

# MEDIUM VOLTAGE CONTACTOR

12kV Models  
Latching and Non-Latching  
BIL 75kV



Motortronics 12kV Class, 'Non-Latching' and 'Latching' (L) Series of medium voltage three-phase indoor vacuum contactors can be used in power systems with a rated voltage of up to 12 kV and can be used for continuous AC operating currents of up to 400 or 630 amperes. Control power for the design is 120VAC, with an external interposing relay consisting of DC-rated contacts required to operate the closing and opening circuits of the contactor (Latching models L).



**Non-Latching** - uses constant-on electromagnetic coils to close, and hold closed the vacuum bottle contacts. When the power to the electromagnetic coil is removed, the vacuum chamber contacts spring open (termed as; electrically held contacts or non-latching contacts).

**Latching (L)** - uses separate coils and mechanisms to both close and open the vacuum bottle contacts (termed as; mechanically held or latching, contacts).

RATED CURRENT	RATED VOLTAGE	PART NUMBER NON-LATCHING	PART NUMBER LATCHING (L)
400A	12kV	34-400-3-12000	34-400-12000L
630A	12kV	34-630-3-12000	34-630-12000L

## Environmental Conditions for Normal Service Conditions of the Contactor:

- Temperature range: -25°C (-13°F) to +40°C (104°F)
- Altitude: ≤2000 m (6562 Ft) above sea level
- Relative humidity: <95% daily, <90% monthly (mean value)
- Water Vapor Pressure: <2.2×10<sup>-3</sup> Pa (3.19 μPSI) daily (mean value)  
<1.8×10<sup>-3</sup> Pa (2.61 μPSI) monthly (mean value)
- Ambient Air: Should not have corrosive, flammable gases or conductive particles, etc.
- Mounting: The slope angle between the contactor mounting plane and its mounting surface should be less than or equal to 5° when the contactor is operating.

## Contactors Ratings

Rated Current	400A	630A
Rated Voltage	12kV RMS	12kV RMS
Rated Max Closing Current	4000A	6300A
Rated Max Breaking Current	3200A	5040A
Interruption - Sym Unfused Amps	4.8kA	4.8kA
Interruption - Sym Fused Amps	36.7kA	36.7kA
Rated Operating Voltage	110~120 VAC	110~120 VAC
Maximum Capacitive Current	230A	230A
Closing Current - (Non Latching and Latching Models)	≤DC 6 A	≤DC 14 A
Holding Current - (Non Latching models)	DC 0.45 A	DC 0.8 A
Latch Release Current - (Latching Models)	DC 2.5 A	DC 2.5 A
Max Control Circuit Hi-Pot Level	2.0kV	2.0kV

## Ratings Continued

Rated Current	400A	630A
Basic Impulse Level (BIL)	75kV	75kV
MV Contact Resistance (20°C)	≤ 250μΩ	≤ 250μΩ
VCB Contact Closure Synch	≤ 2.0ms	≤ 2.0ms
Switch-On Time	≤ 150ms	≤ 150ms
Switch-Off Time	≤ 50ms	≤ 50ms
Rated Operating Frequency	300 times/h	300 times/h
Mechanical life	30×10 <sup>4</sup> times	30×10 <sup>4</sup> times
Rated Operating Frequency	1800 CPH (Non-Latching Models), 300 CPH (Latching Models)	
Electrical Life - AC-3 Condition	25×10 <sup>4</sup> cycles	25×10 <sup>4</sup> cycles
Electrical Life - AC-4 Conditions	10×10 <sup>4</sup> cycles	10×10 <sup>4</sup> cycles
Weight	32 kg / 71 Lbs	32 kg / 71 Lbs

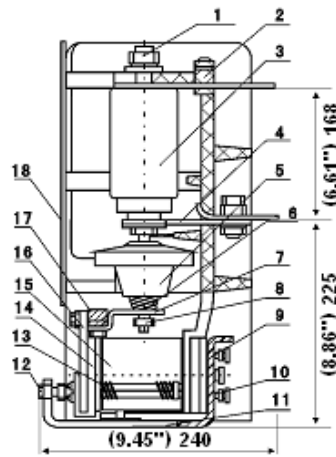
## Contactors Drawings

For contactor component identification, see Figures (1a, 1b).

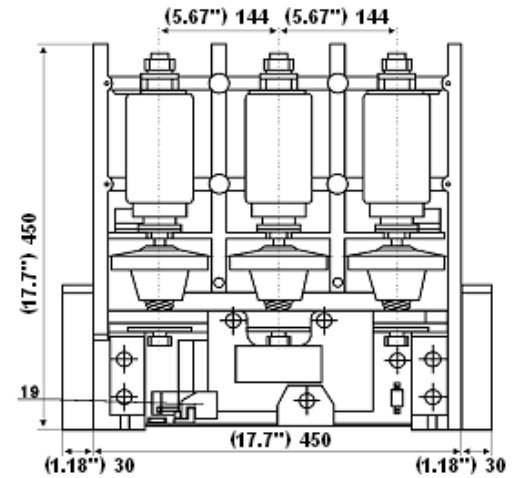
For mounting dimensions and hole sizes, see Figure (2).

For power terminal sizing, see Figure (3).

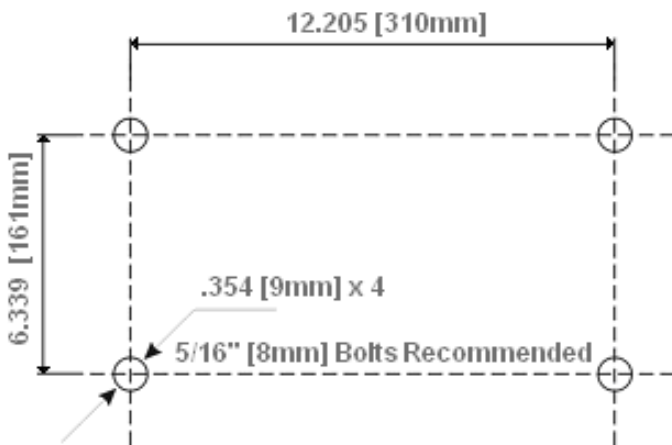
1.	Nut	15.	Magnetic Coil
2.	Insulating Frame	16.	Armature
3.	Vacuum Bottle	17.	Square Shaft
4.	Flex Connector	18.	Cover Panel
5.	Bushing Insulator	19.	Latching Device (L model)
6.	Contact Spring		
7.	Inflection Arm		
8.	Adjusting Nut		
9.	Magnetic Yoke		
10.	Screw		
11.	Base Plate		
12.	Limit Bolt		
13.	Switch-Off Spring		
14.	Iron Core		



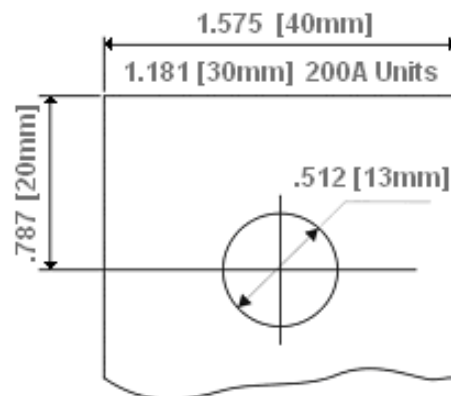
1a



1b



(2) Mounting Points and Hole Size



(3) Power Terminal Dimensions

Contact us for additional information or see product information document.

REV MT-CTCR12KV-040910