MOBYAT LRQ-TH3P 4KW Module

MOBYAT LRQ-TH3P 4KW Three-Phase/Single-Phase Motor Soft Starter Module User Manual

Brand: MOBYAT | Model: LRQ-TH3P 4KW Module

1. Introduction

The MOBYAT LRQ-TH3P 4KW Soft Starter Module is designed to provide a smooth, controlled start for three-phase and single-phase motors. This module reduces mechanical stress on the motor and connected equipment, minimizes inrush current, and extends the lifespan of your machinery. This manual provides essential information for the safe and effective installation, operation, and maintenance of your soft starter.

2. Product Overview

The LRQ-TH3P module integrates advanced features for motor control and protection. It allows for adjustable soft start times and voltages, offering flexibility for various motor applications. The module also includes critical protection functions to ensure reliable operation.



Figure 1: MOBYAT LRQ-TH3P 4KW Soft Starter Module showing input/output terminals and control labels.

Key Features

- **Adjustable Soft Start Time:** Up to 20 seconds (relative to 380V nominal voltage).
- **Adjustable Start Voltage:** From 150V to 250V, gradually increasing to 380V.
- **Multiple Control Methods:** Supports terminal switch control and 5-24VDC signal input.
- **Integrated Protections:** Phase loss protection and overheat protection.
- **Configurable Soft Stop:** Can be set to 0 or the soft start value, or disabled.
- **Configurable Phase Sequence Protection:** Can be enabled or disabled.
- **Flexible Operating States:** A total of 6 configurable states for diverse application needs.

3. Setup & Installation

Safety Warning: Installation should only be performed by qualified personnel. Ensure all power is disconnected before installation to prevent electric shock or damage to equipment. Refer to local electrical codes and regulations.

3.1 Mounting

The module is designed for DIN rail mounting. Securely attach the module to a standard DIN rail in an appropriate enclosure, ensuring adequate ventilation.

3.2 Wiring

Connect the power supply, motor, and control signals to the module's terminals as indicated on the device label and in the wiring diagram (refer to Figure 1). Use appropriate wire gauges for the motor's power rating. Ensure all connections are tight and secure.



Figure 2: Side view of the MOBYAT LRQ-TH3P 4KW Soft Starter Module, showing mounting points.

4. Operating Instructions

4.1 Control Methods

The LRQ-TH3P module offers three primary methods for initiating the soft start sequence:

1. **Control Terminal Switch Closure:** When the control terminal switch on the module is closed, the main power is activated, and the soft start process begins.
2. **Main Circuit Activation with Control Terminal:** The main circuit is activated, and the soft start is initiated by closing the contact of the module's control terminal.
3. **Main Circuit Activation with 5-24VDC Signal:** With the main circuit powered, a 5-24VDC input signal to the module's control terminal will initiate the soft start.

4.2 Configuration Options

The module offers flexible configuration for soft stop and phase sequence protection. These functions can be enabled or disabled to suit specific application requirements. The module supports 6 distinct operating states, allowing for customization of soft start, soft stop (to 0 or soft start value), and phase sequence protection (enabled or disabled). The default state is soft start enabled, soft stop disabled, and phase sequence protection disabled.

5. Maintenance

Regular maintenance ensures the longevity and reliable operation of your soft starter module.

- Keep the module clean and free from dust and debris. Use a dry, soft cloth for cleaning.
- Ensure adequate ventilation around the module to prevent overheating.
- Periodically inspect all wiring connections for tightness and signs of wear or corrosion.
- Check for any unusual noises, smells, or visual indicators of malfunction.

6. Troubleshooting

Refer to the table below for common issues and their potential solutions.

Issue	Possible Cause	Solution
Motor does not start	No power to main circuit	Verify main power supply.
	Control signal not received	Check control terminal wiring and signal source (switch or 5-24VDC).
	Overheat protection activated	Allow module to cool down. Check for proper ventilation and load.
	Phase loss protection activated	Verify all three phases of the power supply are present and correctly connected.
Motor starts abruptly	Soft start function disabled or misconfigured	Check module configuration settings for soft start time and voltage.
Module stops unexpectedly	Overheat protection activated	Allow module to cool. Reduce load or improve ventilation.
	Phase loss protection activated	Inspect power supply phases.
	Internal fault	Contact manufacturer support.

7. Specifications

Key technical specifications for the LRQ-TH3P 4KW Soft Starter Module:

Feature	Specification
Model	LRQ-TH3P 4KW Module
Brand	MOBYAT
Power Rating	4 KW
Adjustable Start Voltage	150V - 250V (for 380V nominal system)
Minimum Switching Voltage (DC)	150 Volts (DC)
Mounting Type	DIN Rail Mounting
Connector Type	Clamp Connector
Package Dimensions	2.54 x 2.54 x 2.54 cm
Item Weight	50 grams
Operating Mode	Automatic

8. Warranty & Support

Specific warranty details for the MOBYAT LRQ-TH3P 4KW Soft Starter Module are not provided in the product information. For warranty claims, technical support, or service inquiries, please contact the manufacturer directly or refer to the seller's return policy.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question