

INT69® UY Diagnose



INT69 UY Diagnose

Illustration similar. Scope of delivery may deviate.

Application

The INT69 UY Diagnose voltage monitor diagnostics is a further development of the established KRIWAN voltage monitors. It is used everywhere that impermissible voltages or an incorrect phase sequence can cause damage or prevent proper functioning of the monitored system.

Functional description

The INT69 UY Diagnose is suitable for monitoring both a 3-phase network and a 1-phase network. In the delivery state, the monitoring is set for 3-phase networks.

If the monitoring is configured to 1-phase network operation, the connection of the mains voltage must be via L1 and FE.

The phase failure as well as under- and overvoltage are always monitored.

Monitoring of the phase asymmetry, the correct phase sequence, and for neutral conductor breakage only happens for 3-phase networks.

The correct phase sequence is monitored when applying the network for a duration that can be set.

If there is an incorrect phase sequence, the voltage monitor switches off in a locked state.

Switch-off also occurs for phase asymmetry or failure, as well as for under or overvoltage.

A warning is issued in case of a neutral conductor breakage. In order to detect a neutral conductor breakage, a phase asymmetry needs to be present, connection N of the INT69 UY Diagnose needs to be connected to connection terminal N of the machine, and monitoring has to be active.

In order to guarantee the function of the INT69 UY Diagnose, the functional earth must be connected.

The additional temperature monitoring takes place according to the static evaluation method of a PTC or a PT1000.

The monitoring of the PTC switches off without delay if the temperature limit is reached.

The monitoring of the PT1000 switches off when the settable temperature limit is reached after the settable activation delay.

The temperature monitoring is deactivated in the delivery state. If a sensor is connected, the monitoring of this sensor is activated.

For deactivation or for changing the sensor, it is necessary to configure the sensor setting per parameter.

The INT69 UY Diagnose monitors the given module and supply voltage and generates a warning via the diagnostics interface as soon as this sinks beneath a specified limit value.

If a limit for the associated activation delay time is continually exceeded or fallen below, the voltage monitor switches off.

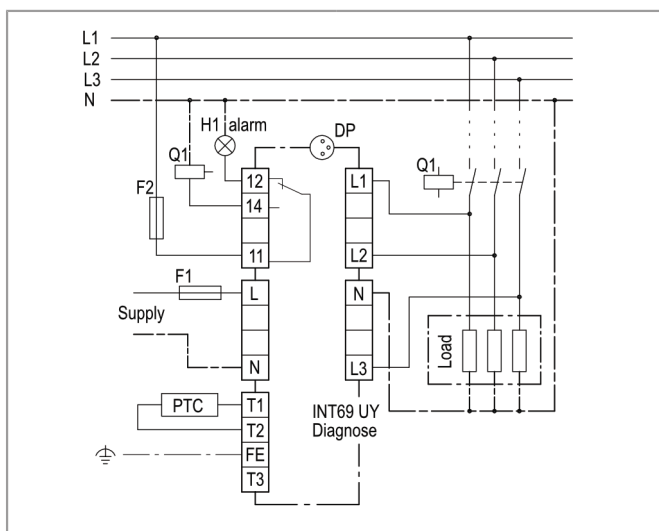
After rectifying the error and subsequent reset delay, the system is switched on again.

Restart after a lock-out is only possible after a reset.

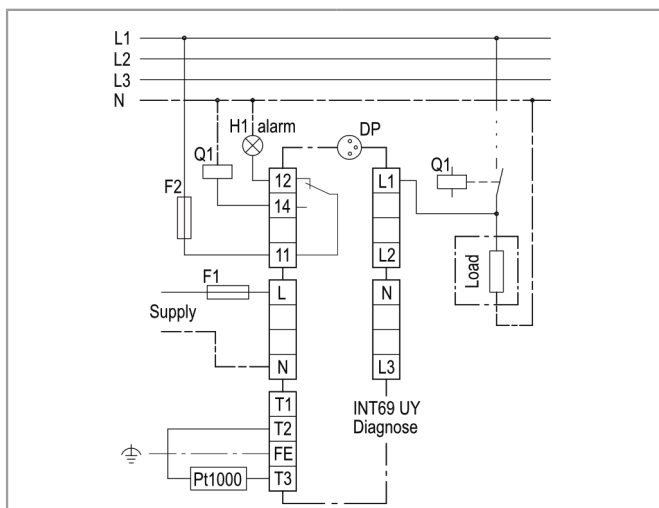
Settable parameters (see parameter table) can be set via the diagnostics port with the help of the INTspecter app, and with separately available accessories.

The integrated LED signals the current status of the voltage monitor (see blink code).

