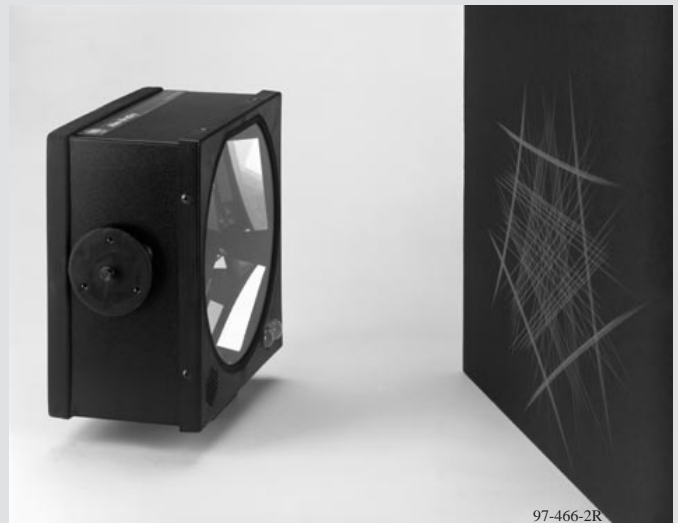


StrataScan™ Omni-directional Bar Code Readers

(Catalog Numbers 2755-LHR-5B, -3C, -5C, and -5BX1)



Product Data



The StrataScan Omni-directional Bar Code Reader offers superior omni-directional reading capabilities through holographic optical technology. With holographic optical technology, many of the traditional mechanical components used in lens focusing and light collection are replaced with a single rotating holographic disc. The disc contains 15 to 21 independent holographic sectors. Each sector is the holographic equivalent of a unique combination of two lenses and a mirror. By focusing up to 5 visible laser diodes through the holographic disc, rotating at 4200 rpm, a StrataScan reader generates as many as 7350 scan lines per second. These scan lines are focused over three to five overlapping layers, resulting in a depth-of-field of up to 42 inches.

Reader Features

Consistent read width from top to bottom of read volume. Unlike other omni-directional readers with a cone-shaped read area, the StrataScan reader repeats the same scan pattern over multiple focal layers, resulting in a consistent read width. This is very useful in applications having different size packages on a common conveyor line.

Master/Slave (Daisy-chain) configuration capability with two or more StrataScan readers. When necessary, a secondary StrataScan reader can be connected to a primary StrataScan reader to increase belt coverage or to aid in difficult applications.

Undecoded hand-held scanner port is standard with every StrataScan reader. This allows for attended hand-held scanning of irregular or oversized items. StrataScan allows the hand-held to be either configured exactly as the StrataScan reader or configured independently. In a StrataScan master/slave setup the hand-held can be configured to scan-and-pass-through the master or contribute to multiple scans and same symbol comparisons through the slave StrataScan reader.

StrataScan communication and system configuration software program allows users to create, download, upload, and save StrataScan or hand-held scanner configurations with a single DOS-formatted screen and easy pull-down menus. In a Master/Slave (daisy-chain) system configuration, the slave (secondary) StrataScan is automatically configured through the master (primary) StrataScan reader.

StrataScan supports both RS-232/RS-422 serial connection for host communications and master/slave configurations.

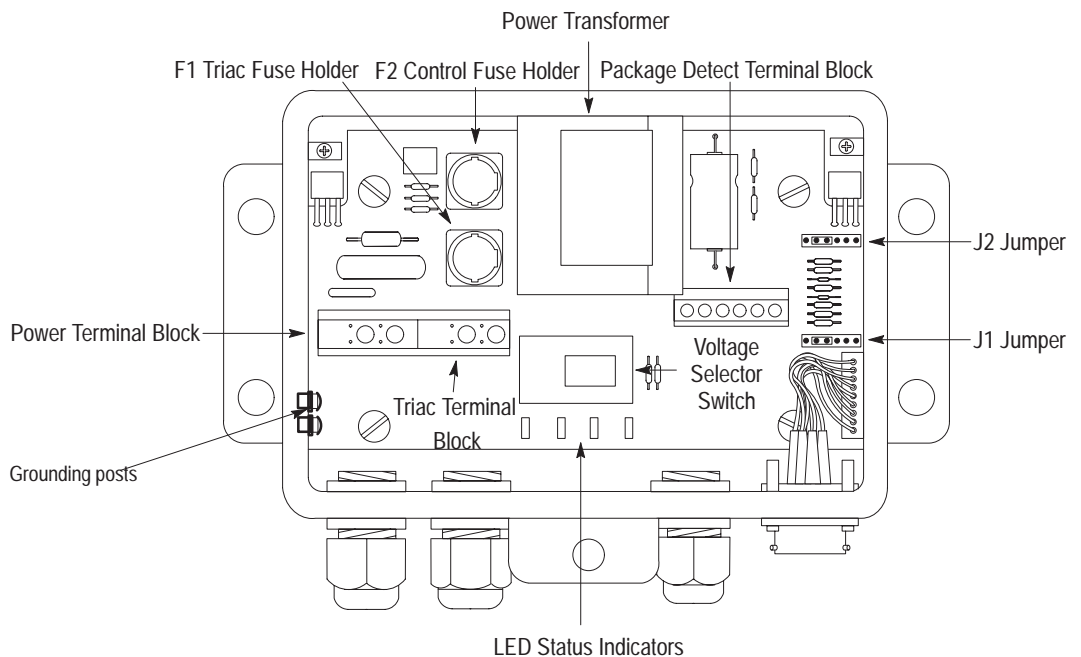
Reader Status LEDs provide convenient system status for the StrataScan reader. The table below provides an explanation of the reader's LED status.

