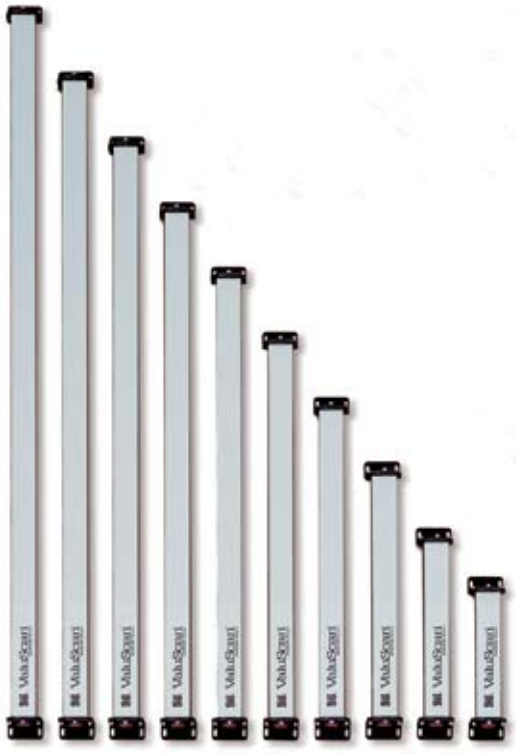
Rev. 6.07



ValuScan VS6500

Single-Axis High-Speed Optical Profiling Scanners

- Single axis versions (for dual axis versions refer to the VXY6500)
- Wide variety of beam spacings and resolutions available
- Two operating ranges
- High immunity to all types of ambient light
- DoubleScan mode for enhanced resolution
- Wide variety of outputs:
  - Serial data
  - TTL parallel
  - Relay
  - Analog
  - Optional cards enhance flexibility of outputs

Description

A complete ValuScan system consists of a transmitter, receiver, controller, and interconnecting cables. The transmitters and receivers provide a wide choice of beam spacings, object resolutions, and ranges. Two different controllers provide many output and measurement options for use with almost any system.

The transmitter is a linear array of light emitting diodes (LEDs). The receiver is a linear array of phototransistors. Each LED and its corresponding phototransistor create a beam. The controller turns on each beam in succession. As each LED is turned on, the corresponding phototransistor is examined to determine if an object is blocking the beam. After scanning through the array, the controller updates the various outputs based on the status of the beams.

To operate the scanner you first set the scanner's operating parameters. This is done using Omron STI's MS-DOS® or Windows® 95/98 based setup software or using an ASCII terminal emulator. These parameters control how the scanner operates, which outputs are used, and what information is reported. During setup, these parameters are saved in non-volatile memory. During operation, the scanner operates without external control, or it can be set for external control through a hardware or software trigger.

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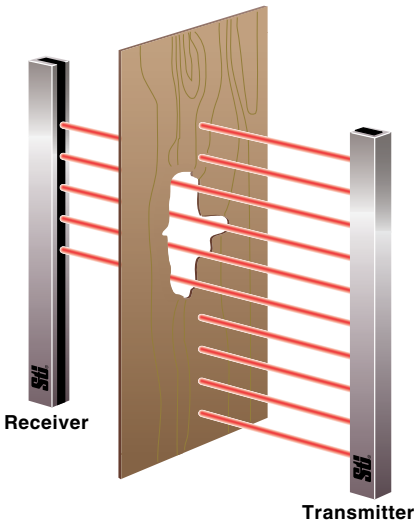
■ Applications

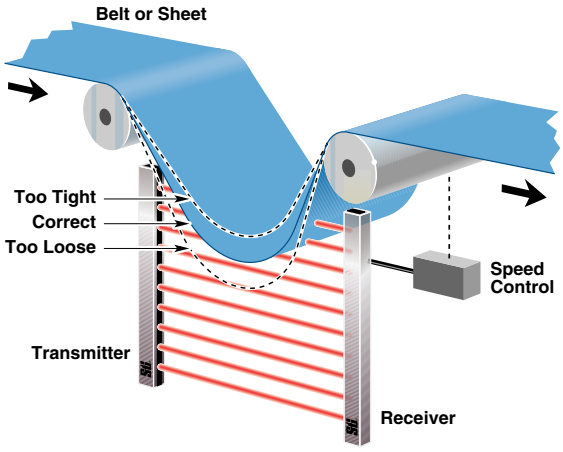
Hole Detection

Holes can be detected in almost any opaque material.



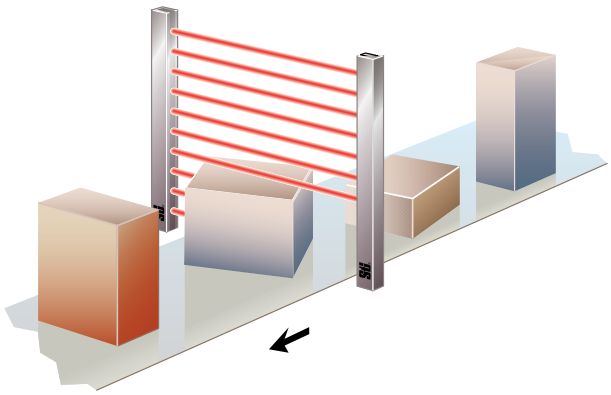
Slack Loop Control

Omron STI scanners can determine the level of slack loops. ValuScan operates best when scanning opaque materials.



Product Profiling

The height, width or shape of an object can easily be measured using a single axis scanner. ValuScan systems can perform this function directly.



■ Special Features

ValuScan scanners incorporate several special functions to enhance their versatility. These are built into the operating firmware and can be activated through the setup commands.

Double Scan

This allows you to improve resolution in some applications by interpolating between the beams.

Masking

Masking allows you to manipulate the reported status of each beam (for example, inverting the status of the beams to detect holes rather than objects).

Screen Mode

Screen Mode allows you to ignore objects under a specific size.

Zone Functions

This allows you to define up to 8 zones within any scanner. An independent TTL or optional relay output for each zone indicates when an object is detected within the zone.

