



The 7000 Gen2 Series In-Sight vision system represents a breakthrough in flexibility, performance and ease of integration. This powerful vision system performs fast and accurate inspections and thanks to its compact dimension it fits easily into small production lines. The unique, modular design can be adapted on site to the requirements of your application.

- Onsite replaceable lighting and optical modules provide users with maximum flexibility to customize the system to their application.
- The complete suite of powerful Cognex algorithms and vision tools helps you solve your applications easily and reliably.
- The In-Sight spreadsheet ensures ultimate control through direct access to vision tools and communication options.

Technical Data - Overview				
Models	7600	7800	7801	7802
Resolution (images/sec)	800x600 640x480	800x600 640x480	1280x1024	1600x1200
Tools	Blob, Edge, Error detection, Histogram, 1D/2D code reading, Filters, InspectEdge, OCR/OCV, Pattern, PatMax, Geometry and Calibration.			
Item No. with Patmax (Mono)	041531	041528	041525	041522
Item No. with Patmax and PatMax Redline (Mono)	041532	041529	041526	041523
Item No. with Patmax (Color)	041698	041700	041702	041704
Item No. with Patmax and PatMax Redline (Color)	041699	041701	041703	041705
Software interface	In-Sight Explorer Spreadsheet and EasyBuilder interface			

Technical Data - Overview				
Models	7900	7901	7902	7905
Resolution (images/sec)	640x480	1280 x 1024	1600x1200	2448x2048
Tools	Blob, Edge, Error detection, Histogram, 1D/2D code reading, Filters, InspectEdge, OCR/OCV, Pattern, PatMax, Geometry and Calibration.			
Item No. with Patmax (Mono)	041716	042017	041718	041835
Item No. with Patmax and PatMax Redline (Mono)	041717	042018	041719	041817
Item No. with Patmax (Color)	042013	042019	042015	041836
Item No. with Patmax and PatMax Redline (Color)	042014	042020	042016	041818
Software interface	In-Sight Explorer Spreadsheet und EasyBuilder Schnittstelle			

Technical Data				
Model	7600	7800	7801	7802
Image type	Monochrome and color models			
Performance factor	1X	2.3X		
Job memory	7.2 GB non-volatile memory			
Order/program memory	512 MB internal memory + 8 GB on SD card			
Image processing memory	512 MB SDRAM			
Additional memory	8 GB SD card, network drive via FTP over Gigabit network			
Sensor type	CMOS, global shutter			
Resolution (pixels)	640 x 480/ 800 x 600 (adjustable via software)	1280 x 1024	1600 x 1200	
Frame rate (FPS)	217/165 (monochrome) 135/100 (Color)	76 (monochrome) 45 (Color)	53 (monochrome) 33 (Color)	
Lens type	C-mount/S-mount/Autofocus			
Lighting options	Integrated illumination, DataMan 360 illumination; external illumination via In-Sight 7000			
Integrated color light	red, white, blue, IR			
Display LEDs	Status SD card, pass/fail LED and 360 degree LED ring indicator, network LED and error LED			
Inputs/Outputs	1 special trigger input, 2 inputs, 2 outputs, 2 bidirectionally configurable Additional I/O via external I/O modules: CIO Micro or CIO 1400			
Power supply	24 VDC			
Industrial M12 connectors	3: Power/EA; Ethernet; external lighting/control			
Protection class	IP67 with integrated lighting or C-Mount cover			
Network communication	1G (1000)/100/10 Mbps			
IEEE 1588 Support	Timestamp Resolution: 8 ns ; Synchronization accuracy through transparent display: 5 µs			
Rockwell Add-on Profile	Yes			

