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Build a Complete Control Solution for Your Application

Maximize productivity with a complete Omron system built from our broad range of products. We offer advanced solutions for sensing, in-line inspection and operation monitoring, as well as motion control and production tracking. Here's a small sampling of the product types available.



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	OM1WEB15	OM1WEB17	OM1WEB21
Dimensions mm (in)	310 H x 391 W x 180 D (12.2 x 15.4 x 7.1)	358 H x 437 W x 185 D (14.1 x 17.2 x 7.3)	424 H x 545 W x 213 D (16.7 x 21.4 x 8.4)
Features	<ul style="list-style-type: none"> • Industrial Panel PC with installed and pre-tested Omron CX-Supervisor HMI software and choice of operating system. • Compatible with Omron's CX-Automation Suite software including CX-Programmer, CX-ServerLITE and CX-ServerODC • Compact footprint • Color TFT displays • Built-in Ethernet • Multiple operating systems • Expansion slots 	<ul style="list-style-type: none"> • Industrial Panel PC with installed and pre-tested Omron CX-Supervisor HMI software and choice of operating system. • Compatible with Omron's CX-Automation Suite software including CX-Programmer, CX-ServerLITE and CX-ServerODC • Compact footprint • Color TFT displays • Built-in Ethernet • Multiple operating systems • Expansion slots 	<ul style="list-style-type: none"> • Industrial Panel PC with installed and pre-tested Omron CX-Supervisor HMI software and choice of operating system. • Compatible with Omron's CX-Automation Suite software including CX-Programmer, CX-ServerLITE and CX-ServerODC • Compact footprint • Color TFT displays • Built-in Ethernet • Multiple operating systems • Expansion slots
Display	15" TFT - XGA (800 x 600)	17" TFT - SXGA (1280 x 1024)	21" TFT - UXGA (1600 x 1200)
Touch screen	Analog Resistive	Analog Resistive	Analog Resistive
System CPU	1.7 GHz Pentium 4 minimum	1.7 GHz Pentium 4 minimum	1.7 GHz Pentium 4 minimum
System memory	256 MB DDR RAM	256 MB DDR RAM	256 MB DDR RAM
Disk drives	40 GB hard disk min., Internal CD-ROM	40 GB hard disk min., Internal CD-ROM	40 GB hard disk min., Internal CD-ROM
Operating systems	Windows® XP, 2000, NT 4.0	Windows® XP, 2000, NT 4.0	Windows® XP, 2000, NT 4.0
Input/Output connectors	10/100 Ethernet, (1) Serial Port, (1) Parallel Port, (2) USB Ports, PS/2 Keyboard and Mouse Ports	10/100 Ethernet, (1) Serial Port, (1) Parallel Port, (2) USB Ports, PS/2 Keyboard and Mouse Ports	10/100 Ethernet, (1) Serial Port, (1) Parallel Port, (2) USB Ports, PS/2 Keyboard and Mouse Ports
Power supply	150 W	250 W	250 W
Expansion slots	(3) PCI	(6) PCI	(6) PCI
Ratings	NEMA 4/4X Front Panel	NEMA 4/4X Front Panel	NEMA 4/4X Front Panel
Ambient temperature	Operating: 0° to +50°C Storage: -10° to +60°C	Operating: 0° to +50°C Storage: -10° to +60°C	Operating: 0° to +50°C Storage: -10° to +60°C
Shock	10G	10G	10G
Options & upgrades	Additional 256 DDR RAM, Internal CD-RW Drive, Stainless Steel NEMA 4X front bezel, Controller Link	Additional 256 DDR RAM, Internal CD-RW Drive, Stainless Steel NEMA 4X front bezel, Controller Link	Additional 256 DDR RAM, Internal CD-RW Drive, Controller Link
When used with CX-Supervisor HMI/SCADA software	Object Animations, Recipes, Alarms, VB Scripting, OPC Client, DDE Client/Server, Data Logging, ODBC Database Connections, Networking, Support for all Omron communication protocols	Object Animations, Recipes, Alarms, VB Scripting, OPC Client, DDE Client/Server, Data Logging, ODBC Database Connections, Networking, Support for all Omron communication protocols	Object Animations, Recipes, Alarms, VB Scripting, OPC Client, DDE Client/Server, Data Logging, ODBC Database Connections, Networking, Support for all Omron communication protocols



	NS12-TS01BV1	NS10-TV01BV1	NS8-TV01BV1	NS5-SQ0□-V1
Dimensions mm (in)	241 H x 315 W x 48.5 D (9.49 x 12.40 x 1.91)	241 H x 315 W x 48.5 D (9.49 x 12.40 x 1.91)	177 H x 232 W x 48.5 D (6.97 x 9.13 x 1.91)	142 H x 195 W x 54 D (5.59 x 7.68 x 2.12)
Features	<ul style="list-style-type: none"> • 32,000 BMP image display • Built-in Ethernet • Controller Link available as a plug-in unit • 4 channel video display • Compact memory card • NS-Designer, Windows®-based software • Alarming, recipes, data logging capabilities 	<ul style="list-style-type: none"> • 32,000 BMP image display • Built-in Ethernet • Controller Link available as a plug-in unit • 4 channel video display • Compact memory card • NS-Designer, Windows®-based software • Alarming, recipes, data logging capabilities 	<ul style="list-style-type: none"> • 32,000 BMP image display • Built-in Ethernet • Compact memory card • 4 channel video display • NS-Designer, Windows®-based software • Alarming, recipes, data logging capabilities 	<ul style="list-style-type: none"> • 4000 BMP image display • Built-in Ethernet • Compact memory card • NS-Designer, Windows®-based software • Alarming, recipes, data logging capabilities
Display size	12.1" diagonal	10.4" diagonal	8.0" diagonal	5.7" diagonal
Display type	32,000 BMP image TFT	32,000 BMP image TFT	32,000 BMP image TFT	4000 BMP image STN
Display resolution	800 x 600 pixels	640 x 480 pixels	640 x 480 pixels	320 x 240 pixels
Interface	Touch screen	Touch screen	Touch screen	Touch screen
Touch cells	1900/screen	1200/screen	768/screen	300/screen
Memory type	Flash EEPROM	Flash EEPROM	Flash EEPROM	Flash EEPROM
Memory size	20 MB	20 MB	6 MB	6 MB
Max. # of screens	3999	3999	3999	3999
Graphic capabilities				
Freeform drawing	Yes	Yes	Yes	Yes
Bitmap display	Yes	Yes	Yes	Yes
Window tiling	Yes	Yes	Yes	Yes
Bar graph	Yes	Yes	Yes	Yes
Line trending	Yes	Yes	Yes	Yes
Thumbwheel	Yes	Yes	Yes	Yes
Text and numeric	Yes	Yes	Yes	Yes
Real time clock	Yes	Yes	Yes	Yes
Printer port	USB	USB	USB	USB
Programmable console	Yes	Yes	Yes	Yes
Ladder monitor	Yes	Yes	Yes	Yes
Programmable LEDs	-	-	-	-
Audible alarm	Yes	Yes	Yes	Yes
Recipe	Yes	Yes	Yes	Yes
Background math	Yes	Yes	Yes	Yes
Input object lockout	Yes	Yes	Yes	Yes
Analog needle gauge	Yes	Yes	Yes	Yes
4-channel video display	Yes	Yes	Yes	No
Compact flash storage	Yes	Yes	Yes	Yes
Communications	NT Link (1:1, 1:N); Port A and Port B (1:2); Serial, Ethernet, Controller Link (M:N)	NT Link (1:1, 1:N); Port A and Port B (1:2); Serial, Ethernet, Controller Link (M:N)	NT Link (1:1, 1:N); Port A and Port B (1:2); Serial, Ethernet	NT Link (1:1, 1:N); Port A and Port B (1:2); Serial, Ethernet
Ratings	NEMA 4, IP65F	NEMA 4, IP65F	NEMA 4, IP65F	NEMA 4, IP65F
Approvals	cULus Class I, Div. 2 Group A, B, C, D; Class I, Zone 2 Group IIC and EC Directives	cULus Class I, Div. 2 Group A, B, C, D; Class I, Zone 2 Group IIC and EC Directives	cULus Class I, Div. 2 Group A, B, C, D; Class I, Zone 2 Group IIC and EC Directives	cULus Class I, Div. 2 Group A, B, C, D; Class I, Zone 2 Group IIC and EC Directives



