



DORAN

Excel Series

Connectivity Bulletin

RS232 • Ethernet • Wireless 802.11b Ethernet • USB • 4-20mA • RS485 • Fiber Optic

Doran USB Option for Excel Series Indicators

OVERVIEW

With Doran's *New Excel Series Indicators* line, comes an array of "Value Added Standard Features and Options" for a wide variety of applications. With that in mind, Doran is now able to provide a solution for customers requiring USB communications.

In the scale industry, the RS232 Serial Port has been used for communications between scales, computers or printers since the introduction of the personal computer. In 2002, PC manufacturers have agreed to obsolete Serial Ports over time and replace them with USB communication ports. Therefore, today's computers are not always equipped with an RS-232 port, which makes the use of USB absolutely necessary.

With the migration to USB comes several benefits of using USB communications over RS232 Serial Ports. These include ease of use, reliability, flexibility, and compatibility.

When a USB device is connected:

- There is not a requirement to configure any communication settings before using the device.
- USB hubs are available for expandability up to 127 USB devices per PC.
- USB cables and components are common and inexpensive, keeping user costs to a minimum.
- Windows Operating Systems automatically detects the USB device and will prompt the user to install a device driver, if necessary.

Doran has responded to this industry trend by introducing the USB option for our Excel Series Indicators. USB allows a PC to monitor several scales at once, utilizing included USB ports on the PC or through USB hubs, which expands the number of USB ports available. Our USB option utilizes a driver that allows the USB port to be recognized by the PC as a Serial Com Port. This allows the end user to view and collect data easily using standard terminal or data collection programs, such as our *Excelerator Data Acquisition Program*.

As with all Excel Series communications options, the USB option exceeds the NEMA 4X and IP67 washdown standards. A bulkhead connector at the rear of the scale, along with Doran's optional USB cables, provides a rugged and reliable USB cable connection. A mating cap is molded to the USB cable and screws into place, which seals and solidly holds the USB connection (see photo). A protective cap is included at the rear of the indicator to provide washdown protection when the mating USB cable is disconnected.

We offer a 6 foot and a 16 foot cable that includes these washdown features. The USB standard limits cable length to 16 feet, although a maximum distance of 96 feet can be achieved with the use of five USB hubs connected in series.



Indicator bulkhead USB connector and mating cap. (NEMA 4X & IP67 Rated)



Mating cap of optional USB cables. (NEMA 4X & IP67 Rated)

APPLICATIONS

One computer receiving data from five scales into an Excel spreadsheet via USB:

A customer had a requirement to collect QC data to monitor his production line. The customer wanted to collect data with a single PC into an Excel spreadsheet from five scales simultaneously. This user did not have an RS232 port on his PC and want to invest in a five-port RS232 expansion board for his PC. This customer also did not have an Ethernet network to connect the scales to. A new 7000XL with the USB option was the most economical and convenient solution for this application.

To allow for five scales to be connected via USB to a PC at one time, a five-port USB hub was purchased. This hub connected to each of the five Doran 7000XL Indicators via a USB cable. In order to sort the data in the Excel spreadsheets at a later time, a custom data string was created using the Doran Dimension Indicator setup software. Each scale had a data string that included a scale ID and the current weight and units. Once configured, Doran's Excelerator Data Collection Software, sent data from the scales directly into the Excel spreadsheet, with each scale sending data to a different sheet in the workbook. Since Excelerator automatically sent data into Microsoft Excel, the data can be immediately analyzed to determine the precision of the QC sample from the manufacturing line. The customer now controls his line process with a ten piece sample from his line three times daily and makes equipment control adjustments when necessary.

AVAILABILITY AND ORDERING INSTRUCTIONS

Doran is able to provide the following options for USB, these can also be found in the Option Section of all Excel Series Scales:

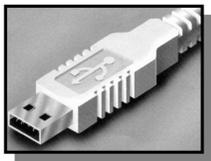
EXOPT160: USB Interface - Internal USB interface board and IP67 sealed USB Type A connector bulkhead mounted on the back of the meter with a NEMA 4X sealing cap.

EXOPT162: USB Waterproof Cable, 6 Feet Long - This cable features an IP67 mating connector designed to create a watertight seal at the back of the scale. Includes EXOPT164.

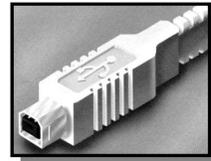
EXOPT163: USB Waterproof Cable, 16 Feet Long - This cable features an IP67 mating connector designed to create a watertight seal at the back of the scale. Includes EXOPT164.

EXOPT164: USB Type B to Type A Adapter

SFT001: Excelerator Data Collection Software – A powerful, easy to use, and cost effective software solution designed to collect data from any Doran Scale, automatically placing it into a Microsoft Excel spreadsheet. Visit <http://www.doranscales.com/data-collection-software.htm> for more information on Doran's Excelerator Data Collection Software.



USB Type A Connector



USB Type B Connector