

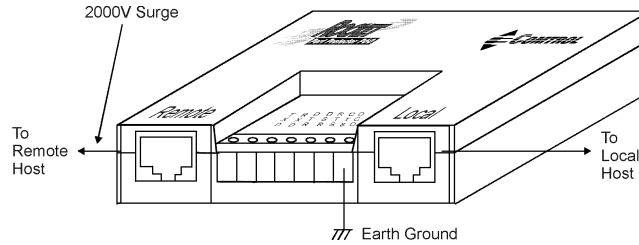


User Manual
Rocket Port Protector P60

2000138 Rev B

Overview

The Control P60 RS-232 Surge Protector protects the RS-232 communication line from TOV (Transient Over Voltages) which comes from lightning, electrostatic discharge, and other forms. TOV is always a major factor that damages components and makes ports unreliable. To provide a solution for this problem, Control includes a Transient Voltage Suppressor to our I/O ports to clamp surge voltage to protect ports from TOV.



Specifications

The following list illustrates the P60 conditions and specifications.

- RS-232 RJ45 Connectors supports TxD, RxD, DTR, DSR, RTS, CTS, GND, and DCD.
- RS-232 Terminal Block supports TxD, RxD, DTR, DSR, RTS, CTS, and GND.
- LED Indicators for TxD, RxD, DTR, DSR, RTS, CTS, DCD.

P60	Specification
Surge protection	2000V
Dimension	90mm x 60mm x 21mm

Environmental Condition	Value
Operating Temperature	0 to 55°C

Electromagnetic Compliance	Status
Emissions: RFI Emissions: Class A EN 55022 FCC Part 15: Class A	Yes
Immunity: EN 50082-1	Yes

Package Check List

P60 Rocket Port Surge Protector
Cable
Mounting kit
User Manual

Installation

1. Connect the cables using the labels for a guide.

The labels, local and remote, are on the top surface of the P60. The P60 blocks a surge from both the local and the remote site, but the LED indicators and the local host are protected only if the surge comes in from the remote port. We recommend that you keep the P60 as close as possible to the local host. Otherwise you may risk damaging the P60 as well as the local host if a surge occurs between the P60's local port and the host.

If you are using the terminal block, note that the remote port and the terminal block are the same except that the DCD signal is not available in the terminal block.

If you need to protect both local and remote hosts, you will need to install two P60s.

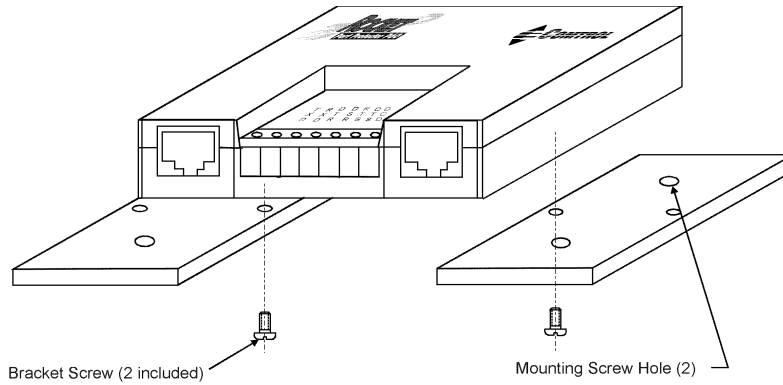
2. We recommend that you connect the GND at the terminal block to the earth ground to provide a ground path to prevent electrical shock caused by lightning.

You should do this if you are using either the RJ45 connection or the terminal block. If possible, use the same ground that you use on the device that you want to protect.



Caution

Earth Ground must be made in order to ensure product performance.



LED Indicators

The LEDs on the top indicate connections for TxD, RxD, DTR, DSR, RTS, CTS, and DCD. They are dim when there is not a signal.

TxD Indicator (signal from the local port)

- Green: connected but not transmitting data.
- Orange: transmitting data from local to remote site.

RxD Indicator (signal from the remote port)

- Green: connected but not receiving data.
- Orange: receiving data from the remote to local site.

DTR/RTS Indicators (signal from the local port)

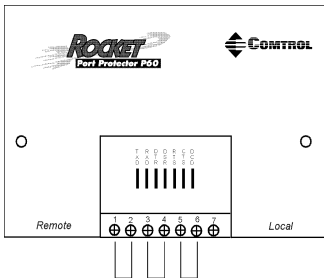
- Red: connected and DTR (or RTS) signal is turned on.
- Green: connected and DTR (or RTS) signal is turned off.

DSR/CTS/DCD Indicators (signal from the remote port)

- Red: connected and DSR (or CTS/DCD) signal is turned on.
- Green: connected and DSR (or CTS/DCD) signal is turned off.

