

NR&D

DDC2I

RS-422/485 ↔ RS-232 Converter



“...straight through cabling from the RJ-45 RS-232 port of a Modicon Micro PLC, TSX Momentum PLC, TSX Compact PLC, NOM 252 or NR&D QUCM-S.”

“...two RS-422/485 connectors to increase flexibility...supports 4-wire RS-422, 4-wire RS-485 multidrop or 2-wire RS-485 multidrop networks.”

Description

The DDC2I is a DIN rail mounted optically isolated RS-232 to RS-422/485 converter. It is especially designed for use with Modicon® PLCs and Niobrara communication modules equipped with RJ-45 RS-232 ports.

RS-232 port

The DDC2I's RS-232 port has an RJ-45 connector designed to use straight through cabling from the RJ-45 RS-232 port of a Modicon Micro PLC, TSX Momentum™ PLC, TSX Compact PLC, NOM 252 or NR&D QUCM-S. A variety of serial cables are available from Niobrara to allow the DDC2I to be used with other standard RS-232 ports.

RS-422/485 port

The DDC2I has two RS-422/485 connectors to increase flexibility. A DB9 connector has the standard SY/MAX® pinout for use with Square D SY/MAX devices and standard SY/MAX cabling. The other connector is a removable screw terminal that is wired in parallel to the DB9 connector for use with POWERLOGIC® equipment or other RS-422/485 devices.

The DDC2I supports 4-wire RS-422, 4-wire RS-485 multidrop or 2-wire RS-485 multidrop networks. It contains terminating and biasing resistors that can be disabled and can run in Master or Slave mode. Multidrop operation is controlled by the RS-232 RTS pin.

Applications

The DDC2I enables the user to:

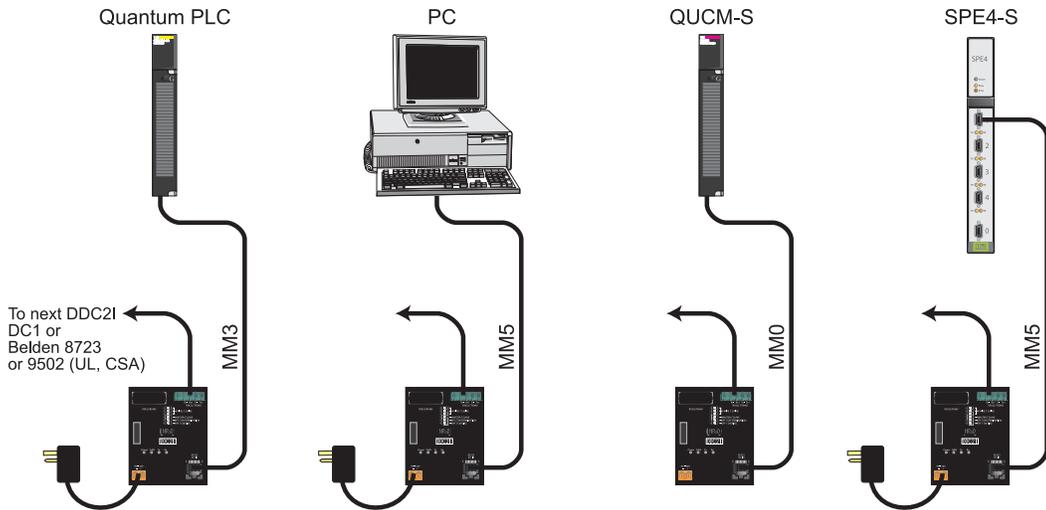
- Build a serial network of Modicon PLCs
- Use a Modicon PLC as the master of a Modbus® RS-485 multidrop network
- Use a Niobrara QUCM-S to communicate with a network of RS-485 devices
- Run RS-232 signals further than 50 feet