LED State	Indicates
Solid Red	the reader has power.
Solid Red, Flashing Green	the reader has transmitted a successful read or the reader is in program mode.
Flashing Red and Green	the reader has a motor failure.

I/O Interface Box Features

The **StrataScan I/O Interface box** provides a convenient connection for an external package detect, one input, and one output. The interface box has the following components:

- Power transformer. Supplies a stepped-down and isolated voltage that produces the 12V dc power for the interface box and external sensor.
- F2 control fuse holder. Contains the 12V dc fuse for the interface box.
- F1 triac fuse holder. Contains the fuse for the triac output.
- Power terminal block. Provides the input connection point for the AC line that supplies power to the interface box.
- Triac terminal block. Provides the output connection point for the reader-controlled power output.
- LED status indicators. Provides the status of power supply, package detect, and sensor alarm circuits.
- Voltage selector switch. Allows you to configure the interface box to match the incoming line voltage.
- J1 jumper. Allows you to configure the sensor input.
- J2 jumper. Allows you to configure the sensor input alarm.
- Package detect terminal block. Provides the connection point for the package detect.



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Decoding

StrataScan readers can decode the following symbologies:

- UPC-A and E
- EAN-8 and 13
- JAN-8 and 13
- Codabar
- Code 11 and 39
- Code 39 Full ASCII
- Code 39 Mod 43
- Code 93 and 128
- Interleaved 2 of 5 and Interleaved 2 of 5 Mod 10
- Paraf
- MSI Plessey
- MSI Plessey Mod 10 Check digit
- MSI Plessey Mod 10/10 Check digit
- UK Plessey
- Airline 2 of 5
- Matrix 2 of 5
- telepen

Safety Information

The readers use a low power visible laser diode. As with any bright light source, avoid staring directly into the beam. Momentary exposure to a CDRH Class II laser is not known to be harmful.

Be aware of the following laser caution symbol on the readers.



Reader Catalog Numbers

The following readers have their corresponding catalog numbers:

Description	Catalog Number
Medium to low density, 3 laser holographic reader, 3360 scan lines per second ¹	2755-LHR-3C
Medium density, 5 laser holographic reader, 5250 scan lines per second ¹	2755-LHR-5B
Medium density, 5 laser holographic reader, 5600 scan lines per second ¹	2755-LHR-5C
High density, 5 laser holographic reader, 7350 scan lines per second ¹	2755-LHR-5BX1

¹ Mounting bracket and power supply included. Power cord sold separately.

Accessories

The following accessories are available for the readers:

Description	Catalog Number
I/O Interface box	2755-LHB-1
Master/Slave cable for readers	2755-LHC-1
I/O Interface box cable	2755-LHC-2
Master/Slave cable for I/O interface box	2755-LHC-3
Null modem communications cable for readers	2755-LHC-11
Unterminated communications cable for readers	2755-LHC-12
StrataScan Programming Software	2755-LHS-1

Replacement Parts

The following replacement parts are available for the readers:

Description	Catalog Number
Replacement top cover/window for 2755-LHR-5B	77126-899-01
Replacement top cover/window for 2755-LHR-3C, -5C and -5BX1	77126-899-02
Replacement mounting bracket for 2755-LHR-5B	77126-898-01
Replacement mounting bracket for 2755-LHR-3C, -5C, and -5BX1	77126-898-02
Replacement power supply for LH series readers	77126-896-01

Power Cords

The following power cords are available for the readers:

Description	Catalog Number
IEC 320 Terminated, US, 110 VAC, NEMA Type 1	77121-801-01
IEC 320 Unterminated, US, 240 VAC, NEMA Type 1	77121-801-02
IEC 320 Unterminated, European, 240 VAC, NEMA Type 1	77121-801-03

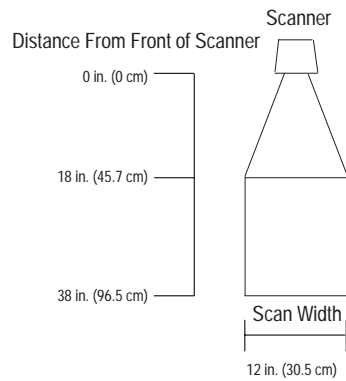
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Determining Read Range

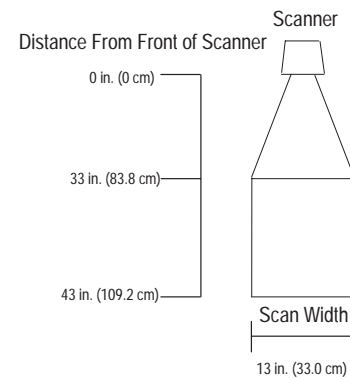
The readers can read bar code symbols at various distances depending upon the type of reader and the narrowest bar element.

