 480 V;
- » voltage unbalance between phases above a preset value.



The sensor correctly measures the true rms value of the voltage (TrueRMS), even when the power supply voltage is (disturbed) distorted.

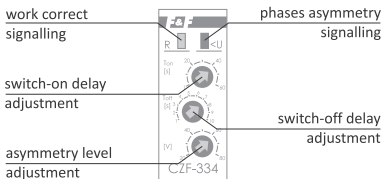
Functioning

A correct supply voltage is signalled by the lighting of the green LED. A voltage drop below 320 V, or a rise above 480 V on at least one, any phase, or a voltage asymmetry above the set value is signalled by the green LED not being lit. Both of the above-mentioned anomalies (voltage threshold exceeded, asymmetry) cause the device relay to switch off and, consequently, disconnect the motor.







In the case of asymmetry, the disconnection is carried out with a preset delay to avoid accidental disconnections for momentary disturbances in the network.

If the voltage falls below 320 V or rises above 480 V, disconnection is realised after a time delay of 1 s. The countdown to disconnection is signalled by the green LED flashing. The relay is automatically switched on again when the correct mains parameters return (the voltage hysteresis is approx. 5 V).

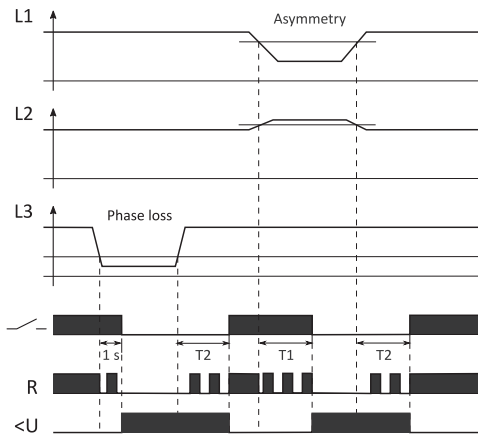
Front panel



Signalling

	Signalling	Description
R		Correct network parameters, the relay is on.
<U		
R		Countdown to switching on or deactivation of the relay (depending on the current state of the output).
<U		
R		Asymmetry or voltage threshold exceeded. Relay switched off (voltage value of either phase below 320 V or above 480 V or asymmetry above the set value).
<U		

Voltage waveforms



Legend:

$T1 = 1 \div 10\text{ s}$

$T2 = 1 \div 60\text{ s}$

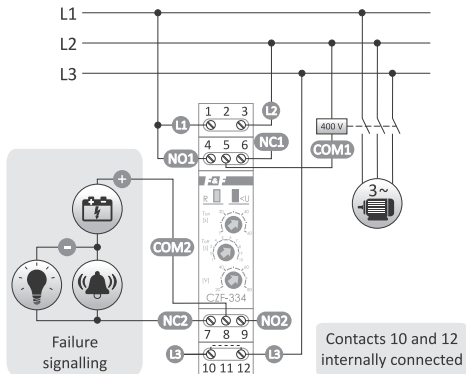
If a voltage drop below 320 V or a rise above 480 V is detected, the relay will be switched off with a delay of 1 s. The diode corresponding to the phase that exceeded the voltage threshold will be extinguished. If the phase voltages return to the correct values, the relay will be switched on after time T2.

The green diode [R] will flash until the relay is switched off (time T1). When the relay is switched off the red diode [<U] will light up. If the phase voltages return to the correct values, the relay will be switched on after time T2. The green diode [R] will flash until the relay is switched on (time T2).

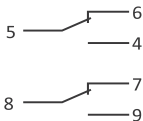
Mounting

1. Check the correct operation of the motor (direction of rotation).
2. Disconnect the power supply.
3. Fix the sensor on a rail in the control box.
4. Connect the phases in sequence to terminals 1, 3, 12.
5. Connect in series to terminals 4-5 or 8-9 the power supply to the coil of the switching contactor.
6. Terminals 5-6 or 7-8 can be used for fault signalling.
7. Set the desired values with the knobs.
8. Switch on the power supply.
9. Green LED on – correct voltage asymmetry and phase voltage value - motor can be started.
10. In case other than point 9 – see signalling table (page 3).

Wiring diagram



Contacts configuration





Changeover contact of the relay allows to connect a visual or audible signalling system that informs about the relay activation, which means switching off the motor.

Technical data

power supply	3×400 V
contact	separated 2×NO/NC
maximum load current (AC-1)	2×6 A
signalling of correct power supply	2×LED
minimum phase voltage	320 V
maximum phase voltage	480 V
effective voltage unbalance	20÷80 V
voltage hysteresis	5 V
deactivation delay on asymmetry	1÷10 s
deactivation delay in no phase	1 s
activation delay	1÷60 s
power consumption	1.6 W
working temperature	-25÷40°C
terminal	2.5 mm ² screw terminals (cord/wire)
tightening torque	0.4 Nm
dimensions	1 module (18 mm)
mounting	on TH-35 rail
ingress protection	IP20

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.

CE declaration

F&F Filipowski L.P. declares that the device is in conformity with the essential requirements of The Low Voltage Directive (LVD) 2014/35/EU and the Electromagnetic Compatibility (EMC) Directive 2014/30/UE. The CE Declaration of Conformity, along with the references to the standards in relation to which conformity is declared, can be found at www.fif.com.pl on the product page.