Specifications

Optical Performance

	Minimum Detectable Object*		Scan Length			
Beam Spacing	Normal Scan	DoubleScan	Minimum	Increment	Maximum	Range
0.20 in. (5 mm)	0.32 in. (8.2 mm)	0.22 in. (5.7 mm)	4.7 in. (120 mm)	4.7 in. (120 mm)	47.2 in. (1200 mm)	16 ft. (4.9 m)
0.25 in. (6.4 mm)	0.45 in. (11.4 mm)	0.33 in. (8.3 mm)	6 in. (152 mm)	6 in. (152 mm)	96 in. (2438 mm)	16 ft. (4.9 m)
0.39 in. (10 mm)	0.59 in. (15.1 mm)	0.40 in. (10.1 mm)	12.6 in. (320 mm)	12.6 in. (320 mm)	37.8 in. (960 mm)	16 ft. (4.9 m)
0.50 in. (12.7 mm)	1.00 in. (25.4 mm)	0.75 in. (19.1 mm)	24 in. (610 mm)	12 in. (305 mm)	72 in. (1829 mm)	80 ft. (24 m)
0.75 in. (19.1 mm)	1.25 in. (31.8 mm)	0.88 in. (22.2 mm)	24 in. (610 mm)	12 in. (305 mm)	72 in. (1829 mm)	80 ft. (24 m)

* Minimum detectable object shown is for non-moving objects measured in a direction parallel to the long axis of the scanner.

Scan Rate:

50 microseconds per beam plus 200 microseconds. (For M5, 0.25, and M10 series, faster scan time may be used with reduced range and short cables.) Note: Scan time is exclusive of serial data communication time.

Serial Communications:

RS-232 or RS-422 protocol (user selected)

9,600, 19,200 or 38,400 Baud Rate

Parallel Output: (Series A & B Controllers only)

8 bit TTL compatible; 0 to +5 VDC transition; sources or sinks 10 mA.

Connection is through male ribbon cable header

Relay Output:

SPDT Reed Relay; Maximum switching capacity: 25 VDC at 100 mA

Do not switch AC loads with this relay.

Hardware Trigger: (Series A & B Controllers Only)

Optically isolated input. Signal transition between 0 and +5 VDC at 10 mA is required. Maximum current allowed is 20 mA. Positive signal is active. **Use a resistor to limit current.**

Environmental Rating:

Temperature Rating: 32 to 131°F (0 to 55°C)

Transmitters and Receivers: NEMA 12, IP65

Enclosed controllers: NEMA 12, IP65

Power Requirements:

Series A Controllers:

115 VAC ±10% 50/60 Hz 30 VA maximum power consumption

230 VAC ±10% 50/60 Hz 30 VA maximum power consumption

24 VDC ±10%, 1 VDC P-P maximum ripple, 30 VA maximum power consumption

Series B Controllers:

24 VDC ±10%, 1 VDC P-P maximum ripple, 30 VA maximum power consumption

Series C & D Controllers:

115 VAC ±10% 50/60 Hz 30 VA maximum power consumption

230 VAC ±10% 50/60 Hz 30 VA maximum power consumption

24 VDC ±10%, 1 VDC P-P maximum ripple, 30 VA maximum power consumption

Field conversion of operating voltage between 115 VAC and 230 VAC **can be** accomplished.

Conversion from AC to DC or DC to AC **cannot be** accomplished.

Cable: 98.4 ft. (30 m) maximum

Cable diameter is 0.30 in. (7.6 mm).

Cable connector diameter is 1.35 in. (34.3 mm)

Mechanical Endurance:

Vibration: 0 to 100 Hz

Acceleration: 98 m/s^2, 10 G

Shock: 4.1 Joules, 3 ft.-lb.

Agency Approvals: CSA-CUS, CE

Optional Output Cards: (Series A & B Controllers Only)

AIC-02 Analog Output: 0 to +10 VDC, -10 to +10 VDC, or 4 to 20 mA current sinking (user selectable)

ARC-02 Analog Relay Card: 4 SPDT Reed Relays; Maximum switching capacity: 25 VDC at 100 mA. **Do not switch AC loads with these relays.**

Hysteresis: In beams, multiply 0.016312 times the number of beams and round up to the nearest whole number. For example, 120 beams gives 1.95, which rounds up to 2 beams. It will require clearing at least 2 beams before the relay will release after it has been energized.

PRC-02 Parallel Relay Card: 4 SPDT Reed Relays; Maximum switching capacity: 25 VDC at 100 mA. **Do not switch AC loads with these relays.**

PRC-08 Parallel Relay Card: 8 SPDT Reed Relays; Maximum switching capacity: 25 VDC at 100 mA. **Do not switch AC loads with these relays.**

PCC-02 Parallel Connection Card: Provides screw terminal connections instead of ribbon cable header for 8-bit parallel output.

Specifications are subject to change without notice.

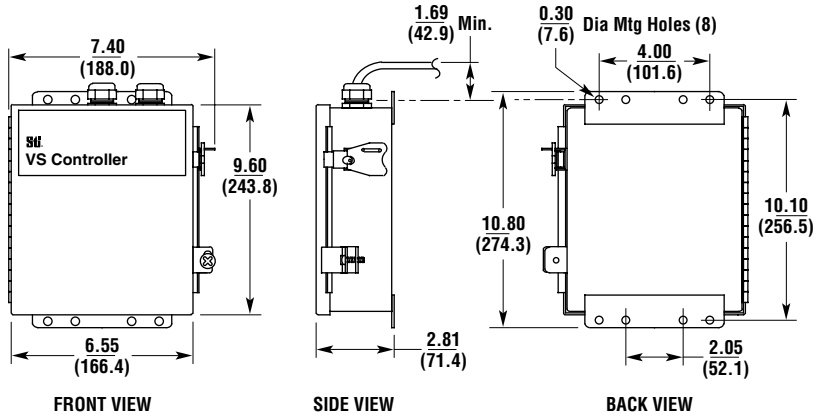
■ Controller Specifications

Two controller styles are available: 1) a serial controller that provides serial data and a relay output, and 2) a VSU controller that provides serial, parallel, relay, and optional analog outputs. Each controller can operate any of the transmitters and receivers. Each controller is available with or without a metal enclosure.

■ Serial Controller: Series C and D

The serial controller is a simple controller designed primarily for OEM applications. It provides serial data and relay outputs only, and is an integrated power supply/controller assembly. It is available as a Series C controller in a compact metal enclosure (rated NEMA 12, IP65) or as a Series D controller printed circuit board assembly without an enclosure. Both series are available for operation on 115 VAC, 230 VAC, or 24 VDC. The serial output can be set to give any of the information shown in the chart below.

Serial Controller Dimensions — in./mm



Standard Outputs

Serial Data: RS-232 or RS-422 protocol.

Relay Output: SPDT Reed Relay. The relay output can be set to energize when any object is detected or when a minimum number of objects is detected. A special hysteresis function lets you set turn-on and turn-off sizes, allowing the scanner to ignore small objects while detecting larger ones.

