The Eastern Specialty Company

Metering Leader Since 1904

TESCO Meter Manager Software
Using Barcode Scanners With Meter Manager
Document Version 2.40, Oct 9, 2015

Using Barcode Scanners With Meter Manager
TESCO Meter Manager Software Suite
Document Version 2.40, Oct 9, 2015

Table of Contents

I.   Support for Barcodes in Meter Manager

Meter Manager has broad support for the use of barcodes and barcode scanners. Using a barcode scanner is faster, and, more importantly, much more accurate than manual entry. A manually entered meter number will typically be entered incorrectly between 1% and 3% of the time, and often the incorrect number will still be a valid meter number. Meter Manager also provides a great deal of extra functionality beyond simply entering meter numbers, providing further value when using a barcode scanner.

A.   *How Meter Manager Uses Barcodes*

Commonly barcode readers are supported in software applications by simply configuring the scanner as a keyboard, so that the input from the barcode scanner appears to the application as if it were typed. Meter Manager does not do this; it opens the scanner directly and can distinguish between scanner input and typed input. This means that the cursor does not have to be in any particular position when a meter is scanned and allows for much more complex functionality, such as capturing images using the same scanner. TESCO has selected the industry-leading Zebra Symbol scanners and has built-in support for a wide variety of models suited for different needs.

B.   *Barcodes on Metering Devices*

The most obvious use of scanners is for scanning the barcode label of a meter or other device.

Virtually all meters manufactured relatively recently are barcoded and a scanner may be used any time a meter is handled within Meter Manager. Scanning the barcode does more than simply eliminate the need to enter the serial number by hand. Meter barcodes typically contain manufacturer and setup code information. Meter Manager is configured to understand your particular barcode format and a scanned barcode is almost always unique whilst the serial number may not be, as different manufacturers may use the same serial number. Should you have different barcode formats for different meter populations or for different operating companies Meter Manager will be configured to account for this.

If the barcode also contains the setup code, some utilities may elect to reprint the barcode in the event the meter has been reprogrammed and now has a different setup code. Should this apply to your utility, Meter Manager will automatically verify that the setup code in the barcode matches the current meter attributes each time you scan a meter. Meter Manager will also generate amended barcode labels in the circumstance. Again, this may or may not be applicable to your utility.

Each time you handle a meter, be it receiving a shipment of new meters, receiving used meters, testing a meter, retiring a meter, issuing an RMA, or any other activity, you may scan the barcode or enter the serial number. If you enter the serial number by hand, and duplicate serial numbers exist, you'll be prompted to select the correct meter from a list shown on the screen. If you are using a scanner model that supports imaging, you are able to add pictures of the meter. Any number of pictures may be added and are associated with the device and with a particular activity. Even if the barcode is unreadable or there is no barcode you may still use the scanner to capture images for the device. For example, you could be checking in an older mechanical meter with no barcode, and still capture a picture of the remove read.

C.   *Command Barcodes in Meter Manager*

At various places within Meter Manager, special barcodes may be scanned in lieu of keyboard commands. For example, when checking in used meters, a barcode may be scanned to indicate that you wish to redo a picture, take an additional picture, retire the meter, or RMA the meter. When the user has a scanner in-hand, it is easier to scan a barcode from a laminated sheet than it is to put down the scanner and type a command or click on screen.

D.   *Container and Shelf Barcodes*

Containers and shelves may also be barcoded, and these may be scanned when placing a meter in a container or on a shelf. These barcodes have a special format that allows Meter Manager to automatically recognize that they are not meter barcodes and process them automatically. For example, during a physical inventory, you could scan a shelf barcode, a container barcode, all the meters in the container one at a time, and then the next container barcode, followed by the contents of the container, and Meter Manager would automatically understand what containers were on the shelf and what meters were in any container.

All the meters in a container may be processed at one time, and you may scan a container barcode and Meter Manager will perform the current function on all the meters. For example, you may retire, issue an RMA, indicate that you have upgraded the firmware, ship, or change shelf location of the entire contents of the container at once.

II.   Types of Scanners Supported

For most functions within Meter Manager, a barcode scanner will be used in conjunction with a computer running the Meter Manager application. The barcode scanner will either be plugged into the computer via a USB cable or be a wireless scanner, in which case the cradle is plugged into the computer and the scanner itself can be used some distance away. For single position test boards, a tethered USB scanner is usually sufficient, while for larger multi-position test boards, such as TESCO's 8-position test board, a wireless scanner is recommended. The same drivers are used for both, and once a computer has the correct drivers, a different scanner can be plugged in and it will work immediately. This allows you to keep a USB scanner as a spare, and replace a wireless scanner temporarily with a USB scanner in the event of a hardware problem with the scanner.

For inventory functions, specifically shipping meters, changing meter locations, and performing physical inventory counts, the use of the portable scanner is also supported. This allows the user to roam within the warehouse and not require a computer. Meter Manager's supports the use of Zebra Symbol scanners with a built-in display and keyboard. There must be a wireless network present and your IT department must support these devices on your network. Portable scanners can be completely standalone or can function in conjunction with a Meter Manager workshop via a Bluetooth connection.

TESCO is adding additional choices for scanning away from workstation. We support small (7" or 8") tablets running Windows with a Bluetooth scanner. These small tablets are lightweight, have no moving parts (no fan or hard disk), and are very inexpensive. The combination of a small tablet and a Bluetooth scanner is typically one quarter of the cost of a dedicated scanner with embedded keyboard. However, for some use cases the all-in-one unit is a better solution. Once we understand your work practices and the environment in which these tasks are performed we can recommend the best solution for you.

