



# 2500 Series<sup>®</sup> Compact System



## 2500C-RADP-RBC Profibus DP Remote Base Controller



### DESCRIPTION

The 2500C-RADP-RBC 500 Base Adapter for the Compact Profibus Remote Base Controller allows a Texas Instruments Series 500 I/O base to function as a slave node on a Profibus DP I/O network that complies with the PROFIBUS standard.

### FEATURES

- Provides mechanical and electrical adaptation of CTI 2500 Series<sup>®</sup> Compact RBCs to operate in a Series 500 base
- Compatible with CTI 2500 Series<sup>®</sup>, Simatic<sup>®</sup> 505, Siemens<sup>®</sup> S5 and S7, as well as other Profibus masters
- Allows direct replacement of 500-5114 / 5114A RS485 RBCs or 500-2114 / 2114A Coaxial RBCs by Profibus
- Supports Profibus communication speeds from 9600 baud (max cable distance per segment: 1200m) up to 12 Mbaud (max cable distance per segment: 100m)
- GSD file is provided with the RBC to allow configuration by the Profibus Configurator
- LED display for error codes and station address

Specifications		
Ports	Profibus	USB
Ports	9 Pin Female	USB Port
Profibus Baud Rates	9600, 19.2K, 93.75K, 187.5K, 500K, 1.5M, 3.0M, 6.0M, 12M	
Profibus Port Isolation	1500VDC	

Output State Selection		
Determines state of outputs when Profibus IO channel is lost:	OFF All outputs are turned off	FREEZE All outputs hold their last value

RBC Configuration & Diagnostic Data	
Dipswitch Settings	RBC Station Address
Software-Set Parameters	Discrete I/O Interval Word I/O Update Factor Ignore Mismatch Mode
Diagnostic Data	Station Status (3 bytes) Master Address (1 byte) Ident Number (1 byte) Extended Diagnostics (9 bytes)

General Module Specifications	
ESD Protection	IEC 1000-4-2 Level 4
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Relative Humidity	5% to 95% (non-condensing)
Agency Approvals Pending	UL, ULC, UL Class 1, Div 2, CE
Shipping Dimensions and Weight	223.84mm x 109.86mm x 80.96mm, 0.384kg
Module Installation Dimensions	See Dimension Diagram in this bulletin

2500C-RBC-RBC Default Shipment Settings	
Slave Address	0 (User must set Address)
Output State Selection JP1	Freeze

**IMPORTANT NOTE:** When configuring a Compact I/O Profibus base on CTI 2500 Series<sup>®</sup> or Simatic<sup>®</sup>/ TI 505 PLCs, you must use PLC Workshop for 505, version 4.32 or higher. Be sure to download and use the latest Compact I/O Profibus GSD file from the CTI website.



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The upper LED display on the front panel of the RBC shows a single digit code which indicates the module status (see the Table below for a complete list and definition of the error codes). The lower 3 digit led display shows the hardware Profibus address as configured by the address dip switches.

**LED Error Code Definition Table**

Display	Definition	Communications to RBC	Comment / Action
0	Normal Operation	OK	Fully Operational and Online to master.
1	Internal RAM Diagnostic Failure	None	Serious malfunction. Place system in safe state and consult CTI technical support
2	Module Mismatch	OK	I/O modules installed do not match the expected configuration in the master.
3	Profibus Communications Failure	None	There is no communication with the master. Place the system in a safe state. Check cabling and connection to the master.
A	Internal MX RAM Diagnostic Failure	None	Serious malfunction. Place system in safe state and consult CTI technical support
B	External MX RAM Diagnostic Failure	None	Serious malfunction. Place system in safe state and consult CTI technical support
C	Profibus RAM Diagnostic Failure	None	Serious malfunction. Place system in safe state and consult CTI technical support
F	Flash Diagnostic Failure	None	Serious malfunction. Place system in safe state and consult CTI technical support

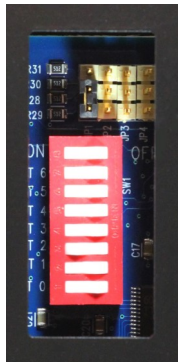
**NOTE:**  
 Series 500 RBCs can be replaced with CTI 2500 Series<sup>®</sup> RBCs. We have tested this replacement solution in systems containing Series 500 analog and digital I/O modules. Because of the difficulty in obtaining hardware, we are not able to test with the all various Series 500 special function modules which were originally available. If your application uses Series 500 special function modules, please contact CTI to discuss how we can verify support of your configuration.

Note: For more detailed information on using the 2500C-RADP-RBC, refer to CTI's 2500C-RBC-RBC User Guide.





