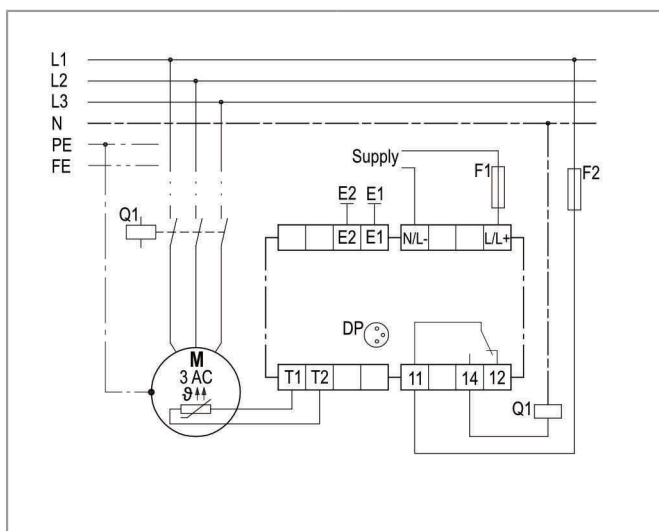


INT69® F Diagnose

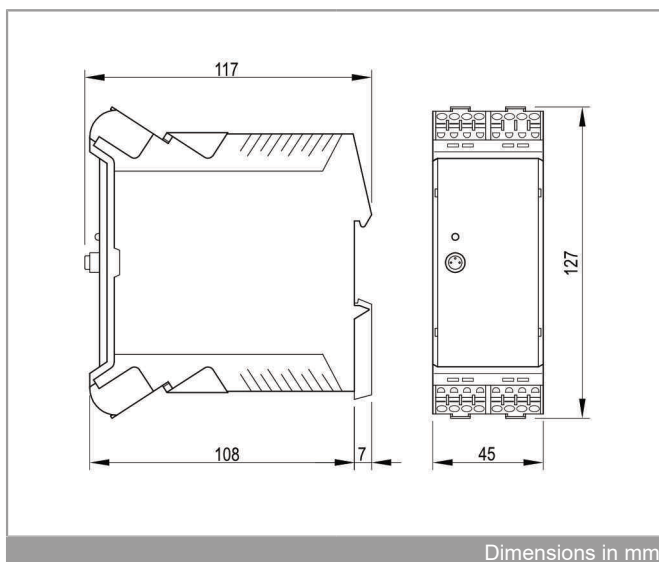


INT69 F Diagnose

Illustration similar. Scope of delivery may deviate.



Wiring diagram



Dimensions in mm

Application

The motor protector INT69 F Diagnose is a universal and versatile protection unit. For the monitoring of electrical components, various inputs for temperature and leakage/resistance measurement are available in a single module. Protective functions and behavior can be flexibly adjusted to the application by parameterization.

The INT69 F Diagnose saves operating and error data in a non-volatile memory. This data can be read and evaluated for diagnosis. This motor protector is mainly used for protecting pumps.

Functional description

All monitoring functions can be configured by simple parameterization via the app. The following operating statuses of the inputs are described as active, but can be deactivated via parameterization.

The temperature monitoring takes place according to the static evaluation process of a PTC, a Pt100 or a Pt1000. The monitoring of a PTC sensor switches off the alarm relay immediately when the nominal response temperature is reached. The monitoring of a Pt100 and Pt1000 switches the alarm relay when the adjustable temperature limits are reached, after the adjustable activation delay has elapsed.

A short circuit or an open circuit at a temperature input also causes a switch-off of the alarm relay.

The temperature monitoring of the motor winding can also take place according to the static evaluation process of a bimetal switch; when the bimetal switch opens, the alarm relay is switched off without delay.

The leakage monitoring takes place according to the static evaluation process of an ohmic resistor.

The monitoring of an ohmic resistance switches off the alarm relay when the adjustable limits are reached, after the adjustable activation delay has elapsed.

The INT69 F 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.

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 motor protector (see blink code).


In case of error-free operation, the built-in LED lights up green. The alarm relay energizes. If an error is detected, the alarm relay is deactivated. The output relay operates in closed-circuit current mode.


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.

 The circuit of the DC supply in which the is located must be earthed. If this is not the case, all connected devices must have at least a basic insulation.

 To achieve the specified overvoltage category, sensors must have at least double insulation in the motor winding.

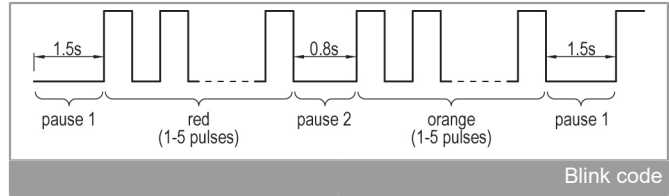
Order data

INT69 F Diagnose	20 A 711 P081
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 / 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	Motor temperature: Static switch-off, permissible winding temperature exceeded
1	4	Motor temperature: Sensor input detected open circuit or short circuit
4	1	Leakage 1: Static switch-off / warning, permissible limit value undercut / exceeded
5	1	General: Internal error
5	2	General: Supply voltage too low

Technical specifications

Supply voltage	AC/DC 50/60 Hz 24 V ± 10 % 9 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	30 m
– Short circuit monitoring	<20 Ω
– Open circuit monitoring	>20 k Ω
Temperature measuring circuit	
– Type	Pt100
– Measuring range	-50... +300 °C
– Resolution	1 K
– Accuracy	5% of measuring range maximum value
– Short circuit monitoring	<20 Ω
– Open circuit monitoring	>400 Ω
Temperature measuring circuit	
– Type	Pt1000
– Measuring range	-50... +300 °C
– Resolution	1 K
– Accuracy	5% of measuring range maximum value
– Short circuit monitoring	<20 Ω
– Open circuit monitoring	>2.3 k Ω
Leakage measuring circuit	
– Type	Resistance measurement between electrode pair
– Measuring range	10 k...1 M Ω
– Resolution	1 k Ω
– Accuracy	$\pm 10\%$ of measuring range maximum value within range 10 k...100 k Ω $\pm 25\%$ of measuring range maximum value within range 101 k...1 M Ω
Switch-off limits, general	Configurable unless specified otherwise
Reset delay	Configurable
Reset of the lock or the reset delay	Power reset >5 s only possible when error no longer present
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	Tension spring connection (PUSH-IN) 0.2...2.5 mm ²
Housing material	PA 66 GF 30

Mounting	Switching cabinet housing (basic grid 45 mm), can be snapped onto 35 mm standard 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

Parameter table

Parameter name	Adjustment range	Default	Unit
Motor temperature 1			
– Sensor type	deactivated; PT100; Pt1000; PTC; bimetal bimetal		
– Switch-off temperature	0...300	140	°C
– Warning temperature	0...300	110	°C
– Hysteresis	0...300	30	K
– Activation delay	0,1...3600	0.1	s
– Reset delay	00:00:01...18:12:14; locked	locked	hh:mm:ss
– Line correction	0...100	0	Ω
Leakage 1			
– Operating mode	deactivated; resistance exceeded; Resistance undercut resistance undercut;		
– Switch-off value	10...1000	60	kΩ
– Warning value	10...1000	75	kΩ
– Hysteresis	1...999	10	kΩ
– Activation delay	0,1...3600	20	s
– Reset delay	00:00:01...18:12:14; locked	00:00:05	hh:mm:ss

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