Power

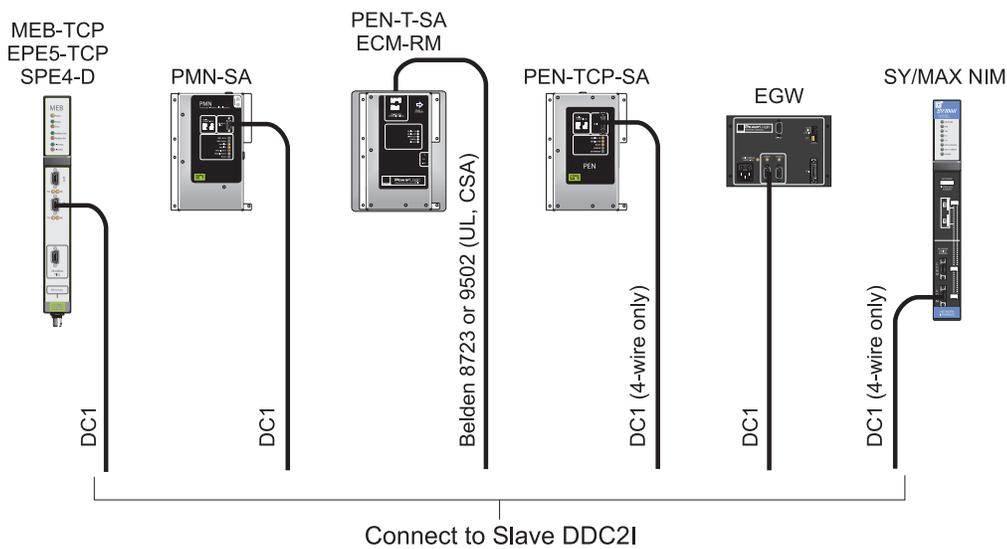
Many Modicon-style RJ-45 RS-232 ports, such as those of the Modicon Micro PLC, TSX Compact PLC and the NR&D QUCM-S supply 5VDC power to the DDC2I. For installations using other equipment the DDC2I must be powered by 9 to 24 VDC through a removable screw terminal power connection. A Niobrara TR92 wall-mount transformer is provided with the unit for this purpose. If suitable power is already available, the DDC2I may be obtained without the transformer at a reduced cost (order part number DDC2I-NT). Consult the current price list for pricing information.

The DDC2I comes with both a 5-position removable screw terminal RS-422/485 connector and a 2-position removable screw terminal power connector. The DDC2I has a one year warranty; see Niobrara's Standard Terms and Conditions of Sale for details.

