Pro Editor

Instruction Manual

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1 Software Description

Software that Enables Field Customization of Banner Pro Series-enabled Devices



- Allows configuration of Banner Pro Series-enabled lighting and indicator devices
- Free to download and available from the product page of any Pro Series-enabled device or at www.bannerengineering.com/proeditor
- Works on Microsoft® Windows® 7 and 10¹
- Pro Converter Cable MQDC-506-USB required to connect PC-based Pro Editor software to Pro Series-enabled lighting and indicator devices
- Full preview capabilities are available with the use of power supply PSW-24-1 and splitter CSB-M1251FM1251M



Note: Administrative rights are required to install the Pro Editor software.

1.1 Overview

Banner's Pro Editor software offers an easy way to configure Pro Series-enabled touch and indicator devices, allowing users full control of device states and device logic modes. The easy-to-use configuration software provides a variety of tools and capabilities to solve a wide range of applications such as indicating machine warm-up time, indicating unique steps in an assembly process, or incorporating status information into touch buttons instead of kitting operations to indicate combinations of different items.

Pro Editor includes a preview mode that allows users to verify device performance before writing a configuration to a device.

Setup any Pro Series-enabled device using the free Pro Editor software, available for download at www.bannerengineering.com/proeditor.

To view Pro Series-enabled devices, visit www.bannerengineering.com/proeditor.

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2 Pro Converter Cable – Required for use with Pro Editor

Pro Converter Cable, model MQDC-506-USB, is required for use with Pro Editor. Use the Pro Converter Cable to connect Pro Series-enabled devices to read, write, and preview device states.



- Connects Pro Series-enabled devices to the PC-based Pro Editor software
- Can be used with mating accessory ACC-PRO-CABLE5 for connection to devices with an integral cable or terminal connection
- Double-ended cordset MQDC-801-5M-806217 required to connect 8-pin devices to Pro Converter Cable; see Accessories on page 18 for more information
- Full preview capabilities are available with the use of power supply PSW-24-1 and splitter CSB-M1251FM1251M; see Accessories on page 18 for more information



Note: When connected to a Microsoft Windows 10 device for the first time, the Pro Converter Cable automatically installs the correct Microsoft driver. When connected to a Microsoft Windows 7 device for the first time, the Pro Converter Cable drivers must be installed manually. See *Install the Pro Converter Cable Driver (Windows 7)* on page 6 for more information.

2.1 Model

Model	Adapter	Length	Connections
MQDC-506-USB	Pro Editor Software	1.86 m (6 ft)	USB and 5-pin M12/Euro-style quick disconnect

2.2 Features



Figure 1. Pro Converter Cable LED Indicators

PWR (Cable Power Indicator)

LED Behavior	Condition
Off	No power
Slow flashing green (0.5 Hz)	Normal mode

INF (Device Information Indicator)

LED Behavior	Condition
Off	Device power off
Solid amber	Device power on
Fast flashing red (10 Hz)	Device power fault

3 Specifications and Requirements

3.1 Pro Editor Software PC Requirements

Operating System

Microsoft® Windows® operating system versions 72 or 103

Hard Drive Space

20 MB

USB

Available USB port

Screen Resolution

1366 × 768 full-color minimum

Third-Party Software

.NET version 4.5.2 or higher



Important: Administrative rights are required to install the Pro Editor software.

3.2 Pro Converter Cable Specifications

Input Voltage

5 V dc from USB Type A connector

Output Voltage

20 V dc

Banner Compatible Devices

View compatible devices at www.bannerengineering.com/proeditor

Certifications



Indicators

2 LED indicators:

Green Flashing: Power on Amber Solid: Device on Red Flashing: Device power fault

Communications

5-pin M12/Euro-style quick disconnect connector compatible with Banner Pro Series-enabled devices

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Windows 7 requires manual installation of Pro Converter Cable driver. See Install the Pro Converter Cable Driver (Windows 7) on page 6 for more information.