	NT21-ST121□-E	NT11S-SF121	NT2S 6-KEY	NT2S 8-KEY
Dimensions mm (in)	190 H x 110 W x 53.5 D (7.56 x 10.83 x 2.80)	113.03 H x 217.93 W x 38.1 D (4.45 x 8.58 x 1.50)	60 H x 109 W x 28 D (2.36 x 4.29 x 1.10)	106.9 H x 106.9 W x 35.9 D (4.21 x 4.21 x 1.41)
Features	<ul style="list-style-type: none"> • Memory transfer unit • Recipe • High-speed NT-link 115 kbaud 	<ul style="list-style-type: none"> • Password protected screens • Global function keys • Bar graph capability • Large characters 	<ul style="list-style-type: none"> • PLC message display • Programmable F-keys, Password protected screens • 2 Programmable LEDs • 5 VDC power from PLC port 	<ul style="list-style-type: none"> • PLC message display • Programmable F-keys, Password protected screens • 5 VDC power from PLC port
Display size	5.2" diagonal	4 line x 20 character	2 line x 16 character	2 line x 16 character
Display type	Backlit monochrome STN LCD	LED backlit LCD	LED backlit LCD	LED backlit LCD
Display resolution	260 x 140 pixels	160 x 64 pixels	–	–
Interface	Touch screen	4 function keys, number pad	6 function keys	8 function keys, number pad
Touch cells	91/screen	–	–	–
Memory type	Flash EEPROM	Flash EEPROM	EEPROM	EEPROM
Memory size	512 KB	32 KB	24 KB	24 KB
Max. # of screens	3999	250	750	750
Graphic capabilities				
Freeform drawing	Yes	–	–	–
Bitmap display	Yes	–	–	–
Window tiling	Yes	–	–	–
Bar graph	Yes	Yes	Yes	Yes
Line trending	Yes	–	–	–
Thumbwheel	Yes	–	–	–
Text and numeric	Yes	Yes	Yes	Yes
Real time clock	Read from PLC or host	–	Yes	Yes
Printer port	–	Yes	Yes	Yes
Programmable console	Yes	–	–	–
Programmable LEDs	–	–	Yes	–
Audible alarm	Yes	Yes	–	–
Function keys	–	Yes	Yes	Yes
Recipe	Yes	–	–	–
Background math	Yes	–	–	–
Input object lockout	Yes	–	–	–
Analog needle gauge	Yes	–	–	–
4-channel video display	–	–	–	–
Compact flash storage	Yes (Program transfer only)	–	–	–
Communications	Host Link, NT Link (1:1), NT Link (1:N), High-speed NT Link (115 kbaud), Memory Link (PC)	Host Link, NT Link (1:1)	Host Link, Multi-vendor PLC	Host Link, Multi-vendor PLC
Ratings	NEMA 4, IP65F	NEMA 4	IP65	IP65
Approvals	UL, CSA, CE, Class I, Div. 2	UL, CSA, CE	UL, CSA, CE, Class I, Div. 2	UL, CSA, CE, Class I, Div. 2



	W-Series	SMARTSTEP Servo
Drive features	<ul style="list-style-type: none"> • High resolution control • Ultra-small package • High performance 32-bit micro-processor • Built-in keypad and display • Auto-tuning automatically adjusts the control system gain according to machine characteristics 	<ul style="list-style-type: none"> • Simple to use and easy to set-up using on-board selector switches and DIP switches • Auto-tuning available to automatically adjust servo gain parameters to load characteristics • 7-segment alarm display helps in troubleshooting
Motor features	<ul style="list-style-type: none"> • Low rotor inertia design yields a high power rate • Reduced cogging torque for smooth motor rotation at low speeds 	<ul style="list-style-type: none"> • Low rotor inertia design yields a high power rate • Reduced cogging torque for smooth motor rotation at low speeds
Product power range	30 W to 15 kW	30 W to 750 W
Voltage supply	100/115 VAC (single phase) or 200/230 VAC (single phase and three phase) or 400/460 VAC (three phase)	100/115 VAC (single phase); 200/230 VAC (single phase); 200/230 VAC (three phase for 750 W only)
Command inputs accepted	Capable of handling analog speed, analog torque, and pulse-train input all in one single drive	Capable of handling pulse-train inputs
Motor features and options	Standard features include 1000 and 3000 RPM rated speed motors, high-resolution serial incremental encoders up to 17-bit. Options include 17-bit absolute encoders, holding brakes, keyways and water resistant slim profile motors	Motor rated speed is 3000 RPM and continuous torques are between 0.09 to 2.39 Nm; Pre-quadrature encoder resolution is 2000 ppr; Holding brake option available
Approvals	UL, cUL CE, TUV	UL, cUL, CE
Application suggestions	Conveyors; Pick and place machines; Lathes; Winding; Point-to-point positioning; Indexing; Cut to length; Packaging and filling machines	Conveying; Pick and place; Point-to-point positioning; Indexing; Cut to length; Packaging
Stand-alone servo with integrated position control	W-Series is field upgradable to integrate position control and DeviceNet connectivity by adding the R88A-NCW152-DRT, DeviceNet Option Unit Note: Only for amplifiers with firmware version 14 or later (1-axis)	Not yet available
Motion control PLC modules ±10 V analog signal	CS1W-MC221 (2-axis); CS1W-MC421 (4-axis); C200H-MC221 (2-axis); CS1W-MCH71 (30-axis)	Not applicable
Position control PLC modules pulse train signal	CS1W-NC1□3 (1-axis); CS1W-NC2□3 (2-axis); CS1W-NC4□3 (4-axis) CJ1W-NC1□3 (1-axis); CJ1W-NC2□3 (2-axis); CJ1W-NC4□3 (4-axis) C200HW-NC113 (1-axis); C200HW-NC213 (2-axis) C200HW-NC413 (4-axis)	CS1W-NC1□3 (1-axis); CS1W-NC2□3 (2-axis); CS1W-NC4□3 (4-axis) CJ1W-NC1□3 (1-axis); CJ1W-NC2□3 (2-axis); CJ1W-NC4□3 (4-axis) C200HW-NC113 (1-axis); C200HW-NC213 (2-axis) C200HW-NC413 (4-axis)
PC software	WMon config/monitor; CX-Motion programming for MC; CX-Position config/monitor for CS1/CJ1-NC; NCT config/monitor for C200HW-NC; MC-MIEL for MCH	WMon V2.0 config/monitor; CX-Position config/monitor for CS1/CJ1-NC; NCT config/monitor for C200HW-NC
Sample capabilities	Point-to-point positioning; Speed control; Electronic gearing; Linear, circular, and helical interpolation	Point-to-point positioning; Speed control; Electronic gearing; Linear interpolation



