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> Aoleaby Standard Thyristor Module MTC200-16 Power Module User Manual

Aoleaby MTC200-16

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Model: MTC200-16 | Brand: Aoleaby

INTRODUCTION

This manual provides comprehensive instructions for the Aoleaby Standard Thyristor Module MTC200-16 Power Module. It covers setup, operation, maintenance, and specifications to ensure safe and efficient use of the device. The MTC200-16 is a bidirectional thyristor module designed for various power control applications.

PRODUCT OVERVIEW AND FEATURES

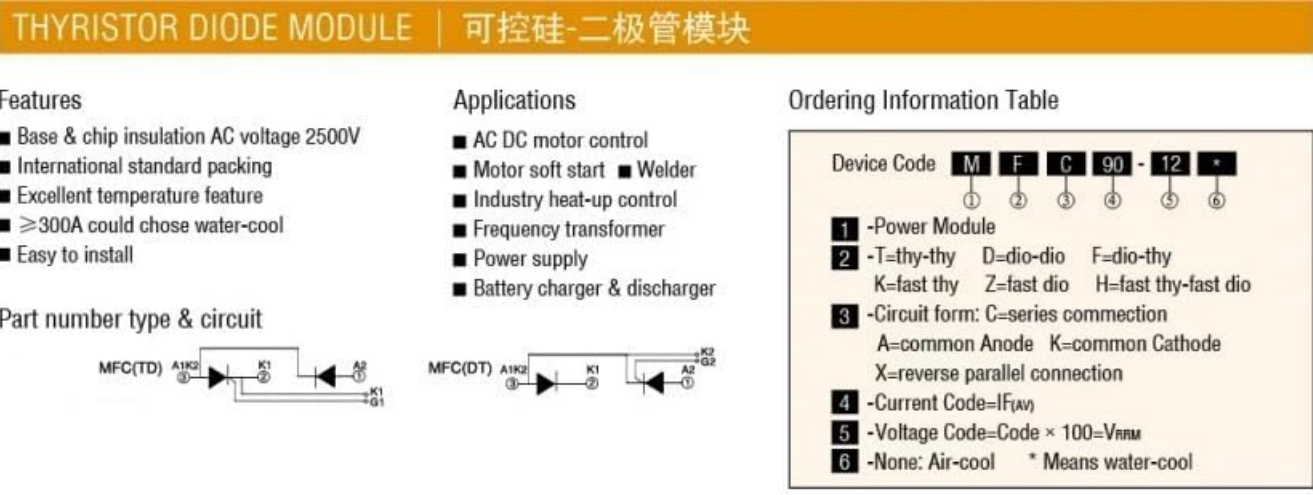


Figure 1: Front view of the Aoleaby Standard Thyristor Module MTC200-16, showing its compact black housing and robust screw terminals for electrical connections. The model number "MTC200-16" is visible on the side.

Key Features:

- **Multi-Functionality:** Suitable for PWM inverter current input, battery charging, and other power control applications.
- **Easy Installation:** Designed for convenient installation and maintenance.

- **High Output Current:** Provides high output DC current and high withstand voltage power.
- **Excellent Performance:** Features a welded structure for superior power cycle and temperature characteristics.
- **Isolated Base:** Incorporates an isolated mounting base and unique glass passivation technology for high reliability.
- **High Insulation:** Base and chip insulation AC voltage of 2500V.
- **International Standard Packing:** Ensures safe delivery and handling.
- **Temperature Stability:** Excellent temperature feature for reliable operation.
- **Water-Cooling Option:** Models with 300A or higher current capacity can be water-cooled.



- **Welder Applications:** Integral in power control for various welding equipment.
- **Industry Heat-Up Control:** Employed in industrial heating processes for precise temperature regulation.
- **Frequency Transformer:** Can be part of systems that convert electrical power from one frequency to another.
- **Power Supply Units:** Used in regulated power supplies to control output voltage and current.
- **Battery Charger & Discharger:** Essential for managing the charging and discharging cycles of battery systems.

Ensure that the module is operated within its specified electrical parameters (voltage, current, temperature) as detailed in the specifications section to prevent damage and ensure reliable performance.

