The MS-810 fixed position scanner can read fast moving bar code labels up to 30 inches away, making it ideal for automated factories with standard 18-inch and 30-inch conveyor lines. Operators have the flexibility to scan a variety of label qualities and densities and can program scanning rates from 300 to 800 scans per second. Those with variably placed labels can use the raster option—which delivers 10 scan lines over a 2° arc—to increase their label placement options.

This exceptionally compact industrial bar code scanner is impervious to demanding external environmental conditions and invasive electrical noise from fast transients and static discharge. The MS-810 should have universal appeal to any industry looking to automate through bar code tracking.

MS-810   INDUSTRIAL BAR CODE SCANNER

Extended Reading: The MS-810 allows for variable read distances between small and large packages. It can project a laser beam out to 30 inches at a 60° scan angle, up to 8 inches wide.

Reverse Video: This feature allows users greater flexibility with reading options including the ability to read light-on-dark and dark-on-light bar codes. It can also read laser etched labels from highly reflective surfaces and low contrast surfaces.

Maintenance-Free, Brushless Motor: A durable, brushless motor provides reliability with zero maintenance. It spins the scanning mirror at whatever scanning speed the user selects, from 300 to 800 scans per second.

Easy Setup Program: A standard feature of the MS-810, Microscan's ESP™ software is a user friendly Windows® based configuring software package for setting up scanners and readers.

IP65 Enclosure: Heavy-duty, die-cast aluminum housing and industrial sealing safeguard the circuitry and optical components from dust and moisture to make the MS-810 impervious to the harmful effects of industrial   environments.

Noise Protection: Fully shielded circuitry protects the MS-810 from the invasion of electrical fast transients (EFT) and electrical static discharge (ESD). Signal integrity is assured with circuitry specifications designed to International Electrotechnical Commission (IEC) standards of 801-4 Level 4 for EFT and 801-2 Level 4 for ESD.

Versatile Mounting: Built-in, blind-threaded mounting holes, located in the bottom and top of the scanner, eliminate the need for bulky accessory brackets and allow the MS-810 to be quickly mounted to any flat surface.

Symbologies:
Like all Microscan scanners, the MS-810 scans virtually all widely used bar code symbologies,   including:

- Code 39
- Interleaved 2 of 5
- Code 128
- Codabar
- UPC/EAN
- Code 49

Other codes are available, call Microscan for details.

Service Options:
- Installation assistance program
- Service agreements
- Training
- On-site service
- Extended warranty

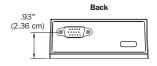# MICROSCAN®

REALIZING YOUR VISION™
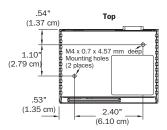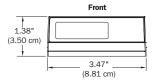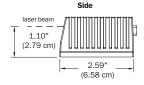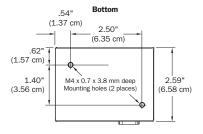
MS-810 INDUSTRIAL BAR CODE SCANNER

Specifications and Options

MECHANICAL

Length: 3.47" (8.81 cm)
Width: 2.59" (6.58 cm)
Height: 1.38" (3.50 cm)
Weight: 7.5 oz. (212 g)

Back

.93"
(2.36 cm)

Top

.54"
(1.37 cm)

1.10"
(2.79 cm)

M4 x 0.7 x 4.57 mm deep
Mounting holes
(2 places)

.53"
(1.35 cm)

2.40"
(6.10 cm)

Front

1.38"
(3.50 cm)

3.47"
(8.81 cm)

Side

laser beam

1.10"
(2.79 cm)

2.59"
(6.58 cm)

Bottom

.54"
(1.37 cm)

2.50"
(6.35 cm)

.62"
(1.57 cm)

1.40"
(3.56 cm)

M4 x 0.7 x 3.8 mm deep
Mounting holes (2 places)

2.59"
(6.58 cm)

ENVIRONMENTAL

Enclosure: die-cast aluminum, IP65 rated
Operating temperature (inside ambient): 32° to 122°F (0° to 50°C)
Humidity: Up to 90% (non-condensing)
Ambient light immunity:
- 450 foot candles (indoor: fluorescent, incandescent, mercury vapor, sodium vapor)
- 1800 foot candles (soft outdoors)

LASER LIGHT

Type: Laser diode
Output wavelength: 670 nm nominal/ 780 nm nominal
Operating life: 50,000 hours @ 25°C
Laser cooling: Thermostatically-controlled thermocooler
Safety class:
- Visible laser: CDRH Class II, 670 nm
- Infrared laser: CDRH Class I, 780 nm

* Used in conjuntion with an accessory protocol box.

