

SZ-V32NC

Network type (CIP Safety) Standard

*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

Specifications

Model				SZ-V32NC *1
Type				Network Type (CIP Safety)
Detection capability	Minimum detectable object size			Diameter 20, 30, 40, 50, 70, 150 mm 0.79", 1.18", 1.57", 1.97", 2.76", 5.91" (depends on the setting) Reflectance 1.8% min., Speed 1.6 m/s 5.25 ft/s max. *2
	Detectable angle			190° (-5° to 185°)
	Response time (ON to OFF)	Standard Mode	Scan Cycle A	160 ms (2scans) to 1280 ms (16scans) *3 *4
			Scan Cycle B	168 ms (2scans) to 1344 ms (16scans) *3 *4
			Scan Cycle C	176 ms (2scans) to 1408 ms (16scans) *3 *4
		High Speed Mode	Scan Cycle A	80 ms (2scans) to 640 ms (16scans) *3 *4
			Scan Cycle B	84 ms (2scans) to 672 ms (16scans) *3 *4
			Scan Cycle C	88 ms (2scans) to 704 ms (16scans) *3 *4
	Response time (OFF to ON)			Response time (ON to OFF) + 150 ms
	Protection zone	Minimum detectable object size: 70 / 150 mm 2.76" / 5.91"		8.4 m 27.56' (Standard Mode) 5.7 m 18.70' (High Speed Mode)
		Minimum detectable object size: 50 mm 1.97"		5.6 m 18.37' (Standard Mode) 3.8 m 12.47' (High Speed Mode)
		Minimum detectable object size: 40 mm 1.57"		4.3 m 14.11' (Standard Mode) 2.9 m 9.51' (High Speed Mode)
		Minimum detectable object size: 30 mm 1.18"		2.9 m 9.51' (Standard Mode) 2.0 m 6.56' (High Speed Mode)
		Minimum detectable object size: 20 mm 0.79"		1.6 m 5.25' (Standard Mode) 1.1 m 3.61' (High Speed Mode)
	Warning zone	Minimum detectable object size: 70 / 150 mm 2.76" / 5.91"		26 m 85.30' (Standard Mode) 23 m 75.46' (High Speed Mode) *5
		Minimum detectable object size: 50 mm 1.97"		25 m 82.02' (Standard Mode) 21 m 68.90' (High Speed Mode) *5
		Minimum detectable object size: 40 mm 1.57"		24 m 78.74' (Standard Mode) 20 m 65.62' (High Speed Mode) *5
		Minimum detectable object size: 30 mm 1.18"		23 m 75.46' (Standard Mode) 18 m 59.06' (High Speed Mode) *5
		Minimum detectable object size: 20 mm 0.79"		21 m 68.90' (Standard Mode) 15 m 49.21' (High Speed Mode) *5
	Additional safety distance			100 mm 3.94" *6
	Maximum measurement distance			60 m 196.85' *7
Maximum number of banks				Max.16 banks
Multiple scanner heads				Max. 3 scanner heads
Camera monitoring area				Monitor area: over 190° (-5° to 185°) *8
Display				QVGA 2.2inch color LCD
Light source	Type, wavelength			Infrared laser diode, 905 nm

	Laser Class	IEC	Class1 IEC/EN60825-1
		FDA	Class1 FDA 21CFR 1040.10, 1040.11 (Laser Notice) *9
		JIS	Class1 JIS C6802
Control output (OSSD)	Output		-
	Number of outputs		
	Max. load current		
	Residual voltage (during ON)		
	OFF-state voltage		
	Leakage current		
	Max. capacitive load		
	Load wiring resistance		
Inputs	PNP		
	NPN		
Non-safety related output (AUX output)	Output type		
	Number of outputs		
	Max. load current		
	Residual voltage (during ON)		
	Muting lamp		
Interface	USB		USB2.0
	Ethernet	Standard	IEEE802.3u (100 BASE-TX)
		Transmission rate	100 Mbps
		Cable	STP(Shielded Twisted Pair) cable or UTP(Unshielded Twisted Pair) cable. Category5 or higher.
		Connector	RJ45 (IP65) 2 ports
Network function			CIP Safety, EtherNet/IP™, UDP
Cable length	Power and I/O cable		30 m 98.43' or less *10
	Between scanner head and display unitc		20 m 65.62' or less each *11
	Ethernet cable		100 m 328.08' or less *12
Approved standards	EMC	EMS	IEC61496-1, EN61496-1, UL61496-1 (Type 3 ESPE)
		EMI	EN55011 ClassA, FCC Part15B ClassA, ICES-003 ClassA
	Safety		IEC61496-1, EN61496-1, UL61496-1 (Type 3 ESPE), IEC61496-3, EN61496-3 (Type 3 AOPDDR), IEC61508, EN61508, EN ISO13849-1, 2015 (PLd, Category3), UL508, UL1998, CSA C22.2 No.14, CSA C22.2 No.0.8
Rating	Power consumption		13.4 W
	Power voltage		24 VDC ±10% (Ripple P-P 10% or less): When using a converter power supply, 24 VDC +20%/-30%: When using a battery
Environmental resistance	Enclosure rating		IP65(IEC60529)
	Ambient light		Incandescent lamp: 1500 lux or less *13
	Operating ambient temperature		-10 to +50°C 14 to 122°F (No freezing)
	Operating relative humidity		35% to 85% RH (No condensation)
	Storage temperature		-25 to +60°C -13 to +140°F (No freezing)
	Storage relative humidity		35% to 95% RH
	Vibration resistance		10 to 55 Hz, 0.7 mm 0.03" compound amplitude, 20 sweeps each in X, Y, and Z directions
	Shock resistance		100 m/s² 328.08 ft/s² (Approx. 10 G) 16 ms pulse, in X, Y, Z directions 1000 times each axis
Material	Scanner head	Main unit case	Magnesium
		Window	Polycarbonate, PEI
		Indicator part	Aluminum, PES

	Display unit	Case	Magnesium, PPS, Polycarbonate
	System memory		Aluminum, PPE
Weight			Approx. 2300 g

*1 Integrated models include display unit, scanner head, system memory and a connection cable (SZ-VS005).
*2 If the object to be detected moves parallel to the detection plane, SZ-V cannot detect the object moving at speed over 1.6 m/s 5.25 ft/s, regardless of the encoder setting.
*3 The response time, protection zone, and warning zone are affected by the operation mode.
*4 When using PROFIsafe, 6 ms is added to the response time. When using CIP Safety, 10ms is added to the response time.
*5 20% or more reflectance is necessary for the minimum detectable object in the warning zone.
*6 If there is a highly reflective background within 1.5 m 4.92' from the boundary of the protection zone, 200 mm 7.87" must be added as supplementary necessary distance to the protection zone when calculating the minimum safety distance.
*7 Even when using the network data output, the maximum measured output distance is 60 m 196.85'.
*8 Only applicable for the type with a camera.
*9 The laser classification for FDA (CDRH) is implemented based on IEC60825-1 in accordance with the requirements of Laser Notice.
*10 10 m 32.81' or less when supplying power from a battery.
*11 When supplying power from a battery, the length of each connection cable should be 10 m 32.81' or less when using two scanner heads, and 5 m 16.40' or less when using three scanner heads.
*12 Distance between SZ-V and Ethernet switch.
*13 An ambient light source should not be located within ±5° of the detection plane.