Catalog Number	Narrow Element (Mils)	Read Range		Width of Scan Field
		(Minimum)	(Maximum)	
2755-LHR-5B	8	18 in. (45.75 cm)	36 in. (91.44 cm)	12 in. (30.48 cm)
	10	18 in. (45.75 cm)	38 in. (96.52 cm)	12 in. (30.48 cm)
2755-LHR-3C	13	34 in. (86.36 cm)	64 in. (162.56 cm)	22 in. (55.88 cm)
	25	34 in. (86.36 cm)	70 in. (177.80 cm)	22 in. (55.88 cm)
2755-LHR-5C	13	34 in. (86.36 cm)	64 in. (162.56 cm)	22 in. (55.88 cm)
	25	34 in. (86.36 cm)	70 in. (177.80 cm)	22 in. (55.88 cm)
2755-LHR-5BX1	9	33 in. (83.82 cm)	43 in. (109.22 cm)	13 in. (33.02 cm)

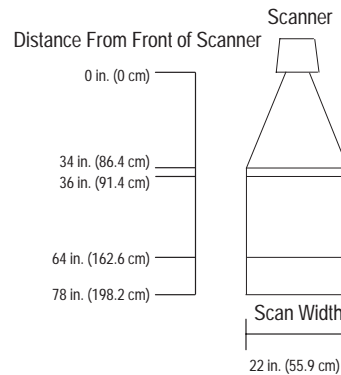
Catalog Number 2755-LHR-5B



Catalog Number 2755-LHR-5BX1



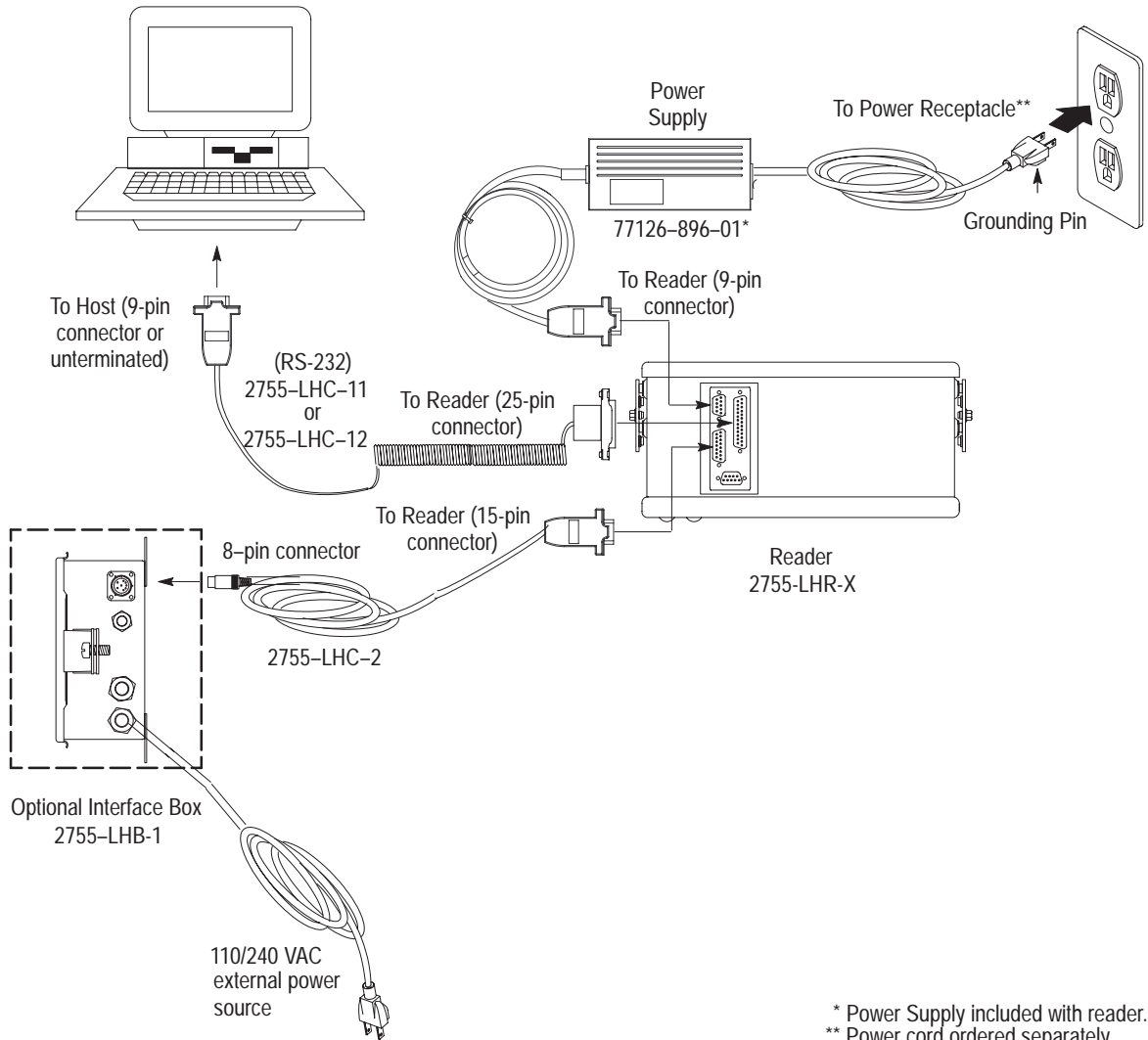
Catalog Numbers 2755-LHR-3C and 2755-LHR-5C