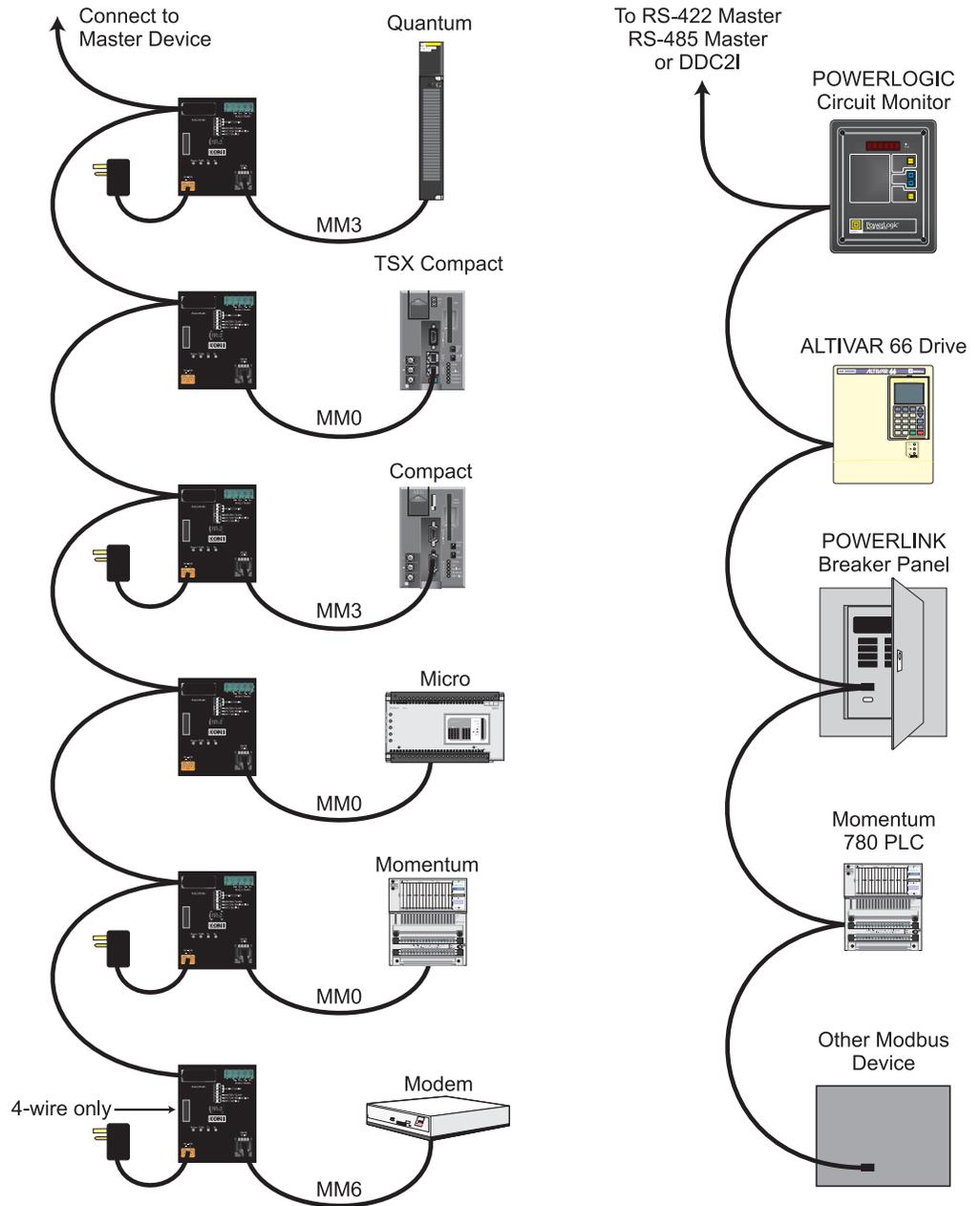
Common RS-232 Masters

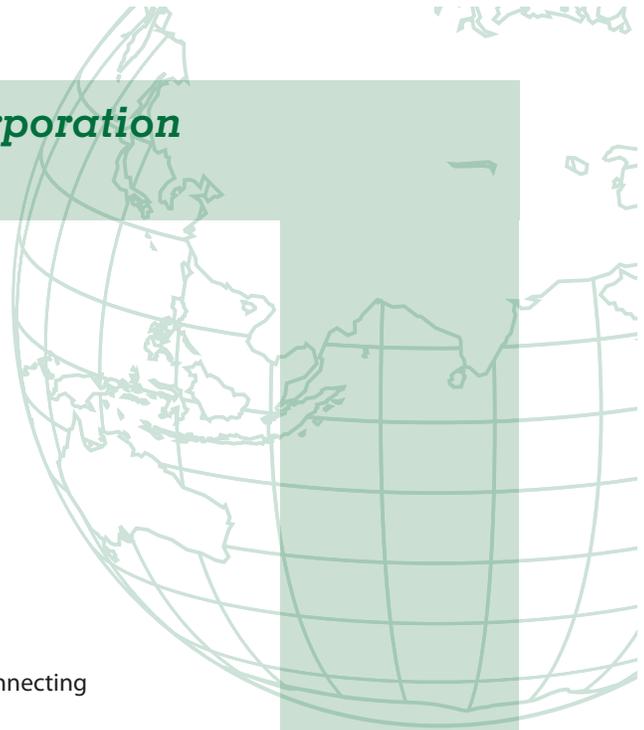


Common RS-422 / RS-485 Masters



Common RS-232 Slaves & Common RS-422 / 485 Slaves





Ordering Information

The DDC2I is available as:

- **DDC2I** RS-422/485 ⇔ RS-232 converter with an MM0 cable.
- **DDC2I-3** RS-422/485 ⇔ RS-232 converter with an MM3 cable for connecting to a Modicon 9-pin RS-232 port.
- **DDC2I-5** RS-422/485 ⇔ RS-232 converter with an MM5 cable for connecting to a standard PC 9-pin RS-232 port.
- **DDC2I-6** RS-422/485 ⇔ RS-232 converter with an MM6 cable for connecting to a standard Modem 25-pin RS-232 port.
- **DDC2I-15** RS-422/485 ⇔ RS-232 converter with an MM15 cable for connecting to an MUCM 5-position screw terminal RS-232 port.

DDC2I Accessories:

- **DC1** RS-422 cable for connecting to a SY/MAX PLC port. Order a DC1 with a DDC2I-5 as an optically isolated replacement for an SC902 or Square D ICM-200 converter.
- **TR95-ST** Replacement 12VDC wall mount transformer for powering a DDC2I.
- **PC2** Replacement Orange 2-position power connector.
- **NC5** Replacement Green 5-position RS-485 connector.

"Many Modicon-style RJ-45 RS-232 ports... supply power to the DDC2I."

Specifications

Dimensions	2.8" wide x 3.7" high x 2.3" deep (71 x 94 x 59mm); approximately 4 oz. (114g) net. All connectors and indicators front mounted.
Power Requirements	From Modicon Micro PLC, Modicon TSX Compact PLC, or QUCM-S: 5 VDC 250 mA max; from external power supply: 9-24 VDC, 1.6 W max.
RS-232 Port	8-pin RJ-45 connector. Data transfer rates up to 115.2 Kbaud
RS-422/RS-485 Port	SY/MAX compatible DB9 female connector with slide-lock posts or 5-position Phoenix Comb icon connector. 2-wire and 4-wire compatible. Terminator impedance: 120 ohms. RS-422 bias level: 6.5 mA.
Configuration	6-position DIP switch sets RS-422/RS-485 for 2-wire/4-wire mode; Master/Slave; Terminating Resistor on/off; Bias Network on/off.
Isolation	1500 Vrms
Indicators	Green LEDs for Power and TX Enabled; Amber LEDs for TX and RX. Four total indicators.
Operating Conditions	0 to 50 degrees C operating temperature; -40 to 80 degrees C storage. Humidity up to 90% noncondensing. Pressure altitude -200 to +10,000 feet MSL.

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