Technical Data				
Model	7900	7901	7902	7905
Image type	Monochrome and color models			
Performance factor	2.5X			
Job memory	7.2 GB non-volatile memory			
Order/program memory	512 MB internal memory + 8 GB on SD card			
Image processing memory	512 MB SDRAM			
Additional memory	8 GB SD card, network drive via FTP over Gigabit network			
Sensor type	CMOS, global shutter			
Resolution (pixels)	640 x 480/ 800 x 600 (adjustable via software)	1280 x 1024	1600 x 1200	2448 x 2048
Frame rate (FPS)	217/165 (monochrome) 135/100 (Color)	76 (monochrome) 45 (Color)	53 (monochrome) 33 (Color)	32 (monochrome) 17 (Color)
Lens type	C-mount/S-mount/Autofocus			C-mount
Lighting options	Integrated illumination, DataMan 360 illumination; external illumination via In-Sight 7000			Integrated lighting, external lighting via In-Sight 7000; external lighting via independent power supply
Integrated color light	red, white, blue, IR			
Display LEDs	Status SD card, pass/fail LED and 360 degree LED ring indicator, network LED and error LED			
Inputs/Outputs	1 special trigger input, 2 inputs, 2 outputs, 2 bidirectionally configurable Additional I/O via external I/O modules: CIO Micro or CIO 1400			
Power supply	24 VDC			
Industrial M12 connectors	3: Power/EA; Ethernet; external lighting/control			
Protection class	IP67 with integrated lighting or C-Mount cover			
Network communication	1G (1000)/100/10 Mbps			
IEEE 1588 Support	Timestamp Resolution: 8 ns ; Synchronization accuracy through transparent display: 5 µs			
Rockwell Add-on Profile	Yes			

Overview of cables for the In-Sight 7XXX Series	
Item No.	Description
041371	Ethernet, M12 to RJ45, standard unangled (180/0), cable outlet straight, length: 2m
041242	Ethernet, M12 to RJ45, standard unangled (180/0), cable outlet straight, length: 5m
041372	Ethernet, M12 to RJ45, standard unangled (180/0), cable outlet straight, length: 10m
041373	Ethernet, M12 to RJ45, standard unangled (180/0), cable outlet straight, length: 15m
041497	Ethernet, M12 to RJ45, standard unangled (180/0), cable outlet straight, length: 30m
040472	Power/IO/RS232, M12 on open wires, standard unangled (180/0), cable outlet straight, length: 5m
040519	Power/IO/RS232, M12 on open wires, standard unangled (180/0), cable outlet straight, length: 10m
040520	Power/IO/RS232, M12 on open wires, standard unangled (180/0), cable outlet straight, length: 15m
040473	Power/IO/RS232, M12 on open wires, 90° angled (90/0), cable outlet on the side, length: 5m
040521	Power/IO/RS232, M12 on open wires, 90° angled (90/0), cable outlet on the side, length: 10m
040522	Power/IO/RS232, M12 on open wires, 90° angled (90/0), cable outlet on the side, length: 15m
040526	Lighting cable, standard non-angled (180/0), cable outlet straight, length: 0.5m
040627	Lighting cable, standard non-angled (180/0), cable outlet straight, length: 5m
041866	Ethernet cable, M12 x-cod. 90° <-> RJ45, 2m IP67, 8-pin, CAT6, suitable for In-Sight 76xx, 78xx, 79xx, suitable for drag chains with 10 million bending cycles, smallest bending radius 7.5x cable diameter, torsion resistant up to 30,000 cycles at +-180°/m
041867	Ethernet cable, M12 x-cod. 90° <-> RJ45, 5m IP67, 8-pin, CAT6, suitable for In-Sight 76xx, 78xx, 79xx, suitable for drag chains with 10 million bending cycles, smallest bending radius 7.5x cable diameter, torsion resistant up to 30,000 cycles at +-180°/m
041868	Ethernet cable, M12 x-cod. 90° <-> RJ45, 10m IP67, 8-pin, CAT6, suitable for In-Sight 76xx, 78xx, 79xx, suitable for drag chains with 10 million bending cycles, smallest bending radius 7.5x cable diameter, torsion resistant up to 30,000 cycles at +-180°/m
041720	Cable, In-Sight, DataMan, DS* Power/IO/RS232 5m, straight, 12-pin, M12 <-> DB15 * In-Sight 7xxx, >2Mio bending cycles, smallest bending radius 5x cable diameter, torsion resistant up to 500.000 cycles at +-180°/m
041977	Cabel Ethernet Rob, M12 x-cod. straight <-> RJ45, 2m
041978	Cabel Ethernet Rob, M12 x-cod. straight <-> RJ45, 5m
041979	Cabel Ethernet Rob, M12 x-cod. straight <-> RJ45, 10m

Other general accessories	
Item No.	Description
041638	In-Sight 7000 Gen2 mounting plate compatible with Gen1
041639	In-Sight 7000 Gen2 mounting plate compatible with 5000
030018	Extension module, 1 trigger input, 7 general inputs, 2 fast outputs and 6 general outputs, DIN rail mounting