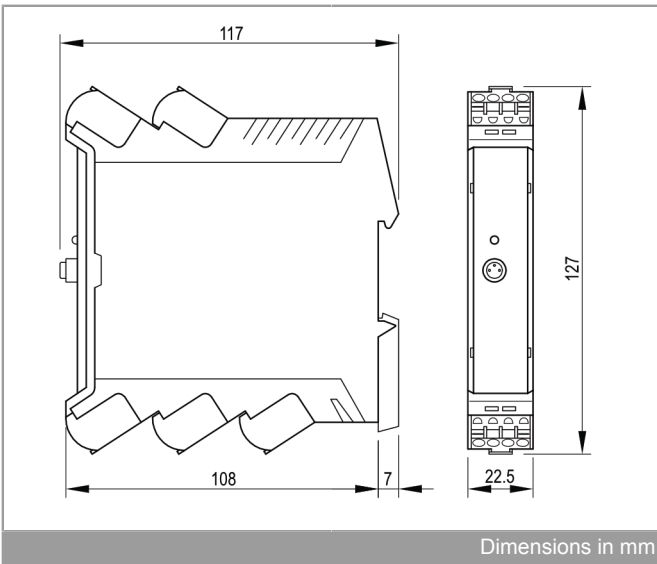
Only the output relay is galvanically isolated.



Wiring diagram



Wiring diagram



Safety instructions

⚠ Installation, maintenance, and operation are to be carried out by an electrician.

The applicable European and national standards for connecting electrical equipment must be observed.

Connected sensors and connection lines that extend from the switching cabinet must feature at least a basic insulation.

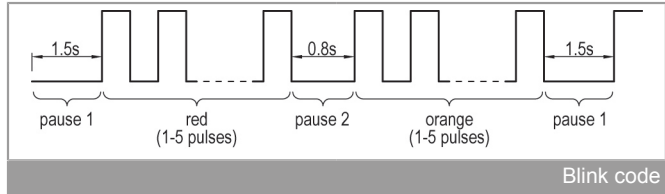
Order data

| | |
|-----------------------------|--|
| INT69 UY Diagnose | 41 A 735 P080 |
| Further product information | See www.kriwan.com |

Blink code

The KRIWAN blink code enables fast and simple status display and troubleshooting.

The blink code consists of a cyclical blinking sequence. In the event of an error, the blinking sequence consists of red and orange pulses. If warnings are pending, the sequence consists of green and orange pulses. The current status can be determined from the number of blinking pulses.



Overview of blink code

| | |
|-------------------------|---|
| Green lit | Machine ready for operation |
| Green blinking | Machine running |
| Green / Orange blinking | Warning, machine in critical range, for description see below |
| Red / Orange blinking | Error, machine is switched-off, for description see below |

| 1. Flashing sequence (LED red error, LED green warning) | 2. Blinking sequence (LED orange) | Description |
|---|-----------------------------------|---|
| 1 | 1 | Temperature monitoring: Static switch-off, permissible temperature exceeded |
| 1 | 4 | Temperature monitoring: Sensor input detected open circuit |
| 2 | 1 | Phase monitoring: Incorrect phase sequence |
| 2 | 2 | Phase monitoring: Phase failure/asymmetry |
| 2 | 3 | Phase monitoring: Undervoltage/overvoltage |
| 2 | 4 | Phase monitoring: Reset delay after "phase monitoring" error |
| 2 | 5 | Phase monitoring: Neutral conductor breakage |
| 3 | 1 | General: Supply voltage too low |
| 3 | 3 | General: Internal error |

Technical specifications

| | |
|---|--|
| Supply voltage | AC 50/60 Hz 115 V ± 10 % 3 VA |
| Permissible ambient temperature T_A | -30...+70 °C |
| Temperature measuring circuit | |
| – Type | 1-2 AMS sensors in series alternative 1-9 PTC sensors according to DIN 44081, DIN 44082 in series |
| – $R_{25, \text{total}}$ | <1.8 k Ω |
| – $R_{\text{activate, static}}$ | 4.5 k Ω ± 20 % |
| – R_{reset} | 2.75 k Ω ± 20 % |
| – Max. length of connection line | 10 m |
| Temperature measuring circuit | |
| – Type | Pt1000 |
| – Measuring range | -50... +300 °C |
| – Resolution | 1 K |
| – Accuracy | 5% of measuring range maximum value |
| – Max. length of connection line | 10 m |
| PTC and PT1000 short circuit monitoring | Typical <30 Ω |
| Open circuit monitoring | |
| – PTC | 20 k Ω |
| – Pt1000 | 3 k Ω |
| Mains voltage monitoring | |
| – Monitoring range | AC 50/60 Hz, 150-690 V ± 10 % |
| – Accuracy | ± 2.5 % of monitoring range |
| Operation with frequency converter | Not suitable |
| Reset delay | |
| – Temperature measuring circuit | Not delayed |
| Reset of the lock or the reset delay | Power reset >5 s only possible when error no longer present |
| Measuring accuracies of all not individually tolerated times | ± 10 % |
| Relay | |
| – Contact | AC 240 V 2.5 A C300 Mind. AC/DC 24 V 20 mA |
| – Mechanical service life | Approx. 1 million switching oper- ations |
| Interface | Diagnostics port (DP) |
| Protection class according to EN 60529 | IP20 |
| Connection type | Push-in spring terminals, 0.2–2.5 mm ² |
| Housing material | PA glass-fiber reinforced |
| Mounting | Can be snapped onto 35 mm DIN rail according to EN 60715 |
| Dimensions | See dimensions in mm |
| Weight | Approx. 250 g |
| Testing basis | EN 61000-6-2, EN 61000-6-3 EN 61010-1 Overvoltage category III (observe insulation of the temperature sensor) Pollution level 2 |