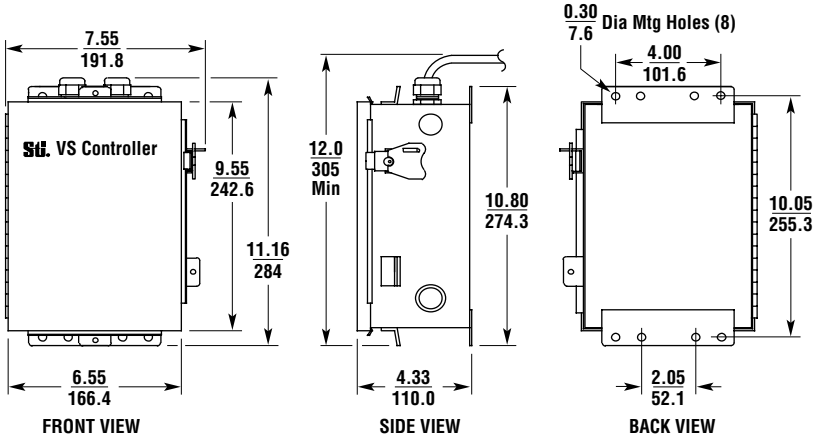
Serial Controller Output Information

Output Options	Serial Data Output
Status of each beam (blocked or clear)	✔
Highest beam blocked	✔
Size of an object	✔
Size and location of an object	✔
Position of the center of an object	✔
Total number of beams blocked	✔

■ VSU Controller: Series A and B

The VSU controller offers the greatest flexibility and widest range of output options for operating this class of scanner. Series A controllers include a NEMA 12 (IP65) rated metal enclosure and operate on 24 VDC, 115 VAC or 230 VAC. The Series B controller is a single printed circuit board assembly operating on 24 VDC.

VSU Controller Dimensions — in./mm



Standard Outputs

Serial Data: RS-232 or RS-422 Protocol.

Parallel Output: 8 Bit TTL.

Relay Output: SPDT reed relay. The relay output can be set to energize when any object is detected or when a minimum number of objects is detected. A special hysteresis function lets you set turn-on and turn-off sizes, allowing the scanner to ignore small objects while detecting larger ones.

VSU Controller Output Information

The following chart shows what information is available from each of the outputs. Note that each output can be set for only one function.

Output Information Options	Serial Data Output	TTL Parallel Output*	Analog Output (Optional)
Status of each beam (blocked or clear)	✔		
Highest beam blocked	✔	✔	✔
Size of an object	✔	✔	✔
Size and location of an object	✔		
Position of the center of an object	✔	✔	✔
Total number of beams blocked	✔	✔	✔

*TTL output has 8 bits and is limited to a maximum of 255 beams.

Optional Outputs

A number of optional output cards are available for use with the VSU controller. All VSU controllers allow one of these cards to be mounted directly on the controller printed circuit board assembly.

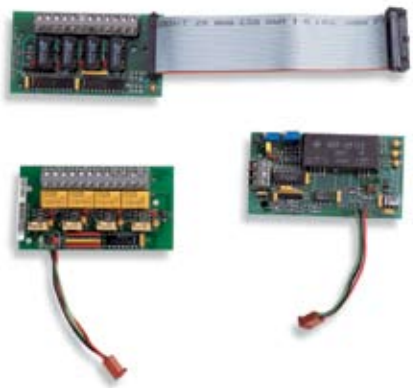
AIC-02 Analog Isolator Card gives an analog output of 0 to +10 VDC, -10 to +10 VDC, or 4 to 20 mA (current sinking).

ARC-02 Analog Relay Card provides four SPDT relays driven by the analog output. Each relay has a potentiometer to set its trip point and an LED to indicate when the relay is energized. This allows for a stand-alone system to perform simple sorting based on the size or position of an object.

PRC-02 Parallel Relay Card provides four SPDT relays that are switched by four of the TTL parallel outputs.

PRC-08 Parallel Relay Card provides eight SPDT relays that are switched by the eight TTL parallel outputs.

PCC-02 Parallel Connection Card provides screw terminal connections for the TTL solid state parallel output.



■ Transmitters & Receivers

The following transmitters and receivers can be used with the serial or VSU controllers. Note: the transmitter and receiver must be of the same series and size.

ValuScan - M5 Series

The ValuScan M5 Series provides a beam spacing of 0.2 in. (5 mm) resulting in the finest resolution in this class of products. It offers a maximum range of 16 ft. (4.9 m) and is available in sizes of 4.7 to 47.2 in. in 4.7 in. increments (120 to 1200 mm in 120 mm increments).

ValuScan - 0.25 Series

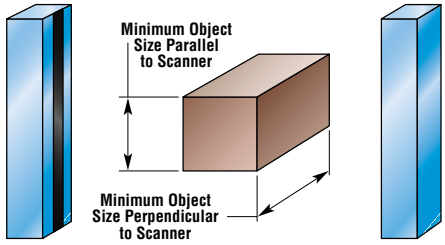
The ValuScan has a beam spacing of 0.25 in. (6.4 mm). It provides fine resolution at a maximum range of 16 ft. (4.9 m). ValuScan 0.25 Series systems are available in sizes of 6 to 96 in. in 6 in. increments (152 to 2438 mm in 152 mm increments). Choose the 0.25 Series for fine resolution at short to medium range.

ValuScan M10 Series

The ValuScan M10 transmitters and receivers provide a low cost, medium resolution scanner. They are available with 0.39 in. (10 mm) beam spacing in 12.6, 25.2, and 37.8 in. sizes (320, 640, and 960 mm). The operating range of the M10 Series is 16 ft. (4.9 m) maximum. Choose the M10 Series when low cost is more important than fine resolution.

ValuScan Long Range: 0.50 Series and 0.75 Series

These long range ValuScan products are high powered profiling scanners. They are available with 0.5 and 0.75 in. (12.7 and 19.1 mm) beam spacings in 2, 3, 4, 5, and 6 ft. (610, 914, 1219, 1524, and 1829 mm) sizes. The operating range is 80 ft. (24 m). Choose the ValuScan long range scanners when the highest optical power is needed.



Range and Minimum Detectable Object

The maximum range (distance between the transmitter and receiver) and minimum detectable object size vary with the ValuScan series. See the chart below for specific information.

US Dimensions

			Minimum Detectable Object*		
			Orientation*		
	Beam	Operating	Perpendicular	Parallel	
Series	Spacing	Range	Normal or DoubleScan	Normal Scan	DoubleScan
M5	0.2 in.	16 ft.	0.33 in.	0.32 in.	0.22 in.
0.25	0.25 in.	16 ft.	0.20 in.	0.45 in.	0.33 in.
M10	0.39 in.	16 ft.	0.20 in.	0.59 in.	0.40 in.
0.50	0.50 in.	80 ft.	0.5 in.	1.00 in.	0.75 in.
0.75	0.75 in.	80 ft.	0.5 in.	1.25 in.	0.88 in.

