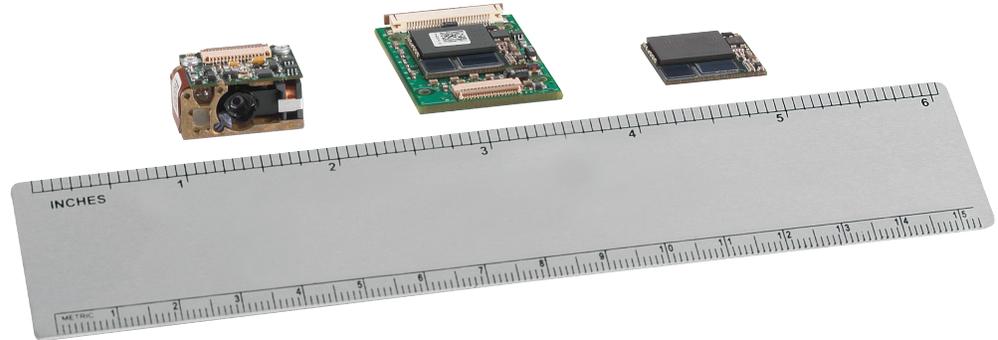




# Symbol SE4400/PL4407

## OEM scan engine



### FEATURES

#### Miniature form factor

Easily integrates into mobile devices

#### 2D VGA CCD sensor

Omni-directionally captures signatures, black and white images, 2D Matrix symbologies such as DataMatrix, Maxicode, Postal and QR

#### Bi-focus system

Provides exceptional depth of field on all bar code densities

#### Aiming system

Unique framing for reliable aiming of bar codes or images

#### Illumination

### Superior 2D imaging for mobile applications

The miniature Symbol SE4400 2D Imager Engine is designed for optimal integration into mobile devices. The superior image quality of the VGA charge coupled device (CCD) also enables signature and image capture. Its companion decoder, the PL4407, controls camera functions and decodes all popular 1D and 2D symbologies omni-directionally.

### Powerful features for excellent image quality

The Symbol SE4400 2D Imager Engine provides the features you need for fast, accurate information capture at the point of activity. The Symbol SE4400 has the ability to switch between two focal positions to enable the greatest decode range. Depending on your application needs, the engine can be programmed to fix the focus at either the near or far focal distance. The aiming system provides users with a sharp, framed aiming pattern indicating the field of view for rapid reading and image capture. The Symbol SE4400 provides built-in illumination which allows your mobile device to work in any ambient lighting condition — from total darkness to bright sunlight.

### A wide range of applications

The tiny Symbol SE4400 provides superior data capture capabilities in a wide variety of devices. For example, in healthcare, the SE4400 can be utilized in mobile clinical diagnostic equipment for dialysis and blood glucose. In retail, the SE4400 is ideal for kiosks and lottery terminals. Industrial applications include the scanning of small components in

electronics manufacturing for real-time inventory and order status. And in government and other security applications, the SE4400 enables instant ID verification.

### The Symbol PL4407 Decoder

The Symbol PL4407 Decoder is available as a ball grid array (BGA) component or a printed circuit board for plug-and-play capability. In addition to 1D and 2D symbology decoding, the Symbol PL4407, can be coupled with the SE4400 engine's VGA CCD to provide excellent image quality, enabling you to capture and transmit signatures, black and white photos, and 2D Matrix codes, including DataMatrix, Maxicode, Postal and QR symbologies. A wide selection of parameters may be configured to adapt the decoder or engine settings for your particular application.

### Proven technology to enhance your solutions

With millions of installations worldwide, our OEM devices are proven to deliver high reliability and superior performance, ensuring the accurate and quick capture of data and images in your mission-critical applications and devices. In addition, since our OEM devices are designed to ease integration, you can bring your systems to market quickly and cost-effectively.

For more information about the Symbol SE4400, access our global contact directory at [www.symbol.com/contact](http://www.symbol.com/contact) or visit us on the web at [www.symbol.com/se4400](http://www.symbol.com/se4400)

## SPECIFICATION SHEET

SYMBOL SE4400  
OEM scan engine

Allows bar code reading and image capture over wide ambient lighting conditions

### Simple serial interface (SSI)

Provides fast, simple interface communication with advanced features and functionality between imager and host

### Optional software developer's kit (SDK)

Enables the creation of applications using familiar Microsoft® Windows® 98, 2000 and XP platforms

## Symbol SE4400 Specification

### Physical Characteristics

Dimensions:	0.46H x 0.85W x 0.64D (in) 11.8H x 21.5W x 16.3D (mm)
Weight:	0.29 oz./ 8.3 g
Interface:	Camera Port on 31 pin Zif connector

### Performance Characteristics

Sensor Resolution:	640 (H) x 480 (V) (gray scale)
Field of View:	Horizontal: 32.2° Vertical: 24.5°
Focal Distance from Front of Engine:	Standard Focus: Near: 5 inches Far: 9 inches High Density Focus: Near: 3.2 inches Far: 6.5 inches
Aiming LED (VLD):	650 ± 5 nm
Illumination Element:	635 ± 20 nm (LED)
Min. Print Contrast:	Minimum 25% absolute dark/light reflectance measured at 650 nm

