

Uni-COM[®] CB Modules

Installation Guide

UAC-CB-01RS2,
UAC-CB-01RS4,
UAC-CB-01CAN



SCAN
to download

This guide provides basic installation information for Unitronics' Uni-COM™ CB Modules. Use them to add communication ports to specific models of the UniStream® family of Programmable Logic Controllers. Compatible models comprise a Uni-COM™ CB COM Module Jack which provides the connection point for the module.

Refer to the specifications of your UniStream model to check whether it is compatible with CB modules.

UAC-CB-01RS2 offers one RS232 port, UAC-CB-01RS4 offers one RS485 port, and UAC-CB-01CAN offers one CANbus port.

Technical specifications and Installation Guides are available in Unitronics Technical Library at www.unitronicsplc.com.

Before You Begin

Before installing the device, the installer must:

- Read and understand this document.
- Verify the Kit Contents.

Alert Symbols and General Restrictions

When any of the following symbols appear, read the associated information carefully.

Symbol	Meaning	Description
	<i>Danger</i>	<i>The identified danger causes physical and property damage.</i>
	<i>Warning</i>	<i>The identified danger could cause physical and property damage.</i>
<i>Caution</i>	<i>Caution</i>	<i>Use caution.</i>



Danger

The identified danger causes physical and property damage.



Warning

The identified danger could cause physical and property damage.

Caution

Caution

Use caution.

- All examples and diagrams are intended to aid understanding, and do not guarantee operation. Unitronics accepts no responsibility for actual use of this product based on these examples.
- Please dispose of this product according to local and national standards and regulations.
- This product should be installed only by qualified personnel.



- Failure to comply with appropriate safety guidelines can cause severe injury or property damage.
- Do not attempt to use this device with parameters that exceed permissible levels.
- Do not connect/disconnect the device when power is on.

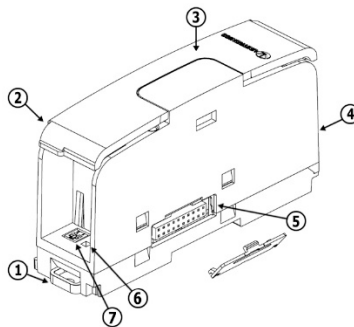
Environmental Considerations

- ⚠️ ▪ Ventilation: 10mm (0.4") of space is required between the device top/bottom edges and the enclosure's walls.
- Do not install in areas with: excessive or conductive dust, corrosive or flammable gas, moisture or rain, excessive heat, regular impact shocks or excessive vibration, in accordance with the standards and limitations given in the product's technical specification sheet.
- Do not place in water or let water leak onto the unit.
- Do not allow debris to fall inside the unit during installation.
- Install at maximum distance from high-voltage cables and power equipment.

Kit Contents

UAC-CB-01RS2	UAC-CB-01RS4	UAC-CB-01CAN
<ul style="list-style-type: none"> ▪ 1 UAC-CB-01RS2 module 	<ul style="list-style-type: none"> ▪ 1 UAC-CB-01RS4 module ▪ 1 RS485 terminal block 	<ul style="list-style-type: none"> ▪ 1 UAC-CB-01CAN module

Uni-COM™ CB Diagram



1	DIN-rail clips, Top and Bottom	These clips secure the module to the DIN-rail
2	COM Module Plug (not shown)	Plug this into the COM Module Jack located on a compatible device
3	Door	Open door to allow easy access to LEDs and DIP switch
4	Communication Port (not shown)	The type of port depends upon the module
5	COM Module Jack and cover	This is the connection point for additional modules; leave covered when not in use
6	Communication LEDs	Green. Refer to the device's technical specifications
7	DIP switches	Use these to set RS485/CANbus network termination

Installation



- Turn off system power before connecting or disconnecting any module or device.
- Use proper precautions to prevent Electro-Static Discharge (ESD).
- The module is shipped with its COM module jack covered. To protect the jack from debris, damage, and ESD, you must leave it covered when not in use.
- The final module in a row must have its jack covered.

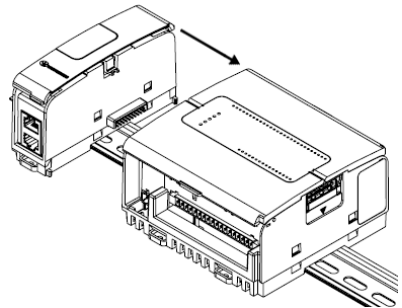
NOTE UAC-CB modules can only be installed onto compatible devices, such as UniStream PLCs, or connected to other UAC-CB modules.

Installing UAC-CB Modules

- NOTE**
- Mount on a standard DIN-rail next to a compatible device.
 - Ensure there is sufficient space to install/uninstall modules.
 - In the first figure below, the module being installed is UAC-CB-01CAN; the second figure shows a UAC-CB-01RS2 being connected to the UAC-CB-01CAN.

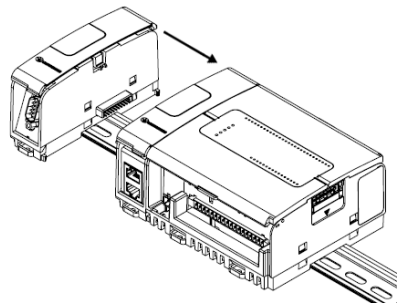
Installing the first module onto the side of the controller:

1. Check the controller to verify that its COM module jack is not covered.
If the Uni-COM™ CB module the last one in the configuration, leave the COM jack covered.
2. Push the module onto the DIN-rail until the clips located at the top and bottom of the unit have snapped onto the DIN-rail.
3. Slide the module as shown in the accompanying figure, until the COM module plug is firmly seat in the other devices' COM module jack.



