## Alternating Relays

MCY98 Series


## Features:

- Two LED status indicators ; indicate status of the separate loads independently.
- Dual voltage coils eliminate the need to specify AC or DC (AC only for 240 V ).
- Only 36 mm 's wide ; does not take up any additional room on the DIN rail.
- Colour and appearance designed for high visibility in all environments.

Designed for duplex pumping systems where it is desirable to equalize pump run time. The solid state alternating circuit drives an internal electromechanical relay. A continuous power source and control switch are required.
The control switch (Float, pressure or other isolated contact) is connected between the L1 terminal and the control terminal. Each time the control switch is opened the output contacts will change status, Indicator lights on the case show the internal relay status. Setting the top toggle switch to load 1 or load 2 will lock the relay in position, preventing alternation.


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## General Specifications

| Contact Characteristics |  | Units | MCY98 |
| :---: | :---: | :---: | :---: |
| Contact Materials | - | - | Silver Alloy |
| Thermal (Carrying Current) | - | A | 12 |
| Maximum Switching Voltage | - | V | 300 |
| Current Rating | - | Resistive | 124 at $240 \mathrm{~V} 50 / 60 \mathrm{~Hz}$ |
| Switching Voltage | - | Resistive | 12 A at 30 V |
|  | - | HP | $1 / 3$ at 120 V ac |
|  | - | HP | $1 / 2$ at 240 V ac |
|  | - | Pilot Duty | B300 |
| Minimum Switching Requirement | - | mA | 100 at 5 V dc (0.5 W) |
| Coil Characteristics |  |  |  |
| Operating Rage | \% of Nominal | V | 80\% to 110\% |
|  | - | V |  |
| Average Consumption | - | V | 1.8 |
|  | - | W | 1.8 |
| Drop-out Voltage Threshold | - | V | 15\% |
|  | - | V dc | 10\% |
| Timing Characteristics |  |  |  |
| Time delay - Fixed | - | s | 0.5 |
| Reset Time | - | ms | 100 |
| Alternating Action | Maximum | - | Release of Control Switch |
| Performance Characteristics |  |  |  |
| Electrical Life | - | (Resistive) | 100,000 |
|  | Operations at | - | - |
| Mechanical Life | Rated Current | - | 10,000,000 |
| Rated Insulation Voltage | Unpowered | $\mathrm{V}_{\text {(rms) }}$ | 1,500 |
|  | Between Coil | $\mathrm{V}_{\text {(rms) }}$ | - |
| Dielectric Strength rms Voltage | and Contact | $\mathrm{V}_{\text {(rms) }}$ | 500 |
|  | Between Poles | $\mathrm{V}_{\text {(rms) }}$ | 1,500 |
|  | Between Contacts | - | - |
| Environment |  |  |  |
| Ambient Air Temperature Around The Device | Standard Version | ${ }^{\circ} \mathrm{C}$ | -30 +70 |
|  | Storage | ${ }^{\circ} \mathrm{C}$ | $-20+60$ |
| Degree of Protection | Operation | - | IP 40 |
| Weight | - | g | 120 |

## Alternating Relays



Specification Table

| Description | Input Voltage | Timing Range | Contact <br> Configuration | Rated Load <br> Current | Part Number |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 8 Pin Octal Base, SPDT | $120 \mathrm{~V} \mathrm{ac} \mathrm{/} \mathrm{dc}$ | 0.5 s Fixed | SPDT | 12 Amperes | MCY98-57-120A |
| 8 Pin Octal Base, DPDT (Cross Wired) | $120 \mathrm{~V} \mathrm{ac} \mathrm{/} \mathrm{dc}$ | 0.5 s Fixed | DPDT | 12 Amperes | MCY98-53-120A |
| 11 Pin Octal Base, DPDT (PIN 11 NO) | $120 \mathrm{~V} \mathrm{ac} \mathrm{/} \mathrm{dc}$ | 0.5 s Fixed | DPDT | 12 Amperes | MCY98-54-120A |
| 11 Pin Octal Base, DPDT (PIN 11 NC) | $120 \mathrm{~V} \mathrm{ac} \mathrm{/} \mathrm{dc}$ | 0.5 s Fixed | DPDT | 12 Amperes | MCY98-55-120A |

## Operation

Wiring Diagram :
MCY98-57
8 Pin Octal with an SPDT Contact Configuration.

V is Input Voltage
LA is Load \#1
LB is Load \#2
A. $\mathbf{S 1}$ is Control Switch \#1

Wiring Diagram :
MCY98-53
8 Pin Octal with an DPDT Contact Configuration. Duplex Capabilities.


B
$\mathbf{V}$ is Input Voltage
LA is Load \#1
LB is Load \#2
S 1 is Control Switch \#1
$\mathbf{S 2}$ is Control Switch \#2

If the top toggle switch is in "Alternate" position closing switch S1 will alternate the loads between LA and LB while switch S2 will only control LA.
If the top toggle switch is in "Lock 1 " position switch S 1 will control LA while switch S 2 will control LB.
If the top toggle switch is in "Lock 2" position switch S1 will control LA while switch S2 will control LA.
Duplex (cross wired) functionality : This model operates the same as alternating relays except when both the control Switches S1 and S2 are closed, load A and load B energize simultaneously. The DPDT 8-pin, cross wired option, allows extra system load capacity through simultaneous operation of both motors when needed. Relay contacts are not isolated.

## Alternating Relays MCY98 Series

## Operation

Wiring Diagram :
MCY98-54
11 Pin Octal with a DPDT Contact Configuration.
Pin 9 is Normally Closed and Pin 11 is Normally Open.

$\mathbf{V}$ is Input Voltage
LA is Load \#1
LB is Load \#2
S1 is Control Switch \#1

If the top toggle switch is in "Alternate" position closing switch S1 will alternate the loads between LA and LB. If the top toggle switch is in "Lock 1" position load LA is On and load LB is OFF. Switch S1 is not used in the mode. If the top toggle switch is in "Lock 2" position load LA is OFF and load LB is ON. Switch S1 is not used in the mode.

Note : Input voltage must be applied at all times for proper alternation. The use of a solid state control switch for S1 or S2 may not initiate alternation correctly. S1 or S2 voltage must be from the same supply as the unit's input voltage (see wiring diagrams). Loss of input voltage resets unit; Load a becomes the lead for the next operation.

Wiring Diagram :
MCY98-55
11 Pin Octal with a DPDT Contact Configuration.
Pin 9 is Normally Closed and Pin 11 is Normally Open.


If the top toggle switch is in "Alternate" position closing switch S1 will alternate the loads between LA and LB. If the top toggle switch is in "Lock 1 " position load LA is On and load LB is OFF. Switch S1 is not used in the mode. If the top toggle switch is in "Lock 2" position load LA is OFF and load LB is ON. Switch S1 is not used in the mode.