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4 Installation Instructions

4.1 Install the Software



Important: Administrative rights are required to install the Pro Editor software.

- 1. Download the latest version of the software from www.bannerengineering.com/proeditor.
- 2. Navigate to the downloaded .zip file and extract the installer ProEditorInstaller.exe.
- 3. Double-click the installer to open Banner Pro Editor Setup.
- 4. Accept the terms in the License Agreement by selecting the checkbox.
- 5. Click **Install** to install the software.
- 6. Depending on your system settings, a pop-up window may appear prompting to allow Pro Editor to make changes to your computer. Click **Yes**.
- 7. Click **Close** to exit the installer after installation is complete.

4.1.1 Update the Software

The current version of the Pro Editor software is available for download from www.bannerengineering.com/proeditor.

When connected to a network, if a Pro Editor software update is available, a red icon displays in the bottom right corner of Pro Editor. See *Device Connection Status and Software Update Notification* on page 12 for more information.

4.2 Install the Pro Converter Cable Driver (Windows 7)

When connected to a PC running Microsoft Windows 7 for the first time, the Pro Converter Cable drivers must be installed manually.

To manually install the Pro Converter Cable driver on a Windows 7 device, follow these steps.



Note: After connecting the Pro Converter Cable to a PC running Microsoft Windows 7 the following message may appear: "Device driver software not successfully installed".

- 1. Download the latest driver file from www.bannerengineering.com/proeditor.
- 2. Open Control Panel.
- 3. Open **Device Manager** (in the System and Security category). The Pro Converter Cable is listed as **Communications Translator** under **Other Devices** with an exclamation mark icon next to it indicating that the device driver has not been successfully installed.
- 4. Right-click on Communications Translator and select Update Driver Software....
- 5. Click Browse my computer for driver software.
- 6. Click Let me pick from a list of device drivers on my computer.
- 7. Make sure that Show All Devices is selected and click Next.
- 8. Click Have Disk
- 9. Click Browse... and select the driver file. For example, banner0x00D2_cdc.inf.
- 10. Click **OK**.
- 11. A warning displays that the driver is unsigned. Click Yes.

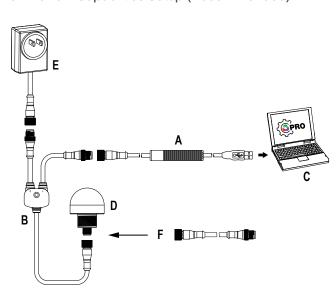
The Pro Converter Cable is listed as a COM Port under Ports in Device Manager.

4.3 Connect the Cables

There are two options for connecting a Pro Series-enabled device to Pro Editor.

- 1. Connect a device using a Pro Converter Cable, splitter, and power supply for full preview capabilities.
- 2. Connect a device using a Pro Converter Cable for limited preview capabilities.
- Note: If your Pro Series-enabled device has an integral cable or terminal connection, a mating accessory (ACC-PRO-CABLE5) is required to connect the device to the Pro Converter Cable. See *Accessories* on page 18 for more information.
- Note: If your Pro Series-enabled device has an 8-pin connector, a double-ended cordset (MQDC-801-5M-806217) is required to connect the device to the Pro Converter Cable. See *Accessories* on page 18 for more information.

Full Preview Capabilities Setup (Recommended)



Key

A = Pro Converter Cable (MQDC-506-USB)

B = Splitter (CSB-M1251FM1251M)

C = PC running Pro Editor software

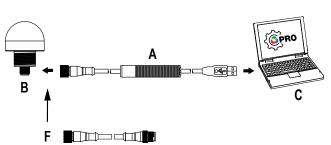
D = Banner Pro Series-enabled device

E = Power Supply (PSW-24-1)

F = 8-Pin to 5-Pin Double-Ended Cordset (MQDC-801-5M-806217), required for 8-Pin models

Limited Preview Capabilities Setup

Due to supply current restrictions when using a Pro Converter Cable to connect a device to Pro Editor, all preview features may not be available, including animations, some colors, and preview mode. For information regarding device preview capabilities when using a Pro Converter Cable setup, contact a Banner applications engineer.



