Illumination and Scanning

The DE17 scanner is equipped with either a bright red or white LED illumination light and several options for aiming LED or aiming laser. The aimer should be targeted over the code to be read. The aimer does not need to be centered on the code and the reader can read codes anywhere in its field of view. Examples of aiming which will result in good reads are shown below (red laser aimer shown):

Basic Reading Ranges

The DE17 can be purchased with different optic characteristics. The basic reading ranges for these optics are listed in the below charts. Consult your model number to determine your particular reading range.

HIGH DENSITY (HD OPTICS)			
Symbology	Near Distance (mm [in])	Far Distance (mm [in])	Delta (mm [in])
3 mil C39	66 [2.6]	183 [7,.2]	117 [4.6]
5 mil C39	53 [2.1]	265 [10.4]	212 [8.3]
10 mil Data Matrix	59 [2.3]	248 [9.8]	189 [7.5]
13 mil UPC	38 [1.5]	405 [15.9]	367 [14.4]
15 mil QR	27 [1.1]	308 [12.1]	281 [11]

STANDARD RANGE (SR OPTICS)			
Symbology	Near Distance (mm [in])	Far Distance (mm [in])	Delta (mm [in])
5 mil C39	70 [2.76]	301 [11.85]	231 [9.09]
10 mil C39	40 [1.57]	517 [20.3]	477 [18.73]
13 mil UPC	44 [1.73]	573 [22.5]	529 [20.77]
15 mil C128	42 [1.65]	650 [25.6]	608 [23.95]
10 mil Data Matrix	72 [2.84]	297 [11.7]	225 [8.86]

Quick Reference Guide

Model: DE17-xx-xxx

Manual Version 1.03

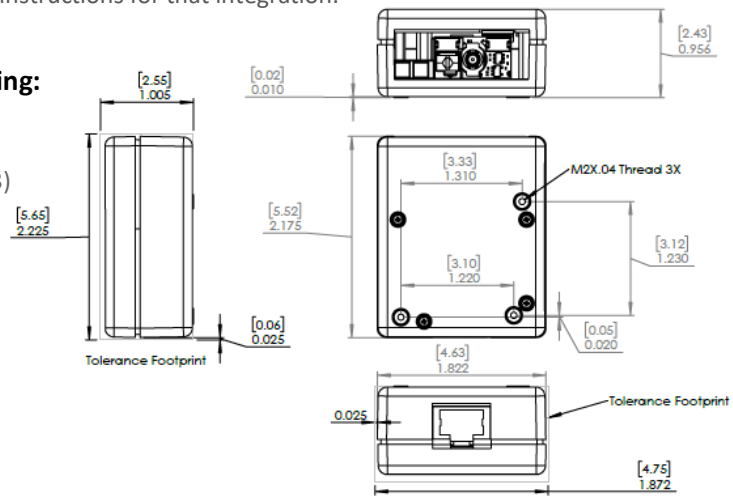
DIAMOND TECHNOLOGIES
Getting data where it needs to be.

The Diamond Technologies DE17 is a compact enclosed embedded 1D/2D image based barcode scanner designed for integration into OEM equipment including Lab instrumentation, Medical Devices, Kiosks, Automated machines, and customer facing applications. This compact, reliable, barcode scanner provides image based reading of all standard 1D and 2D barcodes. The reader, depending on model, includes either bright red or white illumination LED, several options for aiming pattern, and varying optics.

The reader includes patented, highly accurate, decode software libraries. The reader's decoded output is provided to the host system through either USB, or RS232 interface depending on model. The reader's hardware and software has been designed for the user to easily integrate the scanner into a host system. This guide provides the basic instructions for that integration.

Physical Mounting:

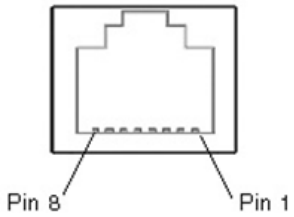
The DE17-xx-xxx models provides (3) M2X.04 Thread mounting holes in the rear.



Electrical and Communication Connections:

The DE17 provides a side mounted RJ45 connector for power and communications. The connections on this, along with power requirements are seen below for specific models. The default RS232 communication parameters are 115K Baud, No Parity, 8 Data Bit, 1 Stop bit.

Side mounted RJ45 Connector



DE17-UER-TL USB Model

PIN	Connection
1	USB D+
2	USB D-
3	GND
4	NC
5	NC
6	+5VDC
7	POWER_ON
8	HW_TRIGGER

DE17-SER-TL RS232 Model

PIN	Connection
1	RTS
2	HW_TRIGGER
3	GND
4	RXD
5	TXD
6	+5VDC - +24VDC
7	POWER_ON
8	CTS

An accessory RS232 communications cable **PN# CAB-DSE-002** . Or an accessory USB communications cable **PN# CAB-DSE-001** can be purchased from Diamond Technologies. www.diamondt.com

Programming

Note if you are using the USB version of the DE17 it is important to install the USB device driver before plugging the DE17 into your system. The driver is available from Diamond Technologies.

The DE17 supports several interface modes when operating as a USB device. The modes can be configured in the scanner via programming barcodes or through the scanners' programmatic interface. The most common interfaces are USBCOM where the scanner operates as a USB serial interface and keyboard where the scanner operates as a keyboard input device. The following programming barcodes can be used to set these interfaces.

USB Keyboard

USB Serial

The DE17 can be configured either using barcode programming labels or through a programmatic interface. The programmatic interface allows the scanners configuration to be changed via simple commands from the host processor. See the programming manual for more information on programmatic interface. The DE17 can also operate in several operating modes. These include a trigger mode in which the DE17 will start its' reading phase on receiving a trigger and presentation mode in which the sensing of motion in the DE17's field of view will start the reading phase. The following barcode labels can be used to change the scanners operating mode as desired. Additional operation modes can be set by seeing the settings in the programming guide.

Presentation Mode

Manual Trigger Mode

The scanner can also be easily triggered by sending the below trigger command via USB or serial communications to the reader:

Command: {SYN}T{CR}
where SYN = Hex code 0x16 and CR is Hex code 0x0d

On sending the above command to the scanner the scanners illumination and LED lights will come on and the scanner will begin to look for and read a barcode. On reading a barcode the LED illumination and aiming lights will go off. If the scanner does not read a barcode, barcode reading can be terminated by sending the scanner the following deactivation trigger:

Command: {SYN}U{CR}
Where SYN is the Hex code 0x16 and CR is the Hex code 0x0d

Default operating mode

The default code is provided below. This will revert the scanner into it's default configuration.

Activate Custom Defaults