INT69 Y® Diagnose

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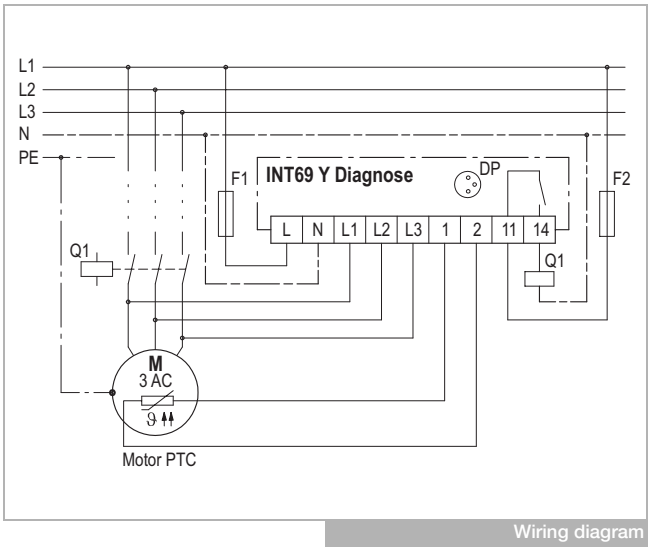
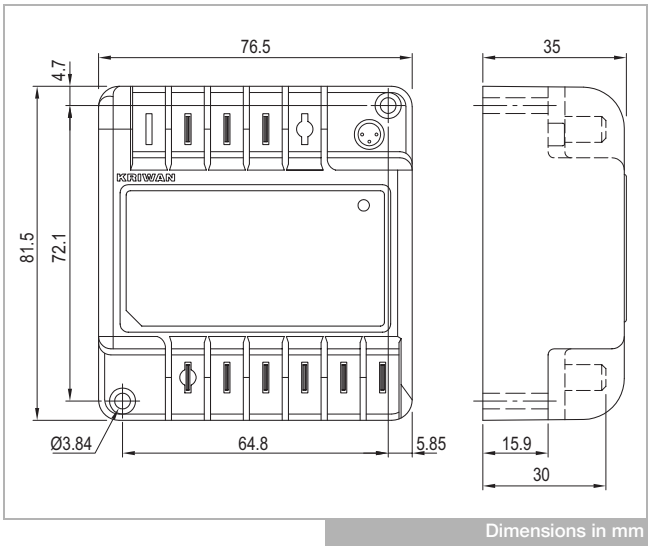


Wiring diagram



Dimensions in mm

Application

The compressor protection INT69 Y Diagnose is a further development of the reliable KRIWAN motor protectors. Additional inputs for the phase monitoring as well as supplementary flexible-response protective functions help to improve the availability and extend the service life of a refrigeration system.

The INT69 Y Diagnose automatically saves operational and error data in a non-volatile memory. This data can be retrieved and analysed for diagnosis. The full scope of the diagnosis is achieved by using a KRIWAN-specific AMS sensor.

This motor protector is mainly employed on compressors of which the motor's direction of rotation is essential for the function.

Functional description

The temperature monitoring in the motor winding is done according to the static evaluation process; the motor is switched off immediately if the nominal response temperature of the built-in AMS or PTC sensors is reached.

A short circuit at an AMS or PTC input also leads to a switch-off. A short cycling leads to a reset delay.

Following cooling off and/or error rectification and subsequent restart delay, the compressor may be restarted. Restart after a lock-out is only possible after a reset.

The phase monitoring of the motor voltage is active 1s after the start of the motor. The correct phase sequence is monitored for 5s, the phase failure is monitored for the total motor running time. If a wrong phase sequence is detected, the motor protector will lock switch off, if there is a phase failure then a switch-off takes place.

After motor stop, the phase monitoring is deactivated for approx. 15s to prevent unintended locking due to brief reverse running of the compressor.

For operation in the specified manner, the supply voltage has to be on permanently on the INT69 Y Diagnose.