Key

A = Pro Converter Cable

B = Banner Pro Series-enabled device

C = PC running Pro Editor software

F = 8-Pin to 5-Pin Double-Ended Cordset

(MQDC-801-5M-806217), required for 8-Pin models

4.4 Connect a Device

After connecting a Pro Series-enabled device to a PC, follow these steps to connect the device to Pro Editor. Only one device can be connected to Pro Editor at a time.

1. Open Pro Editor.



Figure 2. Pro Editor

2. Click Connect to open the Connection dialog.



Figure 3. Pro Editor Connection Dialog

- 3. Select the Comm Port from the drop-down list. If the communication port that you have connected the device to is not available, click the **S** refresh button and then select the comm port from the drop-down list.
- 4. Click Connect.

Note: For information regarding Advanced Settings, contact a Banner applications engineer.

When a device is successfully connected, the following message appears: "Connected device on COM#".

After a device is successfully connected, Pro Editor reads the device configuration and displays it.

5 Navigating Pro Editor

Pro Editor provides access to read, write, and preview device states.

Note: This Instruction Manual covers Pro Editor v1.5. Interface and functionality details may be different in other versions of Pro Editor.

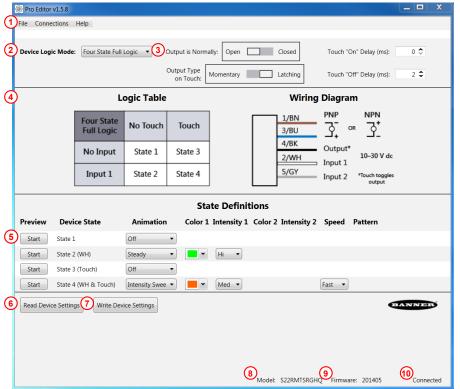


Figure 4. Pro Editor Configuration – Touch Devices

Key

- 1. Menu Bar: File, Connections, Help
- 2. Device Logic Mode* or I/O State** Drop-down
- 3. Global Touch Parameters*
- 4. Logic Table and Wiring Diagram*
- 5. Device Function Rows
- 6. Read Device Settings
- 7. Write Device Settings
- 8. Connected Device Information
- 9. Connected Device Firmware Version
- Device Connection Status and Software Update Notification
- *Touch device configuration only
- ** Indicator device configuration only

5.1 Menu Bar

File

Menu Option	Description			
Save Current Config	Saves the c	Saves the current configuration.		
Open Config File	Opens a sa	ved configuration file.		
Open Legacy Default Template	Loads the selected Legacy configuration to replicate the functionality of select factory configured devices.			
		Note: Menu option only available on touch devices.		
Restore Device Factory Configuration	•	Important: Performing a Restore Device Factory Configuration deletes the configuration stored on the connected device and replaces it with the default factory configuration.		
	The current which will to	a device to its factory configuration, select Restore Device Factory Configuration . configuration on the device is deleted and replaced by the factory configuration, hen be read by Pro Editor. If the Device Logic Mode drop-down reads "Please nanually select the appropriate logic mode.		

Menu Option	Description
Exit	Exit Pro Editor.

Connections

Menu Option	Description
Connect	Opens the Connection dialog.
Disconnect	Disconnects the connected Pro Series-enabled device.

Help

This Instruction Manual is accessible from within Pro Editor under Help.

5.2 Device Logic Modes - Touch Devices

Depending on the device connected to Pro Editor, one of two configuration parameters displays:

- When a touch device is connected, **Device Logic Mode** configuration displays.
- When an indicator device is connected, I/O State configuration displays. For indicator device configuration, see I/O State Indicator Devices on page 11.

By default, when a touch device is connected, Pro Editor opens **Device Logic Mode** configuration populated with the configuration written to the device. If no device logic mode is selected, use the **Device Logic Mode** drop-down to select a logic mode, then write the configuration to the device.