Metric Dimensions

			Minimum Detectable Object*		
			Orientation*		
	Beam	Operating	Perpendicular	Parallel	
Series	Spacing	Range	Normal or DoubleScan	Normal Scan	DoubleScan
M5	5 mm	4.9 m	8.3 mm	8.2 mm	5.7 mm
0.25	6.4 mm	4.9 m	5.1 mm	11.4 mm	8.3 mm
M10	10 mm	4.9 m	5.1 mm	15.1 mm	10.1 mm
0.50	12.7 mm	24 m	12.7 mm	25.4 mm	19.1 mm
0.75	19.1 mm	24 m	12.7 mm	31.8 mm	22.2 mm

* Minimum detectable objects shown are typical values for static (non-moving) objects. Actual values will vary with individual applications. See drawing above for orientation. For moving objects this size must be increased by the scan time multiplied by the speed of the object in the direction of motion. DoubleScan minimum detectable object sizes are determined at the mid-point between the transmitter and receiver.

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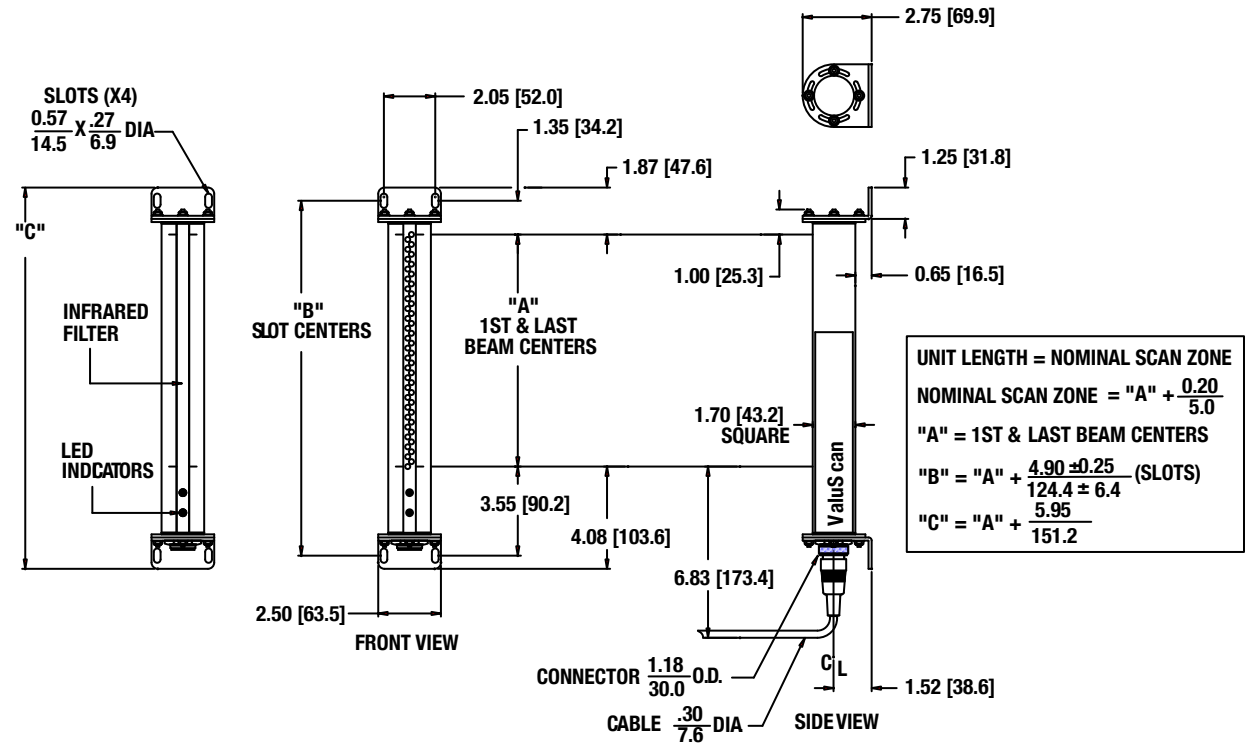
Available Types of Transmitters & Receivers

Series	Scan Length US	Scan Length Metric	Number of Beams Normal Scan	Number of Beams Double Scan
M5	4.7 in.	120 mm	24	48
M5	9.4 in.	240 mm	48	96
M5	14.2 in.	360 mm	72	144
M5	18.9 in.	480 mm	96	192
M5	23.6 in.	600 mm	120	240
M5	28.3 in.	720 mm	144	288
M5	33.1 in.	840 mm	168	336
M5	37.8 in.	960 mm	192	384
M5	42.5 in.	1080 mm	216	432
M5	47.2 in.	1200 mm	240	480
0.25	6 in.	152 mm	24	48
0.25	12 in.	305 mm	48	96
0.25	18 in.	457 mm	72	144
0.25	24 in.	610 mm	96	192
0.25	30 in.	762 mm	120	240
0.25	36 in.	914 mm	144	288
0.25	42 in.	1067 mm	168	336
0.25	48 in.	1219 mm	192	384
0.25	54 in.	1372 mm	216	432
0.25	60 in.	1524 mm	240	480
0.25	66 in.	1676 mm	264	528
0.25	72 in.	1829 mm	288	576
0.25	78 in.	1981 mm	312	624
0.25	84 in.	2134 mm	336	672
0.25	90 in.	2286 mm	360	720
0.25	96 in.	2438 mm	384	768

Series	Scan Length US	Scan Length Metric	Number of Beams Normal Scan	Number of Beams Double Scan
M10	12.6 in.	320 mm	32	64
M10	25.2 in.	640 mm	64	128
M10	37.8 in.	960 mm	96	192
M10	50.4 in.	1280 mm	128	256
0.50	24 in.	610 mm	48	96
0.50	36 in.	914 mm	72	144
0.50	48 in.	1219 mm	96	192
0.50	60 in.	1524 mm	120	240
0.50	72 in.	1829 mm	144	288
0.75	24 in.	610 mm	32	64
0.75	36 in.	914 mm	48	96
0.75	48 in.	1219 mm	64	128
0.75	60 in.	1524 mm	80	160
0.75	72 in.	1829 mm	96	192

■ ValuScan System Dimensions — in./mm

M5 Series Transmitter & Receiver



The dimensional drawings in this catalog are also available in CAD format at www.stiscanners.com