### User Environment

Ambient Light:	Total Darkness to 9,000 ft.candles (96,900Lux)
Operating Temp.:	-4° to 131°F (-20° to 55°C)
Storage Temp.:	-40° to 158°F (-40° to 70°C)
Humidity:	Operating: 95% RH, non-condensing at 60°C Storage: 85% RH, non-condensing at 70°C
Shock Rating:	2,000 G
Power:	Camera/Aim Input Voltage: 3.15 VDC ± 10% Illumination Input Voltage: 3.15 VDC ± 10% Camera/Aim/Motor Operating Current: 175mA Illumination Current: 47mA @ 3.3V typical

### Regulatory

Laser Classification:	It is intended for use in CDRH Class II/IEC 825 Class 1 devices
Electrical Safety:	UL, VDE, and CUL recognized component laser
Environmental:	RoHS compliant

## Symbol PL4407 Specification

### Physical Characteristics

Dimensions:	BGA: 0.71H x 0.71W x 0.09D (in) BGA: 18 H x 18W x 2.26D (mm) PCB: 1.0H x 1.5W x 0.13D (in) PCB: 25.27H x 37.97W x 2.6D (mm)
Interface:	SSI on TTL serial on and SNAP1 over USB on a 31 ZIF pin connector

### Performance Characteristics

Symbologies Supported:	All major 1D bar codes 2-D: MaxiCode, PDF417, DataMatrix, QR Code, Aztec & Composite Codes Postal Codes: US Postnet, US Planet, UK Postal, Australian Postal, Japan Postal
Image File Formats:	BMP, TIFF, JPEG
Power:	Input Voltage: 3.3 VDC ± 10% Current: 100mA (typical)
Programmable Parameters:	Power Mode, Trigger mode, Beeper tone, session time, focus control, camera control, image control, advanced data formatting, Document capture, Signature capture

Ranges - 1D codes:

### Standard Model - Near

<b>5 mil:</b> Code 39 - 80% MRD: 3.5 - 7 (in) / 8.9 - 17.8 (cm)
<b>7.5 mil:</b> Code 39 - 80% MRD: 2.75 - 7.75 (in) / 7 - 19.7 (cm)
<b>13 mil:</b> UPC-A - 80% MRD: 2.25 - 8.75 (in) / 5.7 - 22.2 (cm)
<b>20 mil:</b> Code 39 - 80% MRD: * - 11 (in) / * - 27.9 (cm)
<b>6.7 mil:</b> PDF417 - 80% MRD: 3.75 - 6.0 (in) / 9.5 - 15.2 (cm)
<b>10 mil:</b> PDF417 - 80% MRD: 3.25 - 7.25 (in) / 8.3 - 18.4 (cm)
<b>15 mil:</b> PDF417 - 80% MRD: * - 7.5 (in) / * - 19.1 (cm)

### Standard Model - Far

<b>5 mil:</b> Code 39 - 80% MRD: 6.65 - 7.5 (in) / 16.5 - 19.1 (cm)
<b>7.5 mil:</b> Code 39 - 80% MRD: 4.25 - 10 (in) / 10.8 - 25.4 (cm)
<b>13 mil:</b> UPC A - 80 % MRD: 3 - 16 (in) / 7.6 - 40.6 (cm)
<b>20 mil:</b> Code 39 - 80% MRD: * - 21.5 / * - 51.6 (cm)
<b>10 mil:</b> PDF417 - 80% MRD: 5.75 - 10.25 (in) / 14.6 - 26 (cm)
<b>15 mil:</b> PDF417 - 80% MRD: * - 21.5 (in) / * - 51.6 (cm)

### High Density Near Focus

<b>5 mil:</b> Code 39 - 80% MRD: 2.2 - 4.5 (in) / 5.59 - 11.43 (cm)
<b>7.5 mil:</b> Code 39 - 80% MRD: 2.1 - 4.8 (in) / 5.33 - 12.19 (cm)
<b>13 mil:</b> UPC-A - 80% MRD: 2.4 - 5.8 (in) / 6.1 - 14.73 (cm)
<b>20 mil:</b> Code 39 - 80% MRD: * - 7.5 (in) / * - 19.05 (cm)
<b>4 mil:</b> PDF417 - 80% MRD: 2.9 - 3.7 (in) / 7.37 - 9.4 (cm)
<b>6.67 mil:</b> PDF417 - 80% MRD: 2.5 - 4.1 (in) / 6.35 - 10.41 (cm)
<b>10 mil:</b> PDF417 - 80% MRD: * 2.2 - 4.5 (in) / * 5.59 - 11.43 (cm)
<b>15 mil:</b> PDF417 - 80% MRD: * - 5.0 (in) / * - 12.7 (cm)

### High Density Far Focus

<b>5 mil:</b> Code 39 - 80% MRD: 4.3 - 7.0 (in) / 10.92 - 17.78 (cm)
<b>7.5 mil:</b> Code 39 - 80% MRD: 3.3 - 9.8 (in) / 8.38 - 24.89 (cm)
<b>13 mil:</b> UPC-A - 80% MRD: 3.2 - 12.2 (in) / 8.13 - 30.99 (cm)
<b>20 mil:</b> Code 39 - 80% MRD: * - 15 (in) / * - 38.1 (cm)
<b>6.67 mil:</b> PDF417 - 80% MRD: 5 - 7.6 (in) / 12.7 - 19.3 (cm)
<b>10 mil:</b> PDF417 - 80% MRD: 4.3 - 9 (in) / 10.92 - 22.86 (cm)
<b>15 mil:</b> PDF417 - 80% MRD: * 3.2 - 10.3 (in) / 8.13 - 26.16 (cm)

\* = Near distance are field of view limited.



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