Configuration model 1: Standard C-Mount lenses and cover cap with external illumination	
Item No.	Description
020295	Edmund lens 16mm LEC-CFF16-F11 C-Mount, 2/3", fixed aperture f11 filter mount 22x0.75
020296	Edmund lens 16mm LEC-CFF16-F16 C-Mount, 2/3", fixed aperture f16 Filter mount 22x0.75
020297	Edmund lens 25mm LEC-CFF25-F11 C-Mount, 2/3", fixed aperture f11 filter mount 22x0.75
020298	Edmund lens 25mm LEC-CFF25-F16 C-Mount, 2/3", fixed aperture f16 filter mount 22x0.75
020299	Edmund lens 35mm LEC-CFF35-F11 C-Mount, 2/3", fixed aperture f11 Filter mount 25.5x0.5
020300	Edmund lens 35mm LEC-CFF35-F16 C-Mount, 2/3", fixed aperture f16 Filter mount 25.5x0.5
020301	Edmund lens 50mm LEC-59873 C-Mount, f2-f22, 2/3", filter mount 30.5x0.5
020079	Fujinon lens 6mm DF6HA-1B 1MPix 1.2-16, 1/2", filter mount 27.0x0.5
020161	Fujinon lens 12.5mm HF12.5HA-1B 1MPix 1.4-16, 2/3", filter mount 25.5x0.5
020104	Fujinon lens 16mm HF16HA-1B 1MPix 1.4-16, 2/3", filter mount 25.5x0.5
020103	Fujinon lens 25mm HF25HA-1B 1MPix 1.4-22, 2/3", filter mount 25.5x0.5
020105	Fujinon lens 35mm HF35HA-1B 1MPix 1.6-22, 2/3", filter mount 25.5x0.5
020147	Fujinon lens 50mm HF50HA-1B 1MPix 2.3-22, 2/3", filter mount 25.5x0.5
020173	Ricoh lens 12mm FL-HC1214 2MPix 1.4-16, 1/2", filter mount 27.0x0.5
020111	Ricoh 16mm lens FL-CC1614 2MPix 1.4-16, 2/3", filter mount 27.0x0.5
020110	Ricoh lens 25mm FL-CC2514 2MPix 1.4-16, 2/3", filter mount 27.0x0.5
020009	Ricoh 35mm lens FL-CC3516 2MPix 1.6-16, 2/3", filter mount 27.0x0.5
020011	Ricoh lens 50mm FL-CC5028 2MPix 2.8-22, 2/3", filter mount 27.0x0.5
020096	Ricoh lens 75mm FL-CC7528 2MPix 2.8-32, 2/3", filter mount 30.5x0.5
020114	Ricoh lens 8mm FL-CC0814 5MPix 1.4-16, 2/3", M58 filter mount
020326	Ricoh lens 12mm FL-CC1218 5MPix 1.8-16, 2/3", filter mount 30.5x0.5
020109	Ricoh lens 16mm FL-CC1614 5MPix 1.4-16, 2/3", filter mount 40.5x0.5
020113	Ricoh lens 25mm FL-CC2514 5MPix 1.4-16, 2/3", filter mount M40.5x0.5
020160	Fujinon lens 12.5mm HF12.5SA-1 5MPix 1.4-22, 2/3", filter mount 49x0.75
020163	Fujinon lens 16mm HF16SA-1 5MPix 1.4-22, 2/3", filter mount 49x0.75
020164	Fujinon lens 25mm HF25SA-1 5MPix 1.4-22, 2/3", filter mount 49x0.75
020165	Fujinon lens 35mm HF35SA-1 5MPix 1.4-22, 2/3", filter mount 49x0.75
020118	Fujinon lens 50mm HF50SA-1 5MPix 1.8-22, 2/3", filter mount 49x0.75
020119	Fujinon lens 75mm HF75SA-1 5MPix 1.8-22, 2/3", filter mount 49x0.75
040156	Cover cap 55mm, UV-Haze filter In-Sight 5xx0, 5xx1, 5xx3, aluminium
040186	Cover cap 55mm, IR transm. filter In-Sight 5xx0, 5xx1, 5xx3, aluminium
040187	Cover cap 55mm, UV/IR blocking filter In-Sight 5xx0, 5xx1, 5xx3, aluminium
040382	Cover cap 55mm, red filter In-Sight 5xx0, 5xx1, 5xx3, aluminium
041243	Cover cap 55mm, polarizing filter circular In-Sight 5xx0, 5xx1, 5xx3, aluminium

