Connect a Computer to Watlow's Process and Temperature Controllers or Other Equipment

0847-0326-0000
USB to 485,
USB to Screw Terminals

Laptop and personal computers include a variety of features including serial communications "COM" ports and Universal Serial Bus (USB) ports that allow them to communicate with other devices such as printers and digital cameras. Industrial and commercial devices such as process and temperature controllers often have EIA 485 communications interfaces (also known as RS-485) which cannot be directly connected to a typical computer. Watlow® offers a series of serial converters that provide a simple and reliable solution to connecting these devices to computers.

These compact serial converters offer several features that make them ideal for use in applications in which Watlow controllers communicate with a computer via Modbus® RTU or EZ-ZONE® standard bus.

0830-0473-0001
232 to 485, DB9 Female
to Screw Terminals

Features and Benefits

Adapts existing computer port to EIA 485
- Supports use of computer software with industrial products
- Eliminates need to add a serial communications card to your computer

USB connection to computer (0847-0326-0000)
- Adds a COM port to a computer that has USB
- Provides automatic configuration on Windows® 98, ME, 2000, XP and Vista
- Eliminates power supply required (powered by USB bus)
- Includes cable

Screw terminals
- Supports connection to standard 485 network wiring without additional components

Optical isolation (0830-0473-0005)
- Prevents ground loops that can disrupt or damage instruments when instruments are not otherwise isolated

0830-0473-0005
232 to 485, Isolated,
DB9 Female to
Screw Terminals

WATLOW®
Better Thermal Solutions...Faster

ISO 9001
Registered Company
Winona, Minnesota USA

WIN-SC-1009

Specification	0847-0326-0000	0830-0473-0001	0830-0473-0005
Connection to computer	USB type A	DB-9, female	DB-9, female
Computer interface	USB 1.0, 1.1 and 2.0	Serial COM (232)	Serial COM (232)
Connection to serial network	Removable terminal block	Terminal block	Terminal block
Serial network	Half duplex 485 (2-wire)	Half duplex 485 (2-wire)	Full duplex (4-wire) or half duplex 485 (2-wire)[1]
Communication speed	300 to 921K baud	300 to 115.2K baud	300 to 115.2K baud
Echo jumper	No	No	Yes
Optical isolation: data-to-ground and computer-to-network	None	None	1500V RMS 1 minute
Port powered	Yes	Yes, when computer's handshake lines are powered	232 side requires power from computer's handshake lines
Cable length	39 in. (1 m)	No cable	No cable
External power supply	Not needed	Required for computers without powered handshake lines	Required for 485 side
Agency	CE, RoHS	CE, RoHS	CE, RoHS
Supported operating systems	Windows® 98, 2000, Me, XP and Vista	No software required	No software required
Dimensions	2.53 x 1.25 x 0.64 in. (64 x 32 x 16 mm)	3.50 x 1.34 x 0.67 in. (89 x 34 x 17 mm)	3.20 x 2.10 x 0.64 in. (81 x 53 x 16 mm)
Recommended applications	Computer with a USB port, communicating via Modbus® RTU or EZ-ZONE standard bus and connected by discrete wiring	Computer with a DB-9 male 232 serial port, communicating via Modbus® RTU or EZ-ZONE standard bus, connected by discrete wiring	Computer with a DB-9 male 232 serial port, communicating via Modbus® RTU or EZ-ZONE standard bus, connected by discrete wiring, requiring optical isolation

[1]Half duplex operation (2-wire) requires connection of -Tx and -Rx and +Tx and +Rx in external cable.

Converters

0847-0326-0000	USB to 485, USB to screw terminals
0830-0473-0001*	232 to 485, DB9 female to screw terminals
0830-0473-0005*	232 to 485, isolated, DB9 female to screw terminals

Accessories

0830-0473-0003	6-foot serial communications cable, DB9 male to DB9 female
0830-0473-0002	Power supply (110-120VAC input, 12VDC output)
0830-0473-0004	Power supply (210-240VAC input, 12VDC output)

*The isolated 232 to 485 converter and any 232 to 485 converter when used with a computer (particularly a laptop) that does not provide power to the converter, requires a power supply. Power supplies are listed in the Accessories section with ac voltage inputs appropriate for various locations.