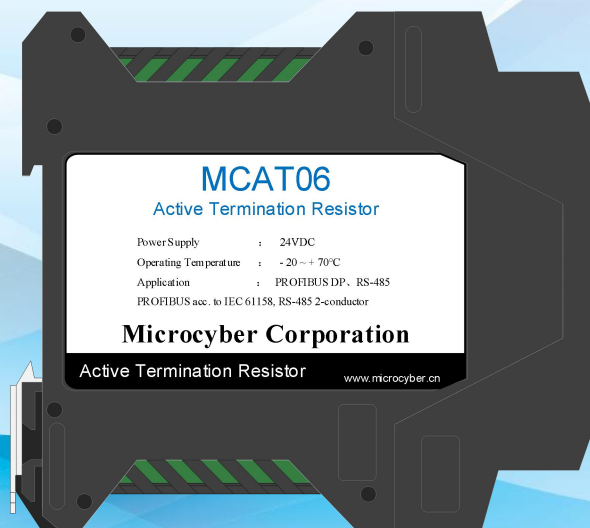


# MCAT06

## DP Active Terminal Resistance

### User Manual



## Warning

1. Please don't take off/install gateway at random.
2. Please check if the power of gateway meets the power request in the User Manual.

**Version: V1.1**

### Disclaimer

The contents of this manual have been checked to confirm the consistency of the described hardware and software. Because the error can not be completely excluded, there is no guarantee of absolute consistency. However, we will regularly check the data in this manual and make necessary corrections in subsequent versions. Any suggestions for improvement are welcome.

**Microcyber Corporation, 2021**

Technical data changes at any time

## Company Introduction

Microcyber Corporation established as a high-tech enterprise by the Shenyang Institute of Automation Chinese Academy of Sciences, mainly engages in advanced industrial control systems, equipments, instruments and chips for industrial process automation control solutions in the research, development, production and application. Microcyber undertakes a number of national scientific and technical key task and “863” project, national science and technology programs for intelligent manufacturing equipment development and it is the national network control system engineering research center construction support unit.

Microcyber Corporation successfully developed the first internationally certified fieldbus protocol master stack, the first nationally certified fieldbus instrument, and the first German TÜV certified safety instrument in China. It co-chaired with other units to formulate the first domestic industrial Ethernet protocol standard EPA, the first industrial wireless communication protocol standard WIA-PA, and become the IEC international standard. Microcyber Corporation’s products and technology have won two national second prize for scientific and technological progress, one national scientific and technological invention award, one first prize for scientific and technological progress of the Chinese Academy of Sciences, and one first prize for scientific and technological progress of Liaoning Province. The United States Emerson, Britain Rotork, Britain and other top enterprises have adopted key technologies or components in their products and successfully completed more than 200 large-scale automation projects.

Microcyber is the FF member, the HART member and the Profibus National Organization (PNO) member.

Microcyber passes the Authentication of ISO 9001:2008 Quality System and automotive industry ISO/TS16949 quality system certification. We have laid a solid foundation for the company's entrepreneurship and sustainable development with excellent R & D team, rich experience in automation engineering design and implementation, industry leading products, huge market network and excellent corporate culture.

Carrying employee ideal, creating customer value and promoting enterprise development.

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## Chapter 1 Overview

MCAT06 is an active terminal resistance for PROFIBUS DP and RS-485. Use MCAT06, to split the PROFIBUS and other RS-485 2 line networks directly at the end of the bus. This ensures secure communication even if the bus device is connected / disconnected during operation.

### 1.1 Dimension (Unit: mm)

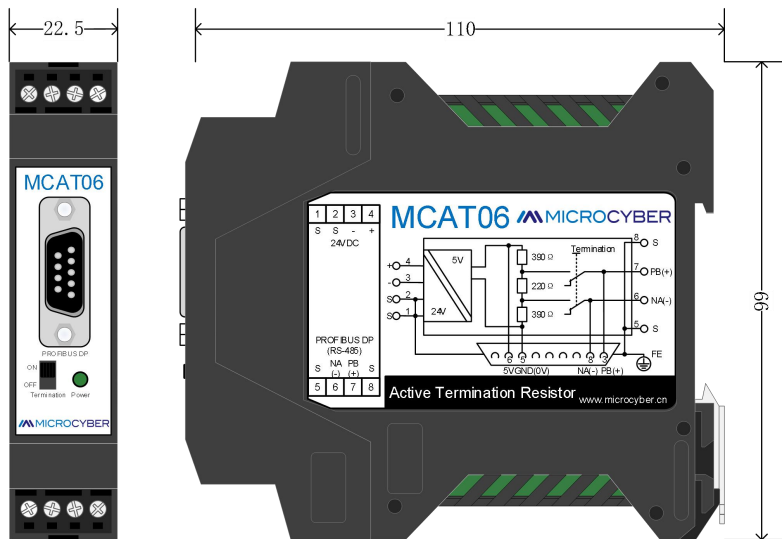


Figure 1.1 DP Active Terminal Resistance External Size (Unit: mm)

