### KB2019-01: USB TSXCUSBMBP vs PCIe-85 (416NHM30042A) Adapter

We get this question all the time: which Modbus Plus adapter is better for my application, the USB TSXCUSBMBP or the PCIe-85 (416NHM30042A)?

These are the two Modbus Plus adapters that are currently offered by Schneider Electric. This article will help you decide on which one of them is better suited for you.

## Applies To:

Anyone who is planning on purchasing a new Modbus Plus adapter. Also, anyone who is experiencing stability problems with the TSXCUSBMBP adapter.

## TSXCUSBMBP Adapter Overview:

The TSXCUSBMBP is a portable adapter that interfaces to the computer through a USB 2.0/3.0 port. There is no external power supply, so the USB port also provides power for the unit. Although this is very convenient, some USB ports may not have enough current to power the unit. This may result in occasional, recoverable malfunctions or a complete lockup of the port. In some cases, choosing a higher power USB port may take care of the problem. If a higher power port is not available, an externally-powered USB hub may help, too.

Being an external and not very well shielded module creates another problem: the adapter is very susceptible to industrial noise. Just like the power limitations, this may result in occasional, recoverable malfunctions or a complete lockup of the port.

Another limitation is that the adapter provides a single Modbus Plus connector, so it cannot be used in applications that require network redundancy.

## PCIe-85 Adapter Overview:

The PCIe-85 is an internal PCI Express (PCIe) computer card. It requires a single-lane (x1) slot, but it can also be inserted into x4, x8, and x16 slots. The adapter is powered directly through the computer bus, which has plenty of current for the adapter. Since this is an internal computer card, it is also well shielded from external industrial noise.

The adapter card has two Modbus Plus connectors and can be configured for either a single-cable or a dual-cable operation. It can, therefore, be used in applications that require network redundancy.

# Conclusion:

Although both adapters provide virtually identical functionality, the TSXCUSBMBP adapter is primarily intended to be used with notebook computers for occasional programming and network monitoring purposes. It is not intended for a continuous, 24/7 operation.

On the other hand, because the PCIe-85 adapter is intended for desktop computers, it is very reliable and is well suited for continuous, 24/7 industrial applications. It is a direct replacement for the PCI-85 adapter in computers that do not offer the legacy PCI bus.

# Technical Support:

If you have any questions or problems with this procedure, please contact Cyberlogic's Technical Support group by emailing techsupport@cyberlogic.com, or by calling 248-631-2288.

Cyberlogic's website, www.cyberlogic.com, has information on related products, news, software downloads and contact information.

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**Cyberlogic Technologies
755 W Big Beaver Rd
Suite 2020
Troy, Michigan 48084 USA**

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|---|---|
| **Sales:** | 248-631-2200<br>sales@cyberlogic.com |
| **Technical Support:** | 248-631-2288<br>techsupport@cyberlogic.com |