Self Test

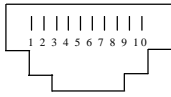
This configuration is for a P60 self test. Run the terminal emulation program to see if what you typed is what you received. In the previous image, all the signal lines could be either from the remote site RJ45 or the terminal block and shorted as shown.



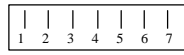
RS-232 Pinouts and Cable Wiring

The RS-232 pinouts for the RJ45 connector or terminal block is as follows:

RJ-45 Connector



Terminal Block Connector



P60

RJ45 Jack

Connector Pinouts

Signals

1	DCD
2	DSR
3	RTS
4	SG
5	TxD
6	RxD
7	EGND
8	CTS
9	DTR
10	not connected

P60

Terminal Block

Connector Pinouts

Signals

1	TxD
2	RxD
3	DTR
4	DSR
5	RTS
6	CTS
7	EGND

Note: SG = Signal Ground; EGND = Earth Ground

Cable Wiring

There are two types of RS-232 cable wiring which are listed as follows.

Note: 1. The Terminal Block does not support a DCD signal.

2. DTE: Data Terminal Equipment or "your PC") or DCE (Data Communications Equipment or "remote device." Check the precise DTE/DCE pinouts. For an example, see the following DTE/DCE pinout examples.

Type 1: To connect the RS-232 local/remote port of a P60 to a DTE or DCE.

P60 to DTE Cable		
<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
DCD	8 —————	DCD
DSR	20 —————	DTR
RTS	5 —————	CTS
TxD	3 —————	RxD
RxD	2 —————	TxD
SG	7 —————	SG
CTS	4 —————	RTS
DTR	6 —————	DSR

RJ45 **DB-25
Male**

P60 to DTE Cable		
<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
DCD	1 —————	DCD
DSR	4 —————	DTR
RTS	8 —————	CTS
TxD	2 —————	RxD
RxD	3 —————	TxD
SG	5 —————	SG
CTS	7 —————	RTS
DTR	6 —————	DSR

RJ45 **DB-9
Male**

P60 to DCE Cable		
<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
DCD	8 —————	DCD
DSR	6 —————	DTR
RTS	4 —————	CTS
TxD	2 —————	RxD
RxD	3 —————	TxD
SG	7 —————	SG
CTS	5 —————	RTS
DTR	20 —————	DSR

RJ45 **DB-25
Female**

Type 2: To connect the RS-232 local/remote port of a P60 to a DTE (Data Terminal Equipment or “your PC”) with a 3-pin wiring if you don’t require hardware flow control.

P60 to DTE Cable

	<u>Signal</u>	<u>Pin</u>		<u>Signal</u>	
	TxD	3	—————	RxD	
	RxD	2	—————	TxD	
RJ45	SG	7	—————	SG	DB-25 Male
	RTS	5		CTS	
	CTS	4		RTS	
	DSR	20		DTR	
	DTR	6		DSR	
	DCD	8		DCD	

P60 to DTE Cable

	<u>Signal</u>	<u>Pin</u>		<u>Signal</u>	
	TxD	2	—————	RxD	
	RxD	3	—————	TxD	
RJ45	SG	5	—————	SG	DB-9 Male
	RTS	8		CTS	
	CTS	7		RTS	
	DSR	4		DTR	
	DTR	6		DSR	
	DCD	1		DCD	

P60 to DCE Cable

	<u>Signal</u>	<u>Pin</u>		<u>Signal</u>	
	TxD	2	—————	RxD	
	RxD	3	—————	TxD	
RJ45	SG	7	—————	SG	DB-25 Female
	RTS	4		CTS	
	CTS	5		RTS	
	DSR	6		DTR	
	DTR	20		DSR	
	DCD	8		DCD	

FCC Notices

Radio Frequency Interference (RFI) (FCC 15.105)

This equipment has been tested and found to comply with the limits for Class A digital devices pursuant to Part 15 of the FCC Rules.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, 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 and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Labeling Requirements (FCC 15.19)

This equipment complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

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

Modifications (FCC 15.21)

Changes or modifications to this equipment not expressly approved by Comtrol Corporation may void the user's authority to operate this equipment.

Serial Cables (FCC 15.27)

This equipment is certified for Class A operation when used with shielded cables.

Contacting Technical Support

Comtrol has a staff of support technicians available to help you. Before you call, please have the following information available:

Comtrol product model number: _____

Serial number: _____

Operating system type and release: _____

Computer make: _____

Computer model: _____

Processor speed: _____

Comtrol Corporate Headquarters:

- Web site: <http://www.comtrol.com>
- E-mail: support@comtrol.com
- FAX: (763) 494-4199
- Tel: (763) 494-4100
- FTP site: <ftp://ftp.comtrol.com>

Comtrol UK Technical Support

- Web site: <http://www.comtrol.co.uk>
- E-mail: support@comtrol.co.uk
- FAX: +44 (0) 1 869-323-211
- Tel: +44 (0) 1 869-323-220

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