M5 Series — 0.2 in. (5 mm) Beam Spacing

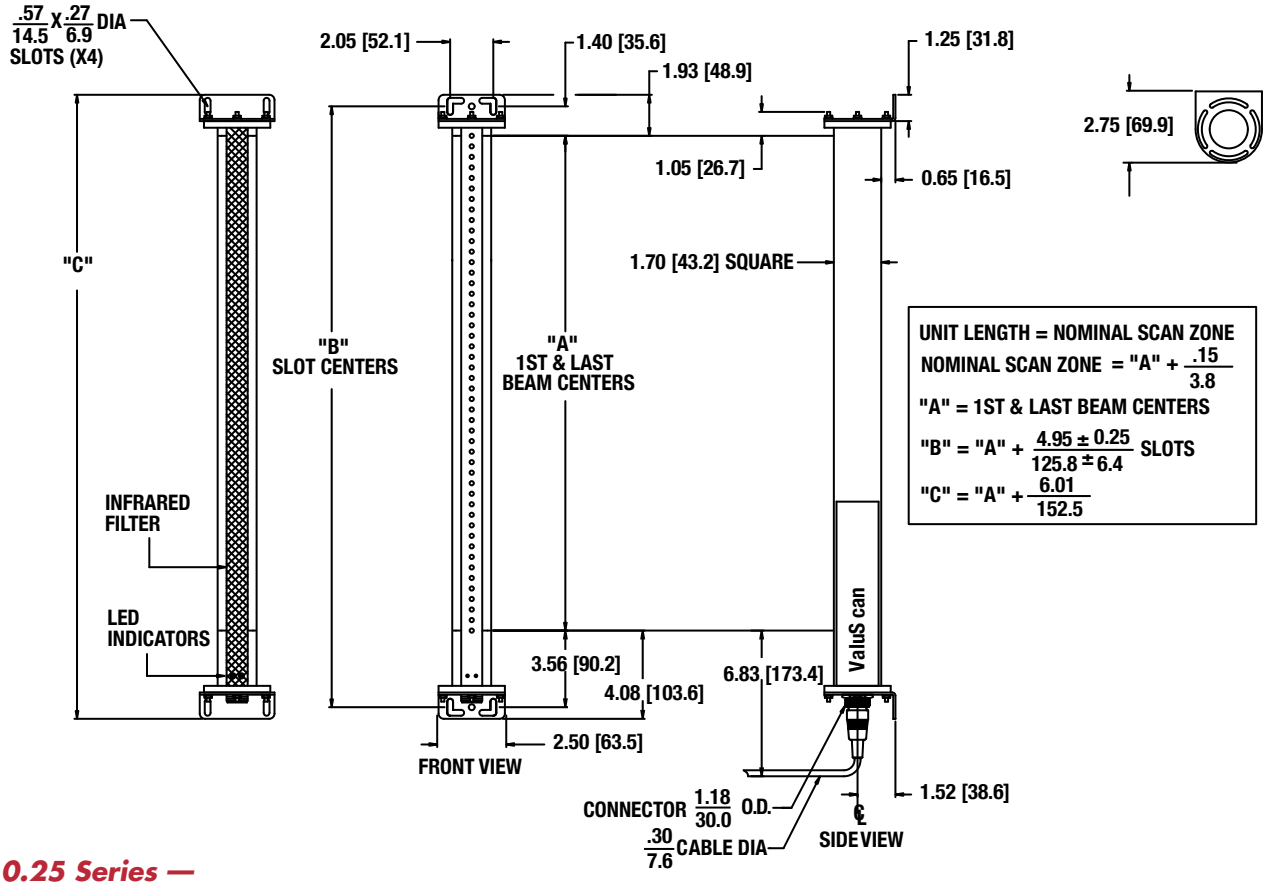
US Dimensions

Scan Length	4.7 in.	9.4 in.	14.2 in.	18.9 in.	23.6 in.	28.3 in.	33.1 in.	37.8 in.	42.5 in.	47.2 in.
A (in.)	4.72	9.45	14.17	18.90	23.62	28.35	33.07	37.80	42.52	47.24
B (in.)	7.73	12.45	17.18	21.90	26.63	31.35	36.07	40.80	45.52	50.25
C (in.)	9.43	14.15	18.88	23.60	28.33	33.05	37.77	42.50	47.22	51.95
D (in.)	10.48	15.20	19.93	24.65	29.38	34.10	38.82	43.55	48.27	53.00
Shipping Weight	22.0 lb.	24.5 lb.	27.0 lb.	29.5 lb.	32.0 lb.	34.5 lb.	37.0 lb.	39.5 lb.	42.0 lb.	44.5 lb.

Metric Dimensions

Scan Length	120 mm	240 mm	360 mm	480 mm	600 mm	720 mm	840 mm	960 mm	1080 mm	1200 mm
A (mm)	120	240	360	480	600	720	840	960	1080	1200
B (mm)	196	316	436	556	676	796	916	1036	1156	1276
C (mm)	239	359	479	599	719	839	959	1079	1199	1319
D (mm)	266	386	506	626	746	866	986	1106	1226	1346
Shipping Weight	10.0 kg	11.0 kg	12.0 kg	13.0 kg	15.0 kg	16.0 kg	17.0 kg	18.0 kg	19.0 kg	20.0 kg

