New

Modbus Client (Master) Features

Available in the Enhanced Modbus Features Package for the ConsoliDator+

Presenter

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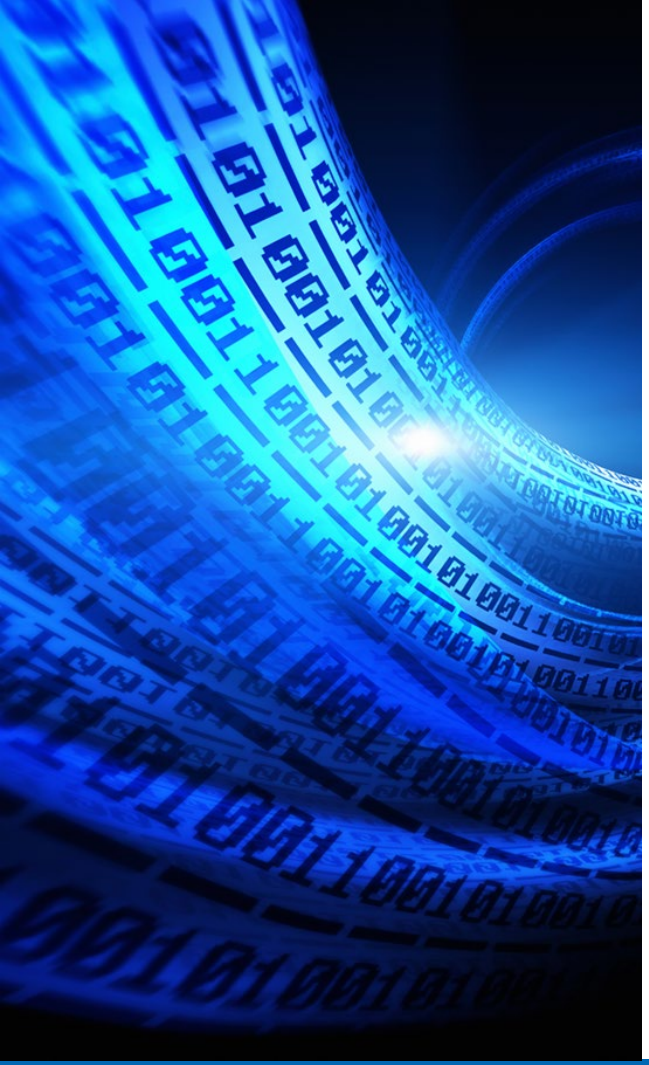
VP of Sales & Marketing

Joe brings more than 15 years of process signal experience in the design, support, manufacturing and marketing of process measurement and control devices. Joe has extensive field and support experience process signals and Modbus devices.



Agenda and Takeaways

01 Learn the basics of the ConsoliDator+ Multivariable Controller.

02 Review the Modbus capabilities the new Modbus Enhanced Features Package, including Client (Master) Features.

03 See how to program and utilize these new Client, Server, Snooper, and Spoofer Features.

04 Watch a live demonstration with the PDD9000 ConsoliDator+ demo unit.

ConsoliDator+ Multivariable Panel-Mount Controller

ConsoliDator+

- Multivariable controller for process display, alarm and control applications
- Accepts 4-20 mA inputs, flow meter pulse inputs, digital inputs, and Modbus RTU
- Displays numeric and bargraph format on a large, 5.7" color display
- Multiple relays with user-definable actions, 4-20 mA outputs, digital outputs, Modbus RTU, and Ethernet Modbus TCP/IP
- 32 timers to control many processes or events
- Free ConsoliDator+ configuration software

Enhanced Modbus Features Package

Enhanced Modbus Features Package

Client (Master) Capabilities

Packet Sniffer Functionality (Snooper)

Assign Multiple Addresses & Customized Register Numbers (Spoofer)