### 1.2 Structure

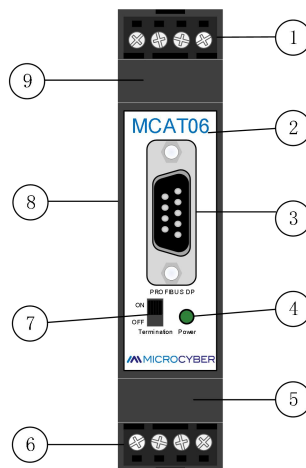


Figure 1.2 Structure Diagram of DP Active Terminal Resistance of the Whole Machine

1	Power supply terminal	2	Pad pasting	3	PROFIBUS Programming interface
4	Power light	5	Lower terminal cover plate	6	Bus terminal
7	Terminal dial-up switch	8	Monoblock	9	Upper terminal cover plate

## Chapter 2 Installation

### 2.1 DIN Guide Rail Installation

The MCAT06 DP active terminal resistance size is 99×22.5×114.5mm and supports standard DIN rail installation.

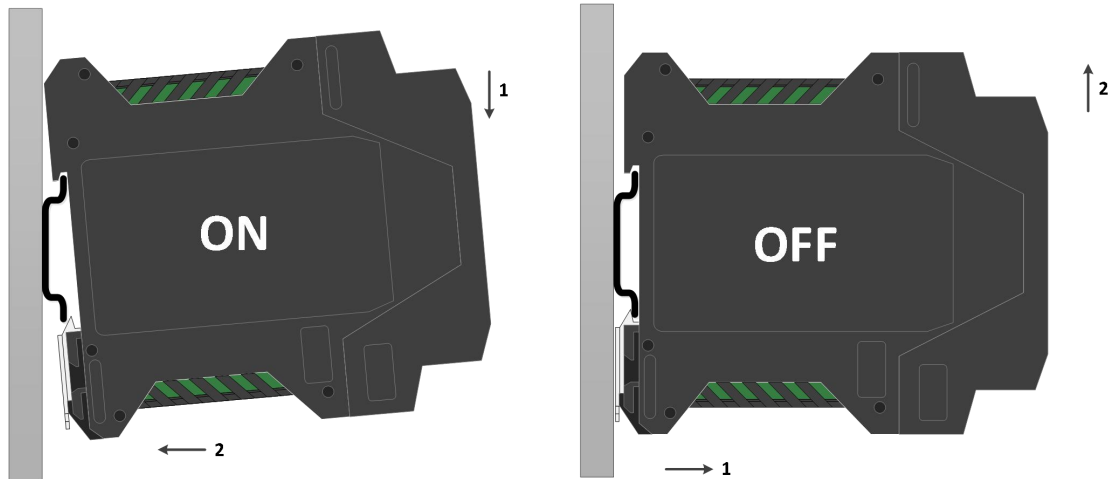
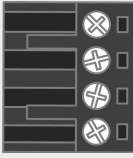



Figure 2.1 Schematic Diagram of DP Active Terminal Resistance DIN Guide Rail Installation

### 2.2 Wiring Instructions


#### 2.2.1 Power Supply Terminal

Terminal blocks	Sign	Detailed description
	1S	Earthing
	2S	Earthing
	3-	24V power supply negative terminal
	4+	24V power supply positive terminal


#### 2.2.2 Bus Terminal

Terminal blocks	Sign	Detailed description
	5S	Earthing
	6-	PROFIBUS DP signal A terminal
	7+	PROFIBUS DP signal B terminal
	8S	Earthing

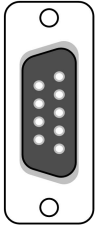
#### 2.2.3 The LED Indicator Light

LED	Sign	Detailed description
	POWER	Power indicator lamp, normally lit after power on

### 2.2.4 Terminal Dial-up Switch

Dial-up switch	Sign	Detailed description
	ON	Terminal is activated
	OFF	Terminal is not activated

