

LCR 057 Series EMI Filters

Shielded Room Filter

Installation and Maintenance Guide



1. Filter Ratings:

Rated Voltage 1/2/3/4 Lines	277/480 VAC	
Frequency	50/60 Hz	
Rated Current	10 – 250A, Single, Dual, Three and Four Lines	@ 60°C Ambient Temperature
Over Load	140% Rated Current for 15min	
Voltage Drop	<1%	At rated Voltage, Current and resistive load
Dielectric Withstanding Voltage	Per UL 1283, 5 th addition and MIL-PRF-15733	
Insertion loss 057-01 057-02	100dB@14KHz 100dB@150KHz	Measured per MIL-STD-220, with proper shielding and isolation between I/O terminations

Table 1

2. Filter Installation on Shielded Room or Enclosure:

1. Remove all loose hardware including the EMI gasket supplied on threaded conduit pipe
2. Filter mounting surfaces must be clean, free of paint and have suitable conductive finish for maximum grounding, shielding and to provide isolation between input and terminations.
3. Install filter on the shielded room or enclosure per figure 1.

CAUTION: MAKE SURE POWER IS OFF AT THE CIRCUIT BREAKER BEFORE MAKING ANY CONNECTIONS TO THE EMI FILTER FIELD TERMINALS

3. Filter Input Wire connections (See Figures 1-5):

1. Remove input side removable cover
2. Remove conduit knockout
3. Install proper size conduit fitting through the knock out hole for field wires
4. Turn power OFF at the circuit breaker before connecting power lines to the filter input terminals
5. 057 series filters are equipped with internal discharge resistors. To prevent electrical shock, manually discharge the internal filter capacitors by temporarily connecting field terminals to ground (wearing insulated gloves is recommended).
6. Remove loose hardware supplied on filter field terminal screws and install power cables to each terminal through a crimped or solder type ring connector (Ring Terminals supplied) using the supplied loose hardware.
7. Remove loose hardware supplied on ground screw marked with Green label and install ground wire identical in size and insulation material and thickness to the grounded and ungrounded circuit supplied conductor, except it is Green with or without one or more yellow stripes is to be installed as part of the circuit that supplies the filter. Refer to table 250-122 of National Electrical Code for appropriate size of the grounding.
8. The grounding conductor mentioned above is to be grounded to earth at the service equipment or other acceptable building earth ground such as building frame in the case of high rise steel frame structure.
9. Pressure terminal or pressure splicing connectors and solder lugs same or suitable material as the conductors.
10. Use proper torque to fasten field and ground terminals hardware per the recommended maximum torque in Table 2.

Screw size In (mm)	Recommended Max. Torque (lbs-in)	Recommended Max. Torque (Kg-Cm)
1/4-20, (M6)	30	41
M10	100	196
M12	150	342

Table 2

4. Filter Output Wire Connections (see figure 1-5):

Filter output cables are supplied through the conduit pipe for filter output connections to the load inside the shielded room or enclosure.

1. Remove input side removable cover
2. Turn power OFF at the circuit breaker before connecting power lines to the filter input terminals.
3. 057 series filters are equipped with internal discharge resistors. To prevent electrical shock, manually discharge the internal filter capacitors by temporarily connecting field terminals to ground (wearing insulated gloves is recommended).
4. Remove loose hardware supplied on filter field terminal screws and install power cables to each terminal through a crimped or solder type ring connector (Ring Terminals supplied) using the supplied loose hardware.
5. Pressure terminal or pressure splicing connectors and solder lugs same or suitable material as the conductors.
6. Take every wires go through the threaded pipe (NPT type) to outside of filter.
7. Use proper torque to fasten field and ground terminals hardware per the recommended maximum torque in Table 2.

Note: The input wires are to be the same gauge and temperature as the output wires.

