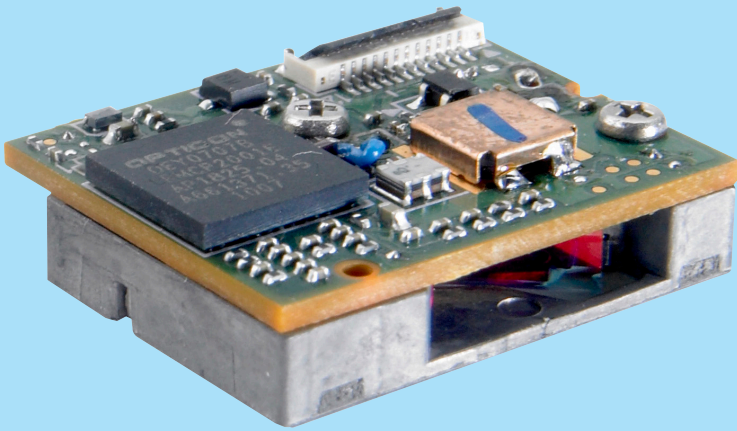


OEM

# MDL-4000

## Laser Barcode Scan Engine



### Highlights

- Smallest barcode scan module at just 0.80 x 0.55 x 0.22 in and weight of only 0.14 ounces
- Complete unit with integrated decoder
- Perfect for integration into small, space-constrained mobile, medical or retail barcode scanning devices
- Small size makes it easy to mount
- Features a 650 nm visible laser diode that scans bi-directionally
- Extremely fast scan rate of 100 scans/second
- Connects via 12 pin FFC connector
- Supports USB (HID, COM) and RS232 interfaces
- Programmable software with more than 100 options
- An engineering kit (available separately) allows OEMs to test and configure the scanner settings
- Two year warranty

# MDL-4000

## Product Specifications

### COMMUNICATION

**SERIAL CMOS:** 12 pin FFC connector

### POWER

**VOLTAGE REQUIREMENT:** 3.3V  $\pm$  10%

**CURRENT CONSUMPTION:** Maximum 135mA

### BARCODE SCANNER OPTICS

**LIGHT SOURCE:** 650 nm red laser diode

**SCAN METHOD:** Bi-directional scanning

**SCAN RATE:** 100 scans/sec

**READING PITCH ANGLE:** -25 to 0°, 0 to +25°

**READING SKEW ANGLE:** -40 to -8°, +8 to +40°

**READING TILT ANGLE:** -20 to 0°, 0 to +20°

**CURVATURE:** R>15 (EAN8), R>20 (EAN13)

**MINIMUM PCS VALUE:** 0.45

**DEPTH OF FIELD AT CODE 39:**

60 - 110 mm / 2.36 - 4.33 in (0.127 mm / 5 mil)

60 - 130 mm / 2.36 - 5.12 in (0.15 mm / 6 mil)

60 - 200 mm / 2.36 - 7.87 in (0.25 mm / 10 mil)

60 - 250 mm / 2.36 - 9.84 in (0.5 mm / 20 mil)

80 - 300 mm / 3.15 - 11.81 in (1.0 mm / 39 mil)

### SUPPORTED SYMBOLOGIES

**BARCODE (1D):** JAN/UPC/EAN incl. add on, Codabar/ NW-7, Code 11, Code 39, Code 93, Code 128, GS1-128 (EAN-128), GS1 DataBar (RSS), IATA, Industrial 2of5, Interleaved 2of5, ISBN-ISMN-ISSN, Matrix 2of5, MSI/Plessey, S-Code, Telepen, Tri-Optic, UK/Plessey

**BARCODE (POSTAL CODES):** Chinese Post, Korean Postal Authority code

### DURABILITY

#### TEMPERATURE:

Operation: -4 to 149 °F (-20 to 65 °C)

Storage: -22 to 158 °F (-30 to 70 °C)

#### HUMIDITY

Operation: 5 - 80% (noncondensing)

Storage: 5 - 80% (noncondensing)

#### AMBIENT LIGHT IMMUNITY:

Fluorescen: 4,000 lx max

Direct sun: 80,000 lx max

Incandescent: 4,000 lx max

**DROP TEST:** packed in dummy case 6 ft (1.8 m) drop onto concrete surface

**MBTF:** 30,000 hours except laser diode (10,000 hours) and except mirror scan unit (10,000 hours)

### PHYSICAL

**DIMENSIONS (WXHXD):** 0.80 x 0.22 x 0.55 in (20.4 x 5.5 x 14 mm)

**WEIGHT BODY:** Ca. 4 g / 0.14 oz

### REGULATORY AND SAFETY

**PRODUCT COMPLIANCE:** RoHS, IEC60825-1 Class 1

### SOLD SEPARATELY

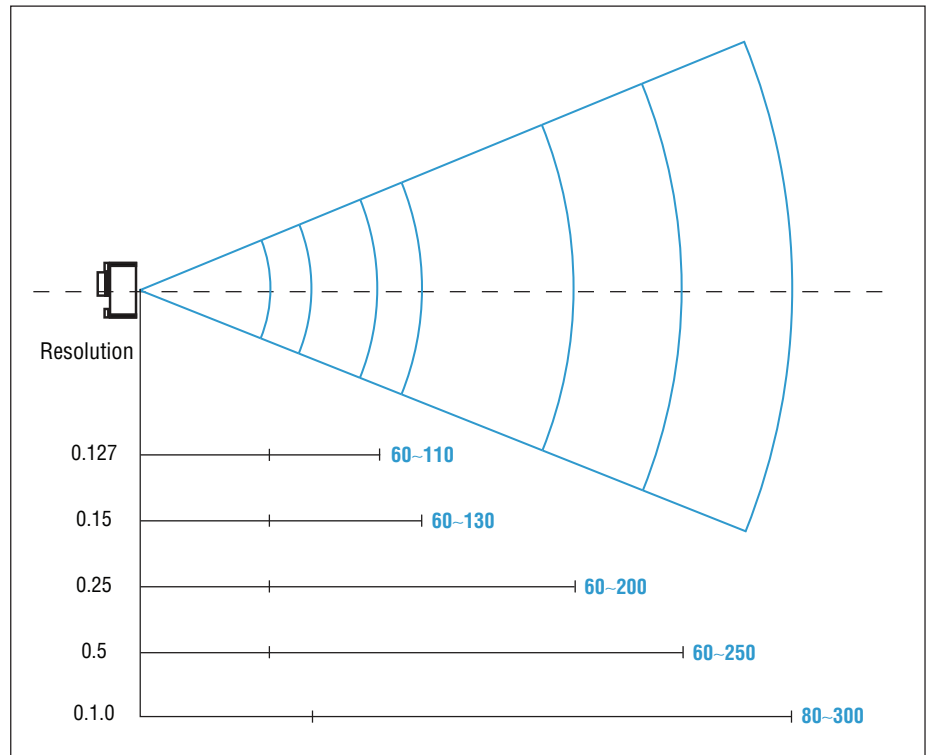
**MDL-4000R1-SK1:** MDL-4000 RS232 Engineering Starter Kit

**MDL-4000U1-SK1:** MDL-4000 USB HID Engineering Starter Kit

**MDL-4000U2-SK1:** MDL-4000 USB COM Engineering Starter Kit

**CONNECTION CABLE:** USB or RS232

**POWER SUPPLY:** 100-240V/0.5A, 50/60 Hz, 5V/2A



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