Support for iOS and Android devices will be coming to Meter Manager, and this will include support for Bluetooth scanners. We will also be supporting the scanning of barcodes via the camera on these devices, but this only suitable for very low volume scanning, as the time to complete a scan is longer, but is it effective when handing a single meter.

Note: Zebra recently purchased the enterprise division of Motorola, which included the barcode scanner department. This department was originally Symbol, and was purchased by Motorola. Zebra has been the dominant brand in barcode printers for decades, and has been serving the enterprise market. We have experienced no lapse in support during the transition, and the new combined company is supporting all the existing products, as well as continuing to innovate.

III.   Recommended Scanners

TESCO has carefully chosen our recommended scanners based on performance and functionality. It is important that the scanners read well through glass/plastic, and maintain a high first read rate. This is the percentage of time the first attempt to read a barcode is successful. Studies have shown that users often become frustrated and stop using scanners unless the first read rate is very high.

Zebra's current scanners feature a wider scan area, more sophisticated algorithms, and faster decoding.

A.   *Zebra Symbol DS6707*

The Zebra Symbol DS6707 is our "workhorse" scanner. It is a tethered USB scanner that supports both scanning and imaging.

The Zebra web page on this scanner is here: http://tinyurl.com/psj4mrh

B.   *Zebra Symbol DS6878*

This is TESCO's recommended wireless model for most functions, supporting scanning and imaging. This is a long range (300 ft) wireless scanner that uses a cradle for charging and for communication. The communication from the scanner to the cradle is encrypted and secure. Scanner is model DS6878-SR20007WR, with cradle CR0078-PC1F007WR if using imaging, and cradle CR0008-SC10007R (charge-only) for laptop applications (Bluetooth, no-imaging).

Meter Manager now includes audio for most operations, allowing the operator to hear spoken messages for unknown barcodes, devices in the incorrect status, etc. This makes the DS6878 ideal for check-out and inventory functions. It may be using directly with a laptop via Bluetooth for inventory functions.

The Zebra web page on this scanner is here: http://tinyurl.com/mwxxs6m

CR0078-PC1F007WR is the only cradle that works with imaging:

C.   *Zebra Symbol LS4308*

Many utilities standardize on the imaging scanners already listed, as it reduces the number of models they need to purchase and support. You should be using an imaging scanner for receiving used meter and at the test board. However, for uses where the imaging capability is not required, such as shipping meters and doing physical inventory, you also have the option of using a basic scanner. For this we recommend the Zebra Symbol LS4308. It is an excellent scanner and costs about $120 less than the DS6707. Like the DS6707 it is a tethered USB scanner. Note: For wireless use, we recommend only the DS6878 with imaging. There is no significant cost saving with a wireless scanner without imaging.

The Zebra web page on this scanner is here: http://tinyurl.com/ofpda8f

D.   *Zebra MT2000*

TESCO supports the MT2000, which has both tethered and non-tethered mode. In tethered mode, this scanner is connect to a PC running Meter Manager, through a Bluetooth connect from a cradle. However, unlike a conventional scanner, the user had a screen and keyboard. During tasks like physical inventory or shipping, this allows the user to receive immediate feedback directly on the scanner, and to manually enter information should a barcode be missing or damaged.

This scanner also supported untethered mode, where it connects directly to a WiFi network and operates without a PC. For this mode, your IT department must support this device on your wireless network. This had the advantage of allowing for the manual entry directly on the scanner if a barcode is damaged or missing.

TESCO recommends a Bluetooth scanner, such as the DS6878 or CS4070, with a tablet, as a more robust solution that can be better supported by your IT department.

The Zebra web page on this scanner is here: http://tinyurl.com/q5vndhr

E.   Zebra MC3200

For use when roaming the warehouse, TESCO supports the Zebra MC3200, a scanner with a built-in computer running Windows Embedded Compact 7. This is a relatively expensive unit, but is a good choice for doing physical inventory, shipping meters, and moving meters within a location. Your IT department must support this device on your wireless network. This had the advantage of allowing for the manual entry directly on the scanner if a barcode is damaged or missing.

Unless an integrated unit is required, a small tablet with a tethered scanner provides a more robust solution. The weight of this unit during all-day use has proven to be an issue. However, when needed, the MC32000's large vivid screen, modern operating system, and processing power provide an excellent platform.

The Zebra web page on this scanner is here: http://tinyurl.com/nwfm6dv

F.   *Zebra Symbol CS4070 with Tablet*

Another choice for roaming use is a small Windows tablet with a Bluetooth scanner. Meter Manager will work with any Windows tablet. We recommend the Dell Venue Pro 8 (http://tinyurl.com/q8t48on). Your IT department must support Windows 8.1 or Windows 10 devices on your wireless network. The Panasonic ToughPad series, in 7" (http://tinyurl.com/qfqvadg) and 10" (http://tinyurl.com/owm2q8n) sizes.

The scanner to pair with a tablet is the Zebra Symbol CS4070. Note: The upcoming support in Meter Manager of iOS (Apple) devices and Android devices will also include support for this scanner.

The Zebra web page on this scanner is here: http://tinyurl.com/l4g93g9

IV.   Printing barcodes

You will need a heavy-duty printer that is capable of printing single high-density barcodes that will fit on meters and other devices. Barcodes may be desired either for used meters without a barcode that you plan to reuse or for used meters that required a new barcode label.

We recommend the Zebra line of printers, including the following:

Zebra 105SLPlus

Zebra Z220

The current list of Zebra printers is here: **http://tinyurl.com/k9a649s**

We also support many of the discontinued Zebra printers.

If you use a different printer, it must be supported by Seagull Scientific drivers.

The list of printers supported by Seagull Scientific is here: **http://tinyurl.com/mc4pgk**