MICROCYBER

MCAFD4 Active Fieldbus Distributor

User Manual

Microcyber Corporation

Caution

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

Version

V1.0

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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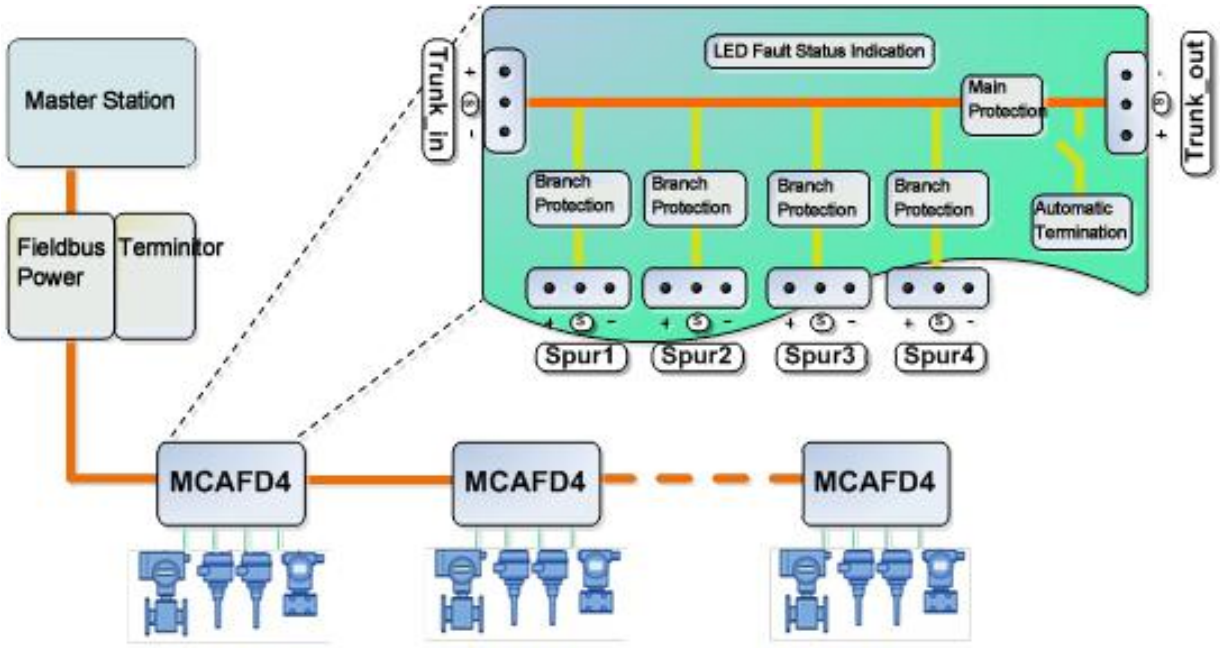
1. Overview

MCAFD4 Active Fieldbus Distributor is suitable for the FF H1 and PROFIBUS PA fieldbus application. Through the distributor, field devices use the topology of the main - branch to connect the system. Each distributor has four branches. There's built-in automatic bus terminal. LED status indicator can rapidly diagnosis main line and branch line short circuit state, isolate the fault section automatically. Multiple protection function of the distributor can ensure the safe operation of the system.

2. Feature

- Short-circuit, overload protection for main line and branch line
- Suitable for FOUNDATION Fieldbus H1 and PROFIBUS PA
- LED indicator fault diagnosis
- Automatic bus terminal
- Reverse connection protection
- Automatic isolating fault port
- Protection class IP65

3. System Wiring Diagram



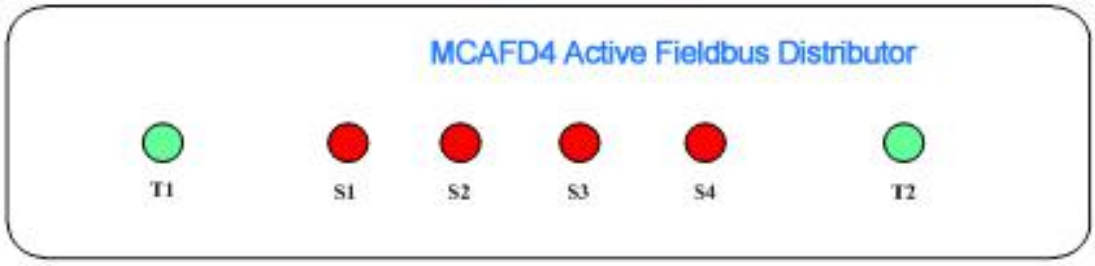
4. Technical Index

Power Consumption	
➢ No-load current loss	＜10mA
➢ Power consumption	＜180mW
Main Line	
➢ Number of electrical connectors	2
➢ Electrical connectors	M16*1.5
➢ Cable diameter	4～9mm
➢ Teminals	Screw type PCB terminal (3-pin)
➢ Bus input voltage	10～32VDC
➢ Main line max. output current	1A
➢ Main line voltage drop	＜0.3V
➢ Automatic bus termination	√
Branch	
➢ Number of electrical connectors	4
➢ Num. of connectable field devices	4
➢ Electrical connectors	M16*1.5
➢ Cable diameter	4～9mm
➢ Teminals	Screw type PCB terminal (3-pin)
➢ Branch output voltage	9～31VDC
➢ Branch max. output current	60mA
➢ Short-circuit protection current	＜300uA