Connecting additional modules onto the first:

1. Check the module that is already installed to verify that its COM jack is not covered.
If the UAC-CB module is to be the last one in the configuration, do not remove the cover of its COM jack.
2. Insert the module's connection plug into the jack until it is firmly seated.



NOTE If you mount vertically, place a DIN-rail stop or end clamp under the final module in the configuration. This is especially recommended if vibrations are present.

Removing a Module

You must remove the end module in a row before removing the next one.

1. Turn off the system power.
2. Disconnect any wires or cables connected to the module.
3. Press the clips on the top and bottom of the modules, and carefully pull the module from its place.

Wiring



- All wiring activities should be performed while power is OFF.
- Unused points should not be connected (unless otherwise specified). Ignoring this directive may damage the device.
- Double-check all wiring before turning on the power supply.

Caution

- To avoid damaging the wire, use a maximum torque of 0.5 N·m (5 kgf·cm).
- Do not use tin, solder, or any substance on stripped wire that might cause the wire strand to break.
- Install at maximum distance from high-voltage cables and power equipment.

Wiring Guidelines

In order to ensure that the device will operate properly and to avoid electromagnetic interference:

- Use a metal cabinet. Make sure the cabinet and its doors are properly earthed.
- Use shielded cables.

NOTE For detailed information on avoiding EMI, refer to the document System Wiring Guidelines, located in the Technical Library in the Unitronics' website.

UAC-CB-01RS2 - RS232 module

- Use shielded cable

Pin Number	Pin Name	Direction	Description
1	-	-	Not connected
2	RXD	In	Receive Data
3	TXD	Out	Transmit Data
4	-	-	Not connected
5	SG	Return	Signal Ground
6 (see note)	-	-	Connected to Pin 7
7 (see note)	-	-	Connected to Pin 6
8, 9	-	-	Not connected

NOTE Pins 6 and 7 are not connected to internal circuits.

UAC-CB-01RS4 – RS485 module

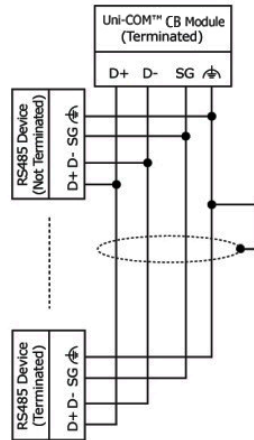
Wiring Procedures

Use crimp terminals for wiring; use 26-12 AWG wire (0.13 mm² –3.31 mm²).

1. Strip the wire to a length of 7±0.5mm (0.275±0.020 inches).
2. Unscrew the terminal to its widest position before inserting a wire.
3. Insert the wire completely into the terminal to ensure a proper connection.
4. Tighten enough to keep the wire from pulling free.

Use the RS485 port to create a multi-drop network.

The UAC-CB-01RS4 is shipped with a 4 pin RS485 terminal block. This connector is marked with a pin assignment that is identical to the corresponding marking on the module.



RS485 Wiring

- D+ Tx/Rx+ (B)
- D- Tx/Rx- (A)
- SG Signal Ground
- ⏏ Functional Ground



- Use shielded twisted-pair cable in compliance with EIA RS485 specifications.
- When wiring each node, connect the cable shield to the functional ground point of the RS485 terminal block.

Caution In order to avoid ground-loops, do not connect the RS485 functional ground terminal to the earth of the system, as it is internally connected to the controller’s functional ground point.

RS485 Termination

Use the DIP switches shown in the diagram on page 2 to set the RS485 termination according to this table.

The device is shipped with both its DIP switches set to ON; change settings if the device is not at one of the ends of the RS485 network.


Position		DIP Switch State
1	2	
ON	ON	Terminated (factory default)
OFF	OFF	Not Terminated

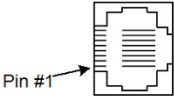
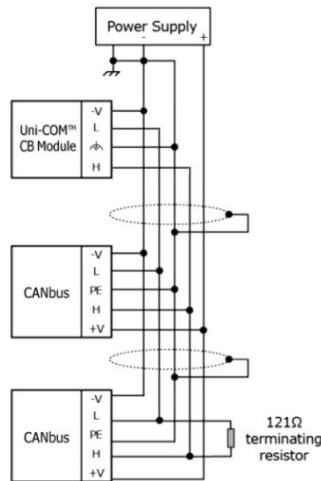
UAC-CB-01CAN - CANbus module

There are two RJ45 connectors on the top of this module. Connect one connector to your CANbus network. The other connector may be used to daisy-chain to another device.

CANbus Wiring

- Use CAT-5e shielded cable with RJ45 connector.
- When wiring each node, connect the cable shield to the shield of the RJ45 connector.
- Connect the CANbus cable shield to the system earth at only one point near the power supply.

Pin #	Description
shield	 Functional Ground
1	H CAN High
2	L CAN Low
3	-V CANbus Signal Common
4	Don't connect
5	Don't connect
6	Don't connect
7	Don't connect
8	Don't connect

CANbus Termination

Use the DIP switches shown in the diagram on page 2 to set the CANbus termination according to this table.

The device is shipped with both its DIP switches set to ON; change settings if the device is not at one of the ends of the CANbus network.

Position		DIP Switch State
1	2	
ON	ON	Terminated (factory default)
OFF	OFF	Not Terminated

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