Typical Configurations

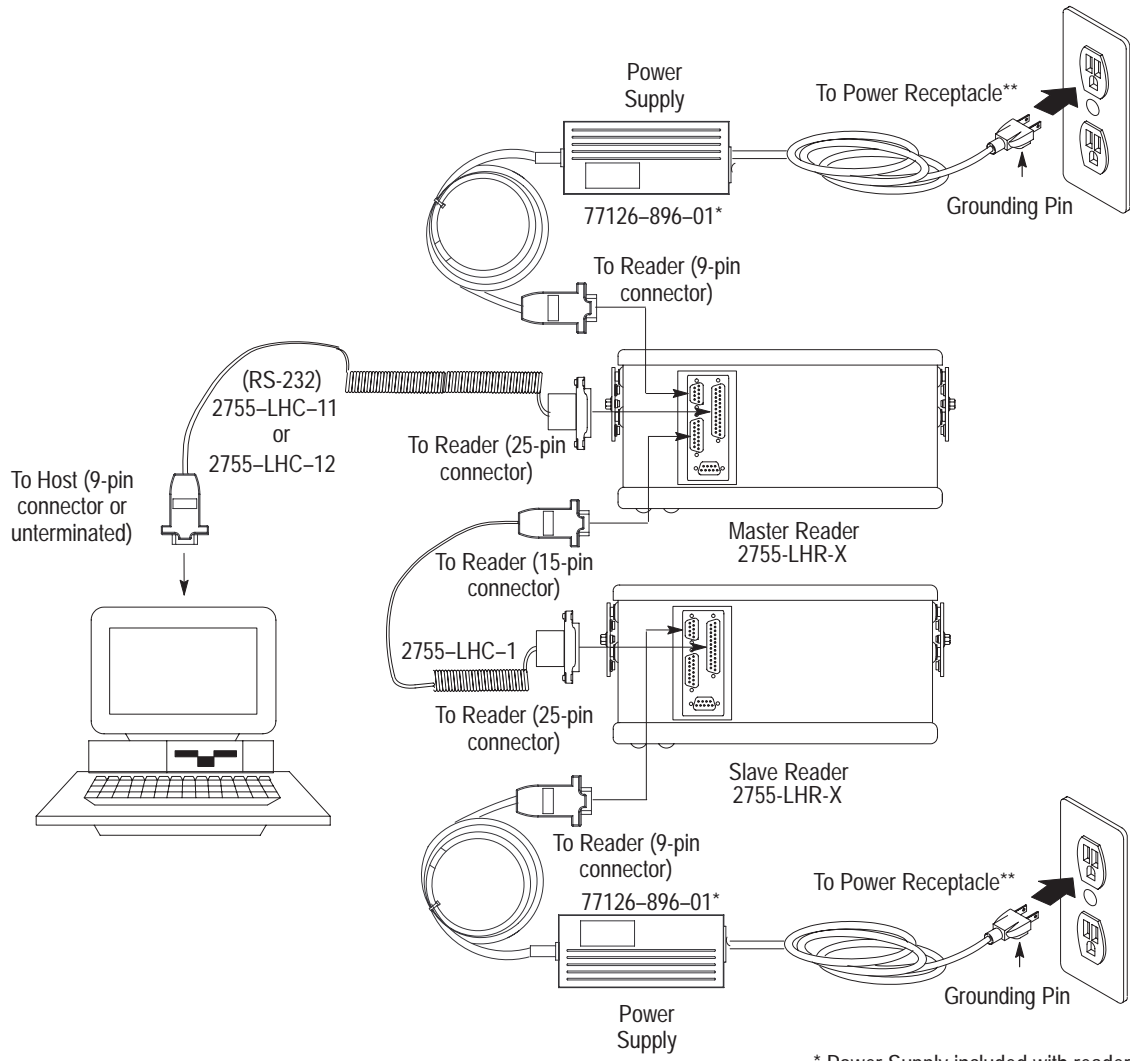
The following are diagrams for the most common StrataScan configurations:

Stand-Alone



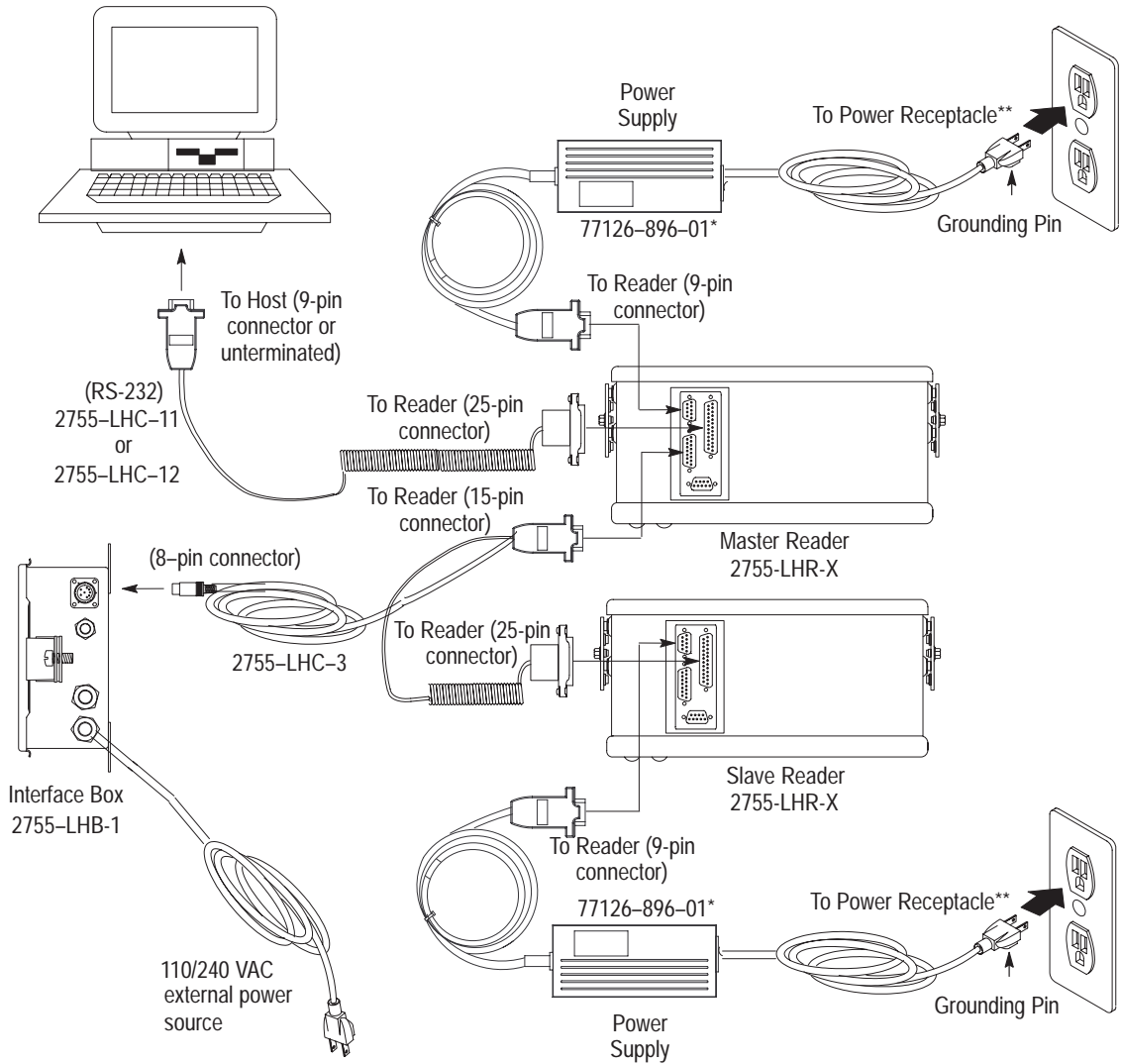
* Power Supply included with reader.
** Power cord ordered separately.