5. Filter Maintenance:

In general EMI filters are designed with passive components and they do not require scheduled maintenance. We recommend a visual inspection once a year. This inspection includes looking for evidence of burn marks or burned wire insulation on the filter. It is also recommended turning the power off at the circuit breaker and check tightness of the field terminals and ground connections and if required retighten nuts per recommended torque in table 2.

Single line filter installation diagram

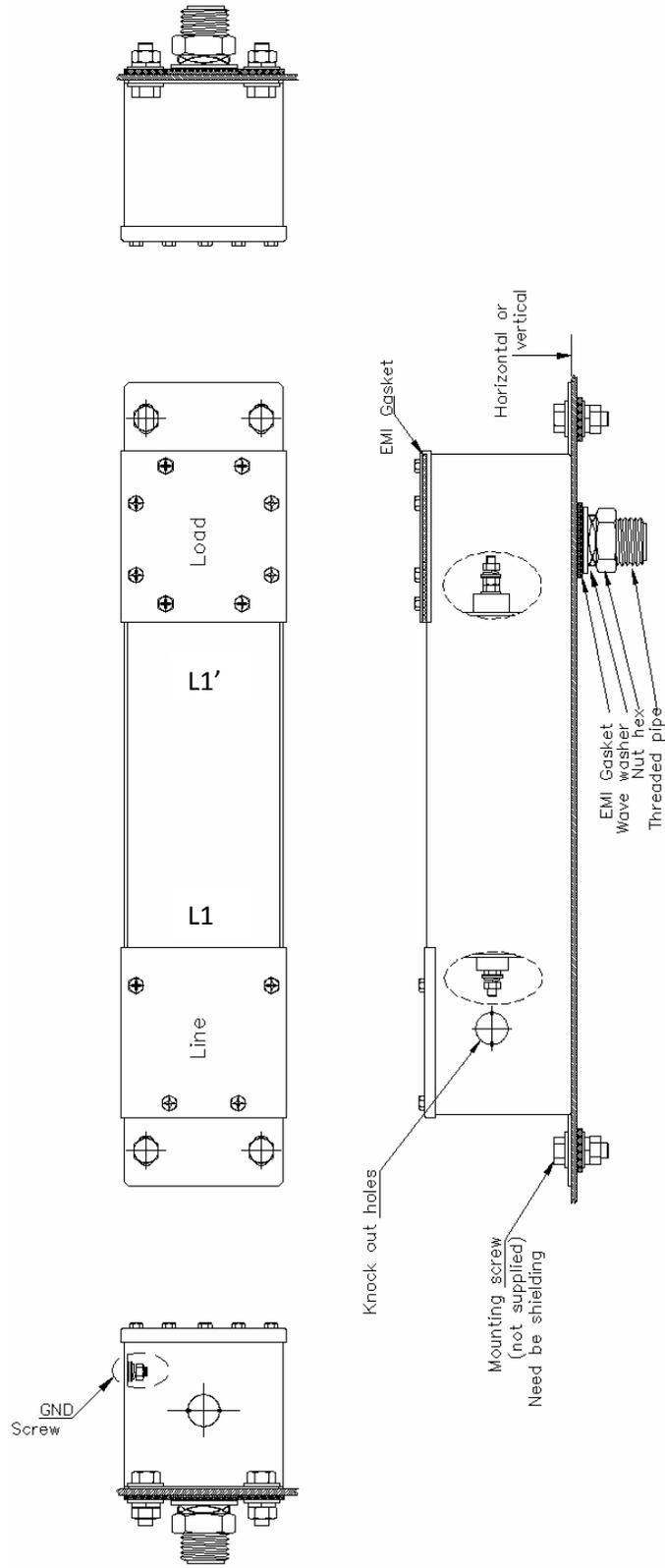


Figure 1

Dual line filter installation diagram

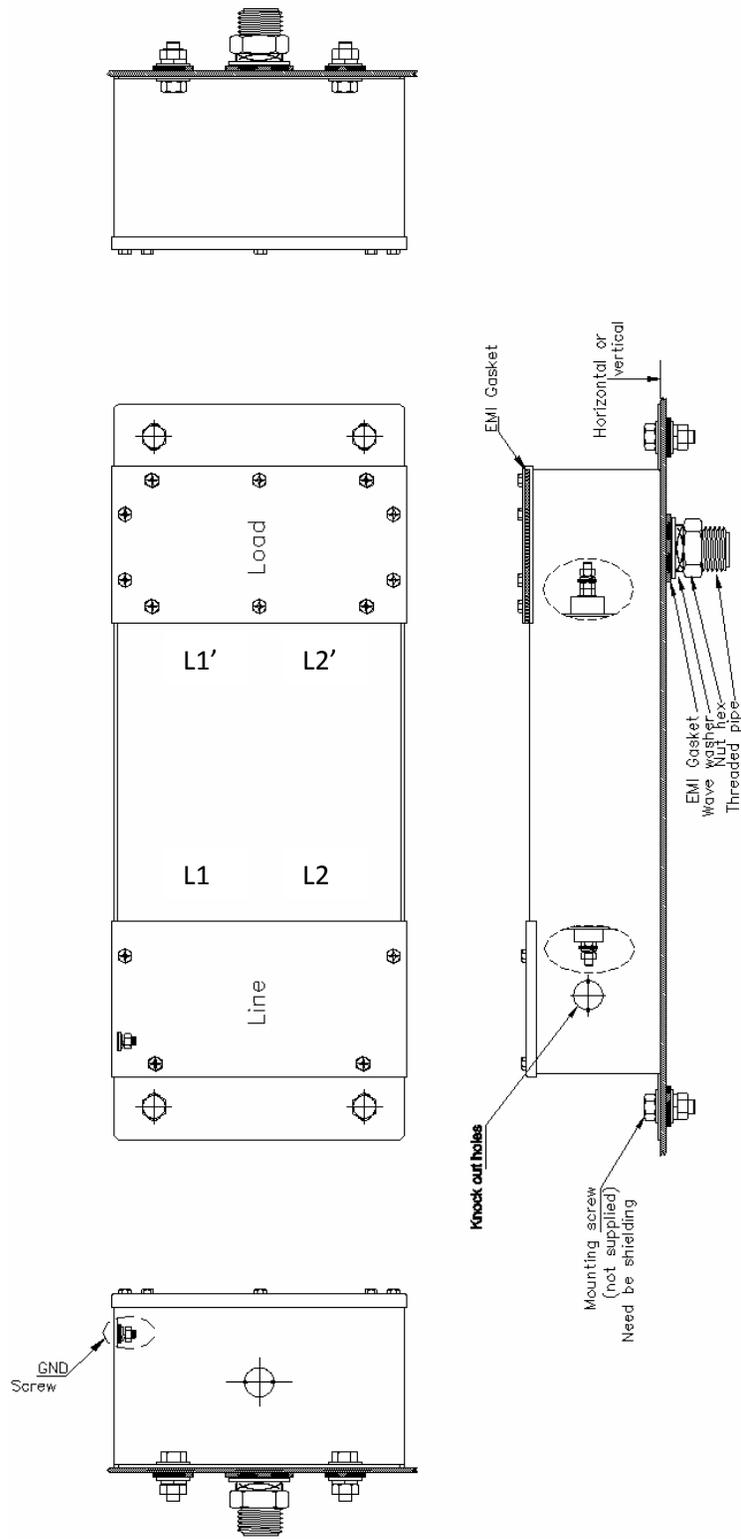


Figure 2

