

**The MS-3 CCD excels at reading difficult symbols and is offered in Microscan's smallest scanner size.**

At 270 decodes per second, the **MS-3 CCD** offers the best read performance in its class of embedded compact CCD readers. Advanced CCD technology coupled with our proprietary algorithms makes reading small, damaged, or poorly printed symbols routine. The ultra-compact size and wide read angle allow for flexible mounting and positioning when embedded into OEM instruments.

The **MS-3 CCD** reader is in the mid-range of Microscan's MS-3 trio that also includes the **MS-3 Laser** scanner and **MS-3 Engine**. All three are well suited for any embedded bar code application where size, performance and budget savings are core factors.

## MS-3 CCD

## ULTRA-COMPACT BAR CODE SCANNER

### Compact Size

The 1.75" square by .85" tall scanner weighs only 3.5 ounces, for easy mounting onto robotic equipment or into tight spaces.

### Scan Speed

With a scan speed of 270 decodes per second, the MS-3 CCD is the fastest CCD scanner available on the market today.

### Scan Angle

The MS-3 CCD offers a wide scan angle of 48 degrees allowing for flexibility with positioning.

### Low Power Draw

The MS-3 CCD comes standard as 5V for low power draw (350mA). 10-30V input also available with interface accessory.

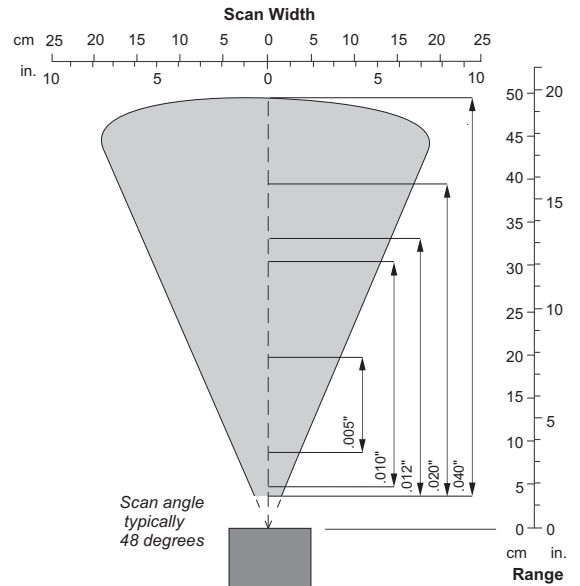
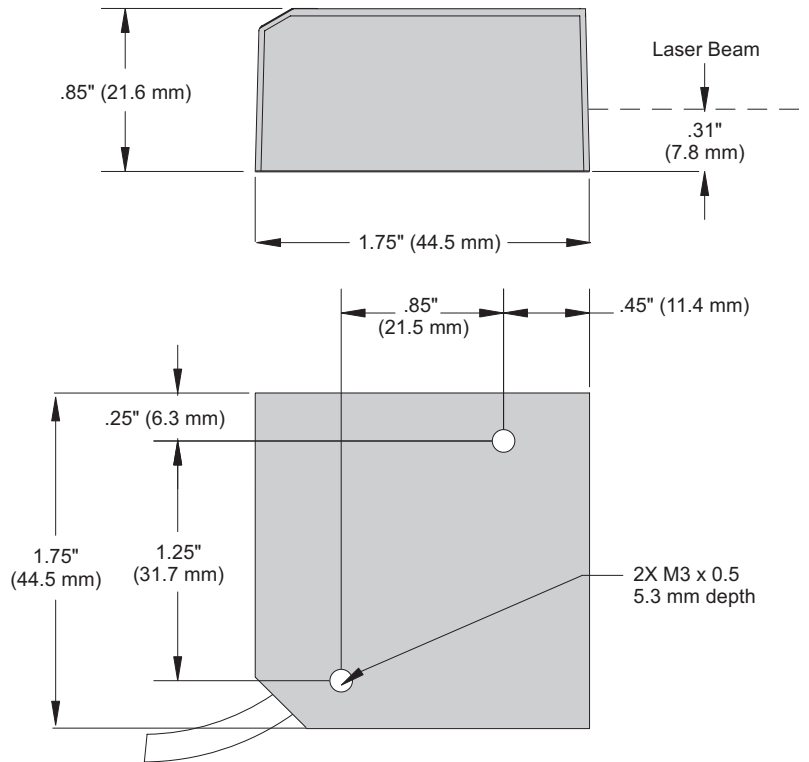
### Symbologies

Like all Microscan scanners, the MS-3 CCD reads virtually all widely used bar code symbologies, including:

- Code 93
- Code 39
- Code 128
- Codabar
- Pharmacode
- Interleaved 2 of 5
- UPC/EAN



# MS-3 CCD SCANNER SPECIFICATIONS AND OPTIONS



## GENERAL

Compact CCD scanner for OEM devices.

## MECHANICAL

**Weight:** 3.5 oz. (99 g)

## DESIGN

### Flash memory Sensor:

CCD linear image sensor

**Optics:** 645 nm visible LED

Bright and sharp scanning line

## SCANNING PERFORMANCE

### Scan rate:

**Decoded mode:** 270 scans/sec auto-adaptive.

**Min. X dimension:** down to 0.05 mm (2mil) on Code 39

**Depth of field:** 0 to 49.2 cm (19.4")

**Bar code width:** up to 18 cm (7") on 0.3 mm (12 mil) resolution code

**Print contrast:** down to 20%

**Scan angle:** 48° nominal

## COMMUNICATION

**Interface:** RS-232

## CONNECTOR

**Type:** 3 ft. cable terminated with 15-pin D-Sub plug connector

## DISCRETE I/O

**Trigger Inputs:** 3 to 24V rated (10 mA @ 24 VDC)

**New Master:** 3 to 24V rated (10 mA @ 24 VDC)

**Outputs (1, 2, 3):** 5V TTL compatible

## SYMBOLOGIES

UPC (E&A), EAN, Code 11, Code 39, Code 128, UCC EAN 128, ISBN, ISBT, Interleaved, Matrix, Industrial and Standard 2 of 5, Codabar, Code 93, MSI, Plessey, Telepen.

## HOST CONNECTOR/PIN ASSIGNMENTS

### 15 Pin D-sub Socket Connector

Pin No.	Host/RS-232
1	Power +5 VDC
2	TxD
3	RxD
4	Power/Signal Ground
5	NC
6	RTS (5V only)
7	Output 1 TTL (+)
8	NC
9	Trigger (NPN)
10	CTS (5V only)
11	NC
12	NC
13	Chassis Ground
14	NC
15	NC

## CHARACTERISTICS

**Voltage:** 5V +/- 5%

**Current:**

**Decoded mode:** 130 mA typical

## ENVIRONMENTAL CHARACTERISTICS

**Operating temperature:** 30 to 60°C (-22 to 140°F)

**Storage temperature:** -40 to 60°C (-40 to 140°F)

**Relative humidity:**

5% to 95% (non-condensing)

**Shock:** 2000G **Vibration:** 50G r.m.s.

**Ambient light:** works in any lighting conditions, from 0 to 100 000 lux

## REGULATORY APPROVALS

UL recognized component, VDE certified

ISO 9001/Cert. No. US96/0465

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All rights reserved. Specifications subject to change. Product specifications are given for typical performance at 23°C (74°F) using grade A labels. Some performance characteristics may vary at high temperatures or other environmental extremes.

**Warranty**—One year limited warranty on parts and labor. Extended warranty available.

# MICROSCAN®