Master/Slave (Daisy-Chain)



* Power Supply included with reader.
** Power cord ordered separately.

Master/Slave (Daisy-Chain) with I/O Interface Box



* Power Supply included with reader.
 ** Power cord ordered separately.

StrataScan Bar Code Reader Specifications

The following table provides the specifications for the StrataScan Bar Code Readers:

Description	Specification			
	Catalog No. 2755-LHR-5B	Catalog No. 2755-LHR-3C	Catalog No. 2755-LHR-5C	Catalog No. 2755-LHR-5BX1
Scan Speed	5250 scan lines per second	3360 scan lines per second	5600 scan lines per second	7350 scan lines per second
Number of Scan Lines	75 interlocking lines (5 layers)	48 interlocking lines (4 layers)	80 interlocking lines (4 layers)	105 interlocking lines (3 layers)
Bar Code Aspect Ratios	2.51:1 (W:H)	1.51:1 (W:H)	2.51:1 (W:H)	2.51:1 (W:H)
Operating Current	2.5 A	2.8 A	3.59 A	3.59 A
Power	30 Watts	34 Watts	43 Watts	43 Watts
Power Requirements	Input + 12V dc \pm 4% regulated @ 480 mA with 200 mV p-p maximum ripple			
Voltage	100 - 240 VAC			
Scan Pattern	Omnidirectional			
Tilt	360°			
Skew Tolerance	\pm 60°			
Pitch Angle	\pm 60°			
Depth of Field	Up to 42 in. (114.3 cm) – label and reader dependent (See page 6 for diagram)			
Minimum Element Width	Refer to table on page 6 of this product data sheet.			
Print Contrast Minimum	35% reflectance difference			
Output Wavelength	675 nm nominal			
Ambient Light Immunity				
Artificial Lighting	400 ft candles (fluorescent, incandescent, and mercury vapor)			
Soft Outdoor	1800 ft candles			
Housing Rating	NEMA 12 steel case			
Operating Shock	100g for 1 ms			
Electrostatic Discharge	15 kv IEC 801-2 level 4			
EMI	FCC Class A, Cisper Class A			
Operating Temperature	32°F to 104°F (0°C to 40°C)			
Storage Temperature	-40°F to 140°F (-40°C to 60°C)			
Humidity	5% to 95% noncondensing			
Laser Registration	CDRH and EC Class II			
Agency Certification	<ul style="list-style-type: none"> •cUL listed •UL listed •CE marked for all applicable directives. •IEC class I 			

Interface Box Specifications

Description	Specification
Catalog Number	2755-LHB-1
Electrical Characteristics	
Input Voltage	UL and cUL 100, 115, or 230V ac at 50 Hz, 60 Hz 6.1 A
Relay	CE 115, 230V ac at 50 Hz, 60 Hz 5.1A
Output for Sensor	Triac, 5 A EEA Countries 6 A USA and Canada
Operating Temperature	+12V dc @ 200 mA
Humidity	32°F to 122°F (0°C to 50°C)
Agency Certification	5% to 95% noncondensing
	<ul style="list-style-type: none"> •cUL listed •UL listed •CE marked for all applicable directives