0.25 Series Transmitter & Receiver



0.25 Series — 0.25 in. (6.4 mm) Beam Spacing

US Dimensions

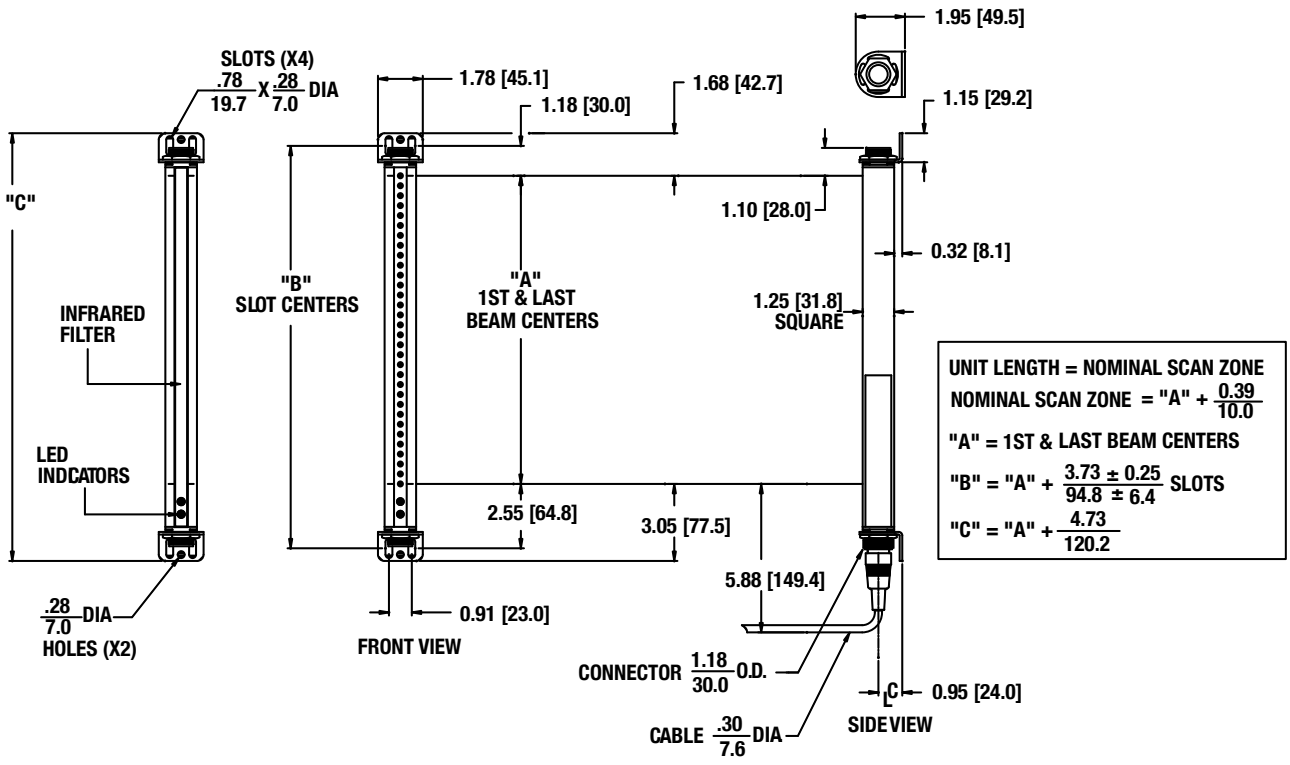
Scan Length	6 in.	12 in.	18 in.	24 in.	30 in.	36 in.	42 in.	48 in.	54 in.	60 in.	66 in.	72 in.	78 in.	84 in.	90 in.	96 in.
A (in.)	6.00	12.00	18.00	24.00	30.00	36.00	42.00	48.00	54.00	60.00	66.00	72.00	78.00	84.00	90.00	96.00
B (in.)	9.00	15.00	21.00	27.00	33.00	39.00	45.00	51.00	57.00	63.00	69.00	75.00	81.00	87.00	93.00	99.00
C (in.)	10.70	16.70	22.70	28.70	34.70	40.70	46.70	52.70	58.70	64.70	70.70	76.70	82.70	88.70	94.70	100.70
D (in.)	11.75	17.75	23.75	29.75	35.75	41.75	47.75	53.75	59.75	65.75	71.75	77.75	83.75	89.75	95.75	101.75
Shipping Weight	22 lb.	25 lb.	27 lb.	30 lb.	32 lb.	35 lb.	37 lb.	40 lb.	42 lb.	45 lb.	47 lb.	50 lb.	52 lb.	55 lb.	57 lb.	60 lb.

Metric Dimensions

Scan Length	152 mm	305 mm	457 mm	610 mm	762 mm	914 mm	1067 mm	1219 mm	1372 mm	1524 mm	1676 mm	1829 mm	1981 mm	2134 mm	2286 mm	2438 mm
A (mm)	152	305	457	610	762	914	1067	1219	1372	1524	1676	1829	1981	2134	2286	2438
B (mm)	229	381	534	686	838	991	1143	1296	1448	1600	1753	1905	2058	2210	2362	2515
C (mm)	272	424	577	729	881	1034	1186	1339	1491	1643	1796	1948	2101	2253	2405	2558
D (mm)	299	451	603	756	908	1161	1213	1365	1518	1670	1823	1975	2127	2280	2432	2585
Shipping Weight	10 kg	11 kg	12 kg	13 kg	15 kg	16 kg	17 kg	18 kg	19 kg	20 kg	21 kg	22 kg	24 kg	25 kg	26 kg	27 kg

■ ValuScan System Dimensions — in./mm (continued)

