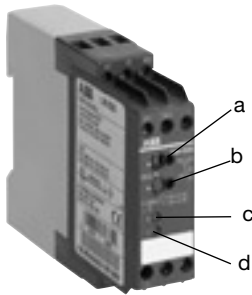


# AC/DC Voltage Monitors, Single-Phase CM-ESS Relay Output



- a Hysteresis adjustment
- b Threshold value adjustment
- c R: yellow LED - relay status
- d U: green LED - supply voltage

- Monitoring of AC or DC voltages from 50 mV...500 V in 8 ranges
- Up to 3 measuring ranges covered by one unit
- Switching hysteresis adjustable from 5...30 %
- No time delay
- 1 SPDT contact
- 2 LEDs for status indication

Approvals: us

## Description

The voltage being monitored is applied to the terminals B1, B2 or B3 and C.

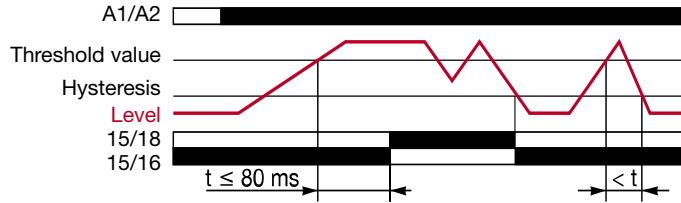
The output relay energizes if the monitored voltage exceeds the threshold value. It de-energizes if the voltage falls below the set hysteresis value.

The hysteresis can be adjusted from 5 to 30 %.

The measuring, output and supply circuits are electrically isolated to prevent interference.

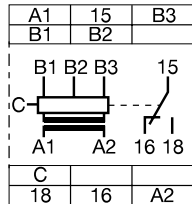
Since one measuring cycle takes 80 ms, voltage changes can be quickly detected.

## Function



t = ON-delay 80 ms max.

## Connection



- A1-A2 Supply voltage
- B1/C Meas. voltage: 0.05-0.5V; 1-10 V;
- B2/C Meas. voltage: 0.3-3 V; 5-50 V; 30-300 V;
- B3/C Meas. voltage: 0.5-5 V; 10-100 V; 50-500 V
- 15-16/18 Output contacts

## Accessories



See accessory pages for specifications.

## Ordering Table

Type	Supply voltage 50/60 Hz	Part Number
------	----------------------------	-------------

### Voltage Measuring Ranges: 0.05-0.5 V; 0.3-3 V; 0.5-5 V, AC/DC

CM-ESS	24 V AC	1SVR 430 831 R 9000
	110...130 V AC	1SVR 430 831 R 0000
	220...240 V AC	1SVR 430 831 R 1000

### Voltage Measuring Ranges: 1-10 V; 5-50 V; 10-100 V, AC/DC

CM-ESS	24 V AC	1SVR 430 831 R 9100
	110...130 V AC	1SVR 430 831 R 0100
	220...240 V AC	1SVR 430 831 R 1100

### Voltage Measuring Ranges: /- / ; 30-300 V; 50-500 V, AC/DC

CM-ESS	24 V AC	1SVR 430 831 R 9200
	110...130 V AC	1SVR 430 831 R 0200
	220...240 V AC	1SVR 430 831 R 1200

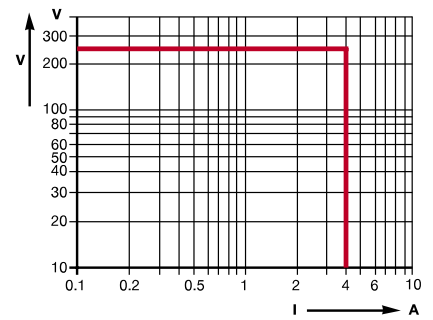
# AC/DC Voltage Monitors, Single-Phase CM-ESS Relay Output

## Technical Data

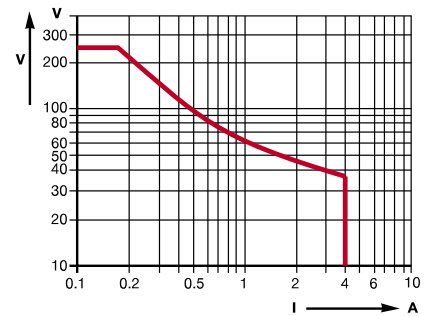
<b>Input</b>		
Supply voltage - power consumption	A1-A2	24 V AC - 1 VA
	A1-A2	42...48 V AC - 1 VA
	A1-A2	110...130 V AC - 1 VA
	A1-A2	220...240 V AC - 1 VA
Tolerance of supply voltage		-15 % ... +10 %
Supply voltage frequency		50...60 Hz
Duty time		100 %
<b>Measuring Circuit</b>		
Measuring voltage inputs	B1/C	0.05...0.5 V, 1...10 V
	B2/C	0.3...3 V, 5...50 V, 30...300 V
	B3/C	0.5...5 V, 10...100 V, 50...500 V
Hysteresis (ref. to the response value) adjustable		5...30 %
Measuring cycle max.		80 ms
Temperature error		≤ 0.06 % / °C
Error over the supply voltage range		≤ 0.5 %
<b>Display of Operational Status</b>		
Supply voltage		LED, green
Output relay energized		LED, yellow
<b>Output</b>		
	15-16/18	Relay, 1 SPDT contact, open circuit principle
Rated voltage	VDE0100, IEC 947-1	250 V
Rated switching voltage max.		250 V AC
Rated switching current	AC 12 (resistive)	4 A (at 230 V)
	AC 15 (inductive)	3 A (at 230 V)
	DC 12 (resistive)	4 A (at 24 V)
	DC 13 (inductive)	2 A (at 24 V)
Maximum mechanical life/ operations		30 x 10 <sup>6</sup> operations
Maximum electrical life (to AC 12 / 230 V / 4 A)		3 x 10 <sup>5</sup> operations
Short-circuit proof, max. fuse rating		10 A / fast acting
<b>General Data</b>		
Rated impulse withstand voltage V <sub>imp</sub>		4 kV
Operating temperature		-20°C ... +60°C
Storage temperature		-40°C ... +85°C
Mounting position		Any
Mounting to DIN rail (EN 50022)		Snap-on mounting/Screw mounting with an adapter
Cable size stranded with wire end ferrule		2 x 14 AWG (2 x 2.5 mm <sup>2</sup> )
Weight		Approx. 0.33 lb (150 g)

## Load Limit Curves

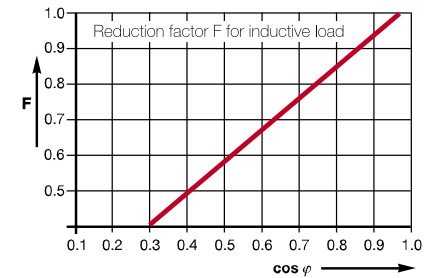
AC Load (Resistive)



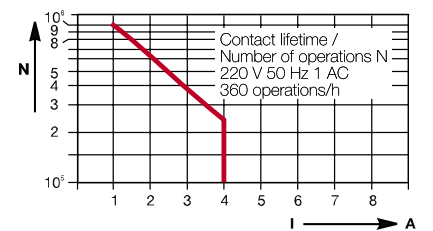
DC Load (Resistive)



Reduction Factor for Inductive AC Load



Contact Lifetime



## Mechanical View

