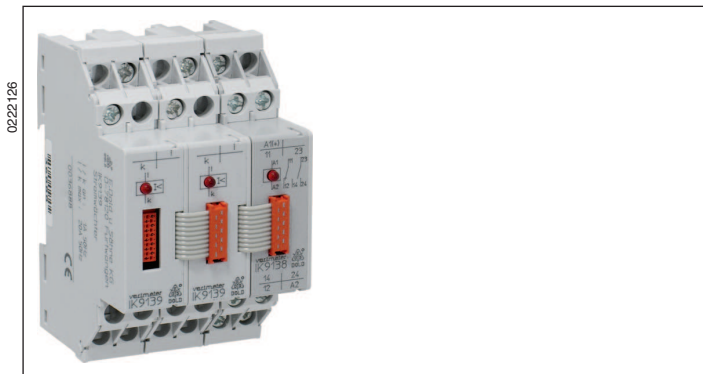
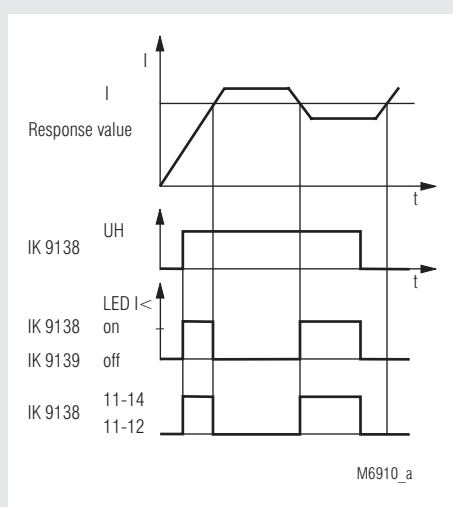


## VARIMETER Current Monitoring System IK 9138, IK 9139



- According to IEC/EN 60 255, DIN VDE 0435-303
- Modular system, extension possible
- For measuring currents of 0.175 to 16 A
- Small amount of wiring required
- Compact design
- LED display
- Width 17.5 mm

### Function Diagram



### Approvals and Marking



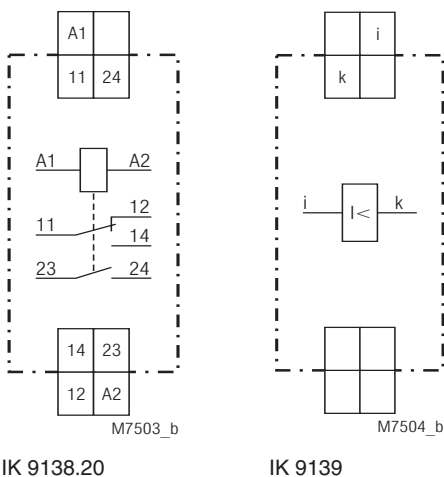
### Application

- 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



### Indicator

LED: on, when the current drops below the setting

### Technical Data

#### Input

**Auxiliary voltage  $U_H$ :** AC/DC 24 V  
**Voltage range**  
 at < 10% residual ripple: AC 0.8 ... 1.1  $U_H$   
 DC 0.9 ... 1.2  $U_H$   
 at 10 ... 48% residual ripple: DC 0.8 ... 1.1  $U_H$   
**Nominal consumption:** 0.5 W + n x 0.45 W  
 (n = number of IK 9139)  
 15 mA + n x 15 mA via IK 9138  
**Current consumption:** 50 Hz  
**Nominal frequency:** 50 Hz  
**Frequency range:** ± 5 %  
**Switching point (fixed):**

Switching points (available)*	Maximum overload, permanent	Maximum overload, 2 s
0.175 A	5 A	7.5 A
0.75 A	20 A	150 A
1 A	20 A	150 A
5 A	20 A	150 A
10 A	40 A	150 A
16 A	40 A	150 A

\* Other switching points possible on request

### Hysteresis:

< 10 %

## Technical Data

### Output

### Contacts

IK 9138.20: 1 changeover contact, 1 NO contact  
5 A

### Thermal current $I_{th}$ :

### Switching capacity

to AC 15

NO contact: 3 A / AC 230 V IEC/EN 60 947-5-1

NC contact: 1 A / AC 230 V IEC/EN 60 947-5-1

**Electrical life** IEC/EN 60 947-5-1

to AC 15 at 3 A, AC 230 V: 5 x 10<sup>5</sup> switching cycles

### Short circuit strength

**max. fuse rating:** 6 A gL IEC/EN 60 947-5-1

**Mechanical life:** 20 x 10<sup>6</sup> switching cycles

## General Data

**Operating mode:** Continuous operation

**Temperature range:** - 20 ... + 60°C

### Clearance and creepage distances

rated impuls voltage/

pollution degree

Input/output: 4 kV / 2 IEC 60 664-1

### EMC

Electrostatic discharge: 8 kV (air) IEC/EN 61 000-4-2

HF irradiation: 10 V/m IEC/EN 61 000-4-3

Fast transients: 2 kV IEC/EN 61 000-4-4

Surge voltages

between

wires for power supply: 1 kV IEC/EN 61 000-4-5

between wire and ground: 2 kV IEC/EN 61 000-4-5

Interference suppression: Limit value class B EN 55 011

### Degree of protection

Housing: IP 40 IEC/EN 60 529

Terminals: IP 20 IEC/EN 60 529

**Housing:** Thermoplastic with V0 behaviour according to UL subject 94

### Vibration resistance:

Amplitude 0.35 mm

frequency 10 ... 55 Hz IEC/EN 60 068-2-6

20 / 060 / 04 IEC/EN 60 068-1

### Climate resistance:

EN 50 005

### Terminal designation:

**Wire connection:** 2 x 2.5 mm<sup>2</sup> solid or

2 x 1.5 mm<sup>2</sup> stranded ferruled

DIN 46 228-1/-2/-3/-4

### Wire fixing:

Flat terminals with self-lifting

clamping piece IEC/EN 60 999-1

DIN rail IEC/EN 60 715

### Mounting:

### 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  $U_H$ : AC/DC 24 V

• Width: 17.5 mm

IK 9139 1 A

Article number: 0036888

• Switching point: 1 A

• Width: 17.5 mm

## Ordering example

IK 9138 .20 AC/DC 24 V

Nominal voltage

Contacts

Type

IK 9139 AC 175 mA

Response value

Type