## 2500C-RADP-RBC Profibus DP Remote Base Controller

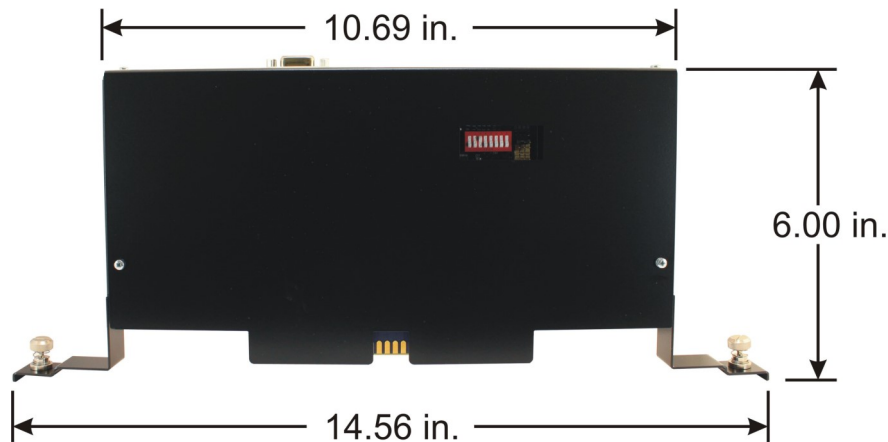


### Configuring the Module

There are four steps to configuring the module and getting it operational on a Profibus network:

1. Setting the module option switches
2. Setting the output state on communication loss (freeze jumper – JP1)
3. Setting Software parameters in Workshop
4. Configuring the remote base in Workshop

For detailed information on configuring a remote base with the 2500C-RADP-RBC, refer to Chapter 3 in the 2500C-RBC-PRF User Guide.



2500C-RADP-RBC Dimensions

Note: See the next page for a comparison in the depth dimensions required by the 2500C-RADP-RBC and the TI /Siemens<sup>®</sup> Series 500 RBCs.



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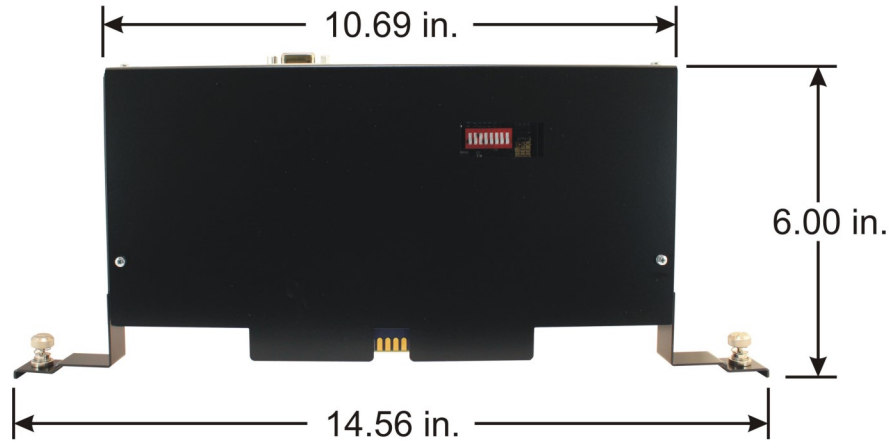


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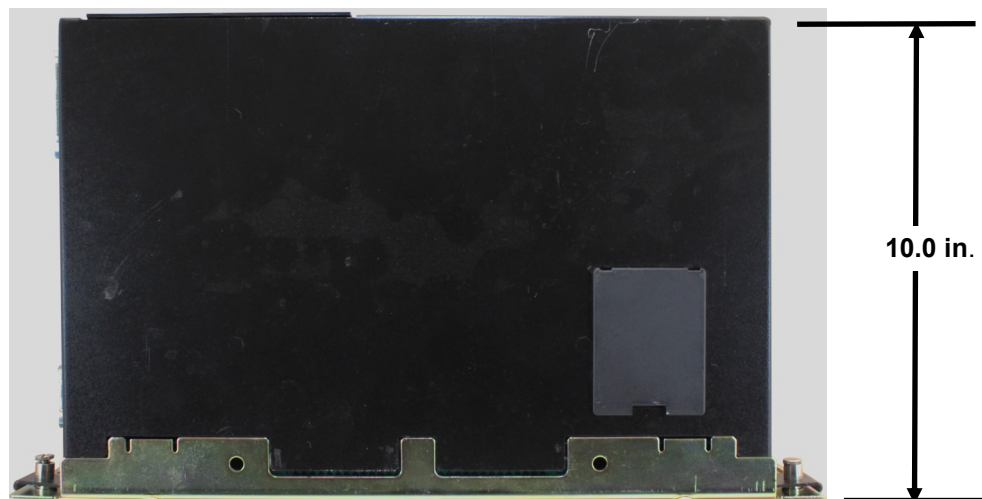


## 2500C-RADP-RBC Profibus DP Remote Base Controller

Note: Add 1 3/4" in depth to allow for a standard 90° Profibus Connector plugged into the front of the module.



2500C-RADP-RBC Dimensions



Depth Required for a TI/Siemens<sup>®</sup> Series 500 RBC



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