Three **Device Logic Modes** are available:

- Four State Full Logic
- Three State Advanced Control
- Seven State Advanced Control

5.2.1 Device Logic Mode - Four State Full Logic

When using Four State Full Logic, four device states are activated by one input wire and the touch button. The touch button also toggles the Output.

Assuming power is on using the blue and brown wires:

State 1: Input Active, Touch Inactive

State 2: Input Inactive, Touch Inactive

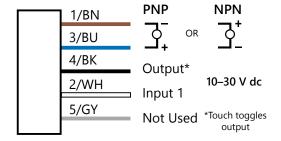
State 3: Input Inactive, Touch Active

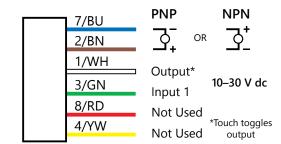
State 4: Input Active, Touch Active

Four State Full Logic	No Touch	Touch
No Input	State 1	State 3
Input 1	State 2	State 4

Figure 5. Pro Editor Four State Full Logic Table
8-Pin/6-Wire Models

5-Pin/5-Wire Models





5.2.2 Device Logic Mode - Three State Advanced Control

When using Three State Advanced Control, four device states are activated by two input wires. The touch button toggles the Output with no device state chance.



Figure 6. Pro Editor Three State Advanced Control Table

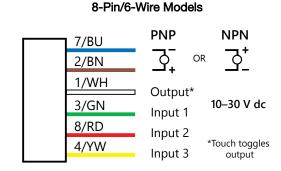
8-Pin/6-Wire Models 5-Pin/5-Wire Models NPN **PNP** NPN PNP 7/BU 1/BN 2/BN 3/BU 1/WH 4/BK Output* Output* 10-30 V dc 3/GN 10-30 V dc 2/WH Input 1 Input 1 8/RD Input 2 5/GY *Touch toggles *Touch toggles Input 2 4/YW Not Used output output

5.2.3 Device Logic Mode - Seven State Advanced Control

When using Seven State Advanced Control, seven device states are activated by three input wires. An additional power state can be defined. The touch button toggles the Output with no device state change. Only available on 8-Pin/6-Wire models.



Figure 7. Pro Editor Seven State Advanced Control Table



5.3 I/O State - Indicator Devices

Depending on the device connected to Pro Editor, one of two configuration parameters displays:

- When an indicator device is connected, I/O State configuration displays.
- When a touch device is connected, Device Logic Mode configuration displays. For touch device configuration, see
 Device Logic Modes Touch Devices on page 10.

By default, when an indicator device is connected, Pro Editor opens I/O State configuration in Advanced.

Three I/O States are available:

- Basic
- Advanced
- I/O Block

5.3.1 I/O State - Basic

Four state control. Configurations made in I/O State Basic assign one wire to one state, with the following override control:

- Pin-1 (Brown) Overrides Pin-4 (Black)
- Pin-2 (White) Overrides Pin-1 and -4 (Brown and Black)
- Pin-5 (Gray) Overrides Pin-1, -2, and -4 (Brown, White, and Black)

5.3.2 I/O State - Advanced

Default I/O state with full 15 state options for maximum configurability. Configurations made in Advanced assign binary wiring combinations of all valid inputs to each state.

5.3.3 I/O State - I/O Block

Three state control for use with I/O block. Configurations made in I/O Block assign states to the black, white, and combination of black and white wires for use with I/O blocks for which power (brown) and common (blue) are always on for five pin connections.

5.4 Global Touch Parameters - Touch Devices



Figure 8. Pro Editor Global Touch Parameters - Touch Devices

Parameter	Description
Output is Normally	In Open mode, output is turned "ON" with touch input. In Closed mode, output is turned "OFF" with touch input.
Output Type on Touch	In Momentary mode, output is toggled only while the button is touched. In Latching mode, output is toggled each time the button is pressed. 4
Touch 'On' Delay (ms)	Length of time the touch button needs to be pressed to trigger "touch active" state.
Touch 'Off' Delay (ms)	Length of time before the device returns to "touch inactive" state after button is released.