### 2.2.5 The PROFIBUS Programming Interface



NO.	Sign	Detailed description
1-2	NC	No pin
3	PB (+)	Connect DP bus PB, or RS-485 network
4	NC	No pin
5	+5V	DC 5V positive terminal
6	GND (0V)	DC 5V negative terminal
7	NC	No pin
8	NA (-)	Connect to DP bus NA, or the negative end of RS-485 network
9	NC	No pin

## Chapter 3 Sample Connection

### 3.1 Terminal Operation

In the dynamic bus equipment, the MCAT06 ensures the secure wiring of the bus terminals. Integrate the MCAT06 into the bus system as the last device. Changing the "Termination" switch to the ON" position. (Terminal activation)

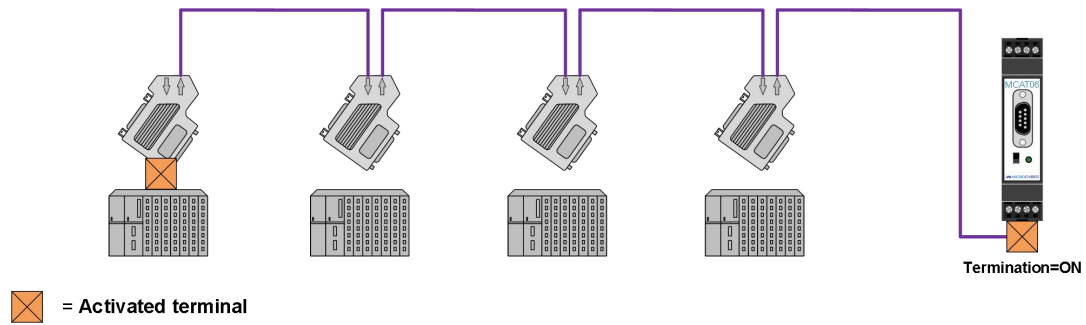


Figure 3.1 Connection Example Figure 1

### 3.2 Programming Access

The MCAT06 can be used as a programming interface operation. Active and passive programming devices can therefore be supported. Integrate the MCAT06 into a bus system as a fixed interface. Make sure that the "Termination" switch is in the "OFF" position. (Terminal is not activated)

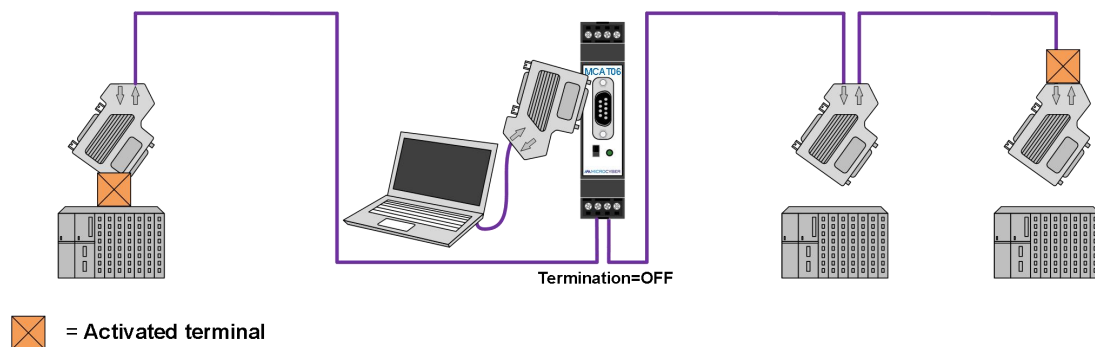


Figure 3.2 Connection Example Figure 2

NOTE: Do not terminate at the PROFIBUS programming interface. Otherwise, the signal quality of the continuous bus is affected.

Equipment shall not be used for diagnostic measurement evaluation. The branch line will distort the measurement results.



## Chapter 4 Technical Specifications

### 4.1 Essential Parameter

Supply voltage	24 VDC(±20%)
Apply	PROFIBUS DP and RS-485 network PROFIBUS meets IEC 61158 standards, RS-485 and 2 Linear
Working temperature	-20℃ ~70℃
Storage temperature	-40℃ ~70℃
Humidity range	5%~95%RH

### 4.2 Performance Index

Protection grade	The enclosure protection level reaches IP20
Electromagnetic compatibility	Compliance with electromagnetic compatibility requirements for GB/T 18268.1-2010 <i>Measurement, Control and Laboratory Equipment Resistance in Industrial Sites, Part 1: General Requirements</i>

### 4.3 Physical Characteristics

Weight	0.2 kg
Structural material	Monoblock: ABS; Clip: POM; Coating: polyester epoxy resin.



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