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Find the *Microscan MS-860* at our website: *Click HERE*

MS-860



MS-860: At a Glance

- *Decodes/second: 300 to 1200*
- *Read Range: 1 to 42" (25 to 1067 mm)*
- *IP65 Enclosure*

ESP® : Easy Setup Program software provides quick and easy setup and configuration of all Microscan readers.

EZ Button: This performs reader setup and configuration with no computer required.

Visible Indicators: Performance indicators include "good read" green flash and LEDs, as well as the label positioning tool.

Sweeping Raster: This programmable feature enables the reader for multiple symbols at varying distances and locations.

For more information on this product, visit www.microscan.com.

MS-860: Available Codes

Linear — All Standard

Stacked — MicroPDF, PDF417, RSS

Industrial Raster Bar Code Scanner

The MS-860 is adaptable to a wide variety of bar code applications across multiple industries with operators of varying experience levels. Push-button calibration and a full feature set enable you to quickly and easily configure the MS-860, which provides easy scanning of both linear and stacked bar codes.

Autocalibration

Setup is simplified with the MS-860's unique calibration feature. Simply place your bar code in front of the scanner and push the EZ button to initiate calibration. Motor speed, gain, tracking and laser power are automatically calibrated to optimize settings specifically to your bar code.

High Scan Speed & Long Read Range

The MS-860's high scan speed coupled with long read range and wide sweep angle provide maximum flexibility for addressing applications with multiple symbols, different locations, or varying distances.

Real-time Feedback

Illuminated LEDs on the side of the scanner and a "good read" green flash projecting from the front window provide visual confirmation of the scanner's performance. The green flash is visible within a complete 360 degree radius from the scanner.

Intelligent Raster

In addition to sweep angle and speed controls, the MS-860 features a programmable raster with intelligent auto framing technology. Advanced software will automatically frame the raster height and width of the laser to match the bar code, allowing selective targeting of codes within a single read cycle.

Bar Code Programming

Changing scanner configurations on the factory floor is as simple as presenting a bar code and pushing the EZ button. This feature makes it simple to replicate settings on multiple MS-860 scanners.

Application Examples

- Light to heavy duty industrial environment
- Conveyor lines or forklifts

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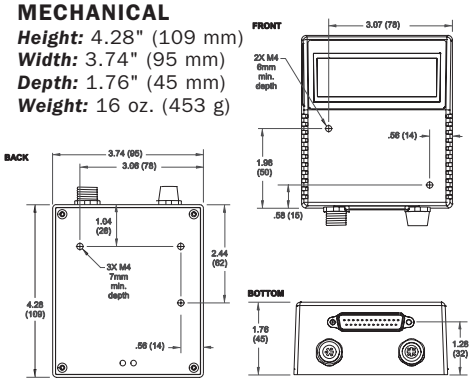
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MS-860 INDUSTRIAL RASTER BAR CODE SCANNER

Specifications and Options

MECHANICAL

Height: 4.28" (109 mm)
Width: 3.74" (95 mm)
Depth: 1.76" (45 mm)
Weight: 16 oz. (453 g)



ENVIRONMENTAL

Enclosure: IP65
Operating temperature: 0° to 50°C (32° to 122°F)
Storage temperature: –50° to 75°C (–63° to 167°F)
Humidity: Up to 90% (non-condensing)

EMISSIONS

Heavy industrial: EN61000-6-2:2001
Radiated and Conducted emissions: EN 55022:1998 + A1:2000 + A2:2003 (Limits & Methods: ITE Disturbances)
General immunity residential: EN55024:1998 + A1:2001 + A2:2003

LASER LIGHT

Type: Semiconductor visible laser diode (650 nm nominal)
Operating life: 50,000 hours @ 25°C
Safety class: CDRH Class II

SCANNING PARAMETERS

Scanner mirror type: Rotating, 10-faceted
Scan rate: Adjustable from 300 to 1200 scans/second (default = 500 sps)
Scan width angle: Typically 60°
Pitch: ±50° maximum
Skew: ±40° maximum
Label Contrast: 25% min. absolute dark to light at 650 nm wavelength
Raster mirror performance:

Raster sweep angle	Maximum sweeps per second
1°–10°	80
11°–20°	60
21°–34° (max.)	40
35°–36° (max.)	20

COMMUNICATION

Interface: RS-232, RS-422/485, Daisy chain and Auxiliary port capable

SYMBOLOGIES

Standard: Code 128, Code 39, Code 93, Codabar, RSS (Composite), Interleaved 2 of 5, UPC/EAN, PDF417, MicroPDF, and Pharmacode

ELECTRICAL

Power Requirement: 10-28 VDC, 200 mV p-p max. ripple, 110 mA at 24 VDC (typ.)
Trigger, New Master, Input 1: Optoisolated, 5-28V rated, (12 mA at 24 VDC)
Outputs (1, 2, 3): Optoisolated, 1-28 VDC rated, (I_{CE} <100 mA at 24 VDC, current limited by user)

SAFETY CERTIFICATIONS

CDRH, CE, UL/cUL

ISO CERTIFICATION

Issued by RWTüV, USA Inc.
ISO 9001:2000 – Cert No. 03–1212

READ RANGES[1]

