



MT66UV Over Under Voltage Protector

Version 1.1

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Shanghai Matis Electric Co., Ltd.

 **matismart**
Alot Electric

Foreword

Overview

The contents of this product manual include: parts introduction, panel and interface introduction, installation and operation, module replacement, and introduction to the operation of the host computer software. The product manual describes the complete functions of the MT66UV.

The pictures involved in the product manual are for reference only, please refer to the actual product.

Target Readers

This document is mainly applicable to the following engineers:

- Sales Engineer
- Technical support engineer
- Maintenance Engineer

Precautions

The following symbols may appear in this document, and the meanings they represent are as follows.

Sign	Indication
	Indicates a hazard with a high risk of death or serious injury if not avoided.
	Indicates a hazard with medium risk which, if not avoided, could result in death or serious injury.
	Indicates a hazard with a low risk of minor or moderate injury if not avoided.
	Used to transmit equipment or environmental safety warning information. Failure to avoid it may result in equipment damage, data loss, reduced equipment performance, or other unpredictable results. "Notice" does not involve personal injury.

Modify Records

The modification log accumulates the description of each document update. The latest version of the documentation contains updates from all previous documentation versions.

Version 1.1 (2022-06-03)

The first official version.

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1 Product Introduction

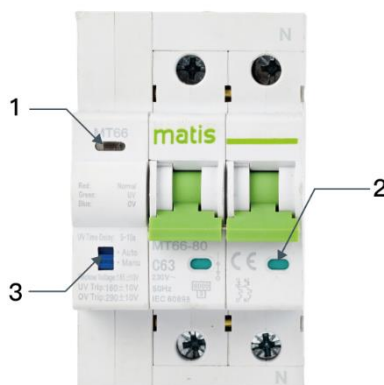
1.1 Product Overview

MT66UV Over Under Voltage Protector (hereinafter referred to as circuit breaker) is suitable for distributed photovoltaic grid-connected special power. It detects and judges the voltage on the photovoltaic power distribution line. When there is overvoltage or undervoltage on the photovoltaic power distribution line, it will automatically Delay opening, automatic closing when voltage is normal, automatic delay opening when voltage loss or open circuit, automatic closing when voltage is normal. The rated insulation voltage of the circuit breaker is 500V, suitable for 50Hz or 60Hz, rated working voltage 230V/400V, rated current in the following distribution lines.

1.2 Specification and model description

MT	66	UV	80	–	S/T	C	A
Company	Design No.	UV: For Photovoltaic System	Current (80A、125A)		S: Single Phase T: Three Phase	(C/D) Curve	Rated Current (6,10,16,20,25,32,40, 50,63,80,100,125A)

1.3 Appearance description



(1) Voltage status indicator (2) Opening and closing indicator (3) Working mode switching

1.4 Product Features

- Quick action: the closing time of the operating mechanism to the circuit breaker is less than 2s, and the opening speed is less than 0.6s;
- Reliable performance: mechanical life up to 10,000 times;
- High security: the segmentation capacity is higher than 6kA;
- Good compatibility; appearance and installation conform to the standard of modular terminal combination electrical appliances, rail-type installation, easy to exchange;
- Energy saving and environmental protection: all use environmentally friendly materials, in line with RoHS requirements;
- Strong adaptability: suitable for -40°C – 70°C .

1.5 Indicator Lights

Table 1–1 Description of indicators

Name	Color	Status	Indication
Voltage Status Indicator		Steady green light	Works normally
		Steady red light	Circuit fault lock
		Red light flashes	Waiting for delayed opening and closing

2 Equipment Installation

2.1 Installation Instructions



MT66UV Over Under Voltage Protector must be installed by professional electricians.

The equipment manufacturer is not responsible for any damage caused by the user or installer's failure to follow warnings or recommendations in this manual, or damage caused by the use of non-original products or accessories or by the quality of the product itself.