Power Supply Specifications

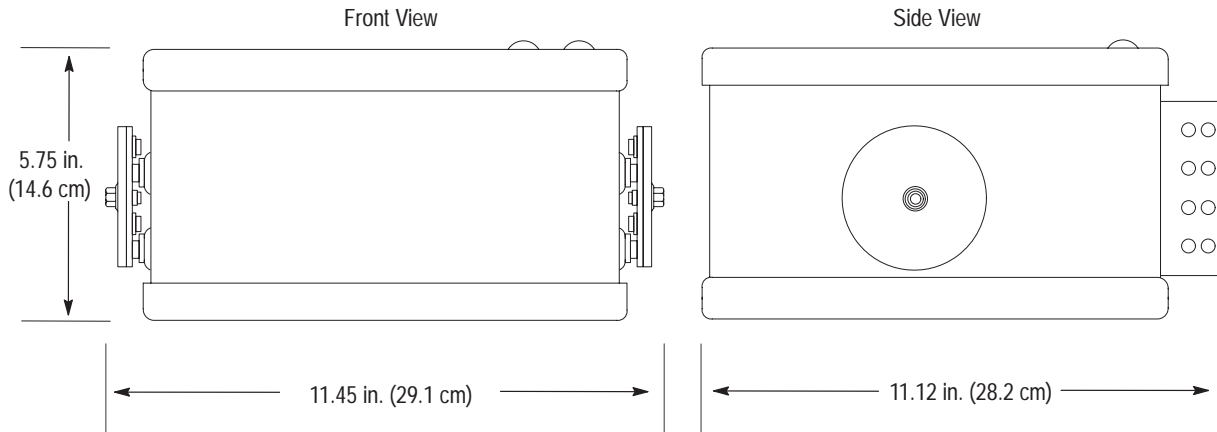
Description	Specification
Replacement Part Number	77126-896-01
Input Voltage	100 to 240V ac
Input Frequency	50 to 60 Hz
Output Voltage	+12 V
Vibration	
Acceleration	$\pm 7.35 \text{ m/s}^2$
Direction	x, y, and z axis
Operating Temperature	41°F to 113°F (5°C to 45°C)
Storage Temperature	-13°F to 185°F (-25°C to 85°C)
Operating Humidity	20%–80% non–condensing
Storage Humidity	5%–90% non–condensing
Agency Certification	<ul style="list-style-type: none"> •CSA certified •UL Recognized •CE marked for all applicable directives

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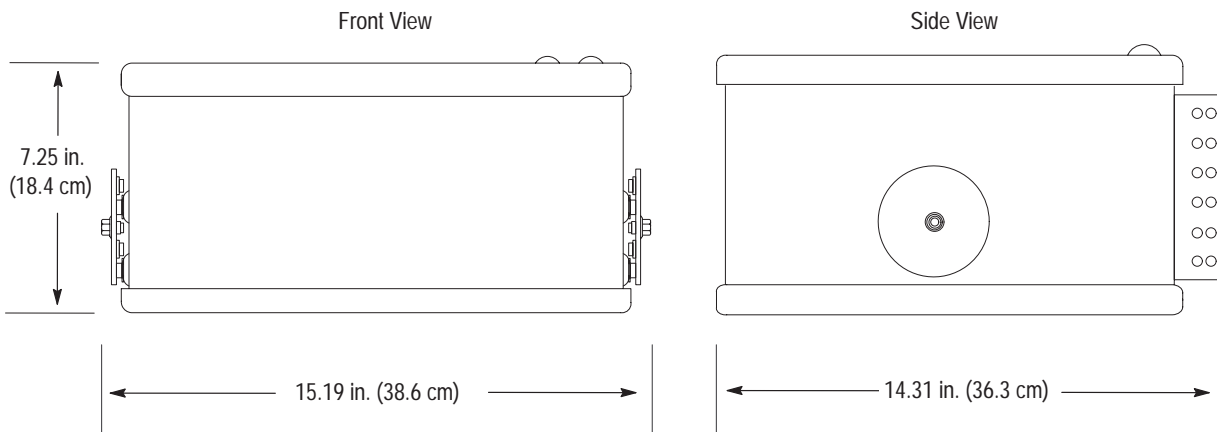
StrataScan Bar Code Reader Dimensions

Reader dimensions are shown below:

Catalog Number 2755-LHR-5B



Catalog Numbers 2755-LHR-3C, -5C and -5BX1



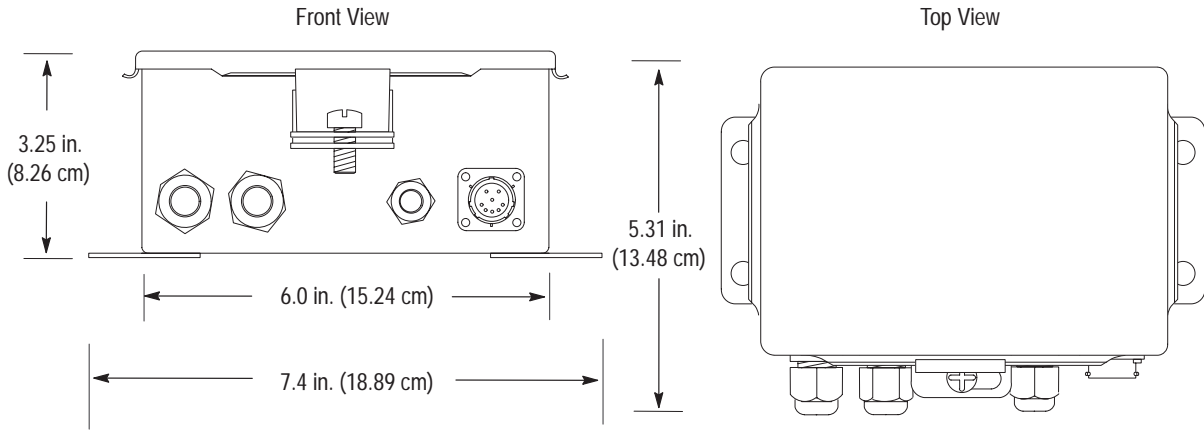
Approximate Weights

Weight lbs./kg	Catalog Number
20 lbs. (9 kg)	2755-LHR-3C
20 lbs. (9 kg)	2755-LHR-5B
25 lbs. (11 kg)	2755-LHR-5BX1
25 lbs. (11 kg)	2755-LHR-5C

Interface Box Dimensions

Dimensions for the interface box are shown below:

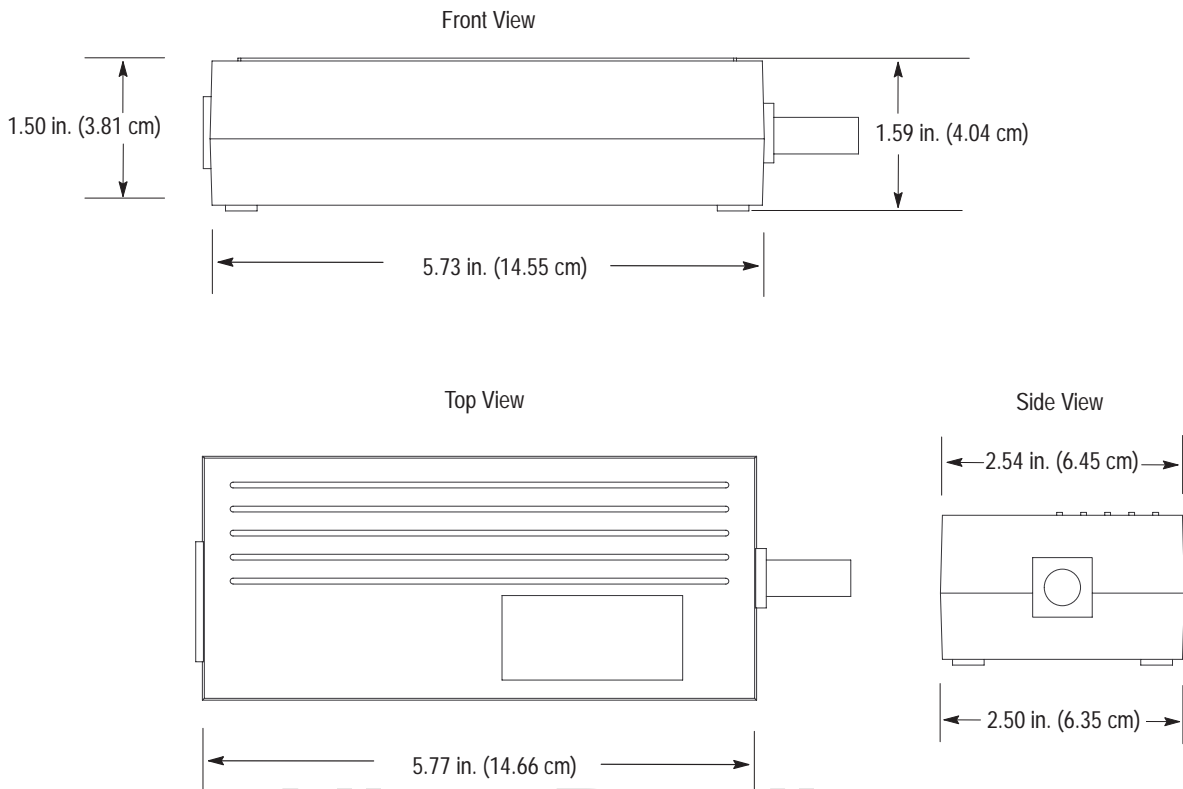
Catalog Number 2755-LHB-1



Power Supply Dimensions

Power supply dimensions are shown below:

Replacement Part Number 77126-896-01

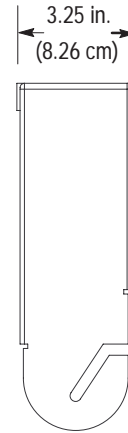
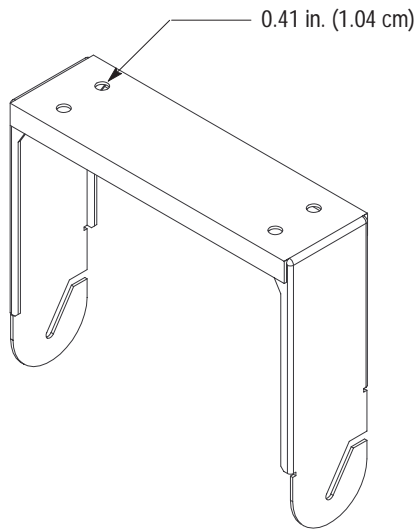


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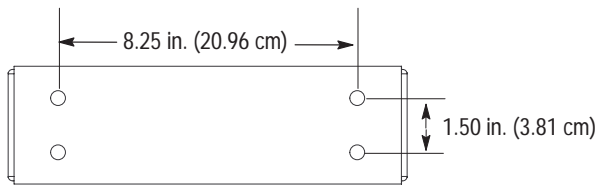
Mounting Bracket Dimensions

Mounting bracket dimensions for all StrataScan readers are shown starting below:

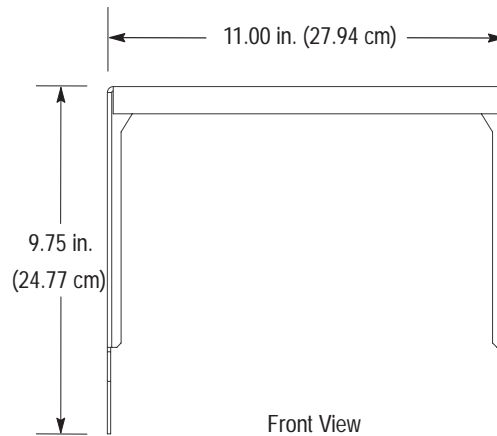
**Replacement Part Number 77126-898-01
for Reader (Catalog Number 2755-LHR-5B)**



