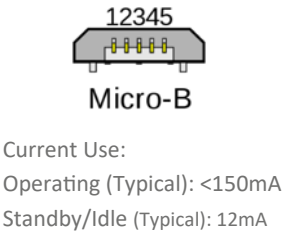## Electrical and Communication Connections:

The DSE425M-OM-TL needs to be powered with 5V DC, through the rear mounted micro USB connector. The micro USB is only used for power connection as all serial communication to the reader is done over the Bluetooth interface.   The default communication parameters are 115.2K Baud, No Parity, 8 Data Bits, 1 Stop bit. These serial parameters should not be changed.   Please follow the below diagram:

DSE425M-OM-TL Power connection

Rear Mounted Micro USB

Pin	Function
1	VBUS+, 5V
2	
3	
4	
5	GND

Micro-B

Current Use:
Operating (Typical): <150mA
Standby/Idle (Typical): 12mA

Bluetooth Interface:

In order to send and receive data to the DSE425M-OM-TL it is first required to pair the scanner with a Bluetooth host. To accomplish this place the scanner into discovery/pairing mode by pressing and holding the top mounted push button for at least 5s or until the yellow LED on the top of the reader blinks at a 1hz rate.   In your host Bluetooth connection screen select the DSE425M-XXXXXX Bluetooth device.   Where XXXXXX is the serial number of the DSE425M scanner that you would like to pair to. Once paired use a serial application or terminal emulation program to connect to the Bluetooth serial port. Once the serial connection is established the readers top mounted Blue LED will illuminate and data can be received and commands sent to the scanner over the Bluetooth serial port connection.

Models:

DSE425M-OM-TL   Embedded Bluetooth scanner

Illumination and Scanning:

The integrated Illumination System is comprised of two white LEDs and non-imaging optics designed to provide first-class reading performances, even in total darkness.
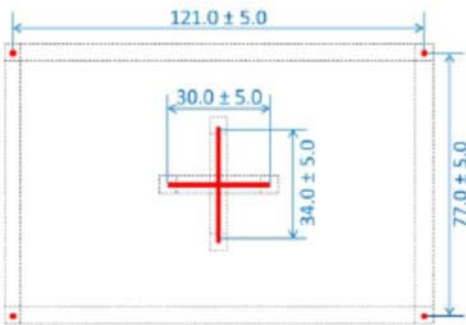
Regulatory

EN/IEC 62471 (exempt)

Aiming System

The aiming system is based on a 650nm laser diode and related optics. It projects a highly visible 4-Dot aimer with center-cross for targeted scanning. The central cross represents the center of the field of view, while the four dots show the boundaries of the field of view.

Below is the scanners scanning aimer at 200mm:

Regulatory

Programming

While no programming is needed to utilize the DSE425M-OM-TL your particular application may require changes to the scanners default operation.

The DSE425M-OM-TL supports several standard operating modes. These include:

Stand Mode: (DEFAULT) No trigger pull is required to read a barcode. Scanning is turned on automatically when an item is placed in the reader's field of view. If the trigger is pressed, the reader acts as if it is in single read mode. Double Read Timeout prevents undesired multiple reads while in this mode.

Trigger Single: When the trigger is pressed, scanning is activated until one of the following occurs:
- Scanning Active Time has elapsed
- a label has been read
- the trigger is released

Trigger Hold Multiple: When the trigger is pressed, scanning starts and the product scans until the trigger is released or Scanning Active Time has elapsed. Reading a label does not disable scanning. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Trigger Pulse Multiple: When the trigger is pressed, continuous scanning is activated until Scanning Active Time has elapsed or the trigger has been released and pressed again. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Flashing: The reader flashes on and off regardless of the trigger status. Flash rate is controlled by Flash On Time and Flash Off Time. When Flash is ON the imager reads continuously; when Flash is OFF scanning is deactivated.

Always On: No trigger pull is required to read a barcode. Scanning is continually on. If the trigger is pressed, the reader acts as if it is in Trigger Single Mode. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

The default operating mode for the DSE425M-OM-TL is Stand mode and the interface is RS232.   The scanners operating mode and other parameters can be programmed using either programming barcodes, using the Datalogic Aladdin software utility found at www.diamondt.com, or using Service Port Programming. The Service Port Programming commands allow for programmatic changes to the scanners operations. For a list of the available Service Port Programming commands for the DSE425M-OM-TL see the "DSE SW Programming Manual" which is available at www.diamondt.com.

Operating Mode Programming Barcodes

The following barcodes can be used to change the operating mode:

Prior to scanning the specific operating mode code you must scan the enter/exit programming command.   After scanning the operating mode code re-scan the enter/exit programming command.

Enter/Exit Programming

Scan Mode = Trigger Single

Scan Mode = Trigger Hold Multiple

Scan Mode = Trigger Pulse Multiple

Scan Mode = Flashing

Scan Mode = Always On

Scan Mode = Stand Mode

There are also several Host Commands which can be sent directly to the DSE425M-OM-TL reader from a terminal emulation program or from the Datalogic Aladdin utility over the Bluetooth interface. These commands are accepted directly from the reader and do not require scanning an enter programming code and do not require placing the DSE in program mode.   Examples of these commands include:

E = Enable Scanner
D = Disable Scanner
X = Software trigger Press, simulates trigger press
T = Software trigger Release , simulates trigger release

READING PERFORMANCE

IMAGER SENSOR	WVGA: 752 x 480 pixels
LIGHT SOURCE	Aiming: 650 nm VLD Illumination: Internal White LEDs
PRINT CONTRAST RATIO (MIN)	25%
FIELD OF VIEW	40° H x 26° V
READING ANGLE	Pitch: +/- 60°; Roll (Tilt): +/-180°;Skew (Yaw): +/- 60°
READING INDICATORS	Green Spot good read confirmation (optional), Audible Beeper
RESOLUTION (MAXIMUM)	1D Linear: 3 mils; DataMatrix: 7.5 mils; PDF417: 5 mils

DSE425M Ultra Compact 2D Embedded Bluetooth Barcode Scan module

Quick Reference Guide

Model: DSE425M-OM-TL

Manual Version 1.00

The Diamond Technologies DSE425M-OM-TL is an embedded bar-code scan module designed for integration into OEM equipment such as Lab instrumentation, Medical Devices, Kiosks, Automated machines, and customer facing applications.   This ultra compact, reliable, barcode module is an omni directional reader that will read all standard 1D and 2D barcodes with high accuracy regardless of code orientation. The reader includes integrated user feedback in the form of patented Good Read Green spot and loud audible beep.

The DSE425M-OM-TL reader includes patented, highly accurate, decode software libraries.   The reader provides decoded output through its' Bluetooth interface.   The readers hardware and software has been designed for the user to easily integrate the module into a host system. This guide provides the basic instructions for that integration.

Physical Mounting:

The DSE425M-OM-TL provides (4) M2X.04 Thread 3X mounting holes in the rear of the enclosure.

Tolerance Footprint