The built-in LED signals the current status of the motor protector (see flash code).

⚠ The mounting, maintenance and operation are to be carried out by an electrician. The valid European and national standards for connecting electrical equipment and cooling installations have to be observed. Connected sensors and connection lines that extend from the terminal box have to feature at least a basic insulation.

See back side for further specifications

Technical changes reserved

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Product group A
Edition: 710.00479.0

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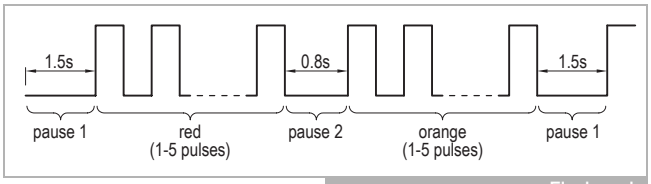
Flash code

The KRIWAN flash code allows for a quick and easy status display and troubleshooting.

The flash code consists of a cyclical red and orange flash sequence. The current status can be determined from the number of pulsing flashes.



Flash code

Overview flash code

Green lit	Compressor operational
Green flashing	Compressor running
Red/Orange flashing	Error, compressor is switched off; for description see table below

1st flashing sequence (LED red)	2nd flashing sequence (LED orange)	Description
1	1	Motor temperature: Static switch-off, Permissible winding temperature exceeded
	3	Motor temperature: Reset delay after static switch-off
	4	Motor temperature: Sensor input detected open circuit or short circuit
2	1	Motor voltage: Incorrect phase sequence
	2	Motor voltage: Phase failure/asymmetry
	4	Motor voltage: Reset delay after "Motor voltage" error
3	1	General: Supply voltage too low
	5	General: Reset delay after "General" error

Order data

INT69 Y Diagnose (AC115-240V)	**22 A 634**
INT69 Y Diagnose (AC 24V)	**31 A 634**
Accessories and application information	see www.kriwan.com

Technical specifications

Supply voltage	
- 22 A 634	AC 50/60Hz 115-240V -15...+10% 3VA
- 31 A 634	AC 50/60Hz 24V -15...+10% 3VA
Permitted ambient temperature	-30...+70°C
Temperature measuring circuits	
- Type	1-2 AMS sensors in series alternative 1-9 PTC sensors acc. to DIN 44081, DIN 44082 in series
- $R_{25,total}$	<1.8kΩ
- $R_{trip,\ static}$	4.5kΩ ±20%
- R_{reset}	2.75kΩ ±20%
- Max. length connection line	30m
Short circuit monitoring system PTC	Typically <30Ω
Motor voltage	3 AC 50/60Hz 200-690V ±10%
Phase monitoring	
- Phase sequence	Active about 1s after motor start for about 5s
- Phase failure	Active about 1s after the motor start until the motor stop
- Inactive	After motor stop for approx. 15s
Switching frequency overstepping	3 switch-offs in 30s
Operation with frequency converters	Not suitable
Reset delay	
- Motor temperature static	5min ±1min
- Switching frequency overstepping	5min ±1min
- Incorrect phase sequence	Locked
- Phase failure	
1.-9./24h	5min ±1min
10./24h	Locked
Resetting the lock or the reset delay	Main reset >5s only possible if there is no error current
Relay	
- Contact (22 A 634)	AC 240V 2.5A C300 at least AC/DC 24V 20mA
- Contact (31 A 634)	AC 240V 2.5A C300 at least AC/DC 100mV 0.5mA
- Mechanical service life	Approx. 1 million switching cycles
Interface	Diagnose port (DP)
Protection class acc. to EN 60529	IP00
Connection type	6.3mm flat plugs
Housing material	PA glass-fibre-reinforced
Mounting	Screw mounted
Dimensions	Refer to dimensions in mm
Weight	Approx. 200g
Check base	EN 61000-6-2, EN 61000-6-3 EN 61010-1 Overvoltage category II Pollution level 2
Approval	UL File No. E75899 $_{c}UR_{us}$

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