Side View



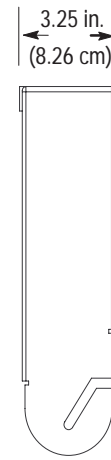
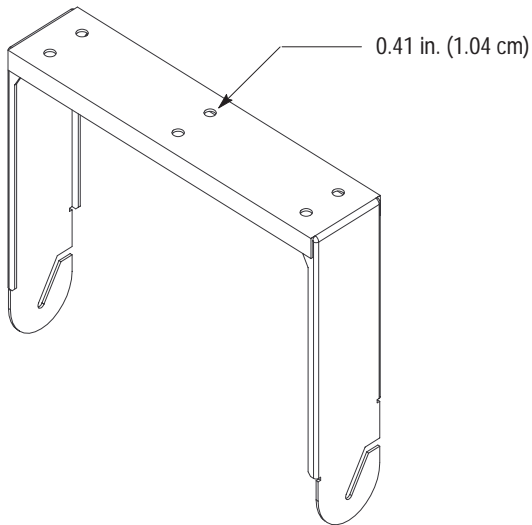
Top View



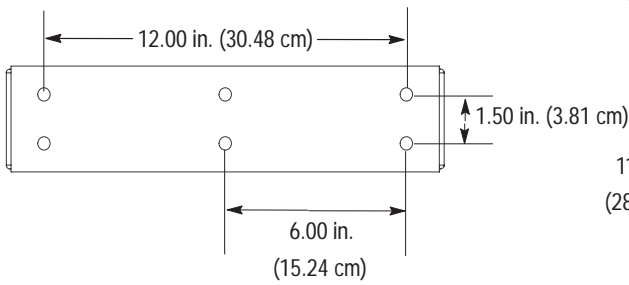
Front View

Mounting Bracket Dimensions (continued)

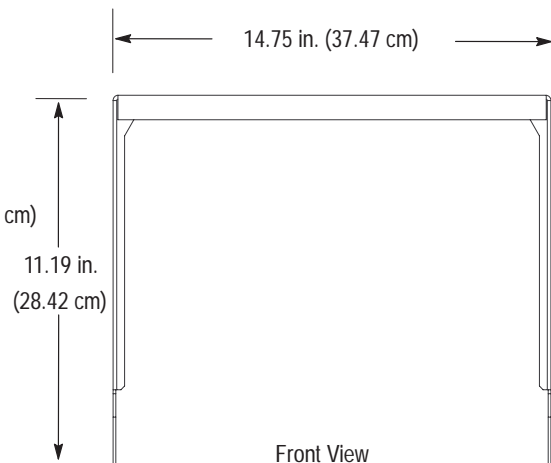
Replacement Part Number 77126-898-02
for Readers (Catalog Numbers 2755-LHR-3C, -5C and -5BX1)



Side View



Top View



Front View

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In today's competitive environment, when you buy any product, you expect that product to meet your needs. You also expect the manufacturer of that product to back it up with the kind of customer service and product support that will prove you made a wise purchase.

As the people who design, engineer, and manufacture your Industrial Automation Control equipment, Allen-Bradley has a vested interest in your complete satisfaction with our products and services.

Allen-Bradley offers support services worldwide, with over 75 Sales/Support Offices, 512 authorized Distributors and 260 authorized Systems Integrators located throughout the United States alone, plus Allen-Bradley representatives in every major country in the world.

Contact your local Allen-Bradley representative for:

- sales and order support
- product technical training
- warranty support
- support service agreements

StrataScan Application Survey

Thank you for your interest in Allen-Bradley scanners. By completing this questionnaire, we can help you find the right scanner for your application.

Customer Information

Name: _____ Title: _____

Company Name: _____

Address: _____

City/State/Zip: _____

Phone: () _____ FAX: () _____

E-Mail _____

VAR: _____ Integrator: _____

End User: _____ OEM: _____

Other: (Describe) _____

Describe the scanning application:

What type of scanners are being used in this application now? _____

How many scanners will be needed in this application? _____

When? _____

How are codes presented to the scanner?

By hand? _____ Conveyor? _____ Other _____

At what rate are they presented?

Feet or pieces/minute: _____ Min. rate? _____ Max rate? _____

Number of codes to be scanned per package? _____

Orientation of scanner? Side: _____ Overhead: _____

Desired Depth-of-field? _____

Desired distance from face of scanner to begin scanning? _____

Width of scan region desired (or belt width)? _____

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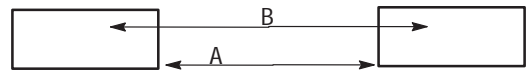
Describe the size of packages to be scanned, or range: _____

Maximum number of codes in the scan field at any time: _____

Is there a need to tell the scanner when to scan, or for the scanner to indicate when no code is found? Yes _____ No _____

What is the minimum distance between packages (belt applications) [see A]? _____

What is the minimum distance between codes [see B]? _____



Bar Code Information

What are the code types to be scanned (i.e., Code 128, I2/5, UPC, etc.)

What size is the bar code? Width: _____ Height: _____

How many characters are in the code? _____

What is the normal minimum bar width? _____

What is the absolute minimum bar width? _____

How many bar codes are on each item? _____

How many must be scanned? _____ Same type? _____

Which axis? (horizontal or vertical) _____

What is the orientation of the codes with respect to the axis of the scanner? _____

Where on the package are the labels located? _____

Can bar code dimensions be modified? _____

Can you send sample bar codes to us for evaluation? _____

Please provide this completed sheet and bar code samples to your local Allen-Bradley bar code representative.

Notes

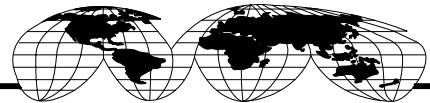
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