

MODEL XCRS - RS232/485 OPTION CARD FOR DATA STATION PLUS AND MODULAR CONTROLLER



- CONFIGURED USING MONICO VIEW™ SOFTWARE
- ISOLATED RS232 AND RS485 MULTIPLEXED PORTS CAPABLE OF COMMUNICATING WITH RS232, RS422, RS485 AND DH485 DEVICES AT UP TO 115,200 BAUD
- EASY INSTALLATION

GENERAL DESCRIPTION

Both the Modular Controller Master (enhanced models) and Data Station Plus contain a proprietary expansion port which provides a high speed, parallel architecture that extends the functionality and flexibility of the platform. This approach allows these products to evolve concurrently with the latest advances in communications and standards, without sacrificing performance. This high bandwidth channel has significantly greater throughput when compared to the traditional (external) serial gateway approach.

The XCRS option card adds an additional RS232 and RS422/485 port to the series. This isolated card protects user equipment from potentially harmful ground loops while providing high-speed RS232, RS422, RS485, and DH485 communication options to the end user.

The XCRS communication card is easily installed by removing the blank expansion port cover of your Modular Controller or Data Station Plus, and plugging the XCRS card into the expansion port. Configuration is simple using Monico's free Monico View software.

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SAFETY SUMMARY

All safety related regulations, local codes and instructions that appear in the literature or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Do not use the controller to directly command motors, valves, or other actuators not equipped with safeguards. To do so can be potentially harmful to persons or equipment in the event of a fault to the controller.



THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, D, HAZARDOUS LOCATIONS, OR NON-HAZARDOUS LOCATIONS ONLY



WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITABLE CONCENTRATIONS.



WARNING - EXPLOSION HAZARD - SUBSTITUTION OF ANY COMPONENT MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2



CAUTION: Risk of Danger.
 Read complete instructions prior to installation and operation of the unit.

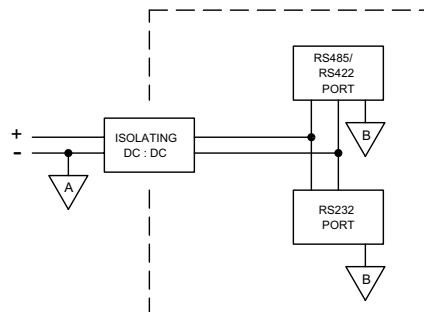
ORDERING INFORMATION

MODEL NO.	DESCRIPTION	PART NUMBER
XCRS	RS232/485 option card for Modular Controller or Data Station Plus	OEMDA054

SPECIFICATIONS

- POWER REQUIREMENTS:** 24 V @ 50 mA max. Power is supplied to the option card from the main board of the Modular Controller Master or Data Station Plus.
- COMMUNICATIONS:**
 - Serial Ports:** Format and Baud Rates for each port are individually software programmable up to 115,200 baud and are isolated to help prevent ground loops. The RS422/485 and DH485 port via RJ45 and the RS232 port via RJ12 share the same hardware. The XCRS option card multiplexes the ports to communicate via two protocols. These ports may be used to configure different master protocols, but only one port may be used if configuring a slave protocol or AB DH485.
 - DH485 TXEN:** Transmit enable; open collector, $V_{OH} = 15 \text{ VDC}$, $V_{OL} = 0.5 \text{ VDC}$
 - Isolation from XCRS Communication ports to the Modular Controller Master or Data Station Plus:** 1000 VDC for 1 minute.
- CERTIFICATIONS AND COMPLIANCES:** Consult factory
- ENVIRONMENTAL CONDITIONS:** Refer to the specifications of the Modular Controller Master or Data Station Plus you are installing this card in.
- CONSTRUCTION:** For indoor use only. Installation Category II, Pollution Degree 2.
- INSTALLATION REQUIREMENTS:** See "Installing the XCRS Option card" for more details.
- WEIGHT:** 1.9 oz (53.9 g)

BLOCK DIAGRAM



INSTALLING THE XCRS OPTION CARD

1. Remove power from the unit
2. Insert a flat-bladed screwdriver into the slot at the top of the expansion port cover. Gently apply pressure on the screwdriver in an upward direction until the expansion port cover disengages from the unit as shown in Figure 1.
3. Verify that the option card knobs are in the “unlocked” position as shown in Figure 2.
4. Carefully insert the option card into the expansion port opening while aligning the card-edge connector on the option card with the main board's header, as shown in Figure 3. Once aligned, gently press on the front of the card until it is flush with the front of the case.
5. Turn the option card knobs to the locked position as shown in Figure 4.