M10 Series Transmitter & Receiver



M10 Series — 0.39 in. (10 mm) Beam Spacing

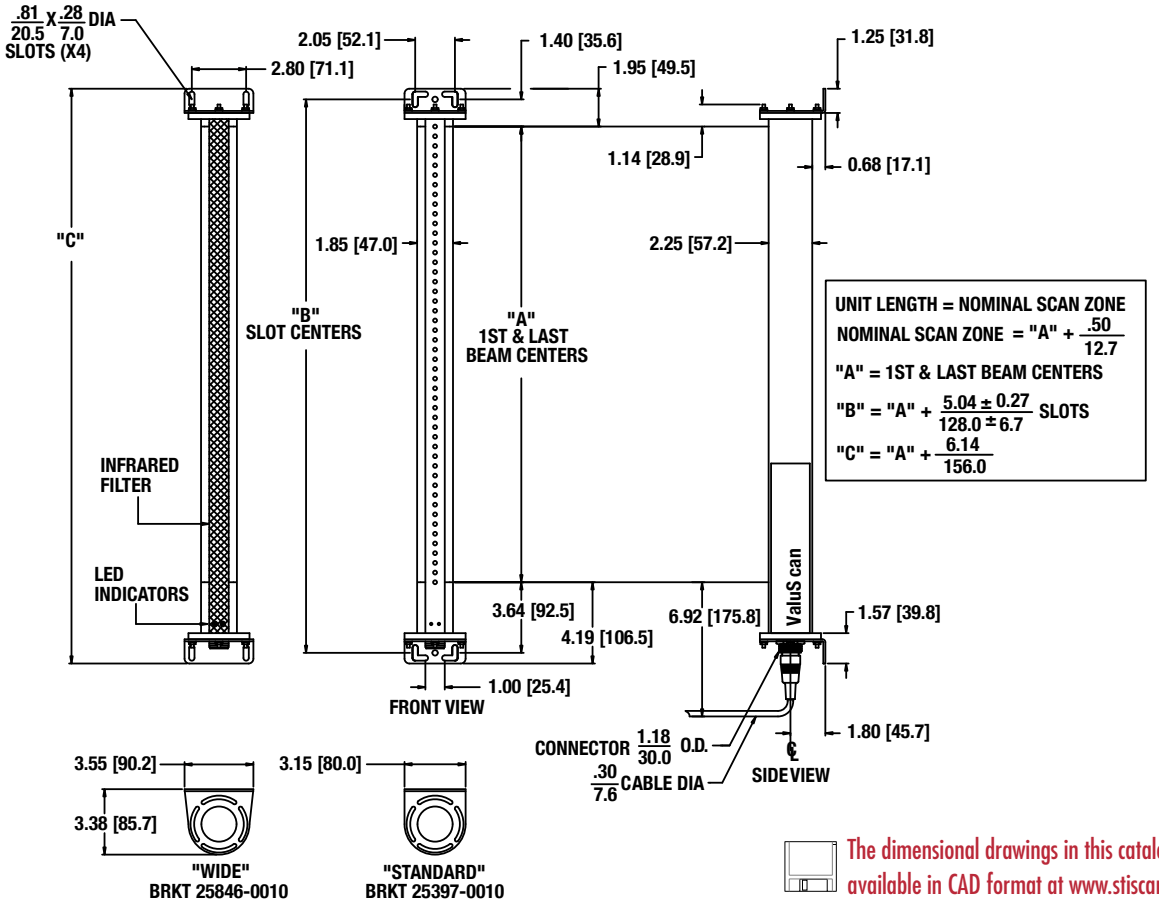
US Dimensions

Scan Length	12.6 in.	25.2 in.	37.8 in.	50.4 in.
A (in.)	12.60	25.20	37.79	50.39
B (in.)	14.64	27.24	39.84	52.44
C (in.)	16.03	28.63	41.22	53.82
D (in.)	17.04	29.64	42.24	54.83
Shipping Weight	18 lb.	19 lb.	20 lb.	21 lb.

Metric Dimensions

Scan Length	320 mm	640 mm	960 mm	1280 mm
A (mm)	320	640	960	1280
B (mm)	372	692	1012	1332
C (mm)	407	727	1047	1367
D (mm)	433	753	1073	1393
Shipping Weight	8.2 kg	8.6 kg	9.1 kg	9.5 kg

0.50 Series Transmitter & Receiver



The dimensional drawings in this catalog are also available in CAD format at www.stiscanners.com

0.50 Series — 0.5 in. (12.7 mm) Beam Spacing

US Dimensions

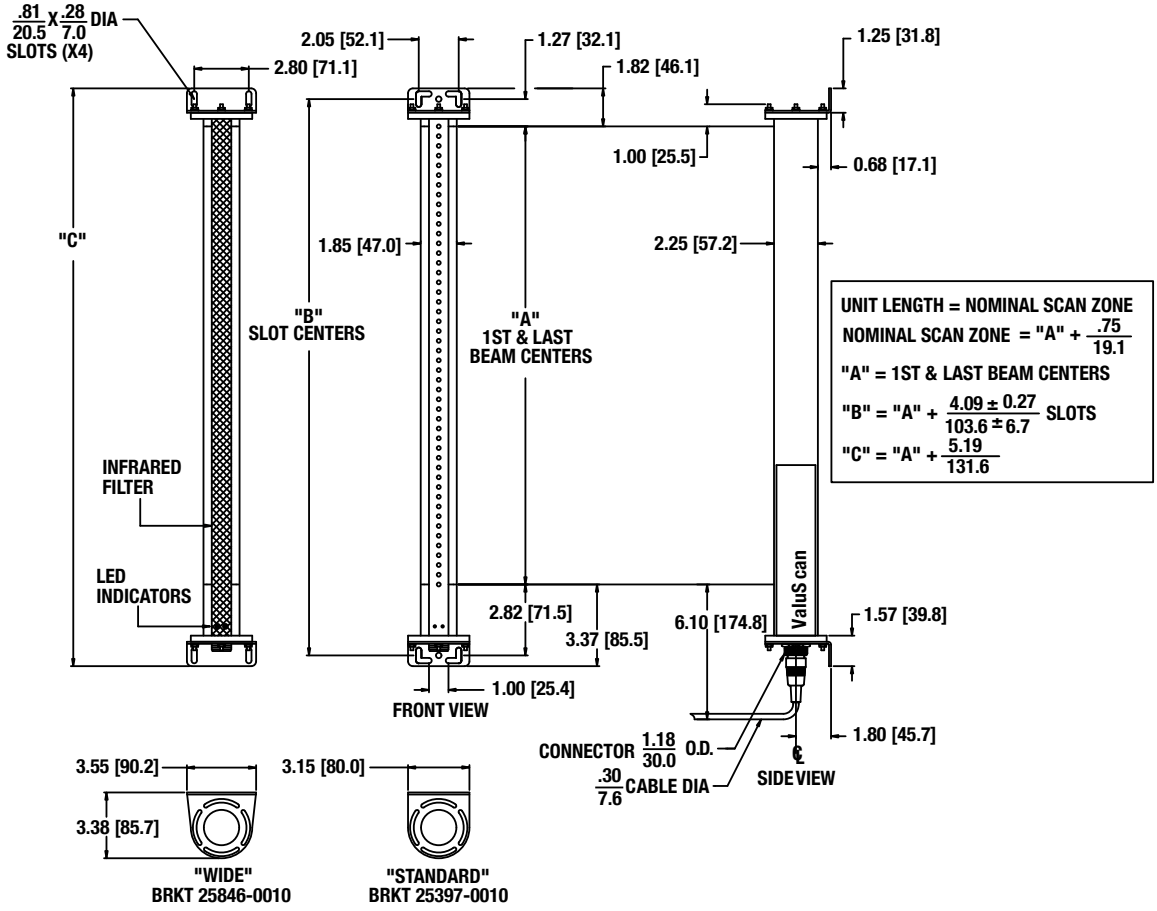
Scan Length	24 in.	36 in.	48 in.	60 in.	72 in.
A (in.)	23.50	35.50	47.50	59.50	71.50
B (in.)	26.51	38.51	50.51	62.51	74.51
C (in.)	28.54	40.54	52.54	64.54	76.54
D (in.)	29.64	41.64	53.64	65.64	77.64
Shipping Weight	22 lb.	25 lb.	27 lb.	30 lb.	34 lb.