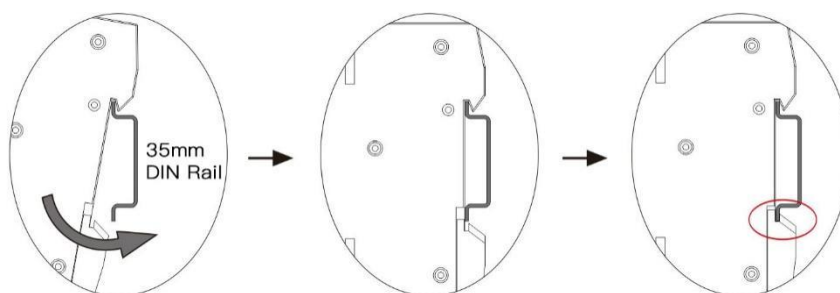


- The working mode of the equipment must be switched to the mechanical lock state when the load end line is overhauled or faulty overhauled, so as to ensure the safety of the maintenance personnel.
- In maintenance mode, it must also be padlocked in the safety lock position.

2.2 Mounting and Fixing

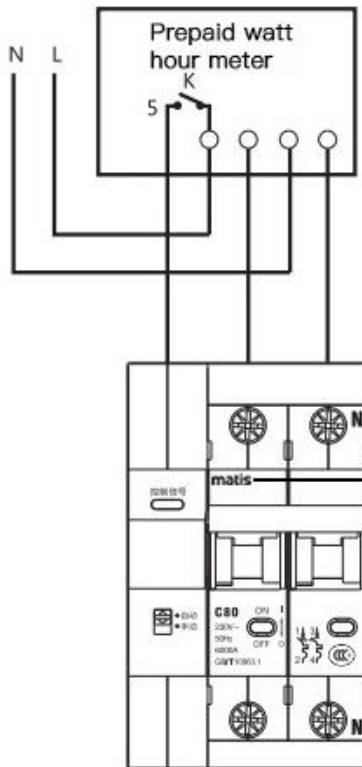
MT66UV Over Under Voltage Protector control modules for photovoltaics are units specially designed to be installed in distribution boxes or cabinets with DIN rail fixing elements.

Snap the device into the guide rail and release the metal buckle to ensure it is fixed tightly.

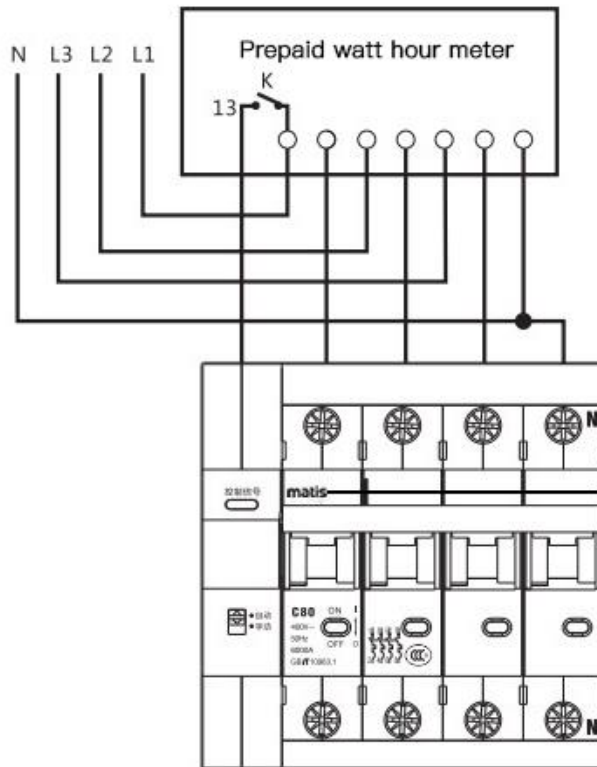


2.3 Main circuit Wiring Description

The MT66UV remote control unit circuit breaker module must be connected to the power circuit according to its voltage range.



2P Wiring Diagram



4P Wiring Diagram

3 Device Usage

3.1 Control Function Description

The circuit breaker control mode is divided into fully automatic control mode and semi-automatic control mode, namely "automatic" mode and "manual" mode, which can be set through the mode switch on the circuit breaker panel.

- "Automatic" mode: automatic opening when the power supply is over-voltage, under-voltage, and voltage-loss, and automatic closing when the power supply is normal;
- "Manual" mode: automatic opening when the power supply is over-voltage and under-voltage, automatic opening when the power supply loses voltage, and not automatically closing when the power supply is normal;
- The left side of the single-phase circuit breaker is connected to L and the right side is connected to N; The control unit of the circuit breaker is on the left side of the product;
- There is a red fault indicator on the front of the circuit breaker, which shows different indication states for overvoltage, undervoltage, and phase loss (limited to three-phase four-wire circuit breakers) on the power supply side to identify the current voltage on the photovoltaic power distribution line. Status (see Table 1-1 for the description of indicator lights).