Modbus Client (Master) Scanner

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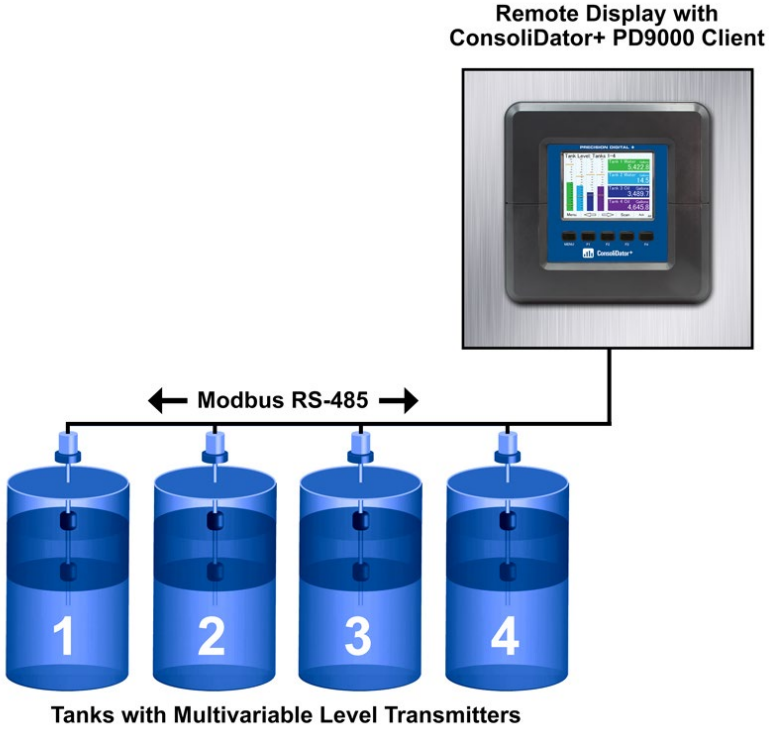
Modbus Client (Master) Scanner



- The ConsoliDator+ remote display in Client (Master) mode is requesting process variables from the Modbus enabled transmitters.
- The ConsoliDator+ is reading top level, interface level, and average temperature, from each transmitter. Much more than just a 4-20 mA signal could transmit.
- 3 wires for RS-485 now replace what would be 24 wires for 12 analog 4-20 mA signals.

Modbus Client (Master) Scanner

- The controller can request up to 199 Modbus values, as inputs from other Modbus devices
- Request process variables from server devices
- The input variables can be scaled and combined with other variables using math functions
- Write to other server devices using the Modbus output functions
- The inputs can be used as the source for channels, math functions, alarms, relay control, etc.

Modbus Packet Sniffer (Snooper)

