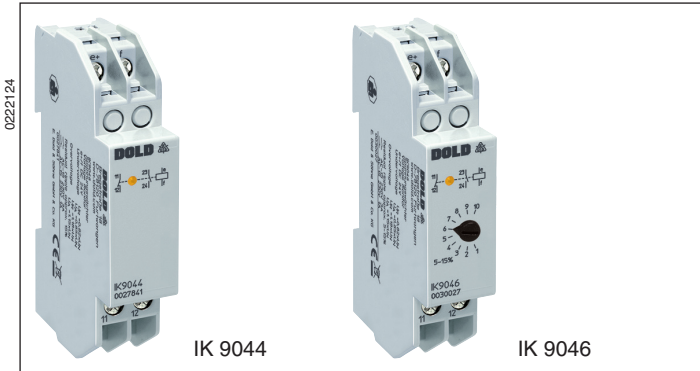


VARIMETER Voltage Monitor IK 9044, IK 9046

Translation
of the original instructions



Your Advantages

- Preventive maintenance
- For better productivity
- Quicker fault locating

Features

- According to IEC/EN 60255-1
- For monitoring direct current voltage supply systems to detect undervoltage, overvoltage and residual ripple
- For DC 24 V
- IK 9046 with adjustable residual ripple
- Width 17.5 mm

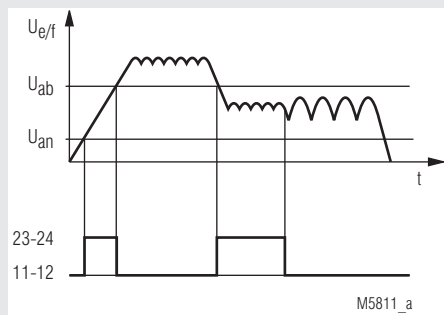
Product Description

The voltage monitor IK 9044 and IK 9046 of the VARIMETER series monitors overvoltage, undervoltage and the residual ripple. Early detection of impending failures and preventive maintenance prevent costly damage and as a user you benefit from the operational safety and high availability of your system.

Approvals and Markings



Function Diagram



Application

For monitoring direct current voltage supply systems, e.g. of PLC (three-phase bridges), automobile industry, welding.

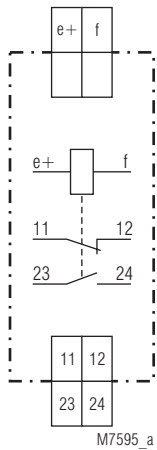
Indicator

Yellow LED: On, when there are no faults in the supply system

Connection Terminals

Terminal designation	Signal description
e+, f	Measuring- and supply voltage DC 24 V
11, 12	NC contact
23, 24	NO contact

Circuit Diagram



Technical Data

Input

Nominal voltage U_N:	DC 24 V
Maximum overload:	DC 33 V permanent DC 35 V 0.5 s DC 45 V 10 ms
Nominal consumption:	0.6 W
Overvoltage	
Setting value:	$0.82 \times U_N$
Undervoltage	
Setting value:	$1.18 \times U_N$
Hysteresis:	$< 4 \% \times U_N$
Residual ripple actuation	
IK 9044:	Approx. 15 %
IK 9046:	5 ... 15 %, adjustable

Output

Contacts:	1 NC contact, 1 NO contact
Thermal current I_{th}:	4 A (see quadratic total current limit curve)
Switching capacity	
To AC 15	
NO contact:	3 A / AC 230 V IEC/EN 60947-5-1
NC contact:	1 A / AC 230 V IEC/EN 60947-5-1
Electrical life:	IEC/EN 60947-5-1
At 1A, AC 230 V $\cos \varphi = 1$:	5×10^5 switching cycles
Short circuit strength	
max. fuse rating:	4 A gG / gL IEC/EN 60947-5-1
Mechanical life:	30×10^6 switching cycles

General Data

Operating mode:	Continuous operation
Temperature range	
Operation:	- 20 ... + 70 °C
Storage:	- 20 ... + 70 °C
Altitude:	< 2000 m
Clearance and creepage distances	
Rated impulse voltage/ pollution degree:	4 kV / 2 IEC 60664-1
EMC	
Electrostatic discharge:	6 kV (air) IEC/EN 61000-4-2
HF irradiation	
80 MHz ... 2.7 GHz:	10 V / m IEC/EN 61000-4-3
Fast transients:	2 kV IEC/EN 61000-4-4
Surge voltages	
Between	
wires for power supply:	1 kV IEC/EN 61000-4-5
Between wire and ground:	2 kV IEC/EN 61000-4-5
HF wire guided:	10 V IEC/EN 61000-4-6
Interference suppression:	Limit value class B EN 55011
Degree of protection	
Housing:	IP 40 IEC/EN 60529
Terminals:	IP 20 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
Climate resistance:	25 / 070 / 04 IEC/EN 60068-1
Terminal designation:	EN 50005
Wire connection:	
Cross section:	2 x 2.5 mm ² solid or 2 x 1.5 mm ² stranded ferruled DIN 46228-1/-2/-3/-4
Stripping length:	10 mm
Wire fixing:	Flat terminals with self-lifting clamping piece IEC/EN 60999-1
Fixing torque:	0.8 Nm
Mounting:	DIN rail IEC/EN 60715 or screw attachment
Weight:	67 g

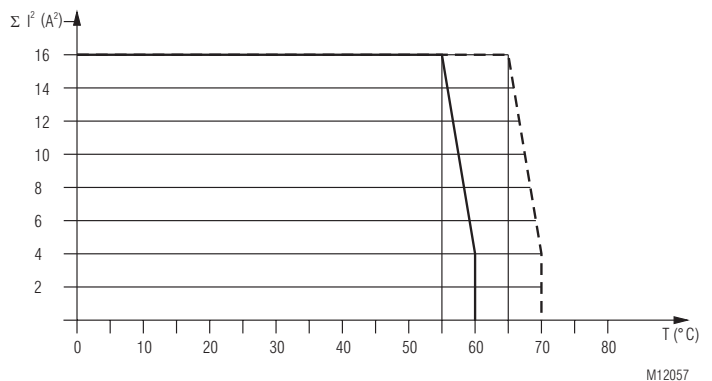
Dimensions

Width x height x depth:	17.5 x 90 x 58 mm
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Standard Type

IK 9044 DC 24 V	
Article number:	0027841
• Residual ripple actuation:	Approx. 15 %, fixed
• Output:	1 NC contact, 1 NO contact
• Nominal voltage U_N :	DC 24 V
• Width:	17.5 mm
IK 9046 DC 24 V	
Article number:	0030027
• Residual ripple actuation:	5 ... 15 %, adjustable
• Output:	1 NC contact, 1 NO contact
• Nominal voltage U_N :	DC 24 V
• Width:	17.5 mm

Characteristic



--- Device mounted away from heat generation components.

— Device mounted without distance heated by devices with same load.

M12057

Connection Example