	3G3JV	3G3MV/MV-4X	3G3RV	G5+	P5+
Features	<ul style="list-style-type: none"> • Compact size • Easy-to-use Digital Operator that controls all parameter selections and settings • Quick Start LEDs for quick setup and troubleshooting • Potentiometer on digital operator to fine-tune the speed to match the application's requirements • Ideal for simple small motor control • Modbus serial communications standard 	<ul style="list-style-type: none"> • Compact size • Intuitive Digital Operator that controls all parameter selections and settings • Quick Start LEDs for quick setup and troubleshooting • Standard PID control • Modbus serial communications standard with optional DeviceNet communications unit 3G3MV only: <ul style="list-style-type: none"> • Potentiometer on digital operator to fine-tune the speed to match the application's requirements MV-4X only: <ul style="list-style-type: none"> • Powder coated, washdown enclosure for environmental protection 	<ul style="list-style-type: none"> • 5-line alphanumeric Digital Operator with English menus and fault displays • Quick Start menu for quick setup and troubleshooting • 4th generation IGBTs • High slip braking • Copy keypad function • Removable terminal strip • Modbus serial communications standard with optional communications units available, including DeviceNet 	<ul style="list-style-type: none"> • 2-line alphanumeric Digital Operator with English menus and fault displays • Flux Vector capable (with option card) • Dynamic Braking terminals • Zero servo mode • PID control • Energy savings control • Modbus serial communications standard with optional communications units available, including DeviceNet, Profibus-DP, Modbus Plus, and Interbus-S 	<ul style="list-style-type: none"> • 2-line alphanumeric Digital Operator with English menus and fault displays • Quick Start menu access for quick setup and troubleshooting • PID control • Energy savings control • Modbus serial communications standard with optional communications units available, including APOGEE, Metasys, and LonWorks
Voltage class	Three-phase (230 VAC and 460 VAC); Single phase (230 VAC)	3G3MV: Three-phase (230 VAC and 460 VAC), Single phase (230 VAC); MV-4X: Three-phase (230 VAC and 460 VAC)	Three-phase (230 VAC and 460 VAC)	Three-phase (230 VAC, 460 VAC and 575 VAC)	Three-phase (230 VAC, 460 VAC and 575 VAC)
Enclosure type	IP20	3G3MV: NEMA 1; MV-4X: NEMA 4X	NEMA 1, Open chassis	NEMA 1, Open chassis	NEMA 1, Open chassis
Max. applicable motor output* (HP)	0.13 to 5HP	3G3MV: 0.13 to 12.5HP; MV-4X: 0.13 to 15HP	0.5 to 550HP	0.75 to 500HP	0.75 to 500HP
Rated output current (A)	0.8 to 17.5 A	0.8 to 33 A	1.8 to 675 A	1.9 to 605 A	1.9 to 675 A
Max. output frequency (Hz)	400 Hz (programmable)	400 Hz (programmable)	400 Hz VT, 120Hz CT (programmable)	400 Hz (programmable), 1400Hz (with custom software)	400 Hz (programmable)
Selectable control method	V/Hz	V/Hz or open loop vector	Open loop V/Hz, closed loop V/Hz, open loop vector, closed loop flux vector (Closed loop modes require a PG feedback option card)	Open loop V/Hz, closed loop V/Hz, open loop vector, closed loop flux vector (Closed loop modes require a PG feedback option card)	V/Hz

*Note: Based on a standard 4-pole motor for max. applicable motor output. Contact Omron IDM Controls for the correct inverter model within the allowable motor rated current.

Note: Contact Omron IDM Controls at 713-849-1900 for assistance with AC inverter products.

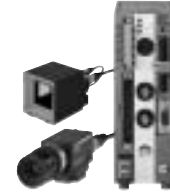


F-10

F-150-2

F-150-3

	F-10	F-150-2	F-150-3
Features	<ul style="list-style-type: none"> • Gray scale pattern matching system • Visible target beams and guide lights • Four fixed distance camera choices with built-in LED lighting • Separate camera head and remote DIN-mount amp • No monitor or software required • One-button teaching • One amp style includes 8 model bank memory and RS-232C/422 communications 	<ul style="list-style-type: none"> • User selectable gray scale or binary processing (256 level) • 'Automatic' menu or user-customized 'Expert' menu • Capacity for 16 setup scenes with up to 16 inspection windows in each • Measurements include degree of defect, edge position, and edge pitch • Position compensation detects objects regardless of orientation • Easily connects to Omron's PLCs via RS-232C • Stores up to 23 images in memory • NPN, PNP, and DeviceNet controllers available 	<ul style="list-style-type: none"> • Based on the same platform as the F150-2, the F150-3 offers the same user-selectable gray scale or binary processing with the industry's only modular two-camera capability • Use a two-camera splitter module to add a second camera • Split-screen processing allows both cameras to be processed at once • Configure and setup via on-screen menu system or optional drag-and-drop flow chart style, Vision Composer Windows®-based software for as many as 64 items per scene • Two additional cameras with controllable lighting angle and intensity with settings that can be saved in each scene • Easily connects to Omron's PLC via RS-232C • NPN, PNP and DeviceNet controller available
Field of view mm (in)	-S50R: 40 x 32 (1.57 x 1.26); -S30R: 25 x 20 (0.98 x 0.79); -S15R: 12 x 10 (0.47 x 0.39) -S05R: 4.5 x 3.5 (0.18 x 0.14)	-SL20: 20 x 20 (0.79 x 0.79); -SL50: 50 x 50 (1.97 x 1.97); -S1A variable, determined by choice of lens (consult your Omron sales rep. for lens options)	-SL20: 20 x 20 (0.79 x 0.79) -SL50: 50 x 50 (1.97 x 1.97) -SLC20: 20 x 20 (0.79 x 0.79) -SLC50: 50 x 50 (1.97 x 1.97) -S1A variable, determined by choice of lens (consult your Omron sales rep. for lens options)
Shutter speeds	1/2894 and 1/34,722 S (automatically set during teaching)	Electronic shutter; 1/100 S, 1/500 S, 1/2000 S, 1/10,000 S (menu selectable)	Electronic shutter; 1/100 S, 1/500 S, 1/2000 S, 1/10,000 S (menu selectable)
Measurement area (Pixels)	200 H x 190 V	512 H x 484 V	512 H x 484 V
Inputs/Outputs	-C20/25: 4 inputs/2 outputs; -C50/55: 7 inputs/2 outputs; NPN or PNP available	11 inputs/21 outputs (including control I/O points); NPN or PNP available	11 inputs/21 outputs (including control I/O points); NPN or PNP available
Applications	Pattern matching; Print verification; Conformity checking; Accurate label placement; (rejects upside down, tilted or double labels); Shape matching; Use on multi-product production lines; Load, save and control through communication port and available configuration software	Detect PCB edge position; Count and measure pitch of component leads; Finding fiducial marks; Chip orientation and placement; Presence, absence or direction of components on PCB or features on assemblies; Plastic part inspection for extra parts, breakage, or dirt	Simultaneously inspect two sides of an object, i.e. boxes or assemblies or both bottle top opening and side label; Inspect bottle opening diameter; Increase field of view to inspect large electrical connectors or width dimension by both ends of wide object; Sort boxes or bottles by label or size; Object position feedback to robotics, multi-angle inspection and tooling monitoring for machining and robotics; Repeatable light setting using SLC20 or SLC50 cameras
Setting distance in	-S50R: 6.3 ±0.63 -S30R: 3.9 ±0.4 -S15R: 2.0 ±0.2 -S05R: 1.3 ±0.06	-SL20: 2.4 to 2.8 -SL50: 2.6 to 3.0 -S1A variable, determined by C-mount lens choice	-SL20: 2.4 to 2.8; -SL50: 2.6 to 3.0 -SLC20: 0.59 to 0.098 -SLC50: 0.64 to 1.04 -S1A variable, determined by C-mount lens choice
Processing speed	(Continuous operation): normal mode: 3.6 ms; wide mode: 10.8 ms	Up to 1500 inspections per minute; Variable, determined by setup and measurements	Up to 1500 inspections per minute; Variable, determined by setup and measurements
Input power supply	24 VDC	24 VDC	24 VDC