5.5 Read Device Settings

To read the settings of the connected device, click **Read Device Settings**. Upon successful completion, the message "Device Read Success" displays momentarily. Pro Editor populates the settings of the connected device.

5.6 Write Device Settings

To write settings to a device, select **Write Device Settings**. Once successful, the message "Device Write Success" appears momentarily. The connected device is ready for use.

5.7 Connected Device Information

The model number and firmware information of the connected device is shown at the bottom of the screen.

5.8 Device Connection Status and Software Update Notification

Status	Description
Connected	A Pro Series-enabled device is connected to the Pro Editor software.

When Output Type on Touch is set to Latching mode, output state and device state transitions both occur on the leading edge of touch input.

Status	Description
Not Connected	A Pro Series-enabled device is not connected to the Pro Editor software.
	When connected to a network, if a Pro Editor software update is available, a red icon displays in the bottom right corner of Pro Editor.
	To update Pro Editor, click on the notification icon and a .zip file is downloaded to the desktop on your computer. Open the .zip file and double-click the installer to begin the update.

6 Configure a Device

Read, write, and preview device states using the following controls.



Note: After editing a device state setting or loading a configuration file, any settings that are not written to the connected device are highlighted yellow. Disconnecting the device from Pro Editor before writing device settings will result in these settings being lost.

6.1 Preview

To preview a device state, click **Start** on the desired device function row. The selected row remains available for editing while all other rows are locked and shown as grayed out. If any options are changed during this time they are highlighted yellow.

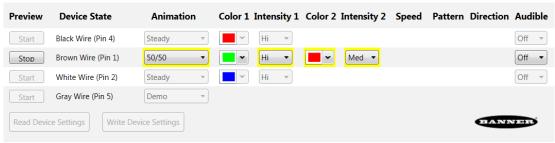


Figure 9. Pro Editor Configuration - Preview Active

To stop preview, click **Stop**. Any device state options that were changed will remain, but are not written to the device unless **Write Device Settings** is clicked.

- Note: By default, when not in preview mode, the connected device displays the configured Brown & Gray device state function.
- **Note:** If using the limited preview capabilities setup, some device states may not be available for preview including animations, some colors, and device state preview.
- **Note:** If using the limited preview capabilities setup, a red flashing LED on the Pro Converter Cable indicates a device power fault. See *Troubleshooting* on page 17 for more information.

6.2 Device State

The **Device State** table lists the animation configurations which can be activated by combinations of input wires. The listed wire color(s) must be ON for the device state to display.

- Note: For indicator devices, the blue wire should always be connected to ground.
- Note: For touch devices, the brown wire should always be connected to power and the blue wire should always be connected to ground.
- Note: For touch devices in Four State Full Logic mode, wire colors are replaced with state numbers corresponding to the active logic mode.

6.3 Animation

One animation can be configured for each wire status. Some animations have additional options available once selected. For example, if the 50/50 rotate animation is selected the Color 1, Intensity 1, Color 2, Intensity 2, Speed, and Direction controls become available.

Animation	Description
Off	Device OFF, no animation displays

Animation	Description	
Steady	Color 1 is solid ON at the defined intensity	
Flash	Color 1 flashes at the defined speed, color intensity, and pattern (normal, strobe, three pulse, SOS, or random)	
Two Color Flash	Color 1 and Color 2 flash alternately at the defined speed, color intensities, and pattern (normal, strobe, three pulse, SOS, or random)	
50/50	Color 1 displays ON 50% and Color 2 displays ON the other 50% statically at the defined color intensities	
50/50 Rotate	Color 1 displays ON 50% and Color 2 displays ON the other 50% while rotating at the defined speed, color intensities, rotational direction	
Chase	Color 1 displays as a single spot against the background of Color 2 while rotating at the defined speed, color intensities, rotational direction	
Intensity Sweep	Color 1 repeatedly increases and decreases intensity between 0% and the defined intensity at the defined speed	
Demo	Cycles through discrete and continuous color spectrums	

6.4 Color 1 or Color 2

The following colors are available for Color 1 and Color 2.5

- Red
- Green
- Yellow
- Blue
- Magenta

- Cyan
- White
- Amber
- Rose
- Lime Green

- Orange
- Sky Blue
- Violet
- Spring Green

6.5 Intensity 1 or Intensity 2

The Intensity control sets the intensity of a color. Color 1 is controlled by Intensity 1. Color 2, if applicable, is controlled by Intensity 2.