Narrow-bar-width	Extended Range (350–500 decodes/sec)
Far Focus	
.040" (1 mm)	19 to 47" (482 to 1193 mm)
.030" (.762 mm)	21 to 42" (533 to 1066 mm)
.020" (.508 mm)	25 to 41" (635 to 1041 mm)
Middle Focus	
.015" (.381 mm)	11 to 21" (280 to 533 mm)
.010" (.254 mm)	14 to 17" (356 to 431 mm)
Near Focus	
.015" (.381 mm)	2 to 16" (51 to 406 mm)
.010" (.254 mm)	3 to 11" (77 to 279 mm)

Narrow-bar-width	Low Density (450-500 decodes/sec)
.040" (1.02 mm)	2" to 28" (50 to 711 mm)
.030" (.762 mm)	2 to 24" (50 to 610 mm)
.020" (.508 mm)	2.5 to 20" (64 to 508 mm)
.015" (.381 mm)	4 to 18" (102 to 457 mm)
.010" (.254 mm)	6.5 to 13.25" (165 to 337 mm)

Narrow-bar-width	Medium Density (450-500 decodes/sec)
.030" (.762 mm)	1 to 13" (25 to 330 mm)
.015" (.381 mm)	.5 to 9.25" (13 to 235 mm)
.010" (.254 mm)	.75 to 7.25" (19 to 184 mm)
.0075" (.190 mm)	1.5 to 5.25" (38 to 113 mm)

Narrow-bar-width	High Density (450-500 decodes/sec)
.0075" (.190 mm)	1 to 4" (25 to 102 mm)
.005" (.127 mm)	1.5 to 2.75" (38 to 70 mm)

CONNECTORS/PIN ASSIGNMENTS

Host Connector: 25-pin D-subminiature plug

Pin No.	Host RS232	Host & Aux RS232	Host RS422/485	In/Out
1	Chassis ground			
2	TxD			Out
3	RxD			In
4	RTS	Aux TxD		Out
5	CTS	Aux RxD		In
6	Output 1 (+)			Out
7	Signal Ground			
8	Output 2 (+)			Out
9	Trigger (–)			In
10	Trigger (+)			In
11	Default configuration[a]			In
12	Input 1 (+)			In
13			RxD (+)	In
14			TxD (–)	Out
15	Noread/Output 3 (+)			Out
16			RxD (–)	In
17	Power Ground			In
18	Power +10 to 28 VDC			In
19			TXD +	Out
20	Output 1 (–)			Out
21	Output 2 (–)			Out
22	Noread/Output 3 (–)			Out
23	Input 1 (–)			In
24	New master (–)			In
25	New master (+)			In

[a] The default is activated by connecting pin 11 to ground pin 7.

Trigger Connector: 4-pin MicroChange

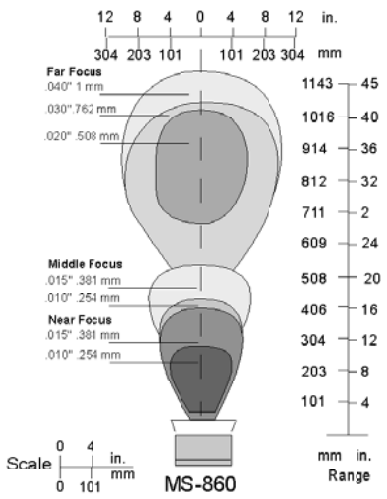
Pin No.	Function	In/Out
1	Power + 10 to 28 VDC	Out
2	Trigger (–)	
3	Power Ground[a]	
4	Trigger (+)	

[a] Power ground: Used for power return only

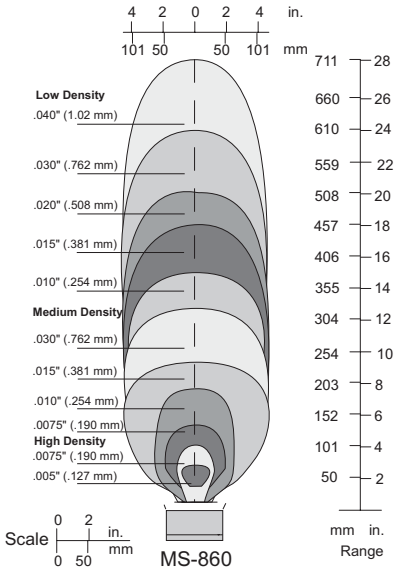
Power Connector: 3-pin MicroChange

Pin No.	Function	In/Out
1	Power ground	
2	NC	
3	Power + 10 to 28 VDC	In

Extended Range Scanner Read Range/Width



Low, Medium, High Density Scanner Read Range/Width



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Read Range and other performance data is determined using high quality Grade A symbols per ISO/IEC 15415 and ISO/IEC 15416 in a 25°C environment. For application-specific Read Range results, testing should be performed with symbols used in the actual application. Microscan Applications Engineering is available to assist with evaluations. Results may vary depending on symbol quality. **Warranty–**One year limited warranty on parts and labor. Extended warranty available.

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