READ RANGES

Narrow-bar-width	High Density	Medium Density	Low Density
.005" (.127 mm)	1.2" to 2.75" (3.05 to 6.99 cm)	—	—
.007" (.178 mm)	1.2" to 3.8" (3.05 to 9.65 cm)	2" to 5.2" (5.08 to 13.21 cm)	—
.010" (.254 mm)	—	1.5" to 7" (3.81 to 17.78 cm)	4" to 10" (10.16 to 25.4 cm)
.015" (.381 mm)	—	1.5" to 8.5" (3.81 to 21.59 cm)	4" to 16" (10.16 to 40.64 cm)
.020" (.508 mm)	—	1.5" to 11" (3.81 to 27.94 cm)	4" to 20" (10.16 to 50.80 cm)
.030" (.762 mm)	—	1" to 12" (2.54 to 30.48 cm)	4" to 25" (10.16 to 63.50 cm)
.040" (1.02 mm)	—	—	4" to 30" (10.16 to 76.20 cm)

SCANNING PARAMETERS

Mirror type: Rotating, 10-faceted
Optional raster mirror image: 10 raster scan lines over a 2-degree arc (or 0.24 inch raster at 6-inch distance)
Scan rate: Adjustable from 300 to 800 scans/second, default=400
Scan width angle: Typically 60°
Pitch: ±50° maximum
Skew: ±40° maximum
Label contrast: 25% min. absolute dark to light differential at 670 nm wavelength

COMMUNICATION

Interface: RS-232 standard; also available: RS-422/485, *DeviceNet, *SDS, *Profibus DP, *Ethernet

PROTOCOLS

Point-to-Point · Point-to-Point w/RTS/CTS · Point-to-Point w/XON/XOFF · Point-to-Point w/RTS/CTS & XON/XOFF · Polling Mode D · Multidrop · User Defined · User Defined Multidrop

CODE TYPES

Standard codes: Code 39, Codabar, Interleaved 2 of 5, UPC/EAN, Code 128
Other codes: Code 16K, UCC/EAN-128, Code 49, Code 93, DX Code, EDP & STK/EDP, MSI Code, Pharma Code, Plessey Code

PIN ASSIGNMENTS

Pin No.	Function
1	+10–28 VDC (in)
2	RS-232 TXD/RS-422 TXD (–)
3	RS-232 RXD/RS-422 RXD (–)
4	Signal ground (RS-232)
5	Output 2 (–)
6	RTS (out)/RS-422 TXD (+)
7	Output 1 (+)
8	Default configuration (in)
9	Trigger input (+)
10	CTS (in)/RS-422 RXD (+)
11	Output 1 (–)
12	New master
13	Chassis ground
14	Output 2 (+)
15	Trigger input (–)

CONNECTOR

Type: 15-pin high density D-subminiature plug

ELECTRICAL

Power requirement: Input, 10–28 VDC 200 mV p-p max. ripple, 2.7 watts rated 24 VDC (standard)

DISCRETE I/O

Trigger Input: Opto-isolated, 10–28V rated, (12 mA @ 24 VDC)
Outputs (1&2): Opto-isolated, 10–28V rated, (I_{CE} <100 mA @ 24 VDC, current limited by user)

SAFETY CERTIFICATIONS

CDRH, FCC, UL/cUL, TüV, CE

CAUTION

LASER LIGHT   DO NOT STARE INTO BEAM
670 nm DIODE LASER
1.0 MILLIWATT MAXIMUM   CLASS II LASER PRODUCT

ISO 9001/Cert. No. US96/0465

Product specifications are given for typical performance at 25°C (77 °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.

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