| | |
|----------|---------------------------------------|
| Approval | UL file no. E473026 cUR _{US} |
| | Operating control |

Parameter table

| Parameter name | Adjustment range | Default | Unit |
|--|---|------------------------|----------|
| Temperature measuring circuit | | | |
| – Operating mode | automatic/deactivated; Pt1000; PTC | automatic/deactivated; | |
| – Switch-off temperature | -50...300 | 60 | °C |
| – Warning temperature | -50...300 | 50 | °C |
| – Hysteresis temperature | 0...300 | 20 | °C |
| – Line correction | 0...100 | 0 | ohm |
| Phase monitor 1 | | | |
| – Phase monitor | deactivated; 3-phase; 1-phase | 3-phase | |
| – Operating mode | motor protection; mains monitor | mains monitor | |
| – Type of voltage measurement | Phase-N; Phase-Phase | Phase-N | |
| – Phase asymmetry active | deactivated; active | active | |
| – N-lead monitoring | deactivated; active | deactivated | |
| – Phase failure switch-off value | 0...100 | 75 | % |
| – Phase failure reset delay | 00:00:01...18:12:14; locked | 00:00:03 | hh:mm:ss |
| – Phase sequence operating mode | active; deactivated | Active | |
| – Phase asymmetry switch-off value | 1...100 | 15 | % |
| – Phase asymmetry warning value | 1...100 | 10 | % |
| – Phase asymmetry hysteresis | 1...99 | 5 | % |
| – Phase asymmetry activation delay | 0,06...360 | 0,4 | s |
| – Phase asymmetry reset delay | 00:00:01...18:12:14; locked | 00:00:03 | s |
| Undervoltage phase | | | |
| – Undervoltage operating mode | deactivated; limit 1 warning; limit 1 switch-off | limit 1 warning; | |
| – Undervoltage limit 1 | 100...690 | 207 | V |
| – Undervoltage limit 2 | 100...690 | 195 | V |
| – Undervoltage hysteresis | 1...200 | 15 | V |
| – Undervoltage limit 1 activation delay | 0,06...360 | 0,06 | s |
| – Undervoltage limit 2 activation delay | 0,06...360 | 0,06 | s |
| – Undervoltage reset delay | 00:00:01...18:12:14; locked | 00:00:03 | hh:mm:ss |
| Overvoltage phase | | | |
| – Overvoltage operating mode | deactivated; limit 1 warning; limit 1 switch-off | limit 1 warning; | |
| – Overvoltage limit 1 | 100...690 | 253 | V |
| – Overvoltage limit 2 | 100...690 | 265 | V |
| – Overvoltage hysteresis | 1...200 | 15 | V |
| – Overvoltage limit 1 activation delay | 0,06...360 | 0,06 | s |
| – Overvoltage limit 2 activation delay | 0,06...360 | 0,06 | s |
| – Overvoltage reset delay | 00:00:01...18:12:14; locked | 00:00:03 | hh:mm:ss |
| INTspection Memory ranges | | | |
| – Basic time grid, range 1 | 1...3600 | 1 | s |
| – Time factor, range 2 | 1...3600 | 60 | |
| – Time factor, range 3 | 1...3600 | 60 | |
| – INTspection memory error offset | 1...100 | 100 | |
| INTspection Memory accumulation of value | | | |
| – Value 1 phase L1 | minimum; average; maximum | maximum | |
| – Value 2 phase L2 | minimum; average; maximum | maximum | |
| – Value 3 phase L3 | minimum; average; maximum | maximum | |
| – Value 4 phase L1 | minimum; average; maximum | minimum | |
| – Value 5 phase L2 | minimum; average; maximum | minimum | |
| – Value 6 phase L3 | minimum; average; maximum | minimum | |
| – Value 7 frequency | minimum; average; maximum | average | |