Intensity	Description
Hi	100%
Med	60%
Low	25%
Off	0%

6.6 Speed

The Speed control sets the speed of three animation options: flash, chase, and rotate.

Flash Animation Speed

Speed	Description
Slow	0.5 Hz
Standard	1 Hz
Fast	5 Hz

Rotational and Chase Animation Speed

Speed	Description
Slow	1 Hz
Standard	2 Hz
Fast	4Hz

The following colors are uncalibrated to achieve higher saturation: Red, Green, and Blue. They may show greater variance between devices than other colors.

6.7 Pattern

The Pattern control sets the pattern of the flash animation.

Pattern	Description	
Normal	Alternating Color 1; Color 2 at 50% duty cycle	
Strobe	Continuous Color 1; Color 2 flashes at 20% duty cycle	
3-Pulse	Three consecutive Color 1 pulses at 10% duty cycle on Color 2 background	
sos	Short pulse, short pulse, short pulse, long pulse, long pulse, long pulse, short pulse, short pulse, short pulse alternating Color 1 and Color 2	
Random	Random sequence of light signals	

6.8 Direction

The Direction control sets the direction of the animation.

Direction	Description
Clockwise (CW)	Animation rotates in clockwise direction. Applies to 50/50 rotate and chase.
Counterclockwise (CCW)	Animation rotates in counterclockwise direction. Applies to 50/50 rotate and chase.

6.9 Audible

The Audible control sets Audible options.



Note: Only available with Pro Series-enabled audible devices.

Audible	Description
Off	OFF
Steady	Constant tone
Pulsed	ON/OFF tone at 50% duty cycle
sos	Short tone, short tone, short tone, long tone, long tone, long tone, short tone, short tone

7 Troubleshooting

7.1 Pro Editor Error Messages

Error Message	Recommended Solution
Found device (#) with Firmware ID/Version (#/#), which does not match the selected device (#) with Firmware ID/version (#/#). Advanced Settings fields have not been updated. Please contact the manufacturer for device updates.	The detected device has outdated firmware. Connect a different device or contact Banner support regarding firmware updates.
Error reading device information. Unable to update Advanced Settings fields.	Autodetect failed to read the device settings. Try again or attempt to connect with manual settings. If the error persists, contact Banner support regarding firmware updates.
No device found. Please check your USB connection or try a different COM Port.	Autodetect did not find any devices on the specified COM port. Ensure the Device Type and COM Port selections are correct, and that the device is properly connected and powered.
Connection failed: No connector box was detected on the selected port.	No Banner Pro Series-enabled device found on the specified COM port. Ensure the COM Port selection is correct, and that the device is properly connected and powered (if applicable).
Device (#) with Firmware ID (#) does not match the selected device (#) with Firmware ID (#). Please select the correct device or contact the manufacturer for updates.	Ensure that the correct Device Type is selected and attempt to connect again. If the error persists, contact Banner support regarding firmware updates.
Device (#) with Firmware version (#) does not match the selected device (#) with Firmware version (#). Please select the correct device or contact the manufacturer for updates.	Ensure that the correct Device Type is selected and attempt to connect again. If the error persists, contact Banner support regarding firmware updates.
Connection failed: Window was manually closed during connection attempt.	Open the Connection dialog and re-configure your connection. Do not close the Connection dialog while a connection attempt is in progress.
Connection failed: Unable to read device model and firmware info.	Try to connect again. If the error persists, contact Banner support regarding firmware updates.
Connection failed: Device was not detected. Please check the wired connection.	Verify that the device is properly connected and powered, and ensure the connection settings are correct.
Checksum mismatch: This file contains a bad checksum. It was either modified outside of Pro Editor or created by an earlier version of Pro Editor. Would you like to open the file anyway? If it's a valid file, re-saving it once it's opened will repair its checksum.	If the configuration file was created by an earlier version of Pro Editor, click yes and re-save the file to update the checksum. If the file may have been changed manually, click no to avoid loading bad configuration parameters.