Three lines filter installation Diagram

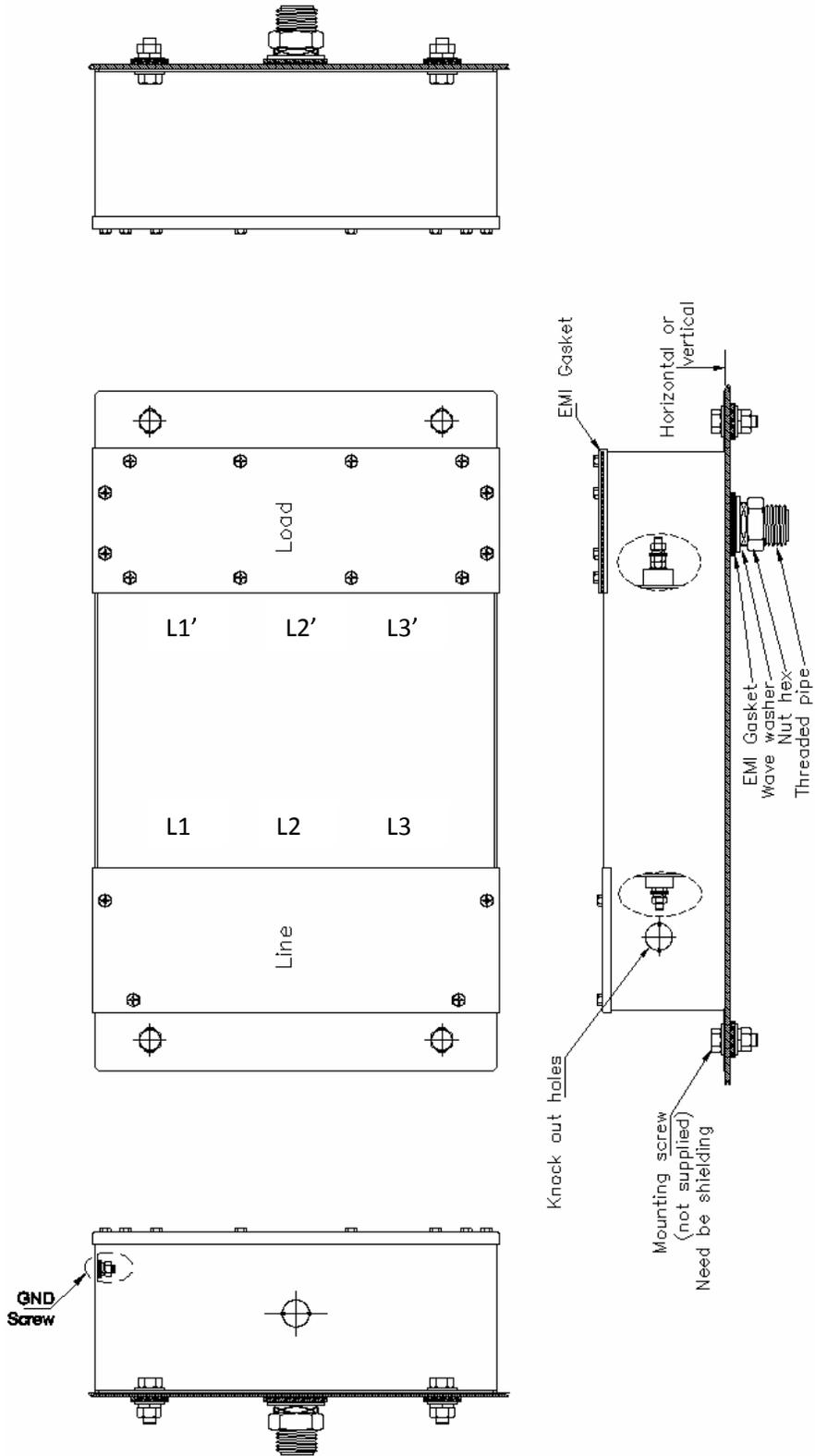


Figure 3
Four lines filter installation Diagram

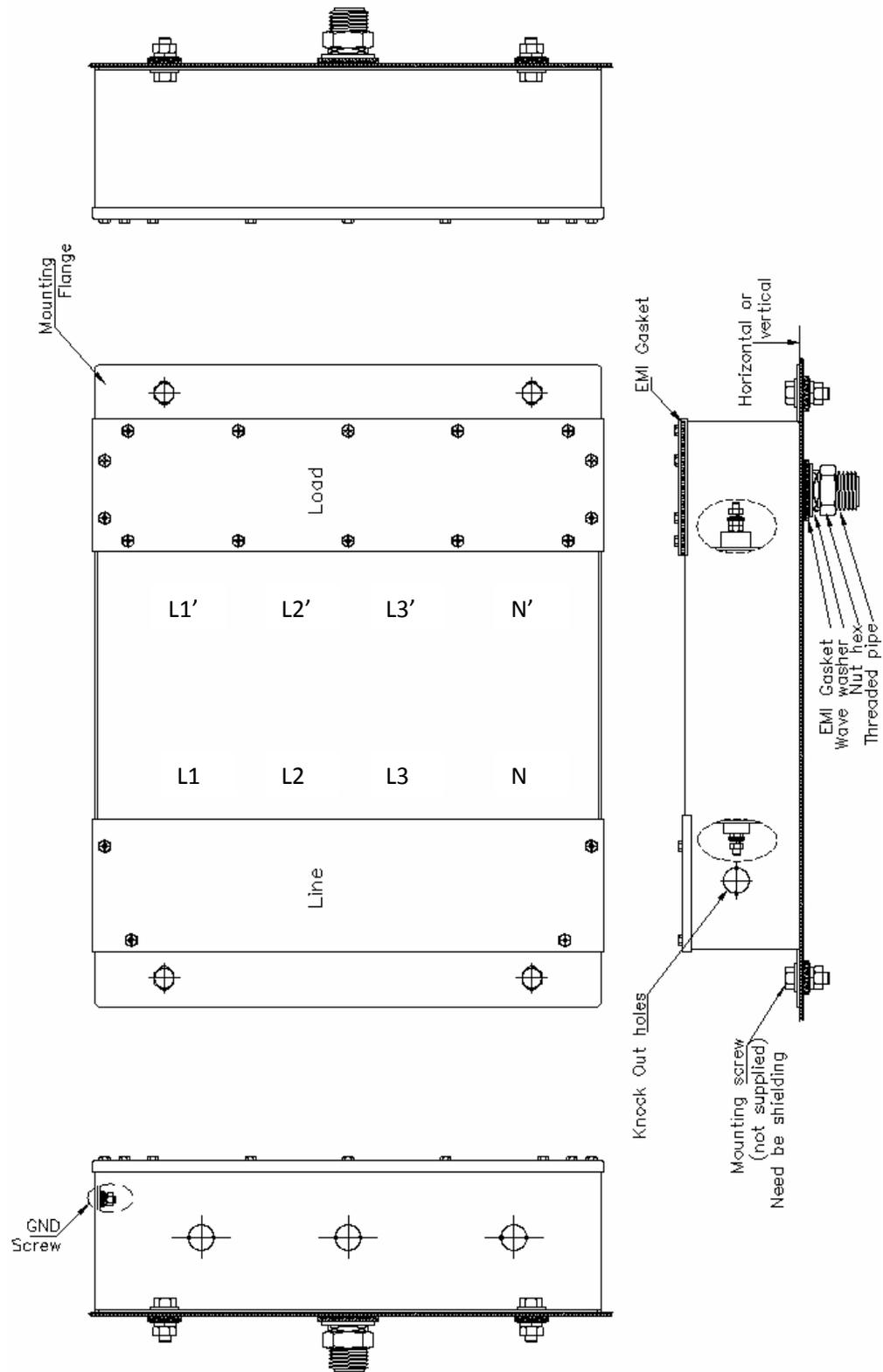


Figure 4

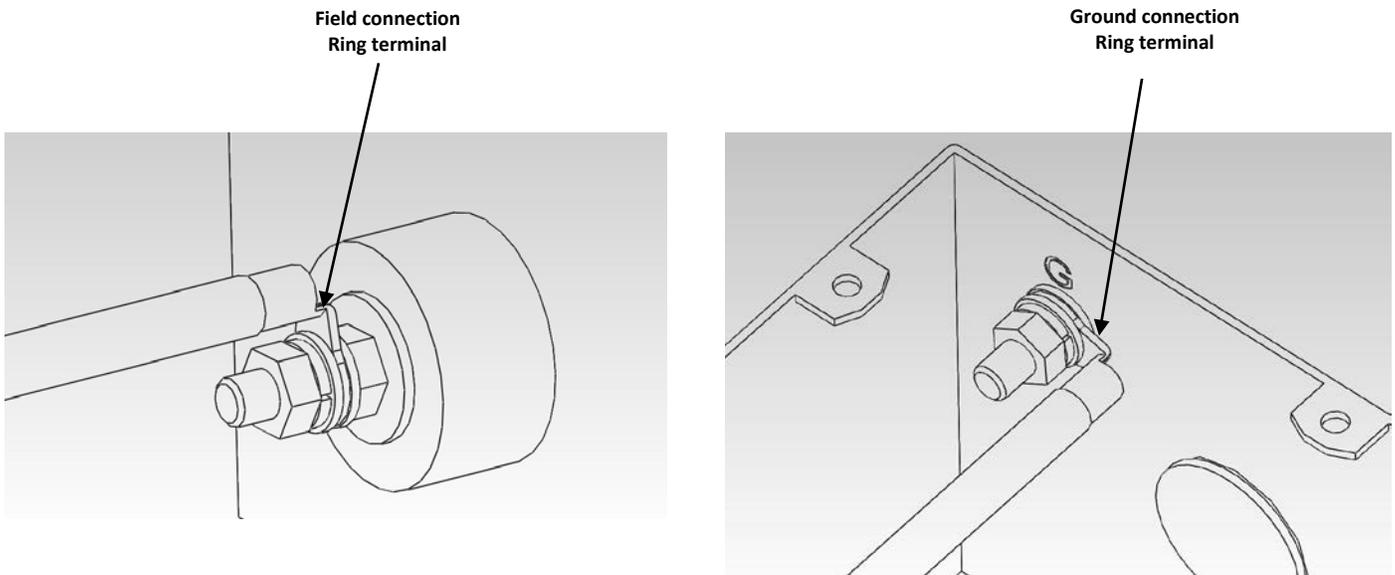