Caution: The expansion and main circuit boards contain static sensitive components. Before handling the cards, discharge static charges from your body by touching a grounded bare metal object. Ideally, handle the cards at a static controlled clean workstation. Also, handle the cards by the edges only. Dirt, oil, or other contaminants that may contact the cards can adversely affect circuit operation.



Warning: Risk of Danger: Be sure to remove all power before removing the expansion port cover.

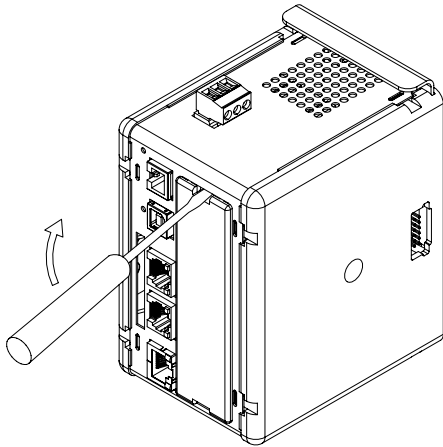


Figure 1

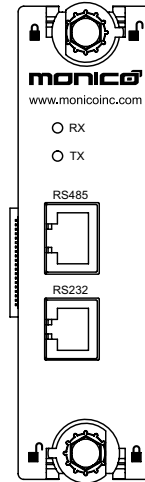


Figure 2

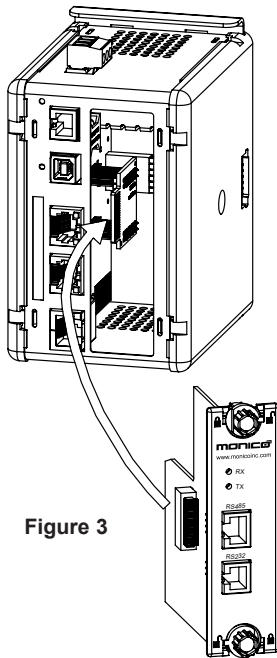


Figure 3

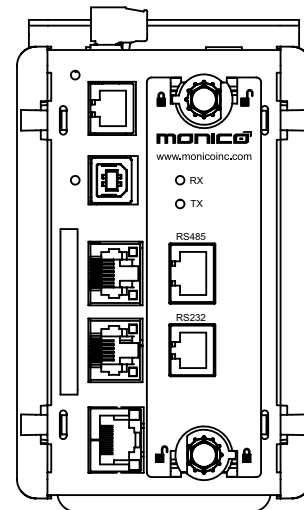


Figure 4

POWER SUPPLY REQUIREMENTS NEW AND EXISTING INSTALLATIONS

The XCRS option card draws all of its power from the main board of the Modular Controller Master or Data Station Plus. The specifications of the Modular Controller Master or Data Station Plus account for the power needs of an option card.

COMMUNICATING WITH THE XCRS OPTION CARD CONFIGURING A XCRS OPTION CARD

The XCRS is configured using Monico View software. Monico View is available as a free download from www.monicoinc.com, or it can be ordered on CD. Updates to Monico View for new features and drivers are posted on the website as they become available. By configuring the XCRS using the latest version of Monico View, you are assured that your unit has the most up-to-date feature set. Monico View software can configure the XCRS through the RS232 PGM port, USB port, Ethernet port, or CompactFlash socket on your Modular Controller Master or Data Station Plus. Additional information can be found in your Modular Controller Master or Data Station Plus hardware bulletin.

RS232 PORTS

The XCRS option card has one RS232 port. The port can be used for either master or slave protocols with any Modular Controller Master or Data Station Plus configuration. The RS232 port and RS422/485 port on the XCRS option card are multiplexed because they share the same hardware. Both ports can be used with master protocols. However, when the RS232 port is used with a slave protocol, the RS422/485 port is not available. For examples of RS232 communications refer to your Modular Controller Master or Data Station Plus literature.

RS422/485 COMMS PORT

The XCRS option card has one RS422/485 port. This port can be configured to act as either RS422 or RS485.

The RS422/485 port and RS232 port are multiplexed because they share the same hardware. Both ports can be used with master protocols. However, when the RS422/485 port is used with a slave protocol, the RS232 port is not available.