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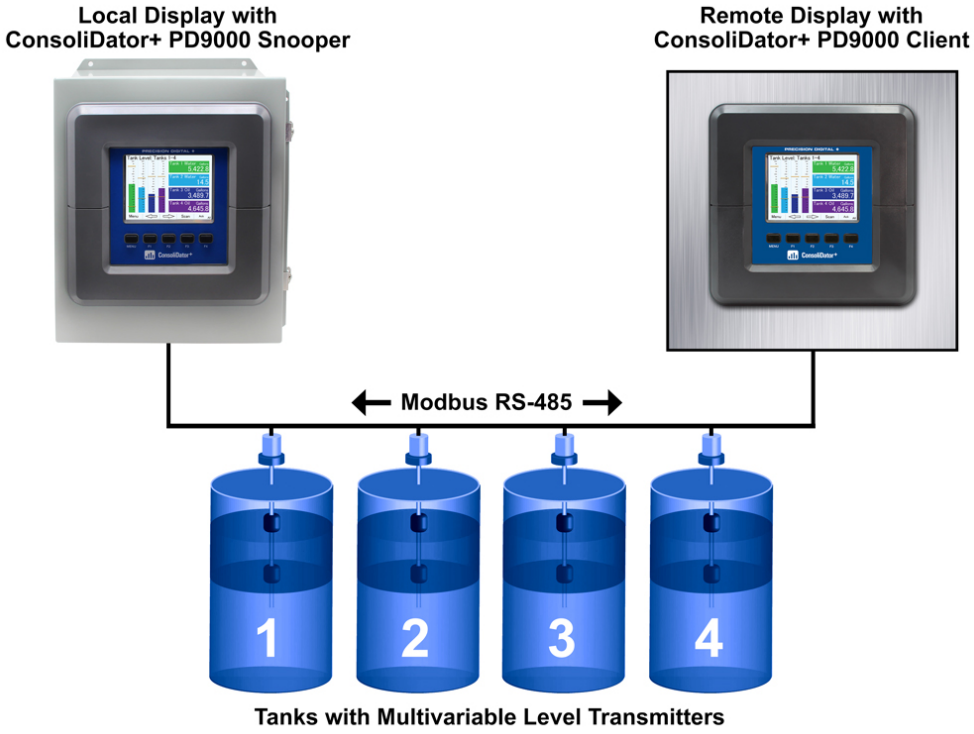
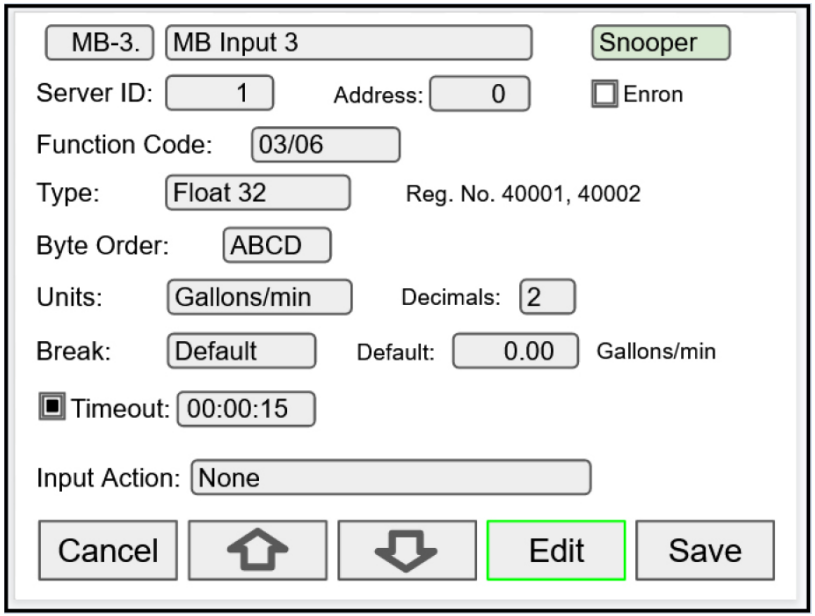
Modbus Packet Sniffer (Snooper)



- A second ConsoliDator+ has been added on the RS-485 bus.
- This ConsoliDator+ utilizes the new Snooper, or packet sniffer, mode.
- This local display reads the values being sent by the transmitters back to the ConsoliDator+ Client.
- Doing this does not disrupt the behavior of either the client (the ConsoliDator+) or the Servers (the transmitters).

Modbus Packet Sniffer (Snooper)



- Listen and read the process variables being transmitted on the RS-485 bus without causing any disruptions to the network
- The controller can read up to 199 Modbus values, as inputs from other Modbus devices being polled by a Modbus Client
- The inputs can be used as the source for channels, math functions, alarms, relay control, etc.

Assign Multiple Modbus Addresses & Customized Register Numbers (Spoofer)