7.2 Pro Converter Cable Error

LED Behavior	Error	Recommended Solution
Fast flashing red (10 Hz)	Device Power Fault	Connect the device using the recommended full preview capabilities setup. To continue using the limited preview capabilities setup, disconnect the cable and reconnect the device to the PC. If error persists, contact Banner support.

8 Accessories

8.1 Pro Editor Hardware

PRO-KIT

Includes:

- Pro Converter Cable (MQDC-506-USB)
- Splitter (CSB-M1251FM1251M)
- Power Supply (PSW-24-1)



PRO-KIT-K50

Includes:

- Pro Series-enabled K50 (K50L2RGB7Q)
- Pro Converter Cable (MQDC-506-USB)
- Splitter (CSB-M1251FM1251M)
- Power Supply (PSW-24-1)



MQDC-506-USB

- Pro Converter Cable
- 1.83 m (6 ft) M12/Euro-style quick disconnect to Device and USB to PC
- Required for connection to Pro Editor



CSB-M1251FM1251M

- 5-pin parallel Y splitter (Male-Male-Female)
- For full Pro Editor preview capability
- Requires external power supply, sold separately



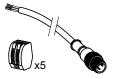
PSW-24-1

- 24 V dc, 1 A power supply
- 2 m (6.5 ft) PVC cable with M12/Euro-style quick disconnect
- Provides external power with splitter cable, sold separately



ACC-PRO-CABLE5

- Mating accessory for cabled and terminal models
- 150 mm (6 inch) PVC cable with M12/Euro-style quick disconnect
- Lever wire nuts included (qty 5)
- Required to connect cabled models to Pro Converter Cable, sold separately



MQDC-801-5M-806217

- 8-pin to 5-pin double-ended cordset
- 0.31 m (1 ft) PVC cable with M12/Euro-style quick disconnects
- Required to connect 8-pin Pro Series-enabled devices to Pro Converter Cable (MQDC-506-USB), sold separately



9 Product Support and Maintenance

9.1 Maintenance

Maintenance tasks include updating the Pro Editor software as new versions become available.

9.1.1 Update the Software

The current version of the Pro Editor software is available for download from www.bannerengineering.com/proeditor.

When connected to a network, if a Pro Editor software update is available, a red icon displays in the bottom right corner of Pro Editor. See *Device Connection Status and Software Update Notification* on page 12 for more information.

9.2 Pro Editor Change Log

√1.5 Release Notes

Devices

- Added support for S22 Pro Touch
- Added support for S22 Pro Indicator
- Replaced Open Factory Default File option in File menu with Restore Device Factory Configuration command
- Added Help button next to Choose I/O states drop-down for indicator devices
- Indicator devices now default to Advanced I/O state when connected
- Added tooltips for Read Device Settings and Write Device Settings buttons

Connection Window

- Device type is now auto-detected when connecting a device
- Scan for Device functionality in Advanced Settings can now scan for all supported device types at once
- Comm Port selection is remembered when the Connection window is opened within a Pro Editor session

General

 New Config file format saves I/O state parameter and reduces file size; users are prompted to re-save their existing files on load to upgrade to new format

9.3 Contact Us

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9.4 Banner Engineering Corp Limited Warranty

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9.5 FCC Part 15 and CAN ICES-3 (B)/NMB-3(B)

This device complies with part 15 of the FCC Rules and CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference, and
- 2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules and CAN ICES-3 (B)/NMB-3(B). These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- · Consult the manufacturer.