DH485 COMMUNICATIONS

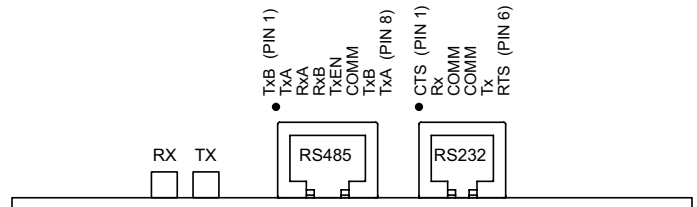
The XCRS option card's RS422/485 port can also be used for Allen Bradley DH485 communications. When this port is configured to communicate DH485, the RS232 port can not be used because the ports share the same hardware and the XCRS option card multiplexes the ports to communicate via two protocols.

WARNING: DO NOT use a standard DH485 cable to connect this port to Allen Bradley equipment doing so may cause irreparable damage to the equipment connected. A cable and wiring diagram are available from Monico.

Modular Controller Master or Data Station Plus to AB SLC 500 (CBLAB003)

Connections			
RJ45: RLC	Name	RJ45: A-B	Name
1	TxB	1	A
2	TxA	2	B
3, 8	RxA	-	24V
4, 7	RxB	-	COMM
5	TxEN	5	TxEN
6	COMM	4	SHIELD
4, 7	TxB	-	COMM
3, 8	TxA	-	24V

SOFTWARE/UNIT OPERATIONS XCRS PORT PIN OUTS



LEDS

The transmit LED(TX) will flash when information is transmitted from the XCRS card. The receive LED(RX) will flash when information is received.

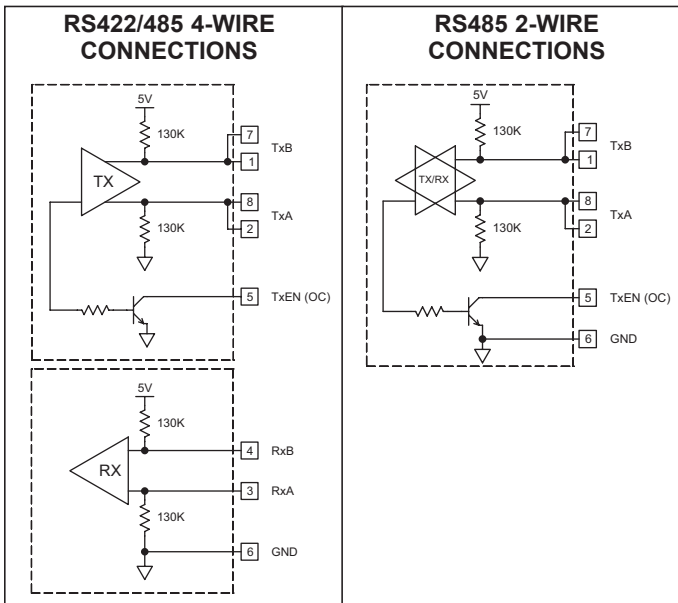
Monico View SOFTWARE

Monico View software is available as a free download from www.monicoinc.com or it can be purchased on a CD, see "Ordering Information" for part number. The latest version of the software is always available from the web site, and updating your copy is free.

TROUBLESHOOTING YOUR XCRS OPTION CARD

If for any reason you have trouble operating, connecting, or simply have questions concerning your new XCRS option card, contact Monico's technical support. For contact information, refer to the back page of this bulletin for phone and fax numbers.

EMAIL: support@monicoinc.com
Web Site: <http://www.monicoinc.com>



LIMITED WARRANTY

The Company warrants the products it manufactures against defects in materials and workmanship for a period limited to two years from the date of shipment, provided the products have been stored, handled, installed, and used under proper conditions. The Company's liability under this limited warranty shall extend only to the repair or replacement of a defective product, at The Company's option. The Company disclaims all liability for any affirmation, promise or representation with respect to the products.

The customer agrees to hold Red Lion Controls and Monico Monitoring, Inc. harmless from, defend, and indemnify RLC against damages, claims, and expenses arising out of subsequent sales of RLC products or products containing components manufactured by RLC and based upon personal injuries, deaths, property damage, lost profits, and other matters which Buyer, its employees, or sub-contractors are or may be to any extent liable, including without limitation penalties imposed by the Consumer Product Safety Act (P.L. 92-573) and liability imposed upon any person pursuant to the Magnuson-Moss Warranty Act (P.L. 93-637), as now in effect or as amended hereafter.

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