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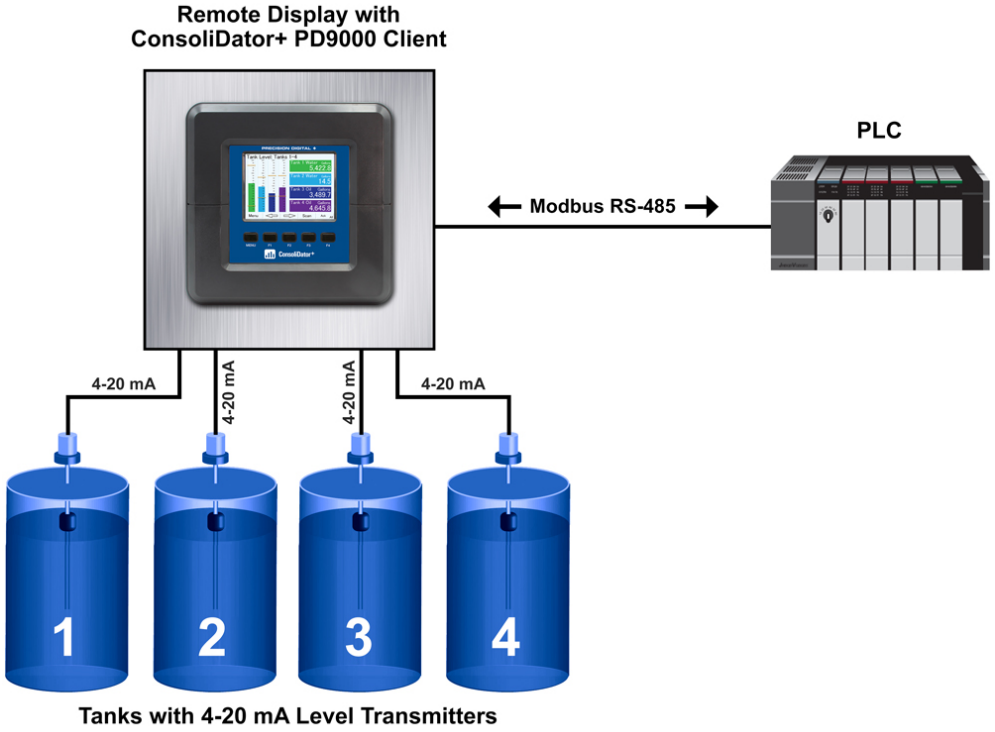
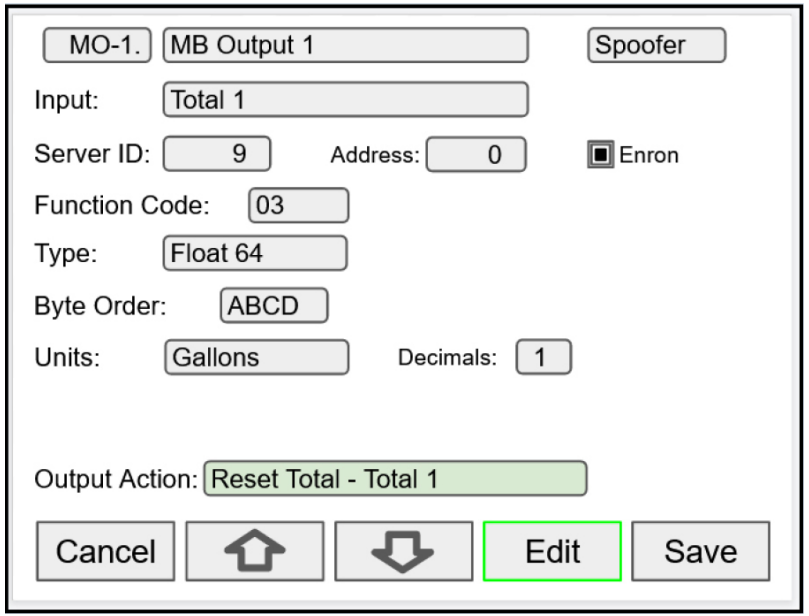
Assign Multiple Modbus Addresses and Customized Register Numbers (Spoofer)



- With “Spoofer” Mode, the ConsoliDator+ can be programmed to respond to Client requests for other addresses, and have specific information applied to user programmable registers.
- This is ideal for replacing existing Modbus Server (Slave) equipment in upgrades and eliminates the need to reprogram PLCs.
- In this example, the ConsoliDator+ can replace what would have been four individual 4-20 mA displays acting as Modbus Servers, and it can be programed to respond as if it was all four of those devices. The PLC requires no new programming to now get its information from the ConsoliDator+.

Assign Multiple Modbus Addresses and Customized Register Numbers (Spoofer)



- Replace existing Modbus servers without requiring changes to the client configuration.
- Each process value can be assigned a specific device ID and register number to mimic the original client configurations.
- Assign multiple addresses and customized register numbers.

