Introduction

The new USBC-H-422/485-M PRO and -ISO PRO series adapters from Connective Peripherals are the perfect way to connect RS485 and RS422 serial devices to your computer over USB for a wide variety of applications. The adapters are extremely flexible and allow you to configure the serial interface mode selection and the operating settings entirely via a software utility tool instead of using DIP switches and jumpers.

Applications of PRO Series Adapters

There are a huge variety of applications where the new PRO series adapters would be the ideal solution. One example is to connect legacy serial devices to new PCs which do not have expansion card slots for RS422/RS485, for instance to carry out diagnostics or simply to undergo a firmware update. The PRO series adapters are also well suited to industrial applications where large cable networks are commonly used. Some key applications include:

- Long distance data communication
- Sensor networks in industrial/agricultural applications and smart buildings
- Manufacturing/production line control
- HVAC systems
- Surveillance and security systems and access control
- Scientific / laboratory
- Industrial printers and label printers
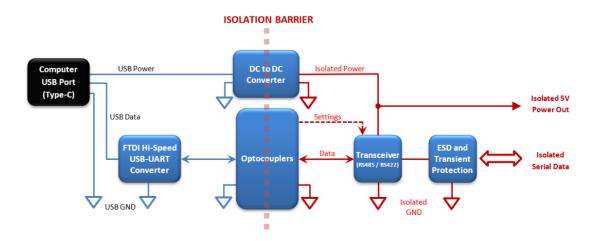- Entertainment and broadcast automation

Isolated and Non-Isolated Versions

The PRO series feature Isolated and Non-Isolated versions with the same features, pinout and form factor, making them easily interchangeable. The isolated version provides a protective optical barrier between the USB and RS422/RS485 interfaces. An isolated PRO series adapter can be easily swapped in place of a non-isolated version if the application is found to need isolation.

A non-isolated adapter works well for most applications as the serial device and the computer are often in the same area, powered from the same mains circuit in the building, and not subject to leakage and ground loops from different power sources. Also, in applications where the cabling is not exposed to excessive interference, and the attached serial equipment does not generate large spikes or surges. However, there are other cases where the serial device connected to the USB-Serial adapter is used in a harsher environment. Some examples include:

- **Industrial machine control** - where the controlling computer and the serial device may have differences in ground potential on their interfaces due to their power source or due to leakage currents. This can result in ground loops and excessive current flowing through the ground lines back to the computer.

- **Environmental monitoring and sensor data logging** - where long cables or cables running outdoors can pick up high levels of interference and spikes from the environment or from equipment or cabling in close proximity. The noise and spikes can propagate into the adapter through the serial connector.

- **Factory / industrial automation** - where the device attached to the serial port is power cycling large electrical devices such as motors. This can then cause noise and transients on the USB link.

- There can even be cases (such as some test and measurement set-ups) where the computer and serial device are located beside each other but the serial instrument is likely to cause spikes and noise, either as part of normal use or if a fault occurs in the attached serial instrument.

Find Out More

With the new PRO Series, we have built upon our popular and trusted range of USB-RS422/RS485 adapters and added many new features to make them even better. For more information on the new PRO range, please visit us at www.connectiveperipherals.com or contact our Sales team at sales@connectiveperipherals.com