



# Measuring Relays

## Voltage Monitor Relays

### Overview

#### RL 9836 and RL 9854 Varimeter Series

Dold VARIMETER series measuring relays are specifically designed to protect equipment in single-phase AC or DC voltage systems from fault conditions, such as overvoltage, undervoltage, or exceeding a voltage band. These relays provide reliable voltage monitoring without the need for external power sources. Four single-turn switches provide quick and easy setup, allowing these relays to be configured for a broad range of applications.



RL 9836



RL 9854

### Features

#### RL 9836

- According to IEC/EN 60255-1
- For DC monitoring
- Detection of
  - Overvoltage
  - Undervoltage
  - Voltage range excess in single-phase DC voltage systems
- No separate auxiliary voltage necessary
- Output: 1 changeover contact
- De-energized on trip
- Adjustable switching voltage
- Adjustable hysteresis for reset
- Adjustable switching delay
- Fast fault detection
- Width 35mm

#### RL 9854

- According to IEC/EN 60255-1
- For monitoring AC single phase with 50 /60 Hz
- Detection of
  - Overvoltage
  - Undervoltage
  - Voltage range excess in single-phase AC voltage systems
- No separate auxiliary necessary
- Output: 1 changeover contact
- De-Energized on trip
- Adjustable switching voltage
- Adjustable hysteresis for reset
- Adjustable switching delay
- Fast fault detection
- Width 35mm

### Application

- Monitoring of voltage systems to detect over- and undervoltage
- Switch over to emergency supply after fault detection

### Approvals

RL 9836, RL 9854



### Reference Guide

The reference guide below provides general information on the different versions of Dold Voltage Monitor Relays offered by AutomationDirect.com (see Product Selection on the following pages for further details).

Series	Under Voltage	Over Voltage
RL 9836	> 24 VDC	< 250 VDC
RL 9854	> 45 VAC	< 528 VAC



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Voltage Measuring Relays			
Part Number	Price	Description	Drawing Link
<a href="#"><u>RL9836DC24-130V</u></a>	\$120.00	Dold voltage monitor relay, 1-phase, 35mm DIN rail mount, 24-130 VDC input voltage, SPDT, 5A contact rating, screw terminal(s), LED indicator(s), overvoltage, undervoltage and voltage range protection.	<a href="#"><u>PDF</u></a>
<a href="#"><u>RL9836DC50-250V</u></a>	\$120.00	Dold voltage monitor relay, 1-phase, 35mm DIN rail mount, 50-250 VDC input voltage, SPDT, 5A contact rating, screw terminal(s), LED indicator(s), overvoltage, undervoltage and voltage range protection.	<a href="#"><u>PDF</u></a>
<a href="#"><u>RL9854AC100-300V</u></a>	\$110.00	Dold voltage monitor relay, 1-phase, 35mm DIN rail mount, 100-300 VAC input voltage, SPDT, 5A contact rating, screw terminal(s), LED indicator(s), overvoltage, undervoltage and voltage range protection.	<a href="#"><u>PDF</u></a>
<a href="#"><u>RL9854AC45-135V</u></a>	\$110.00	Dold voltage monitor relay, 1-phase, 35mm DIN rail mount, 45-135 VAC input voltage, SPDT, 5A contact rating, screw terminal(s), LED indicator(s), overvoltage, undervoltage and voltage range protection.	<a href="#"><u>PDF</u></a>



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## Voltage Monitor Relays

Technical Specifications					
Part Number		RL9836DC24-130V	RL9836DC50-250V	RL9854AC100-300V	RL9854AC45-135V
Input Voltage Range**		24-130 VDC	50-250 VDC	100-300 VAC	45-135 VAC single-phase with neutral
Undervoltage		> 24VDC		> 45 VAC	
Voltage Range		24-130 VDC	50-250 VDC	100-300 VAC	45-135 VAC
Hysteresis		4-20%			
Switching Voltage Capacity		250 VAC			
Life*	Electrical	To AC 15 at 1A, 230 VAC: Typ. 3 x 105 switching cycles			
	Mechanical	> 30 x 10 <sup>6</sup> switching cycles			
Response Times		Infinite adjustable instantaneous, 2-30 s			
Power Consumption		Approx. 2W		Approx. 7VA	
Temperature		Operation: - 4 to 131 °F [-20 to 55 °C] Storage: - 13 to 140 °F [-25 to 60 °C] Relative air humidity: 93 % at 104 °F			
Mounting		DIN rail IEC/EN 60715			
Indicator LED		See Table 1 on following page			
Switching Delay		2-30s			
Weight (lb)		105 g			
Wire Size		AWG 24-12			
Tightening Torque		0.6 Nm		0.5 Nm	
Approvals		cULus, CE			

\* Resistive load

\*\* Fusing is not required by code, but if fusing is used we recommend 2 Ampere MCL2 fuse between the phase monitor relay and the three phases.



# Measuring Relays

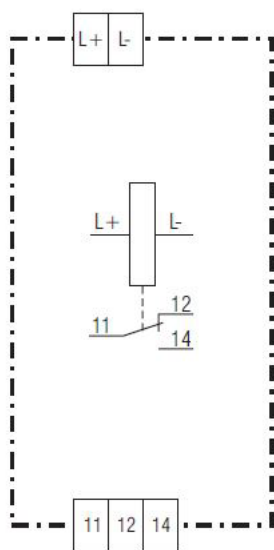
## Voltage Monitor Relays

### RL9836, RL9854 LED Indication

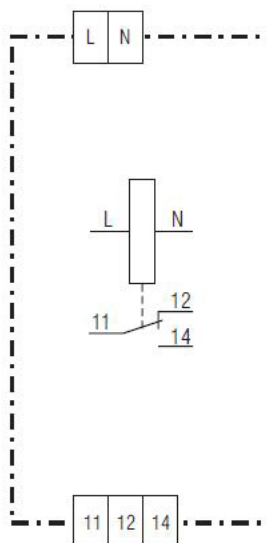
Table - LED Indication	
LED Status*	Indicator
Green ON	Relay On
Red >U	Relay On, when overvoltage
Red <U	Relay On, when undervoltage

## Wiring Diagrams

### RL9836



### RL9854



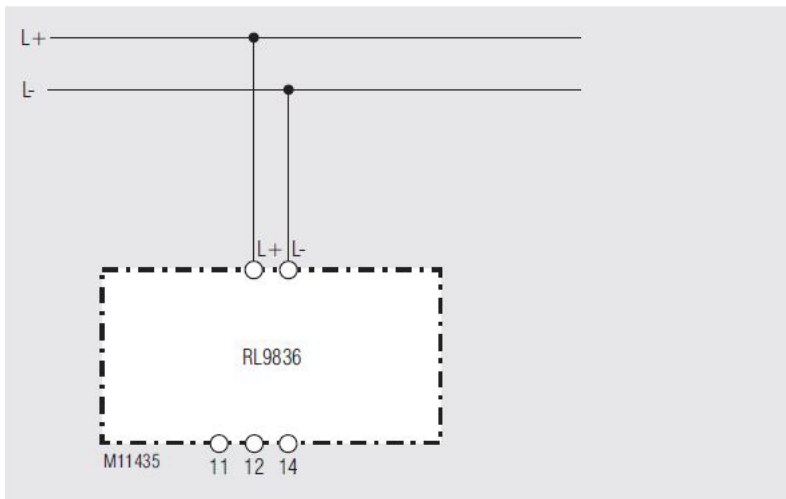


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## Voltage Monitor Relays

### Typical Connections

#### **RL9836**



#### **RL9854**