MAINTENANCE

The MTC200-16 Thyristor Module is designed for high reliability and minimal maintenance due to its robust welded structure and glass passivation technology. However, periodic checks can help ensure its longevity:

- **Visual Inspection:** Regularly inspect the module for any signs of physical damage, discoloration from overheating, or loose connections.
- **Connection Integrity:** Verify that all electrical connections remain tight and free from corrosion. Loose connections can lead to increased resistance and heat generation.
- **Cooling System Check:** If a cooling system (e.g., heatsink, fan, or water-cooling) is used, ensure it is clean and functioning effectively. Dust accumulation can impede heat dissipation.
- **Environmental Control:** Maintain the operating environment within recommended parameters to prevent exposure to excessive heat, humidity, or corrosive substances.

No user-serviceable parts are inside the sealed module. Do not attempt to open or repair the module yourself. Refer to qualified personnel for any issues beyond routine inspection.

TROUBLESHOOTING

If you encounter issues with your MTC200-16 Thyristor Module, consider the following common troubleshooting steps:

- **No Output/Incorrect Output:**
 - Check all input power connections for proper voltage and polarity.
 - Verify that control signals (if applicable) are correctly applied and within specifications.
 - Inspect output connections for continuity and proper load connection.
- **Overheating:**
 - Ensure the module is properly mounted to a heatsink or cooling surface.
 - Verify that the ambient temperature is within the specified operating range.
 - Check for adequate airflow around the module and heatsink.
 - Confirm that the load current does not exceed the module's maximum rating.
- **Intermittent Operation:**
 - Check for loose or corroded electrical connections.
 - Ensure stable input power supply.
 - Verify that control signals are stable and free from noise.

If the problem persists after performing these checks, contact qualified technical support. Do not attempt to disassemble the module.

SPECIFICATIONS

General Product Specifications:

- **Manufacturer:** Aoleaby
- **Part Number:** Aoleaby
- **Item Weight:** 1.1 pounds
- **Package Dimensions:** 1.18 x 0.79 x 0.39 inches
- **Model Number:** Aoleaby (MTC200-16 is the specific module type)
- **Size:** One Size
- **Color:** One Color (Typically black housing)
- **Item Package Quantity:** 1
- **ASIN:** B0D2CYFBPN
- **Date First Available:** April 22, 2024

Electrical Specifications (Standard Thyristor Module):

Table 1: Electrical Specifications for Standard Thyristor Modules

$I_{T(AV)}$ (A)	V_{DRM} V_{RRM} (V)	$V_{TM@I_{TM}}$ (V)	I_{DRM} I_{RRM} (mA)	I_{GT} (mA)	V_{GT} (V)	I_H (mA)	dv/dt (V/ μ s)	di/dt (A/ μ s)	I^2t (A ² s x 10 ³)	$R_{th(j-c)}$ (C/W)	T_j (C)	V_{ISO} (AC)	Outline
25	400-2600	1.69	80	8	100	2.5	1000	50	0.55	0.950	125	2500	M1/M2/M10
40	400-2600	1.60	120	8	100	2.5	1000	50	1.00	0.650	125	2500	
55	400-2600	1.50	170	8	100	2.5	1000	50	1.25	0.530	125	2500	
70	400-2600	1.48	210	10	100	2.5	1000	50	1.60	0.410	125	2500	
90	400-2600	1.54	270	15	100	2.5	1000	100	2.00	0.280	125	2500	M3/M11
110	400-2600	1.60	330	20	100	2.5	1000	100	2.40	0.250	125	2500	
130	400-2600	1.66	410	25	150	2.5	1000	100	3.80	0.200	125	2500	
160	400-2600	1.60	480	25	150	2.5	1000	100	5.40	0.170	125	2500	
200	400-2600	1.60	600	30	180	2.5	1000	100	7.20	0.140	125	2500	M4/M12/M13/M6
250	400-2600	1.65	750	30	180	2.5	1000	100	8.50	0.120	125	2500	
300	400-2600	1.60	900	40	180	2.5	1000	100	9.30	0.100	125	2500	
400	400-2600	1.44	1200	40	200	3.0	1000	100	14.0	0.080	125	2500	M5/M14/M7/M8
500	400-2600	1.44	1500	40	200	3.0	1000	100	16.0	0.065	125	2500	
600*	400-2600	1.60	1800	40	200	3.0	1000	100	13.0	0.073	125	2500	
800*	400-2600	1.65	2400	40	200	3.0	1000	100	16.0	0.054	125	2500	M9
1000*	400-2600	1.65	3000	40	200	3.0	1000	100	20.0	0.050	125	2500	

* Means water-cool.

Figure 3: Detailed electrical specifications table for various standard thyristor modules, including parameters such as average on-state current ($I_{T(AV)}$), repetitive peak off-state voltage (V_{DRM} V_{RRM}), and thermal resistance ($R_{th(j-c)}$). This table helps in selecting the appropriate module based on application requirements.

