

LVSED TAL LC1-D2510

LVSED TAL LC1-D2510 AC Contactor 220V User Manual

Model: LC1-D2510 | Brand: LVSED TAL

1. INTRODUCTION

This manual provides essential instructions for the safe and effective installation, operation, and maintenance of the LVSED TAL LC1-D2510 AC Contactor. Please read this manual thoroughly before using the product to ensure proper function and to prevent potential hazards.

Key Features:

- **Durable:** Designed for long service life in industrial applications.
- **Compact Design:** Features a modular and space-saving design.
- **Stability:** Engineered for stable and reliable long-term operation.
- **Versatile Application:** Primarily suited for industrial automation systems.

2. SAFETY INFORMATION

WARNING: Electrical shock hazard. Installation and maintenance should only be performed by qualified personnel. Disconnect all power before working on the contactor or connected equipment.

- Always follow local electrical codes and regulations.
- Ensure proper grounding of all equipment.
- Do not operate the contactor if it appears damaged.
- Verify correct voltage and current ratings before connection.

3. PRODUCT OVERVIEW

The LC1-D2510 is an AC contactor designed for controlling electrical circuits, typically used for starting and stopping motors, heating elements, or other electrical loads. It features main power terminals and auxiliary contacts.



Figure 3.1: Front View of LC1-D2510 Contactor. This image displays the front of the contactor, showing the main power terminals (L1, L2, L3, T1, T2, T3) and auxiliary contact terminals (13 NO, 14 NO). The model number 'LC1 D2510' is clearly visible on the front panel.



Figure 3.2: Side View with Specifications. This image shows the side of the contactor, highlighting the product label with detailed technical specifications such as IEC, GB, VDE standards, thermal current (I_{th}: 40A), rated insulation voltage (U_i: 690V), and power ratings for 3-phase applications (e.g., 5.5kW at 220/230V).



Figure 3.3: Bottom View with Coil Voltage. This image illustrates the bottom section of the contactor, specifically

showing the coil terminals A1 and A2, and the specified coil voltage ratings: 220-230V 50Hz and 220-240V 60Hz. This indicates the control voltage required to energize the contactor coil.

4. SETUP AND INSTALLATION

Before installation, ensure the power supply is disconnected. Mount the contactor securely in a suitable enclosure, away from excessive heat, moisture, and vibration.

Wiring Instructions:

- Power Circuit Connection:** Connect the incoming power lines to terminals L1, L2, and L3. Connect the load lines (e.g., motor terminals) to T1, T2, and T3. Ensure all connections are tight and secure.
- Control Circuit Connection:** Connect the control voltage (220-240V AC for this model) to the coil terminals A1 and A2. The control circuit typically includes a start/stop button, overload relay, or other control devices.
- Auxiliary Contacts:** The LC1-D2510 includes one normally open (NO) auxiliary contact (terminals 13 NO and 14 NO). These can be used for interlocking, signaling, or other control functions.
- Grounding:** Ensure the contactor and associated equipment are properly grounded according to electrical safety standards.

After wiring, double-check all connections for correctness and tightness before restoring power.

5. OPERATING INSTRUCTIONS

The LC1-D2510 AC Contactor operates by energizing its coil, which causes the main contacts to close, thereby connecting the power circuit to the load.

- **Energizing the Coil:** When the rated control voltage (220-240V AC) is applied across terminals A1 and A2, the electromagnetic coil is energized.
- **Main Contacts Closure:** Upon coil energization, the main power contacts (L1-T1, L2-T2, L3-T3) close, allowing current to flow to the connected load.
- **Auxiliary Contact Operation:** The normally open (NO) auxiliary contact (13 NO - 14 NO) will also close when the coil is energized.
- **De-energizing the Coil:** Removing the control voltage from A1 and A2 de-energizes the coil, causing the main and auxiliary contacts to return to their open state, disconnecting power from the load.

6. MAINTENANCE

Regular maintenance ensures the longevity and reliable operation of the contactor. Always disconnect power before performing any maintenance.

- **Visual Inspection:** Periodically inspect the contactor for any signs of physical damage, discoloration, loose connections, or excessive dust accumulation.
- **Terminal Tightness:** Check and re-tighten all terminal screws as necessary to prevent overheating due to loose connections.
- **Cleaning:** Keep the contactor clean and free from dust and debris. Use a dry, soft brush or compressed air for cleaning. Do not use liquids.
- **Contact Wear:** While contacts are generally self-cleaning, excessive arcing or pitting may indicate an issue. If severe wear is observed, consider replacement.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Contactors do not energize when control voltage is applied.	<ul style="list-style-type: none"> o No control voltage. o Incorrect control voltage. o Damaged coil. o Loose wiring to A1/A2. 	<ul style="list-style-type: none"> o Check control circuit power supply. o Verify control voltage matches contactor rating (220-240V AC). o Test coil resistance; replace contactor if coil is open/shorted. o Tighten A1/A2 connections.
Contactors energize but load does not receive power.	<ul style="list-style-type: none"> o Loose main power connections (L1, L2, L3, T1, T2, T3). o Damaged main contacts. o Overload relay tripped (if present). 	<ul style="list-style-type: none"> o Check and tighten all main power terminals. o Inspect contacts for severe pitting or welding; replace contactor if damaged. o Reset overload relay; investigate cause of overload.
Contactors hum excessively.	<ul style="list-style-type: none"> o Dust or foreign material in the magnet assembly. o Loose mounting. o Incorrect voltage. 	<ul style="list-style-type: none"> o Clean the magnet pole faces. o Ensure contactor is securely mounted. o Verify control voltage is within specified range.

8. SPECIFICATIONS

Parameter	Value
Model Number	LC1-D2510
Electricity Type	AC
Coil Voltage (Control)	220-230V 50Hz / 220-240V 60Hz
Rated Thermal Current (I _{th})	40A
Rated Insulation Voltage (U _i)	690V
Power Rating (3-phase, AC-3)	5.5kW at 220/230V, 11kW at 380/400V, 15kW at 660/690V
Auxiliary Contacts	1 Normally Open (NO)
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	4.41 pounds
Manufacturer	LVSEDTAL

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact the manufacturer, LVSEDTAL, or your authorized distributor. Keep your purchase receipt for warranty claims.

The product is designed for long-term stability and durability. Refer to the product packaging or manufacturer's website for specific warranty terms and conditions.