Metric Dimensions

Scan Length	610 mm	914 mm	1219 mm	1524 mm	1829 mm
A (mm)	597	902	1207	1511	1816
B (mm)	673	978	1283	1588	1893
C (mm)	725	1030	1335	1639	1944
D (mm)	753	1058	1362	1667	1972
Shipping Weight	10 kg	11 kg	12 kg	13 kg	16 kg

■ ValuScan System Dimensions — in./mm (continued)

0.75 Series Transmitter & Receiver



0.75 Series — 0.75 in. (19 mm) Beam Spacing

The dimensional drawings in this catalog are also available in CAD, DXF and PDF formats at www.stiscanners.com

US Dimensions

Scan Length	24 in.	36 in.	48 in.	60 in.	72 in.
A (in.)	23.25	35.25	47.25	59.25	71.25
B (in.)	25.30	37.30	49.30	61.30	73.30
C (in.)	27.33	39.33	51.33	63.33	75.33
D (in.)	28.43	40.43	52.43	64.43	76.43
Shipping Weight	22 lb.	25 lb.	27 lb.	30 lb.	34 lb.

Metric Dimensions

Scan Length	610 mm	914 mm	1219 mm	1524 mm	1829 mm
A (mm)	591	895	1200	1505	1810
B (mm)	643	947	1252	1557	1862
C (mm)	694	999	1304	1609	1913
D (mm)	722	1027	1332	1637	1941
Shipping Weight	10 kg	11 kg	12 kg	13 kg	16 kg

Ordering

1. Select the transmitter and receiver style based on resolution, range, and maximum measurement requirements. See above under Transmitters and Receivers for available types and sizes.

2. Select the appropriate controller and optional output cards based on the output you need.
   TIP! Select Serial Controller if you only need serial data or a relay output; otherwise select VSU controller.

3. Determine the cable lengths needed from the controller to the transmitter and receiver. Order by model.

VS65	nnnn-nnnn – nnnn – nnn – nnX – nnR
	❶ Scan Length & Beam Spacing
	❷ Controller, Controller Options & Firmware
	❸ Power Options
	❹ Transmitter Cable Length
	❺ Receiver Cable Length

Example: VS650018-0.25-A001-AC1-05X-05R
This is an 18 in. (457 mm) scanner with 0.25 in. (6.4 mm) beam spacing, universal controller with no option cards, firmware 01, 5 m (16.4 ft.) transmitter cable and 5 m (16.4 ft.) receiver cable.

❶ Select scan length & beam spacing from the tables below.

Designator	Description
M5 Series –	**5mm (0.20 in.) Beam Spacing**
0120-M5	120 mm (4.7 in.)
0240-M5	240 mm (9.4 in.)
0360-M5	360 mm (14.2 in.)
0480-M5	480 mm (18.9 in.)
0600-M5	600 mm (23.6 in.)
0720-M5	720 mm (28.3 in.)
0840-M5	840 mm (33.1 in.)
0960-M5	960 mm (37.8 in.)
1080-M5	1080 mm (42.5 in.)
1200-M5	1200 mm (47.2 in.)

Designator	Description
0.25 Series -	**0.25 in. (6.4 mm) Beam Spacing**
0006-0.25	6 in. (152 mm)
0012-0.25	12 in. (305 mm)
0018-0.25	18 in. (457 mm)
0024-0.25	24 in. (610 mm)
0030-0.25	30 in. (762 mm)
0036-0.25	36 in. (914 mm)
0042-0.25	42 in. (1067 mm)
0048-0.25	48 in. (1219 mm)
0054-0.25	54 in. (1372 mm)
0060-0.25	60 in. (1524 mm)
0066-0.25	66 in. (1676 mm)
0072-0.25	72 in. (1829 mm)
0078-0.25	78 in. (1981 mm)
0084-0.25	84 in. (2134 mm)
0090-0.25	90 in. (2286 mm)
0096-0.25	96 in.(2438 mm)

Designator	Description
M10 Series -	**10 mm (0.39 in.) Beam Spacing**
0320-M10	320 mm (12.6 in.)
0640-M10	640 mm (25.2 in.)
0960-M10	960 mm (37.8 in.)
1280-M10	1280 mm (50.4 in.)

Designator	Description
0.50 Series -	**0.50 in. (12.7 mm) Beam Spacing**
0024-0.50	24 in. (610 mm)
0036-0.50	36 in. (914 mm)
0048-0.50	48 in. (1219 mm)
0060-0.50	60 in. (1524 mm)
0072-0.50	72 in. (1829 mm)

Designator	Description
0.75 Series -	**0.75 in. (19.1 mm) Beam Spacing**
0024-0.75	24 in. (610 mm)
0036-0.75	36 in. (914 mm)
0048-0.75	48 in. (1219 mm)
0060-0.75	60 in. (1524 mm)
0072-0.75	72 in. (1829 mm)

(Ordering is continued on the next page)

■ Ordering (continued)

❷ Select controller, controller options, firmware. (Note: The first character in the designator is the controller series.)

Designator	Description
A001	VSU controller with enclosure, universal firmware 1
A101	VSU controller with enclosure and AIC-02 analog isolator card, universal firmware 1
A201	VSU controller with enclosure and ARC-02 analog relay card, universal firmware 1
A301	VSU controller with enclosure and PRC-02 parallel relay card, universal firmware 1
A401	VSU controller with enclosure and PRC-08 parallel relay card, universal firmware 1
B001	VSU controller with universal firmware 1, without enclosure
B101	VSU controller with AIC-02 analog isolator card and universal firmware 1, without enclosure
B201	VSU controller with ARC-02 analog relay card and universal firmware 1, without enclosure
B301	VSU controller with PRC-02 parallel relay card and universal firmware 1, without enclosure
B401	VSU controller with PRC-08 parallel relay card and universal firmware 1, without enclosure
C001	Serial data controller with serial firmware 1, with enclosure
D001	Serial data controller with serial firmware 1, without enclosure

❸ Select operating power.

Designator	Description
AC1	115 VAC (not available for Bxxx controllers)
AC2	230 VAC (not available for Bxxx controllers)
DC1	24 VDC

❹ Select transmitter cable length.

Designator	Description
05	5 m (16.4 ft.)
10	10 m (32.8 ft.)
15	15 m (49.2 ft.)
20	20 m (65.6 ft.)
25	25 m (82.0 ft.)
30	30 m (98.4 ft.)

❺ Select receiver cable length.

Designator	Description
05	5 m (16.4 ft.)
10	10 m (32.8 ft.)
15	15 m (49.2 ft.)
20	20 m (65.6 ft.)
25	25 m (82.0 ft.)
30	30 m (98.4 ft.)

⚠ **Caution!** Omron STI scanners are not designed for and should never be used for personnel protection (safety) applications. Omron STI has a wide range of special safety products designed for use in these applications. Refer to the safety products catalog or contact Omron STI for information on our safety products.

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