YL SERIES
RELAY – LATCH – DC COIL
4PDT, LOW LEVEL TO 5 AMP

- Magnetic latch operation
- All weld construction

- Contact arrangement: 4PDT

- Qualified to: MIL-PRF-6106

PRINCIPLE TECHNICAL CHARACTERISTICS

- Contacts rated at:
  - Low level, 28 Vdc and 115/200 Vac, 400Hz, 3Ø, case grounded

- Weight: 0.064 Lbs. max

- Dimensions: 0.81 in x 0.81 in x 0.64 in

- Special models available upon request

- Hermetically sealed, corrosion resistant metal can

CONTACT ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Contact rating per pole and load type [1]</th>
<th>Load current in Amps</th>
<th>28 Vdc</th>
<th>115 Vac, 400 Hz, 1Ø</th>
<th>115/200 Vac, 400 Hz, 3Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistive</td>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Inductive [2]</td>
<td></td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Motor</td>
<td></td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Lamp</td>
<td></td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Overload</td>
<td></td>
<td>20</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Rupture</td>
<td></td>
<td>25</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Low level [3]</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Time current characteristics [4]</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Application Notes:
001
002
103A
007
023

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COIL CHARACTERISTICS (Vdc)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal operating voltage</td>
<td>28</td>
<td>12</td>
<td>6</td>
<td>28</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Maximum operating voltage</td>
<td>29</td>
<td>14.5</td>
<td>7.3</td>
<td>29</td>
<td>14.5</td>
<td>7.3</td>
</tr>
<tr>
<td>Maximum pickup voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cold coil at +125°C</td>
<td>18</td>
<td>9</td>
<td>4.5</td>
<td>18</td>
<td>9</td>
<td>4.5</td>
</tr>
<tr>
<td>- During high temp test at +125°C</td>
<td>19.8</td>
<td>9.9</td>
<td>5</td>
<td>19.8</td>
<td>9.9</td>
<td>5</td>
</tr>
<tr>
<td>- During continuous current test at +125°C</td>
<td>22.5</td>
<td>11.25</td>
<td>5.7</td>
<td>22.5</td>
<td>11.25</td>
<td>5.7</td>
</tr>
<tr>
<td>Coil resistance in Ω ±10% at +25°C except types &quot;C&quot; and &quot;V&quot; +20%, - 10%</td>
<td>600</td>
<td>148</td>
<td>37</td>
<td>600</td>
<td>148</td>
<td>37</td>
</tr>
</tbody>
</table>

GENERAL CHARACTERISTICS

- Temperature range -70°C to +125°C [7]
- Minimum operating cycles (life) at rated load 100,000 [2]
- Minimum operating cycles (life) at 25% rated load 400,000
- Dielectric strength at sea level
  - All circuits to ground and circuit to circuit 1000 Vrms
  - Coil to ground and coil to coil 500 Vrms
- Dielectric strength at altitude 80,000 ft 500 Vrms [6]
- Insulation resistance
  - Initial (500 Vdc) 100 M Ω min
  - After environmental tests (500 Vdc) 50 M Ω min
- Sinusoidal vibration (A, D and mounting) 0.12 d.a. / 10 to 70 Hz
  - 30G / 70 to 3000 Hz
- Sinusoidal vibration (G and J mounting) 0.12 d.a. / 10 to 57 Hz
  - 20G / 57 to 3000 Hz
- Random vibration
  - Applicable specification MIL-STD-202
  - Method 214
  - Test condition – A and D mounting 1G (0.4G²/Hz, 50 to 2000 Hz)
  - Test condition – J and G mounting 1E (0.2G²/Hz, 50 to 2000 Hz)
  - Duration 15 minutes each plane
- Shock (A and D mounting) 200G / 6 ms
- Shock (G and J mounting) 100G / 6 ms
- Maximum contact opening time under vibration and shock 10 μs
- Operate time at nominal voltage @ 25°C 6 ms max
- Reset time at nominal voltage @ 25°C 6 ms max
- Contact make bounce at nominal voltage @ 25°C 0.5 ms max
- Weight maximum 0.064 Lbs.

Unless otherwise noted, the specified temperature range applies to all relay characteristics.
YL SERIES
RELAY – LATCH – DC COIL
4PDT, LOW LEVEL TO 5 AMP

MOUNTING STYLES

MOUNTING STYLE A

MOUNTING STYLE D

MOUNTING STYLE G

MOUNTING STYLE J

REMARK: RELAY HEIGHT MAY BE INCREASED BY .100 FOR THE COIL SUPPRESSED UNITS.

Dimensions in inches
Tolerances, unless otherwise specified, ± 0.03 in
TERMINAL TYPES

TERMINAL TYPE 1
FINISH:
BODY—TIN/LEAD
TERMINALS—TIN/LEAD

TERMINAL TYPE 2
FINISH:
BODY—TIN/LEAD
TERMINALS—TIN/LEAD

TERMINAL TYPE 4
FINISH:
BODY—TIN/LEAD
TERMINALS—GOLD PLATED
POLARIZING PIN—TIN/LEAD

1] RELAY HEIGHT MAY BE INCREASED BY .100 FOR THE COIL SUPPRESSED UNITS

Dimensions in inches
Tolerances, unless otherwise specified, ± 0.03 in
YL SERIES
RELAY – LATCH – DC COIL
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DIAGRAMS

NUMBERING SYSTEM

Basic series designation

1. Mounting styles (A, D, E, G, J)
2. Terminal types (1, 2, 4)
3. Coil voltage, see coil characteristics (A, B, C, M, N, R, V)
4. XXX Designators

Example: YL-A1A-XXX
YL-A1A (Commercial)
YL-A1A-300 L,M (MIL)
YL-A1A-123 (Customer Part)

NOTES

1. Standard Intermediate Current test applicable; relay can also switch low level loads while switching any of the other rated loads on adjacent contacts.
2. Inductive load life: 20,000 cycles.
3. Low level endurance test: contact load of 10 to 50 millivolt, 10 to 50 microamp, 100 Ohm max. contact resistance.
4. Refer to MIL-PRF-6106 for details.
5. “N” “R” & “V” coils have back EMF suppression to 42 volts maximum.
6. 500 Vrms with silicone rubber gasket compressed, 250 Vrms all other conditions.
7. Suppressed coils limited to +85° C
8. Reference MIL-PRF-6106
9. Relay will not be damaged, but may transfer with application of reverse polarity to coil.

For any inquiries, please contact your local Esterline Power Systems representative