FEATURES

- UL recognized for 1,500VDC.
- Meets CE Conformance standards.
- High Efficiency Dual DC Coils – Very low 12, 24, or 48VDC continuous coil power with no EMI emissions or cross-talk on your system control power. Ideal for battery powered systems or where low power is needed. PWM coil options provide additional drive control flexibility.
- Built-in coil suppression for all DC coils – Saves you engineering time and parts cost to add external coil suppression.
- Not position sensitive – can be mounted in any position for ease of installation.
### PRODUCT SPECIFICATIONS

**Specifications** | Units | Data  
--- | --- | ---  
Rated Voltage | V | 1,500  
Contact Arrangement |  
Main | Form X | SPST-NO  
Auxiliary | Form A or B | SPST-NO or SPST-NC  
Mechanical Life | cycles | 1,000,000  
Contact Resistance |  
Max | mohms | 0.4  
Typical | mohms | 0.3  
Insulation Resistance | Mohms | 100  
Dielectric at sea level (leakage < 1mA) | VRMS | 5,375  
Shock, 1/2 Sine, 11ms |  
Actuated (closed) | G | 50  
Non Actuated (open) | G | 25  
Vibration, Sinusoidal (10-2000 Hz peak) | G | 25  
Environmental Seal | Exceeds IP67 & IP69K  
Salt Fog | MIL-STD-810  
Short Circuit Current (20ms) | A | 4000  
Max Break Current @ 400V (1 cycle) | A | 3000  
Max Break Current @ 800V (1 cycle) | A | 900  
Impulse Withstand Voltage | kV | 8  

### COIL RATINGS at 25°C

| Coil P/N Designation | B | C | F |  
--- | --- | --- | ---  
Coil Voltage, Nominal (VDC) | 12 | 24 | 48  
Coil Type | Dual | Dual | Dual  
Coil Voltage, Max (V) | 16 | 32 | 64  
Pick-Up Voltage, Max (V) | 8 | 16 | 40  
Drop-Out Voltage (V) | 0.5 | 2 | 4  
Pick-Up Current, Max (A) (75 ms) | 3.9 | 1.6 | 0.97  
Coil Current (A) | 0.23 | 0.097 | 0.042  
Coil Power (W) | 2.8 | 2.3 | 2  
Operate Time, Max (ms) | 20  
Release Time, Max (ms) | 12  
Internal Coil Suppression | TVS  
Coil Back EMF (V) | 55 | 55 | 125  
Transients, Max (V) (13 ms) | ±50 | ±50 | ±75  
Reverse Polarity (V) | 16 | 32 | 64

### POWER SWITCHING

**RESISTIVE MAKE/BREAK CYCLES**

**CURRENT CARRY RATINGS**

**CURRENT CARRY vs TIME**

with 85°C terminal temperature rise

**ADVANCED SWITCHING SOLUTIONS**
Auxiliary Leads

B=SPST-NO
Blue Lead = T1
White Lead = T2
C=SPST-NC
Orange Lead = T1
White Lead = T2
(Refer to Part Number System on page 4)

Coil Leads

Red Lead = X1(+)
Black Lead = X2(-)
(Refer to Part Number System on page 4)

Upright Mounting

M5 or No. 10 Screws
Torque 1.7-4 Nm [15-35 in-lb]

Upright Power Connection

Silver Plated Copper M8x1.25 stud
Stainless M8x1.25 flanged nut
Torque 10 Nm [90 in-lb] max

PCB Mounting / Power Connection

M8x1.25 bolt
Torque 10 Nm [90 in-lb] max

Auxiliary contacts
(optional)

NO: T1
T2

NC: T1
T2

Power Contacts

Temperature and Weight

Operating ambient Temp Range = -55 to +85°C
Storage ambient Temp Range = -70 to +150°C
Weight, typical without nuts and washers = 0.38 kg (0.84 lb)

Packaging

24 units per shipping box
21 in x 18 in x 4 in shipping box
PART NUMBER SYSTEM

<table>
<thead>
<tr>
<th>HX24</th>
<th>B</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting</td>
<td>1 = Upright</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coil Voltage</td>
<td>B = 12 Vdc, internal coil suppression</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>C = 24 Vdc, internal coil suppression</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>F = 48 Vdc, internal coil suppression</td>
<td></td>
<td></td>
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<tr>
<td>Coil Termination</td>
<td>A = Flying leads 38 cm (15 in)</td>
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<td>X = None</td>
</tr>
<tr>
<td>Auxiliary Contacts</td>
<td>B = SPST-NO Normally Open</td>
<td></td>
<td>C = SPST-NC Normally Closed</td>
</tr>
</tbody>
</table>

APPLICATION NOTES

- Contactors feature internal transient voltage suppressor for coil suppression. No external diodes should be added across the coil.

- Power switching lifecycles are based on current flow from A1(+) to A2(-). For best breaking performance, the contactor should be installed so that current flows from A1(+) to A2(-). There are cases where the contactor will interrupt power in the opposite direction but please contact GIGAVAC to confirm suitability. Direction of current flow is not relevant during make or when flowing on closed contacts. For bi-directional contactors, please contact GIGAVAC.

- Applications with capacitors will require a pre-charge circuit.

- Electrical life rating is based on resistive load with 27µH maximum inductance in circuit. Because your application may be different, we suggest you test the contactor in your circuit to verify life is as required.

- End of life is defined as when the dielectric, insulation resistance or contact resistance exceeds the specifications listed.

Notes & Definitions:

1. Auxiliary contact rating is 2A, 24Vdc Resistive load, 100,000 cycles. Minimum current is 0.1mA, 5V. The auxiliary contact is mechanically linked to the main power contacts.
2. Insulation resistance is 50 Mohms after life.
3. Because the contactor is operated by a coil that changes resistance with temperature: Maximum coil voltage will be lower than indicated at temperatures above 25°C, and higher than indicated at temperatures below 25°C. And because Nominal Coil Voltage has been assumed for the Pick-up Current, Coil Current and Coil Power specifications, Current/Wattage will be lower than indicated at temperatures above 25°C and higher than indicated at temperatures below 25°C.
4. Pick-up Voltage and Drop Out Voltage will be lower than indicated at temperatures below 25°C and higher than indicated at temperatures above 25°C.
5. For Pick-up testing of contactors with dual coils, the voltage can not be ramped up slowly, but must be applied instantly to at least the maximum Pick-up Voltage or Current. Otherwise, the contactor will not pick-up.
6. These DC coils have built-in coil suppression. The use of additional external coil suppression can slow the release time and invalidate the life cycle ratings, or can cause the contactor not to be able to interrupt the maximum current specified. If lower coil back EMF is required, please contact GIGAVAC for assistance.
7. All contact ratings and coil versions may not be UL recognized. Contact GIGAVAC for a copy of the applicable sections of the test report.
8. Operation time is measured at 25°C and includes maximum 7mx bounce.