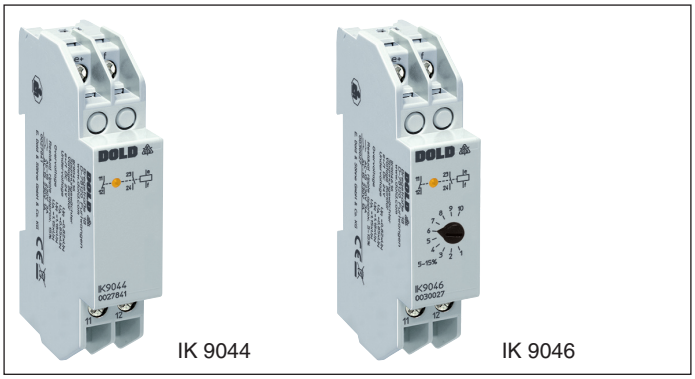
VARIMETER
Voltage Monitor
IK 9044, IK 9046

Translation of the original instructions

DOLD

0222124



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

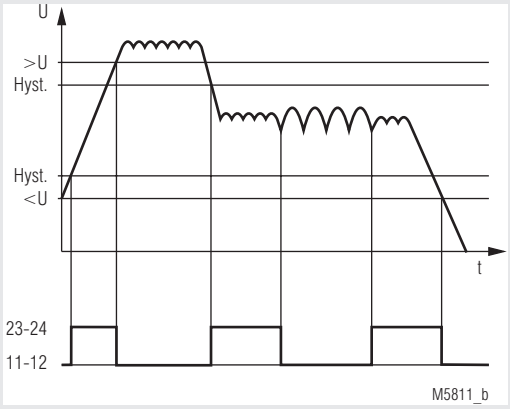
Product Description

The voltage monitor IK 9044 and IK 9046 of the VARIMETER series monitors overvoltage, undervoltage and and the residual ripple. Early detection of impending failtures 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

CE

Function Diagram



Application

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

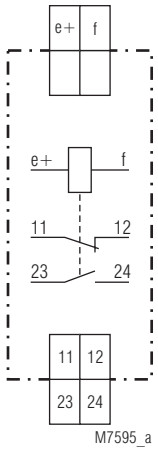
Indicator

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
Setting value	
Undervoltage <U:	0.82 x U_N
Overvoltage >U:	1.18 x U_N
Hysteresis:	< 4 % x 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 φ = 1:	5 x 10^5 switching cycles
Short circuit strength	
max. fuse rating:	4 A gG / gL IEC/EN 60947-5-1
Mechanical life:	30 x 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 mm² solid or 2 x 1.5 mm² 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

Standard Types

IK 9044.16 DC 24 V 0.82 x U_N 1.18 x U_N

Article number:	0027841
• Residual ripple actuation:	Approx. 15 %, fixed
• Output:	1 NC contact, 1 NO contact
• Nominal voltage U_N:	DC 24 V
• Undervoltage <U:	0.82 x U_N
• Overvoltage >U:	1.18 x U_N
• Width:	17.5 mm

IK 9046.16 DC 24 V 0.82 x U_N 1.18 x U_N

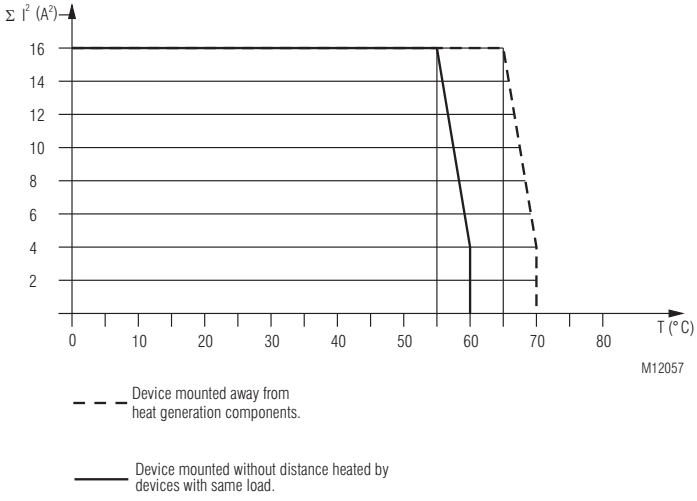
Article number:	0030027
• Residual ripple actuation:	5 ... 15 %, adjustable
• Output:	1 NC contact, 1 NO contact
• Nominal voltage U_N:	DC 24 V
• Undervoltage <U:	0.82 x U_N
• Overvoltage >U:	1.18 x U_N
• Width:	17.5 mm

Ordering Example

IK 904 _ .16 DC 24 V 0.82 x U_N 1.18 x U_N

- Overvoltage >U
- Undervoltage <U
- Nominal voltage
- Contacts
- Type
  - 4: Residual ripple actuation fixed
  - 6: Residual ripple actuation adjustable

Characteristic



Connection Example