F160

F210

Features

- Industry's first dual-camera, high-speed vision sensor
- Delivers mid-range machine vision performance, meeting more demanding vision applications
- Double-speed cameras capture images up to 4 times faster
- High-speed processing generates results 2 to 10 times faster
- New algorithms include: Omron's Quest OCR, "variable box" technology and Flexible Search
- On-screen drop-down wizard-style menu or "expert" menu options
- Cameras feature 8 user-selectable shutter speeds – two models with Intelligent Light Source options
- Expandable storage memory up to 120 MB using Flash-RAM memory cards
- Customized menus, "results" screen information, symbol, text colors
- Connects to Omron PLC's via RS-232C or RS-422
- NPN or PNP controller I/O

- The F210 is a high-speed, 2-camera vision sensor based on the same technology as the F250 to provide advanced high-end machine vision performance
- Specialized double-speed cameras capture images up to 4 times faster
- High speed processing generates results 2 to 10 times faster
- New algorithms include Omron's advanced Edge Code Position and Defect Detection, Fine Matching and Quest OCR/OCV
- On-screen, pull-down menu system using an easy to understand, flow chart style setup menu
- On-line trending functions with definable limits
- Uses either F150 or F160 Cameras with Intelligent Light Source lighting options
- Expandable Flash-RAM memory slot holds up to 120MB using Flash-RAM memory cards
- Allows user customized menus, "results" screen information and symbol and text colors
- Connects to Omron PLCs via RS-232C or RS-422 and supports Omron's Host-Link protocol
- NPN or PNP controller I/O available.

Field of view mm (in)	-SLC20: 20 x 20 (0.79 x 1.79) -SLC50: 50 x 50 (1.97 x 1.97) -S1 variable, determined by choice of lens (Consult your Omron sales rep. for lens options)	Standard Camera: F150-SL20: 20 x 20 (0.79 x 0.79); F150-SL50: 50 x 50 (1.97 x 1.97); F150-SLC20: 20 x 20 (0.79 x 0.79); F150-SLC50: 50 x 50 (1.97 x 1.97); F150-S1A Variable, determined by choice of lens (Consult your Omron sales rep. for lens options) Double-Speed Camera: F160-SLC20: 20 x 20 (0.79 x 0.79); F160-SLC50: 50 x 50 (1.97 x 1.97); F160-S1 Variable, determined by choice of lens (Consult your Omron sales rep. for lens options)
Shutter speeds	Electronic shutter; Select from 8 shutter speed settings 1/120 to 1/20,000 S (menu selectable)	F160 camera electronic shutter; select from 8 shutter-speed settings (1/120 to 1/20,000 sec); F150 camera electronic shutter, select from 1/100 sec, 1/500 sec, 1/2000 sec, 1/10,000 sec using menu
Measurement area (Pixels)	512 H x 484 V	512 H x 484 V
Inputs/Outputs	13 inputs and 22 outputs (including control I/O points); NPN or PNP available	13 inputs and 22 outputs (including control I/O points) NPN or PNP available
Applications	Production lines requiring high-speed inspection and measurement; Simultaneously inspect two sides of an object or two angles of a process; Inspect shipping labels and sort containers by label or size; Inspect bottles for dimensions, defects and label data; Read Lot/Date code on bottles or pill blister packs; Inspect components and position of PCB's; Position feedback, wide-angle inspection and tooling monitoring for machining and robotics; Repeatable light setting using SLC20 or SLC50 cameras	Product packaging lines requiring high-speed inspection of product labels for proper label content or defects, lot code or date code verification, dimensional inspection with multiple angles and proper orientation with high-speed position compensation; Confirm Lot/Date code and verify label clarity on pharmaceutical containers or food containers; Inspect for high accuracy defect detection for critical part surfaces on O-rings, sealing surfaces, bottles, food containers and critical edges; Inspect components, part or silk screened text and report board position of PCB's; Perform multiple position inspections on automotive engine blocks or transmission housings and assemblies; Ultra-precise object position feedback to robotics, multi-angle inspection and tooling monitoring for machining and robotics; Easily settable and repeatable light setting using SLC20 or SLC50 cameras or external CCS America lighting using the CCS Intelligent Lighting Adapter with the S1 or S1A cameras
Setting distance in	-SLC20 0.59 to 0.098; -SLC50 0.64 to 1.04; -S1A variable, determined by C-mount lens choice	See F150 and F160 cameras
Processing speed	Up to 5000 inspections per minute; Variable, determined by setup and measurements	Up to 5000 inspections per minute; variable, determined by setup and measurements
Input power supply	24 VDC	24 VDC



F250

F400

Features

- World's first high-speed, 4-camera vision sensor with real-time Rotation Position compensation delivers advanced machine vision performance
- Double-speed cameras with high-speed processing generates results 2 to 10 times faster than previous products
- Omron's Edge Code Position and Defect Detection, Fine Matching
- Quest OCR/OCV for advanced character detection and automatic lot/date code verification
- On-screen, pull-down menus
- On-line trending function with definable limits and alarming
- Uses either F150 or F160 cameras and intelligent lighting options
- 2 expandable Flash-RAM memory slots (up to 120 MB each)
- Customized menus, "results" screen information and symbol and text colors
- Connect to Omron PLCs via 10base-T Ethernet, RS-232C or RS-422
- Supports Omron's Host-Link protocol

- Hue, saturation, and intensity based color detection
- Point and click color pickup for detecting up to 8 colors simultaneously or 5 color filter modes (red, green, blue, gray, and "Colorgray") available
- Industry's first Colorgray filter detects fine differences in color even with light fluctuations
- Image filtering including background suppression
- On-screen menu-driven setup (no programming)
- Many of the same measurements and functions as the F150-2
- Easily connects to Omron's PLC via RS-232C
- NPN or PNP controllers available

Field of view mm (in)	Standard Camera: F150-SL20: 20 x 20 (0.79 x 0.79); F150-SL50: 50 x 50 (1.97 x 1.97); F150-SLC20: 20 x 20 (0.79 x 0.79); F150-SLC50: 50 x 50 (1.97 x 1.97); F150-S1A Variable, determined by choice of lens (Consult your Omron sales rep. for lens options) Double-Speed Camera: F160-SLC20: 20 x 20 (0.79 x 0.79); F160-SLC50: 50 x 50 (1.97 x 1.97); F160-S1 Variable, determined by choice of lens (Consult your Omron sales rep. for lens options)	-S1 variable, determined by choice of lens (Consult your Omron sales rep. for lens options)
Shutter speeds	F160 camera electronic shutter; select from 8 shutter speed settings (1/120 s to 1/20,000 s) using menu; F150 camera electronic shutter, select from 1/100 s, 1/500 s, 1/2000 s, 1/10,000 s using menu	Electronic shutter; 1/100 S, 1/500 S, 1/2000 S, 1/10,000 S (menu selectable)
Measurement area (Pixels)	512 H x 484 V	512 H x 484 V
Inputs/Outputs	21 inputs & 46 outputs (including control I/O points); NPN or PNP available	11 inputs/21 outputs (including control I/O points); NPN or PNP available
Applications	Product packaging lines requiring high-speed inspection of product labels; Confirm Lot/Date code and verify label clarity on pharmaceutical containers or food containers at high-speed; Inspect for high accuracy defect detection for critical part surfaces on O-rings, sealing surfaces, bottles, food containers and critical edges; Inspect components and parts for silk screened text and report board position of PCBs; Perform multiple position inspections on automotive engine blocks or transmission housings and assemblies; Ultra-precise object position feedback to robotics, multi-angle inspection and tooling monitoring for machining and robotics; Easily settable and repeatable light setting using SLC20 or SLC50 cameras or external CCS America lighting using the CCS Intelligent Lighting Adapter with the S1 or S1A cameras	Inspection for surface defects using fine differences in color undetectable with monochrome processing; Detection of fine differences in color even with fluctuations of light; Discrimination of different color labels or miswiring of a wire harness using color pickup processing; Detect and measure objects by the color of each edge; Check presence/absence of labels or objects based on color; Sort objects based on color
Setting distance in	See F150 and F160 cameras	-S1 variable, determined by choice of lens
Processing speed	Up to 5000 inspections per minute; variable, determined by setup and measurements	Up to 1600 inspections per minute; Variable, determined by setup and measurements
Input power supply	24 VDC	24 VDC