Module Version Outline:

MODULE VERSION OUTLINE 模块外形图

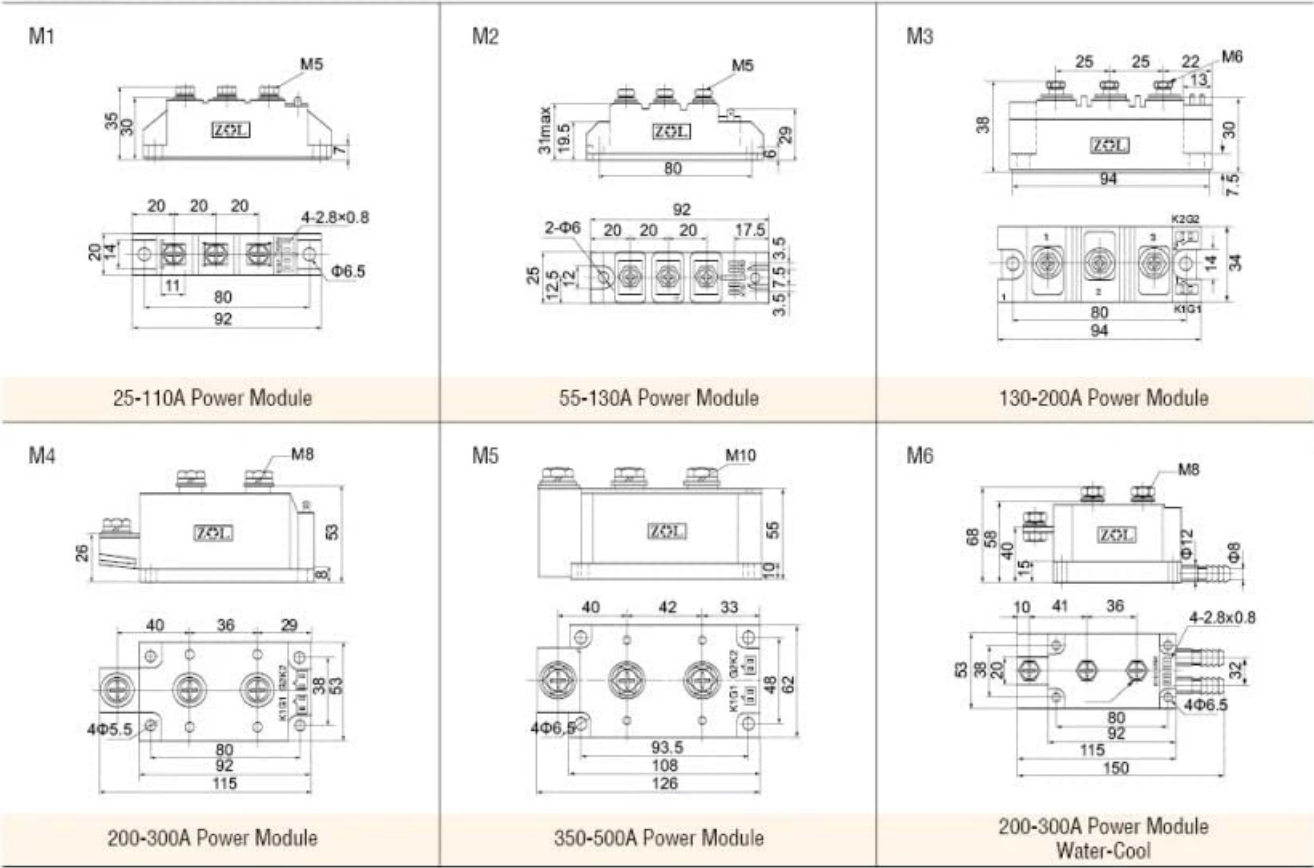


Figure 4: Diagrams showing the physical outlines and dimensions for different power module versions (M1, M2, M3, M4, M5, M6). Each diagram includes key measurements in millimeters and indicates the current range for which the module is typically used, such as "200-300A Power Module" for M4.

WARRANTY AND SUPPORT

For warranty information and technical support regarding your Aoleaby Standard Thyristor Module MTC200-16, please refer to the documentation provided with your purchase or contact Aoleaby customer service directly. Ensure you have your product model number (MTC200-16) and purchase details ready when seeking support.

For further assistance, you may visit the official Aoleaby website or contact their authorized distributors.

ASK A QUESTION ABOUT THIS MANUAL

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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

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