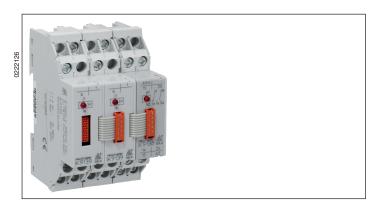
Installation / Monitoring Technique

VARIMETER Current Monitoring System IK 9138, IK 9139

Translation of the original instructions

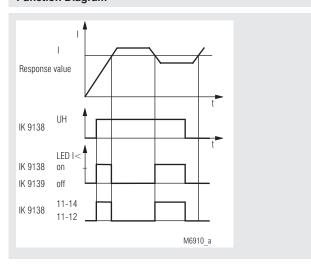






- According to IEC/EN 60255-1
- Modular system, extension possible
- For measuring currents of 0.175 to 6 A
- Small amount of wiring required
- Compact design
- LED display
- Width 17.5 mm

Function Diagram



Approvals and Marking



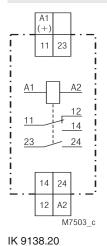
Application

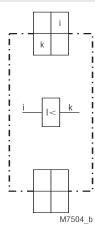
- For monitoring the current consumption levels of different electricity consumers
- For identifying cable breakages and burned-out heating cartridges

Function

The IK 9138 / IK 9139 varimeter is a modular current monitoring system that consists of a reporting unit IK 9138 and 1 to 30 current monitors IK 9139. This means that the current consumption levels of different electricity consumers can be monitored. If one of the currents that is being monitored drops below the fixed current setting, the LEDs on the relevant current monitor and the reporting unit go on. The central reporting relay in the reporting unit is actuated. The reporting unit needs to be connected to an auxiliary voltage supply. The current monitors obtain their supply voltage from the reporting unit via a plug-in bus line.

Circuit Diagrams





IK 9139

Indicator

LED:

On, when the current drops below the setting

Connection Terminals

Terminal designation	inal designation Signal description	
A1 (+), A2	Auxiliary voltage AC or DC	
i,k	Current measuring circuit AC	
11, 12, 14	Changeover contact	
23, 24	NO contact	

Technical Data

Input

AC/DC 24 V Auxiliary voltage U₁: AC 0.8 ... 1.1 U_H Voltage range DC 0.9 ... 1.2 U_H At < 10% residual ripple: At 10 ... 48% residual ripple: DC 0.8 ... 1.1 U Nominal consumption: $0.5 W + n \times 0.45 W$ (n = number of IK 9139)

Current consumption: 15 mA + n x 15 mA via IK 9138 Nominal frequency:

±5%

Frequency range: Switching point (fixed):

Switching points (available)*	Maximum overload, permanent	Maximum overload, 2 s
0.175 A	5 A	7.5 A
0.5 A	20 A	150 A
0.75 A	20 A	150 A
1 A	20 A	150 A
3 A	20 A	150 A
5 A	20 A	150 A
6 A	20 A	150 A

* Other switching points possible on request

< 10 % Hysteresis:

Output

Contacts

IK 9138.20: 1 changeover contact, 1 NO contact

Thermal current I,:

Switching capacity

To AC 15

NO contact: 3 A / AC 230 V IEC/EN 60947-5-1 NC contact: 1 A / AC 230 V IFC/FN 60947-5-1 **Electrical life** IEC/EN 60947-5-1

At 3 A, AC 230 V $\cos \varphi = 1$: ≤ 1 x 10⁶ switching cycles

Short circuit strength

max. fuse rating: IEC/EN 60947-5-1 6 A qG/qL

20 x 106 switching cycles Mechanical life:

General Data

Operating mode: Continuous operation

Temperature range

Operation: - 20 ... + 60 °C - 20 ... + 60 °C Storage: Altitude: < 2000 m

Clearance and creepage

distances Rated impulse voltage/ pollution degree

Input/output: 4 kV / 2 IEC 60664-1

EMC

Electrostatic discharge: 8 kV (air) IEC/EN 61000-4-2

HF irradiation

80 MHz ... 2.7 GHz 10 V / m IEC/EN 61000-4-3 Fast transients: IEC/EN 61000-4-4 2 kV

Surge voltages

Between

IEC/EN 61000-4-5 wires for power supply: 1 kV Between wire and ground: 2 kV IEC/EN 61000-4-5 IEC/EN 61000-4-6 HF wire guided: 10 V Interference suppression: Limit value class B EN 55011

Degree of protection

IP 40 Housing: IEC/EN 60529 IEC/EN 60529 IP 20 Terminals: IP 00 Terminals 40A: IEC/EN 60529

Housing: Thermoplastic with V0 behaviour according to UL subject 94

Vibration resistance: Amplitude 0.35 mm

frequency 10 ... 55 Hz IEC/EN 60068-2-6

20 / 060 / 04 Climate resistance: IEC/EN 60068-1

Technical Data

Terminal designation: EN 50005

2 x 2.5 mm² solid or Wire connection:

2 x 1.5 mm² stranded ferruled

DIN 46228-1/-2/-3/-4

Wire fixing: Plus-Minus-terminal screws M3.5 with

self-lifting clamping piece IEC/EN 60999-1

Stripping length: 10 mm Max. 0.8 Nm Fixing torque:

IEC/EN 60715 Mounting: DIN rail

Weight

IK 9138: 70 g IK 9139: 52 g

Dimensions

Width x height x depth: 17.5 x 89 x 58 mm

Standard Types

IK 9138.20 AC/DC 24 V

Article number: 0036887

Output: 1 changeover contact, 1 NO contact

 Auxiliary voltage U_n: AC/DC 24 V Width: 17.5 mm

IK 9139 1 A max. 20 A

Article number: 0036888 Switching point: 1 A Max. 20 A Overload: Width: 17.5 mm

Ordering Examples