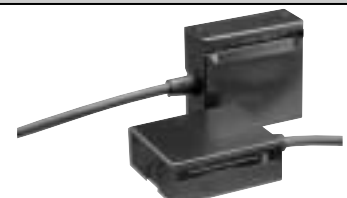
Handheld Series

Model numbers	V530-H301, V530-H302, V530-H303
Readable codes	Data matrix (ECC200): 10 x 10 to 26 x 26; QR code (models 1,2): versions 1 to 6 (21 x 21 to 41 x 41)
Field of vision	-H301: 3 x 3 mm; -H302 and -H303: 6 x 6 mm
Resolution	-H301: 50 µm; -H302 and -H303: 100 µm
Lighting method	-H301: coaxial lighting; -H302: oblique lighting; -H303: back lighting
Reading method	Touch
Ambient operating temperature	0 to 38°C (with no icing or condensation)
Ambient operating humidity	35 to 85% (with no condensation)
Ambient operating environment	No corrosive gases
Storage temperature	-25 to 60°C
Weight	Approx. 100 g (not including cable)
Case material	ABS resin (reading section: POM)
Controller	
Model numbers	V530-C300E
Interface	RS-232C
Ambient operating temperature	0 to 50°C (with no icing or condensation)
Ambient operating humidity	35 to 85% (with no condensation)
Ambient operating environment	No corrosive gases
Storage temperature	-25 to 60°C
Power supply voltage	20.4 to 26.4 VDC
Current consumption	0.5 A
Number of pixels	512 (H) x 484 (V)
Number of scenes	2
Image memory function	Maximum of 24 images stored
Operation method	Menu selectable
Processing method	Gray
Readable direction	360° (all directions)
Monitor interface	1 channel (over scan monitor)
Weight	Approx. 500 g



Fixed Series

Model numbers	V530-R150E-3, V530-R150EP-3, V530-R160E, V530-R160EP
Input/output type	NPN: -R150E-3, -R160E; PNP: -R150EP-3, -R160EP
Features	• Compact flash • Now includes print quality data
Readable codes	Data matrix (ECC200): 10 x 10 to 64 x 64, 8 x 18, 8 x 32, 12 x 26, 12 x 36, 16 x 36, 16 x 48; Data matrix (ECC000, 050, 080, 100, 140): 9 x 9 to 25 x 25; QR code (models 1, 2): 21 x 21 to 41 x 41 (version 1 to 6)
Readable direction	360°
Number of pixels	512 (H) x 484 (V)
Number of connectable cameras	1 or 2 - using F150-A20 two-camera unit (R150 only); R160 - 2 ports built-in
Number of scenes	10 (R150); 16 (R160)
NG Image memory function	Maximum of 24 (R150), 34 (R160) images stored
Operation method	Menu selectable
Processing method	Gray
Monitor interface	1 channel (over scan monitor)
RS-232C I/F	1 channel; R160 selectable RS-422
Parallel I/O	3 inputs/9 outputs (R150), 5 inputs/6 outputs (R160) including control I/O points
Power supply voltage	20.4 to 26.4 VDC
Enclosure rating	IEC 60529, IP 20
Current consumption	Approx. 0.5 A (R150), 1.6 A (R160)
Ambient temperature	Operating 0 to 50°C Storage: -25 to 65°C (with no icing or condensation)
Ambient humidity	Operating/storage: 35 to 85% (with no condensation)
Weight	Approx. 390 g (R150), 570 g (R160)



	Fixed Laser	Handheld CCD	Fixed CCD
Model numbers	V500-LPN5627-C/-P (single line laser), V500-LPR5627-C/-P (raster)	V500-LGP6125-C/-P	V500-LHA7127-C/-P
Dimensions mm (in)	43 L x 30 W x 21 H (1.7 x 1.2 x 0.83)	152 L x 72 W x 22 H (6.0 x 2.8 x 0.9)	47 L x 55 W x 20 H (1.9 x 2.2 x 0.8)
Decodable symbologies	Codabar, Code 39, Code 93, Code 128, Industrial 2 of 5, Interleaved 2 of 5, MSI-Plessey, WPC (UPC, EAN, JAN), IATA	WPC: EAN (EAN 13, EAN 8), UPC (UPC-A, UPC-E) Code 39, Codabar, Standard 2 of 5, Code 128, Code 93 MSI-Plessey, Industrial 2 of 5, Interleaved 2 of 5, ISBN, ISSN Matrix 2 of 5, IATA, Trioptics, Italian Pharmaceutical	Code 39, Code 93, Code 128, EAN-8 inc. +2, +5, EAN-13 inc. +2, _5, IATA, Industrial 2 of 5, Interleaved 2 of 5, MSI, NW-7, UPC-A inc. +2, _5, UPC-E inc. +2, +5, JAN
Readable digits	Symbology dependent	Symbology dependent	Symbology dependent
Resolution	6 mil at PCS 0.9	5 mil at PCS 0.9	0.13 mm at PCS 0.9
Reading distance	Up to 12.6 in.	Up to 3.2 in.	Nominal 1.4 in.
Scan rate	500 scans/sec	200 scans/sec	700 scans/sec
Raster scan	0.25 in. raster	-	-
Light source	Visible laser diode, 650 nm ±10 nm, CDRH Class II	Visible LED, 630 nm	Red LED, 660 nm
Decoder	Auto decode installed	Auto decode installed	Auto decode installed
Indicator	OK / NG	Multi-status LED	Multi-status LED
Interface*	RS-232	RS-232/Wedge (XT/AT/PS2), USB	RS-232C
Programming	Uses manual with scannable barcodes	Uses manual with scannable barcodes	Uses manual with scannable barcodes
Trigger input	5 V TTL or dry contact	5 V TTL or dry contact	5 V TTL or dry contact
Power supply	5 VDC	5 VDC	5 VDC
Current consumption	350 mA	30 mA	220 mA
Vibration resistance	10 to 150 Hz, 0.5 mm double amplitude for 8 min. each X, Y, Z direction. Completed 4 times with an acceleration of 7 F	10 to 150 Hz, 0.5 mm double amplitude for 8 min. each X, Y, Z direction. Completed 4 times with an acceleration of 7 F	10 to 150 Hz, 0.5 mm double amplitude for 8 min. each X, Y, Z direction. Completed 4 times with an acceleration of 7 F
Shock resistance	20 G, 3 times each ±X, ±Y, ±Z directions	20 G, 3 times each ±X, ±Y, ±Z directions	20 G, 3 times each ±X, ±Y, ±Z directions
Operating temperature	0 to 40°C (32 to 140°F)	0 to 40°C (32 to 140°F)	0 to 40°C (32 to 140°F)
Operating humidity	20 to 90% non-condensing	Up to 90% non-condensing	20 to 90% non-condensing
Enclosure rating	ISO9002, CDRH	ISO9002	ISO 9002
Approvals	CE	CE	CE