How To Get The New Modbus Enhanced Features Package

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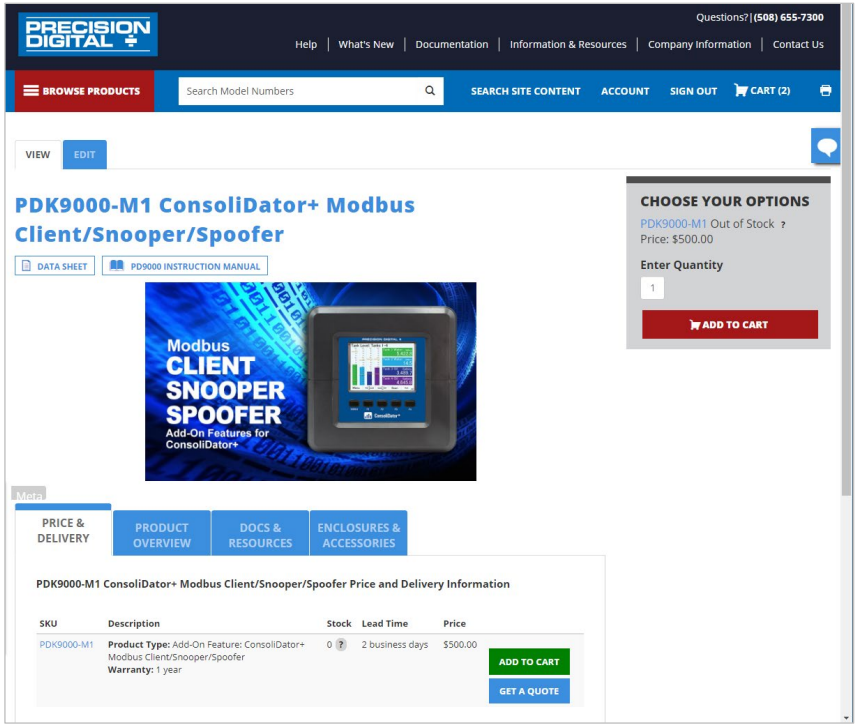
How To Get The New Enhanced Modbus Features Package



- Purchase the PDK9000-M1 Key for $500 at Predig.com
- Will be enabled by the factory if you order this with a ConsoliDator+
- This feature can be “unlocked” in the field on any ConsoliDator+ purchased after February 15, 2021
- Enter the Key value into the ConsoliDator+

ConsoliDator+ Configuration Software Overview

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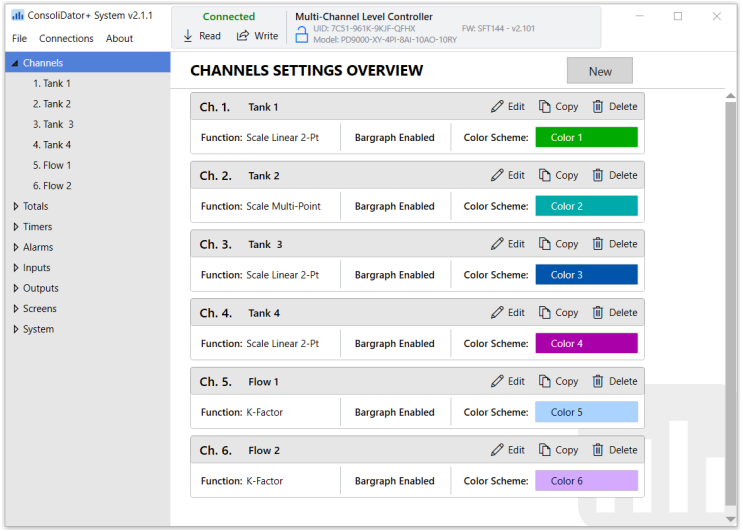
Free ConsoliDator+ Configuration Software

- Easiest and quickest way to program the ConsoliDator+ multivariable controller
- Simple Micro-USB connection
- Configure inputs and outputs, channels, totals, timers, alarms, etc.
- Configure bargraph and panel colors for normal operation, and colors for alarm indication
- Save controller settings file on PC for programming other controllers or to restore settings.