Other general accessories	
Item No.	Description
040124	Adapter for cover cap In-Sight 5xx0, 5xx1, 5xx3 Aluminium, extension by 21mm
041837	In-Sight 7000 Gen2 adapter to AIT cover cap aluminum, black anodized, fits AIT cover caps with M52 filter thread
041913	In-Sight 7000 Gen2 adapter for AIT cover cap M60 for In-Sight 7905, 9912, 9902L aluminum, black anodized, fits AIT cover caps with M62 filter thread
070071	Mounting kit for Ring-Light 60/124 on In-Sight 7xxx Gen2

Configuration model 2: Standard C-Mount lenses and cover cap with internal illumination	
Item No.	Description
041569	In-Sight 7000 Gen2 illumination cap, white, includes diffuse cover cap and white illumination, lens max. diameter 29.5mm, max. length 38.5mm without using bandpass filter and max. length 36mm when using bandpass filter
041571	In-Sight 7000 Gen2 cover cap, clear for illumination cap item 041569
041572	In-Sight 7000 Gen2 cover cap, IR for illumination cap item 041569
041573	In-Sight 7000 Gen2 LED ring light, red for illumination cap item 041569, wavelength 617nm
041574	In-Sight 7000 Gen2 LED ring light, IR for illumination cap item 041569, wavelength 850nm
041576	In-Sight 7000 Gen2 LED ring light, white replacement for ring light illumination cap item no. 041569
041577	In-Sight 7000 Gen2 bandpass filter, red
041578	In-Sight 7000 Gen2 bandpass filter, IR
041579	In-Sight 7000 Gen2 bandpass filter, blue
Lenses on request	

Configuration model 3: S-Mount lenses (autofocus) and cover cap with internal illumination	
Item No.	Description
041570	In-Sight 7000 Gen2 autofocus module with 8mm lens, possible alternative S-Mount/M12 lenses: 6mm (item 041407), 16mm (item 041193), 25mm (item 041194)
041407	S-Mount lens (M12), 6.0mm for In-Sight 7xxx and In-Sight 2000
041636	S-Mount lens (M12), 8.0mm f2.2
041637	S-Mount lens (M12), 12.0mm f2.3
041193	S-Mount lens (M12), 16.0mm
041194	S-Mount lens (M12), 25.0mm
041569	In-Sight 7000 Gen2 illumination cap, white contains diffuse cover cap and white illumination, lens max. diameter 29.5mm, max. length 38.5mm without using bandpass filter and max. length 36mm when using bandpass filter
041571	In-Sight 7000 Gen2 cover cap, clear for illumination cap item 041569

<b>Configuration model 3: S-Mount lenses (autofocus) and cover cap with internal illumination</b>	
Item No.	Description
041572	In-Sight 7000 Gen2 cover cap, IR for illumination cap item 041569
041573	In-Sight 7000 Gen2 LED ring light, red for illumination cap item 041569, wavelength 617nm
041574	In-Sight 7000 Gen2 LED ring light, IR for illumination cap item 041569, wavelength 850nm
041576	In-Sight 7000 Gen2 LED ring light, white replacement for ring light illumination cap item no. 041569
041577	In-Sight 7000 Gen2 bandpass filter, red
041578	In-Sight 7000 Gen2 bandpass filter, IR
041579	In-Sight 7000 Gen2 bandpass filter, blue

<b>Configuration model 4: S-Mount lenses (manual focus)</b>	
Item No.	Description
041407	S-Mount lens (M12), 6.0mm
041636	S-Mount lens (M12), 8.0mm f2.2
041637	S-Mount lens (M12), 12.0mm f2.3
041193	S-Mount lens (M12), 16.0mm for In-Sight 7xxx and In-Sight 2000 In-Sight
041194	S-Mount lens (M12), 25.0mm for In-Sight 7xxx and In-Sight 2000
041580	In-Sight 7000 Gen2 S-Mount/M12 adapter including mounting tool for fix-focus lens
040480	DataMan 3xx S-Mount cover cap, clear for M12 lens (S-Mount), without illumination



Technical drawings In-Sight 7000	
With integrated lighting	Basic module
In-Sight 7000 Gen2 with adapter to AIT cover cap 55mm aluminium (up to 2 MP)	In-Sight 790X Gen2 with adapter to AIT cap 65mm aluminium (up to 5MP)