➢ Main and branch voltage drop	＜1V
Interface	
➢ PROFIBUS PA	√
➢ FOUNDATION Fieldbus H1	√
Evironmental Characteristics	
➢ Working temperature	－40℃～＋85 ℃
➢ Storage temperature	－40℃～＋85 ℃
➢ Relative humidity	5%RH～95%RH
➢ Protection degree	IP65
➢ Dimension W x H x D (mm)	125*57*80 (No electrical connector)
➢ Weight	600g

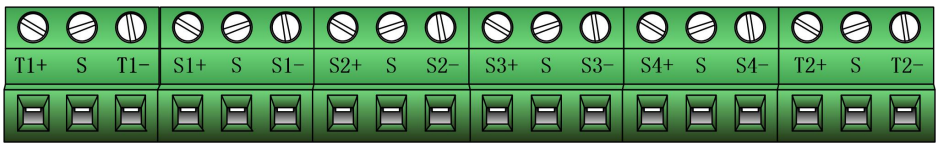
5. Installation & Wiring

5.1 LED indicating of MCAFD4 Active Fieldbus Distributor



Port	LED Indication	Meaning	Solution
T1-T2	Green	Main connection is normal Bus terminal is inactive (T2 Green)	—
	Red	Main short-circuit fault	Trouble shooting
	Light off	Main line no access Main line inversely access Bus terminal is activated (T2 off)	Correct wiring
Port	LED display	Meaning	Solution
S1-S4	Green	Branch connection is normal	—
	Red	Branch short-circuit fault	Trouble shooting
	Light off	Main line no access Main line inversely access	Correct wiring

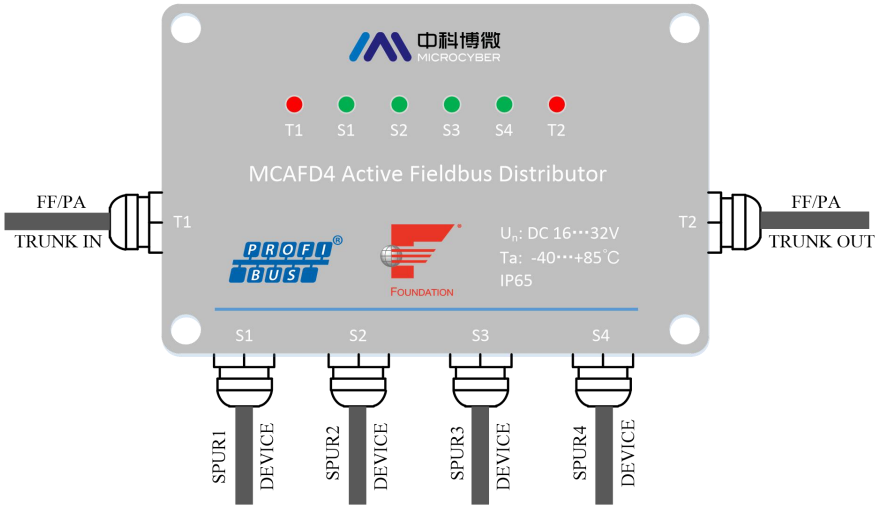
5.2 Terminal distribution of MCAFD4 Active Fieldbus Distributor



Connection		Teminal	Allocation
T1-T2	Main line	+	Data correction
		S	Shielded wire
		-	Data line negative

S1-S4	Field device branch	+ S -	Data line positive Shielded wire Data line negative

5.3 Wiring of MCAFD4 Active Fieldbus Distributor



1. Connect bus through T1 & T2, T1 for bus input, T2 for bus ouput, and connect fieldbus devices by branch S1 to S4.
2. Open cover of active fieldbus distributor, and install the distributor to the flat surface or on the guide rail, to ensure 60 mm space connection on the rear left of and below the distributor.
3. Unscrew the electrical connector, run the fieldbus cable through the electrical connector gland, and twist the cable onto the corresponding terminal, to ensure correct polarity of the connection.
4. Close the active fieldbus distributor cover, tighten the fixing screw.
5. Use seal plug to seal unused cable entry gland, so as to ensure the IP65 protection class.

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YOUR FIELDBUS EXPERT

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