3.2 Judgment of Overvoltage and Undervoltage and Auto Trip and Reclose

Numbers	Voltage Range	Initial Status	Auto	Manual
			Status after action	Status after action
1	> 290V±10V	Close	Open	Open
2		Open	Open	Open
3	< 280V±10V	Open	Close	Open
4		Close	Close	Close
5	< 160V±10V	Close	Open	Open
6		Open	Open	Open
7	> 190V±10V	Open	Close	Open
8		Close	Close	Close

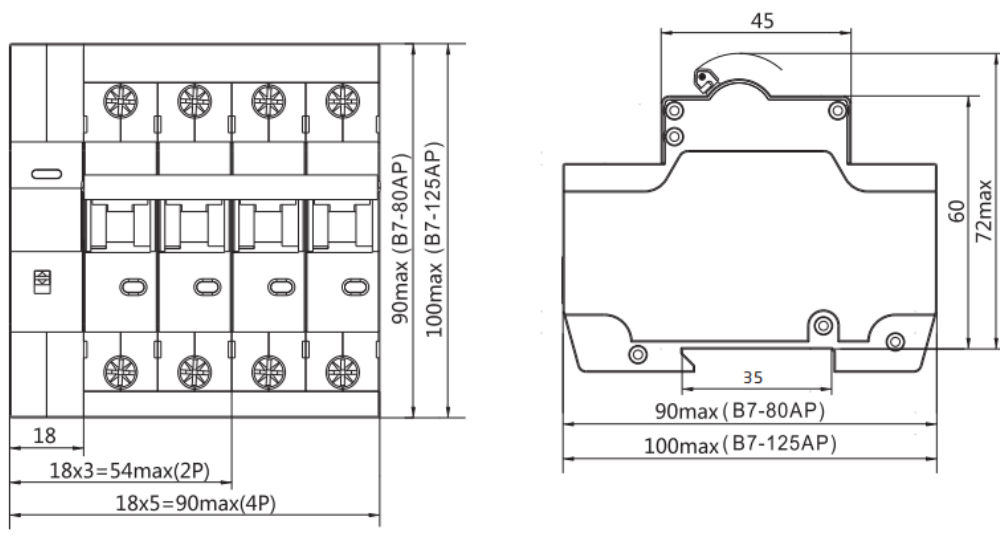
4 Technical Features

4.1 Technical Data Sheet

Product Photos	 	
Functions		
Manu/Auto switch		
Opening and closing status indication		
O/U Voltage Fault Automatic Reclosing	Automatic reclosing in automatic mode	Automatic reclosing in automatic mode
Overvoltage and undervoltage protection		
Circuit Breaker Specifications	2P、4P	2P、4P
Electrical Characteristics		
Rated current (A)	6,10,16,20,25,32,40,50,63,80A	63,80,100,125A
Rated working voltage (Un)	Single Phase 230VAC / Three Phase 400VAC	
Rated insulation voltage (Ui)	300V	
Rated impulse withstand voltage Uimp	6kV	

Ultimate breaking capacity I _{cu} (kA)	10	6
Running breaking capacity I _{cs} (kA)	7.5	6
Rated frequency	50/60Hz	
Instantaneous trip current type	C Curve	
Mechanical Characteristics		
Mechanical life	≥10000 times	
Environmental Characteristics		
Operating temperature	-25℃~+55℃	
Storage temperature	-40℃~70℃	
Relative humidity (non-condensing)	5%~95%	
Highest altitude	2000 m	
Protection class	IP20	

4.2 Dimensions



5 Technical Services

Anyone who purchases this model MT66UV remote control device enjoys a 24-month warranty period from the date of purchase. During the warranty period, if the quality of the product itself affects the normal use, you can enjoy free repair and replacement. In case of irreversible damage caused by improper use, drop, installation and wiring errors, it can be repaired or replaced for a fee during the warranty period. If you disassemble and modify it yourself, you will not enjoy the warranty service.

If you have any questions about the operation or malfunction of the equipment, please contact Matis technical support service.

Statement:

- The information provided in this manual is subject to change without prior notice.
- Shanghai Matis Electric Co., Ltd. reserves the right to explain the information

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