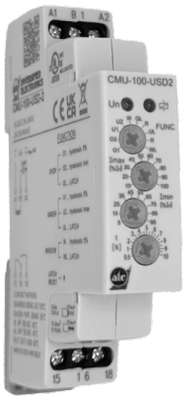

RoHS compliant

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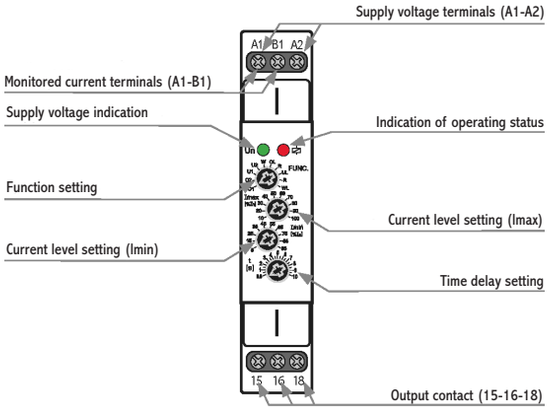
IND. CONT. EQ.
496Y

Multifunction AC Current Monitoring Relay

- **Over Current, Under Current, and Window Monitoring**
- **Universal Supply Voltage**
- **Slim, Space-saving Design**
- **DIN Rail Mount**
- **Automatic and Manual Resets**

- It is used to monitor the value of alternating current, e.g.: motors, heating cables, lamps and other devices.
- Power supply and monitoring circuits are not galvanically isolated.
- Monitors current exceeding the upper current limit (Imax) and falling below the lower current limit (Imin) – according to the selected function.
- Smooth adjustment of both current limits.
- Adjustable time delay (to eliminate short-term current spikes).
- Option to select functions with fault state memory (Latch).
- Measures true root mean square value of the current - TRUE RMS.
- Possibility to extend the current range using an external current transformer.

DESCRIPTION



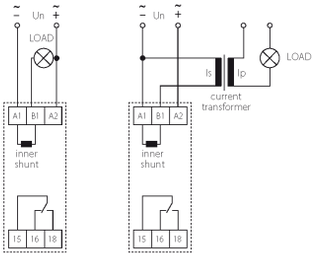
ORDERING INFORMATION

PART NO.	DESCRIPTION
CMU100USD2	2A DIN rail mounted Multifunction Current Monitoring Relay
CMU100USD5	5A DIN rail mounted Multifunction Current Monitoring Relay

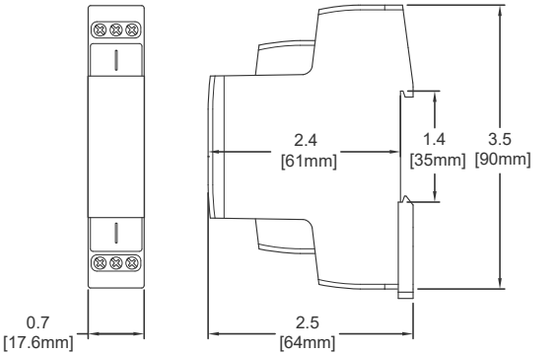
SPECIFICATIONS

SUPPLY	
SUPPLY TERMINALS	A1 - A2
VOLTAGE RANGE	AC/DC 24-240V (AC 50-60 Hz)
POWER INPUT (MAX)	3.8VA/0.7W
SUPPLY VOLTAGE TOLERANCE	–15%; +10%
MEASURING CIRCUIT	
CURRENT RANGE	CMU100USD2 | In - 2A CMU100USD5 | In - 5A (AC 50-60Hz)
MAX CONTINUOUS CURRENT OVERLOAD	CMU100USD2 | 4A CMU100USD5 | 10A
PEAK OVERLOAD (1s)	CMU100USD2 | 10A CMU100USD5 | 16A
CURRENT SETTING (Imax)	10 - 100% In
CURRENT SETTING (Imin)	5 - 95% In
TIME DELAY (d)	300ms
TIME DELAY (t)	Adjustable, 0.5-10s
ACCURACY	
SETTING ACCURACY (MECH)	5%
REPEATABLE ACCURACY	<1%
TEMPERATURE DEPENDENCY	<0.1%/°C
LIMIT VALUES TOLERANCE	5%
HYSTERESIS (FAULT TO OK)	5% (function O1, U1, W) Imax - Imin (function O2, U2)
OUTPUT	
NUMBER OF CONTACTS	1
CONTACT FORM	SPDT
CURRENT RATING	
OUTPUT (55°C)	13A/AC1 or 13A General Purpose at 250VAC
OUTPUT (40°C)	Pilot Duty B300
OUTPUT (40°C, N/O ONLY)	1HP at 240VAC, 1/2HP at 120VAC
BREAKING CAPACITY	4000VA/AC1, 384W/DC1
SWITCHING VOLTAGE	250VAC / 24VDC
POWER DISSIPATION (MAX)	1.2W
MECHANICAL LIFE	10,000,000 ops.
ELECTRICAL LIFE (AC1)	100,000 ops.
OTHER INFORMATION	
OPERATING TEMPERATURE	-20 to +55°C (-4°F to 131°F)
STORAGE TEMPERATURE	-30 to +70°C (-22°F to 158°F)
OPERATING POSITION	Any
DIELECTRIC STRENGTH	4kV AC (supply - output)
MOUNTING	DIN rail EN 60715
PROTECTION DEGREE	IP40 front panel / IP20 terminals
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	2
MAX CABLE SIZE (MM^2)	solid wire max. 1x 2.5 or 2 x 1.5 with sleeve max. 1 x 2.5 (AWG 14)
DIMENSIONS	90 x 17.6 x 64mm 3.5″ x 0.7″ x 2.5″
WEIGHT	60g (2.15oz)
STANDARDS	EN 60255-1, EN60255-26, EN60255-27