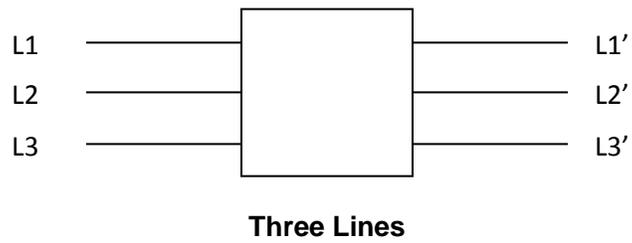
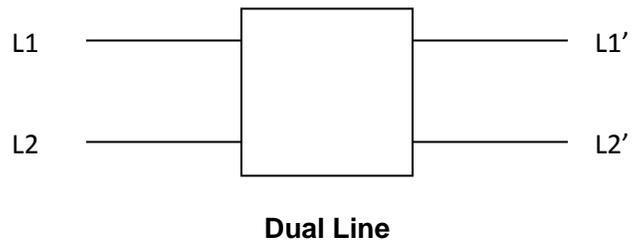
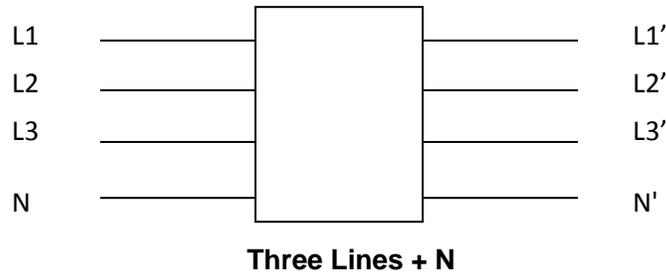


Figure 5

Wiring Diagram:





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