*Note: -C denotes female DB9 for computer (power adapter needed)
-P denotes male DB9 for Omron PLC (no power adapter needed)

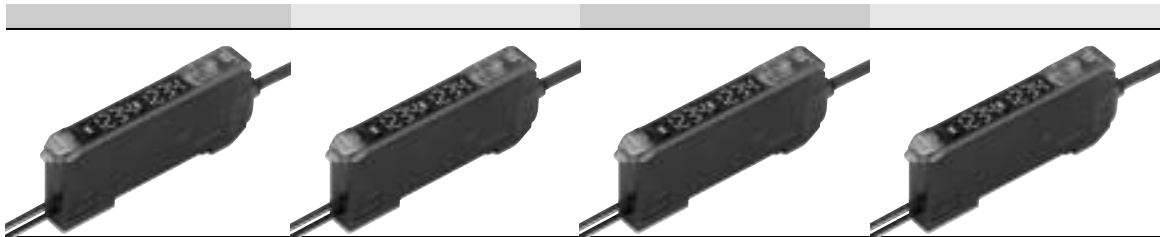


	V600	V670	V690	V700	V720
RFID system	Diverse product line; Combined controller/antenna available	High speed data communications to data carriers	Longe range communications; Multi-tag read/write (anti-collision); Combined controller/antenna available	Multi-tag read/write (anti-collision); Combined controller/antenna available, PDA interface	High volume cost-effective; Multi-tag read/write (anti-collision); Combined controller/antenna available, PDA interface
Data carriers**	High temperature; Chemical resistant; Environmentally resistant; Data carriers for use with metals; Wide range of available memory	Up to 1 billion writes to data carriers	Compact data carrier design	High temperature; Chemical resistant; Environmentally resistant	iCODE, iCODE-SLI, TAGIT chip - inlet technology; Custom data carriers available; Application dependent: Chemical resistant, and environmentally resistant
Operating frequency	530 kHz	13.56 mHz	2.45 GHz	125 kHz	13.56 mHz
Read/Write range mm	Up to 70 mm	5 to 23 mm	Up to 5000 mm	Up to 250 mm	*Up to 1 m see note below
Possible number of R/W heads	2	1	1	1	1
Data Carrier memory sizes	256, 2 K and 8 K bytes	128 bytes	8 K bytes	128 and 256 bytes	64 bytes / 128 bytes
Data Carrier memory types	EEPROM, SRAM	FeRAM	SRAM	EEPROM	EEPROM
Power requirements	See specific V600 products	24 VDC	24 VDC	24 VDC	24 VDC
Power/current consumption	See specific V600 products	7 W max.	15 W max.	20 W max.	20 W max.
Interface options	RS-232; RS-232 handheld; RS-422 Multi-drop; RS-485 Multi-drop; Portable reader; DeviceNet; Omron PLC card; Parallel PNP/NPN; Intelligent flag PNP/NPN	RS-232; Programming Console Compatible	RS-232; RS-422 Multi-drop; RS-485 Multi-drop	RS-232; RS-485 Multi-drop; Programming Console Compatible	RS-232; RS-485 Multi-drop
Approvals	UL, CSA, CE, FCC part 15	CE, FCC part 15	FCC part 15	CE, FCC part 15	CE, FCC part 15

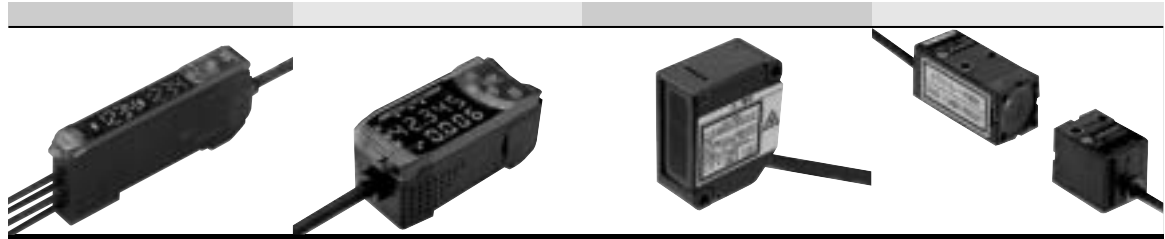
Notes: *The typical communications area is approximately 250 mm. This is directly dependent on the antenna type and the data carrier design.
 **All Omron RFID systems utilize Passive Tag Technology. All Omron RFID tags have read and write capabilities.



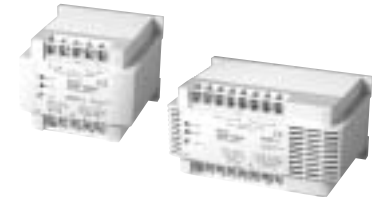
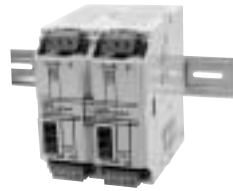
	E3Z	E3Z-LS	E3Z-B	E3Z-L
Dimensions mm (in)	31 H x 10.8 W x 20 D (1.22 x 0.43 x 0.79)	31 H x 10.8 W x 20 D (1.22 x 0.43 x 0.79)	31 H x 10.8 W x 20 D (1.22 x 0.43 x 0.79)	31 H x 10.8 W x 20 D (1.22 x 0.43 x 0.79)
Amplifier type	Built-in DC amplifier	Built-in DC amplifier	Built-in DC amplifier	Built-in DC amplifier
Features	<ul style="list-style-type: none"> World standard compact sensor offers long sensing distance and superior noise immunity Integrated photo-IC offers noise immunity M8 connector-ready and 2 m pre-wired models NPN or PNP output models 	<ul style="list-style-type: none"> Wire selectable foreground/background suppression for stable sensing regardless of target's color or size Adjustable sensing distance Built-in algorithm minimizes external interference from fluorescent lighting M8 connector-ready and 2 m pre-wired models NPN or PNP output models 	<ul style="list-style-type: none"> Reliably detect PET bottles and clear materials Detects a wide range of bottles: from 500 ml to 2-litre sizes Detects single bottles or stacked bottles using unique "inner view" optical system M8 connector-ready and 2 m pre-wired models NPN or PNP output models 	<ul style="list-style-type: none"> Detect minute objects as small as 0.1 mm at 90 mm sensing distance Narrow, visible beam spot simplifies aiming Detect part presence regardless of color M8 connector-ready and 2 m pre-wired models NPN or PNP output models
Through-beam sensing distance	15 m (E3Z-T61/66/81/86)	–	–	–
Retroreflective sensing distance	100 mm to 4 m (polarized) (E3Z-R61/66/81/86)	–	80 to 500 mm (E3Z-B61/66/81/86) 500 mm to 2 m (E3Z-B62/67/82/87) with E39-R1S or E39-R1K reflector	–
Diffuse sensing distance	1 m (E3Z-D62/67/82/87) 5 to 100 mm, wide view (E3Z-D61/66/81/86)	20 mm to 200 mm BGS 40 mm to 200 mm FGS (E3Z-LS61/66/81/86)	–	Narrow beam, 90±30mm (E3Z-L61/66/81/86)
Supply voltage	12 to 24 VDC ±10% ripple (p-p), 10% max.	12 to 24 VDC ±10% ripple (p-p), 10% max.	12 to 24 VDC ±10% ripple (p-p), 10% max.	12 to 24 VDC ±10% ripple (p-p), 10% max.
DC control output type	Open collector (NPN or PNP depending on model)	Open collector (NPN or PNP depending on model)	Open collector (NPN or PNP depending on model)	Open collector, NPN or PNP models
Max. load	100 mA max.	100 mA max.	100 mA max.	100 mA max.
Response time	1 ms max.	1 ms max.	1 ms max.	1 ms max.
Materials:				
Lens	Denatured polyallylate	Denatured polyallylate	Denatured polyallylate	Denatured polyallylate
Case	PBT	PBT	PBT	PBT
Bracket	Metal	Metal	Metal	Metal
Cover	–	–	–	–
Enclosure rating	IP67	IP67	IP67	IP67
Light source	Through-beam: IR 860 nm; Retroreflective: Red 680 nm; Diffuse: IR 860 nm	Visible red LED 680 nm	Visible red LED 680 nm	Visible red LED (670 nm)
Circuit protection	Reverse polarity; Output short-circuit	Reverse polarity; Output short-circuit	Reverse polarity; Output short-circuit	Reverse polarity; Output short-circuit
Mutual interference protection	Yes	Yes	Yes	Yes
Operation mode	Light-ON/Dark-ON, switch selectable	Light-ON/Dark-ON, switch selectable	Light-ON/Dark-ON, switch selectable	Light-ON/Dark-ON, switch selectable
Applications	General purpose sensing, ideal for space-confined installations; For material handling, food & beverage packaging, small parts and electronic assembly	For labeling, packaging and other general purpose applications requiring background or foreground suppression	For food/beverage, pharmaceutical bottling, packaging, and material handling applications	Electronics assembly and machining applications; Detect copper wire on coils or bobbins; Detect broken drill bits or die tooling; Verify parts orientation by detecting through-holes