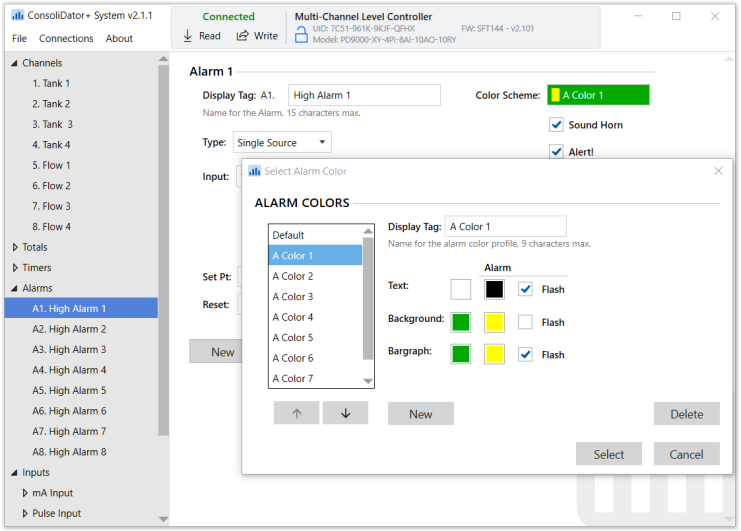
Free ConsoliDator+ Configuration Software

Software Screen Examples

Channel Settings



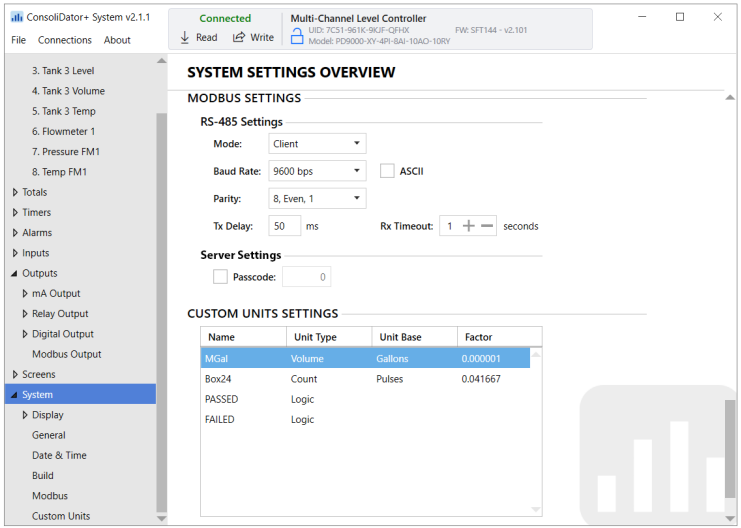
Alarm Settings



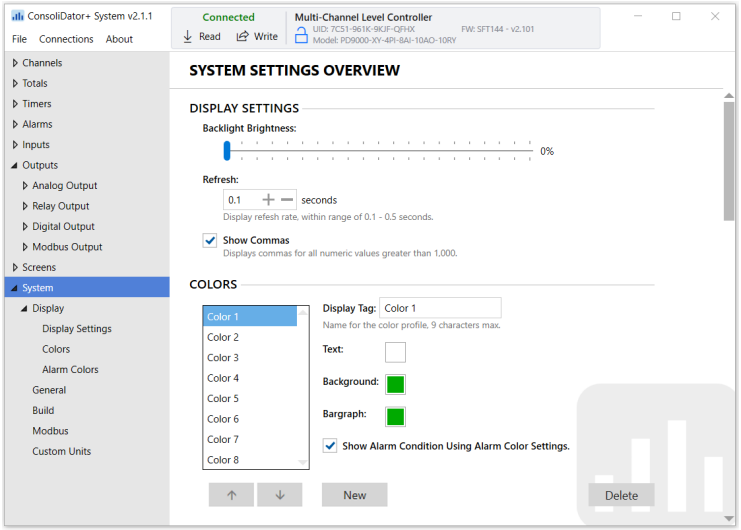
Free ConsoliDator+ Configuration Software

Software Screen Examples

Modbus Settings



Display Settings



PDD9000 ConsoliDator+ Demo Unit

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PDD9000 ConsoliDator+ Demo Unit

- Easy-to-setup & easy-to-use demonstrator
- Comes with signal generator for simulating almost any application
- Equipped with light/horn to indicate alarm conditions
- Built-in feet to stabilize unit while showing it
- Comes with protective carrying case for easy transporting around

What's Included in the ConsoliDator+ Demo Unit

PD9000 ConsoliDator+
Multi-Channel Controller

PD9502
Signal Generator

PDA-LH
Light / Horn

USB and Ethernet
Cables

Easy-to-Carry
Protective Storage Case

Thank You For Attending

Questions?

If you have any questions or would like to discuss an application, then feel free to reach out to me.

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