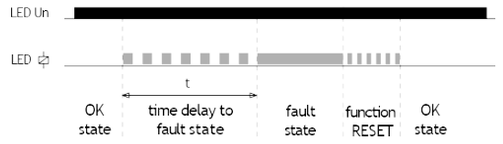
TERMINAL CONNECTIONS



DIMENSIONS

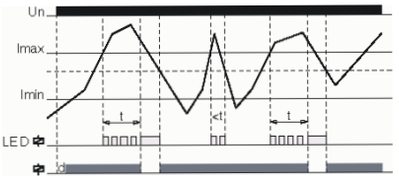


INDICATION OF OPERATING STATES

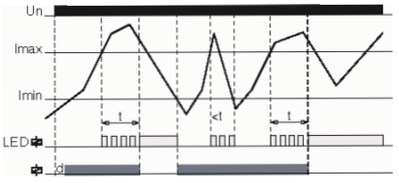


FUNCTIONS

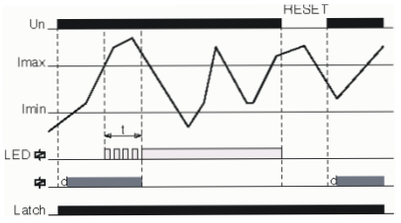
O1. OVER (hysteresis 5%)



O2. OVER (hysteresis to Imin)



OL. OVER + Latch

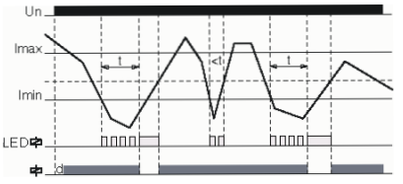


OVER:
- If the amount of the monitored current is lower than the set limit Imax the output contact is closed. If the Imax is exceeded, the output contact will open after the set delay (fault state).
- If the current falls below the fixed hysteresis (function O1) or the set lower limit (function O2), the output contact will close again.
- If the OL function (OVER + Latch) is selected, when the current Imax is exceeded, the output contact remains open even when the current returns from the fault state.

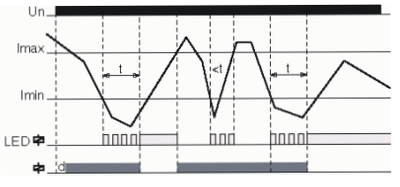
Fault memory reset can be done in two ways:
- Short-term interruption of supply voltage.
- By setting the function switch to position R (RESET) or any function without memory fault.

The RESET state lasts for 3 s after switching the function switch from the R position to a function with memory fault (UL, OL, WL).
When moving to any other function from the R position, this delay does not apply.

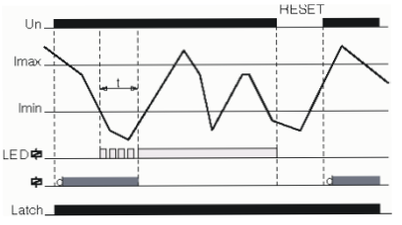
U1. UNDER (hysteresis 5%)



U2. UNDER (hysteresis to Imin)



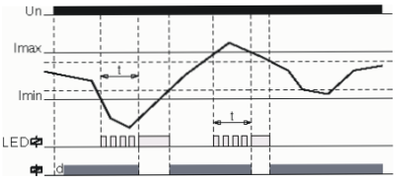
UL. UNDER + Latch



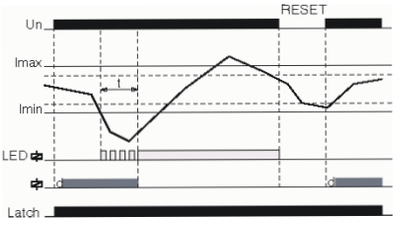
UNDER:
- If the amount of the monitored current is higher than the set limit Imin the output contact is closed. When the current drops below the Imin, output contact opens after the set delay (fault state).
- If the current exceeds the fixed hysteresis (function U1) or the set upper limit (function U2), the output contact closes again.
- If the UL function (UNDER + Latch) is selected, when the current drops below Imin, the output contact remains open even when returning from the fault state.

Fault memory reset can be done as in the previous case.

W. WINDOW (hysteresis 5%)



WL. WINDOW + Latch



Graphs Legend:
t = time delay to fault state
d = delay 0.3s after connecting power supply (Un)

WINDOW:
- If the amount of the monitored current is lower than Imax and at the same time higher than Imin, the output contact is closed. If the Imax is exceeded or drops below the Imin, output contact opens after the set delay (fault state).
- To return from the fault state, a fixed hysteresis is applied.
- If the WL function (WINDOW + Latch) is selected, the fault state is stored in memory again even when returning from the fault state.

Fault memory reset can be done as in the previous cases.

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