	E3X-DA-S	E3X-DAG-S/E3X-DAB-S	E3X-DA-TW-S	E3X-DA-RM-S
Dimensions mm (in)	32 H x 10 W x 74.3 D (1.26 x 0.39 x 2.92)	32 H x 10 W x 74.3 D (1.26 x 0.39 x 2.92)	32 H x 10 W x 74.3 D (1.26 x 0.39 x 2.92)	32 H x 10 W x 74.3 D (1.26 x 0.39 x 2.92)
Amplifier type	Built-in DC amplifier	Built-in DC amplifier	Built-in DC amplifier	Built-in DC amplifier
Features	<ul style="list-style-type: none"> • General-purpose fiber-optic sensing • Easy to program • Dual digital display to view current and preset values • Automatic power tuning addresses saturation or insufficient light conditions • Wire-saving connector or pre-wired models • NPN or PNP models • Built-in timer • Use E32 fiber-optic cables/sensing heads 	<ul style="list-style-type: none"> • Color mark sensors with green or blue light sources improve reliability of hard-to-detect color combinations • Wire-saving connector or pre-wired models • NPN or PNP models • Built-in timer • Use E32 fiber-optic cables/sensing heads 	<ul style="list-style-type: none"> • Advanced 2-output models offer differential detection to spot minute changes • Range detection for object length sorting provides output when light value is in a certain threshold range • Wire-saving connector or pre-wired models • NPN or PNP models • Built-in timer • Use E32 fiber-optic cables/sensing heads 	<ul style="list-style-type: none"> • Advanced external input model with built-in Up/Down counter eliminates need for extra hardware • Remote input function allows remote teaching, power tuning functions, zero reset, light off and counter reset • Wire-saving connector or pre-wired models • NPN or PNP models • Built-in timer • Use E32 fiber-optic cables/sensing heads
Through-beam sensing distance	200 to 1000 mm (E32-TC200);	45 to 100 mm (E32-TC200)	200 to 1000 mm (E32-TC200)	200 to 1000 mm (E32-TC200)
Retroreflective sensing distance	10 to 250 mm (E32-R21); 150 to 1500 mm (E32-R16)	–	10 to 250 mm (E32-R21); 150 to 1500 mm (E32-R16)	10 to 250 mm (E32-R21); 150 to 1500 mm (E32-R16)
Diffuse sensing distance	110 to 650 mm (E32-D11L)	22 to 44 mm (E32-D11L)	110 to 650 mm (E32-D11L)	110 to 650 mm (E32-D11L)
Color sensing	–	Yes	–	–
Supply voltage	12 to 24 VDC ±10% ripple (p-p), 10% max.	12 to 24 VDC ±10% ripple (p-p), 10% max.	12 to 24 VDC ±10% ripple (p-p), 10% max.	12 to 24 VDC ±10% ripple (p-p), 10% max.
DC control output type	Open collector, NPN or PNP models	Open collector, NPN or PNP models	Open collector, NPN or PNP models	Open collector, NPN or PNP models
Max. load	50 mA max.	50 mA max.	50 mA max.	50 mA max.
Response time	48 µs operation; 50 µs reset	48 µs operation; 50 µs reset	80 µs operation; 80 µs reset	48 µs operation; 50 µs reset
Materials:				
Lens	–	–	–	–
Case	PBT	PBT	PBT	PBT
Bracket	–	–	–	–
Cover	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Enclosure rating	IP50 with protective cover	IP50 with protective cover	IP50 with protective cover	IP50 with protective cover
Light source	Red (650 nm)	Green (525 nm); Blue (470 nm)	Red (650 nm)	Red (650 nm)
Circuit protection	Reverse polarity Output short-circuit	Reverse polarity Output short-circuit	Reverse polarity Output short-circuit	Reverse polarity Output short-circuit
Mutual interference protection	–	–	–	–
Operation mode	Light-ON/Dark-ON, switch selectable	Light-ON/Dark-ON, switch selectable	Light-ON/Dark-ON, switch selectable	Light-ON/Dark-ON, switch selectable
Applications	Space-confined sensing installations and ganged mounting for multiple sensor inspections in a small area; Fast response time makes them ideal for packaging, food/beverage and pharmaceutical applications; Set parameters for up to 16 sensors with the same or independent values for each, using mobile console E3X-MC11-S	Mark detection using contrast between mark and background in printing, packaging and material handling; Green light source detects black, purple and red on silver; yellow, white or silver on orange; yellow on red and more; Blue light is more effective detecting pastel colors; Set parameters easily using mobile console E3X-MC11-S	Differential operation is ideal for applications detecting fine objects such as thin wires (10 microns) and transparent objects; Convenient area output, differential operation, and self-diagnostics set up using mobile console E3X-MC11-S	Ideal for applications that require frequent adjustments in packaging, material handling, small parts assembly and more; Convenient remote setting of teaching functions, Up/Down counter parameters and differential operation for each amplifier using mobile console E3X-MC11-S



	E3X-MDA	ZX amplifier	ZX reflective heads	ZX through-beam heads								
Dimensions mm (in)	32 H x 10 W x 74.3 D (1.26 x 0.39 x 2.92)	31 H x 30 W x 64 D (1.22 x 1.18 x 2.52)	Diffuse reflective: 31.5 H x 30 W x 64.3 D (1.22 x 1.18 x 2.52); Regular reflective: 39 H x 17 W x 33 D (1.54 x 0.67 x 1.30)	ZX-LT001/005 emitter: 55 H x 25 W x 44 D (2.17 x 0.98 x 1.77); ZX-LT001/005 receiver: 15 H x 15 W x 34 D (0.59 x 0.59 x 1.34)								
Amplifier type	Built-in DC amplifier	Built-in DC amplifier	–	–								
Features	<ul style="list-style-type: none"> Two independent fiber-optic amplifiers in one compact package Easy to program Dual digital display to view current and preset values Automatic power tuning addresses saturation or insufficient light conditions Wire-saving connectors or pre-wired models NPN or PNP models Use E32 fiber-optic cables/sensing heads Built-in AND/OR logic 	<ul style="list-style-type: none"> Easy-to-read displays Resolution indicator shows maximum application resolution Five analog output types including 4-20 mA and four DC voltage outputs, plus (3) discrimination outputs high, pass & low One-button teaching function or PC setup and monitoring software simplify start-up Operation monitoring and direct data logging capabilities NPN or PNP models 	<ul style="list-style-type: none"> (8) interchangeable sensing heads use FDA Class II visible red laser light sources Require no special or supplemental laser safety equipment (2) laser types: spot beam or line beam Resolution from 0.25 to 300 microns 	<ul style="list-style-type: none"> (3) interchangeable sensing heads use FDA Class I visible red laser light sources Require no special or supplemental laser safety equipment Resolution to 4 microns 								
Through-beam sensing distance	200 to 650 mm (E32-TC200)	For use with any of (3) through-beam sensing heads	–	<table border="0"> <tr> <td>Beam Size</td> <td>Sensing Distance</td> </tr> <tr> <td>1 mm dia.</td> <td>0 to 2000 mm</td> </tr> <tr> <td>5 mm dia.</td> <td>0 to 500 mm</td> </tr> <tr> <td>10 mm dia.</td> <td>0 to 500 mm</td> </tr> </table>	Beam Size	Sensing Distance	1 mm dia.	0 to 2000 mm	5 mm dia.	0 to 500 mm	10 mm dia.	0 to 500 mm
Beam Size	Sensing Distance											
1 mm dia.	0 to 2000 mm											
5 mm dia.	0 to 500 mm											
10 mm dia.	0 to 500 mm											
Retroreflective sensing distance	10 to 250 mm (E32-R21); 150 to 1500 mm (E32-R16)	–	–	–								
Diffuse sensing distance	110 to 400 mm (E32-D11L)	For use with any of (8) reflective sensing heads	Diffuse Reflective: Spot beam & Line beam: 40 ±10 mm; 100 ±40 mm; 300 ±200 mm Regular Reflective: Spot beam & Line beam: 30 ±2mm	–								
Color sensing	–	–	–	–								
Supply voltage	12 to 24 VDC ±10% ripple (p-p), 10% max.	12 to 24 VDC ±10% ripple (p-p), 10% max.	–	–								
DC control output type	Open collector, NPN or PNP models	Open collector, NPN or PNP models	–	–								
Max. load	50 mA max.	50 mA max.	–	–								
Alarm	–	–	–	–								
Response time	130 ms operation; 130 ms reset	0.3 ms to 0.61 s depending on average count settings	0.3 ms to 0.61 s depending on average count settings	0.3 ms to 0.61 s depending on average count settings								
Materials:												
Lens	–	–	–	–								
Case	PBT	PBT	–	–								
Bracket	–	–	–	–								
Cover	Polycarbonate	Polycarbonate	–	–								
Enclosure rating	IP50 with protective cover	IP50 diffuse; IP40 specular reflective	IP40	IP40								
Light source	Visible red LED 650 nm	–	FDA Class II laser	FDA Class I laser								
Circuit protection	Reverse polarity Output short-circuit	Reverse polarity Output short-circuit	–	–								
Mutual interference protection	–	–	–	–								
Operation mode	Light-ON/Dark-ON, switch selectable	Light-ON/Dark-ON, switch selectable	–	–								
Applications	Space-confined sensing installations and ganged mounting for multiple sensor inspections in a small area; Fast response time makes them ideal for material handling, small parts assembly and electronics applications; Set parameters for up to 16 sensors with the same or independent values for each using mobile console E3X-MC11-S	Supports distance and width measurement applications; Calculation unit compares values from two ZX sensors to provide discrimination output	Electronic assembly, bottling and packaging equipment, material handling; Thickness detection; Part tolerance; Cap detection; IC orientation; IC pin inspection	Web width; Liquid level detection in food/beverage and general packaging								



S8VS

S8TS

S82K

Dimensions mm (in)	<p>60 W: 95 H x 40 W x 108.3D (3.74 x 1.57 x 4.26);</p> <p>90 W: 115 H x 50 W x 121.3 D (4.53 x 1.97 x 4.78);</p> <p>120 W: 115 H x 50 W x 121.3 D (4.53 x 1.97 x 4.78);</p> <p>180 W: 115 H x 75 W x 125.3 D (4.53 x 2.95 x 4.93);</p> <p>240 W: 115 H x 100 W x 125.3 D (4.53 x 3.94 x 4.93)</p>	<p>All models: 120 H x 43 W x 120 D (4.72 x 1.69 x 4.72)</p>	<p>3 W/7.5 W: 75 H x 37.5 W x 65 D (2.95 x 1.48 x 2.56);</p> <p>15 W: 75 H x 45 W x 96 D (2.95 x 1.77 x 3.78);</p> <p>30 W/50 W: 75 H x 90 W x 96 D (2.95 x 3.54 x 3.78);</p> <p>90 W/100 W: 75 H x 145 W x 96 D (2.95 x 5.71 x 3.78);</p> <p>240 W: 130 H x 280 W x 142.2 D (5.12 x 11.02 x 5.60)</p>
Features	<ul style="list-style-type: none"> • Ultra-compact size • LED display and outputs aid in predictive maintenance • Run-time monitor and alarm displays how long the output has been on • Maintenance forecast monitor displays remaining life of the power supply • 90 W and above models available with 2 outputs: one for undervoltage output and optional run-time or lifetime monitor output 	<ul style="list-style-type: none"> • Connect multiple blocks using AC/DC bus system • Increase power from 60 to 240 W by connecting up to 4 blocks • Build a multi-output power supply (5 V, 12 V and 24 V outputs) using flexible bus connection • Redundant capability (N+1 blocks) increase system reliability • Consistent size across all output types 	<ul style="list-style-type: none"> • Single and dual output models • All models UL508 listed • Universal input voltage range • Class 2 approved on all models below 100 W, except dual-output types • Undervoltage indicators on all 90, 100 and 240 W models; alarm on "T" models • PFC models meet EN61000-3-2 (limits for harmonic current emissions)
Product type	DIN rail mount	Plastic housed/DIN rail mount/Block type	Plastic housed/DIN rail mount
Output	Single output	Configure to user's choice	Single and dual output
Input voltage	85 to 264 VAC, 47 to 450 Hz	85 to 264 VAC, 47 to 63 Hz	85 to 264 VAC, 47 to 450 Hz; 85 to 132 VAC, 170 to 264 VAC (selectable), 85 to 253 VAC, 47 to 450 Hz (selectable)
Power ratings	60, 90, 120, 180 and 240 W	25, 30 and 60 W	3, 7.5, 15, 30, 50, 90, 100, and 240 W
Output voltage/ current	24 V: 2.5 A, 3.75 A, 5 A, 7.5 A, 10 A	5 V: 5 A; 12 V: 2.5 A; 24 V: 2.5 A	5 V: 0.6 A, 1.5 A, 2.5 A, 5.0 A; 12 V: 0.025 A, 0.6 A, 1.2 A, 2.5 A; 15 V: 0.2 A, 0.5 A; 24 V: 0.13 A, 0.3 A, 0.6 A, 1.3 A, 2.1 A, 3.75 A, 4.2 A, 10 A; ±12 V: +0.3 A/-0.2 A; ±15 V: +0.2 A/-0.2 A
Approvals	cULus, UL508 listed, Class 2 output (60 W only), CE, SEMI F47-0200 (60 W and 90 W)	cULus, UL508 listed, VDE, CE	UL508 listed, CSA, VDE, CE