

NOVITEC

See more, be Better

NOVITEC

NO.1 ITS Camera & Robot vision

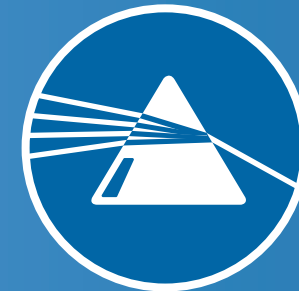
PRODUCTS CATALOG



ITS CAMERA



ROBOT VISION



OPTICAL SENSOR

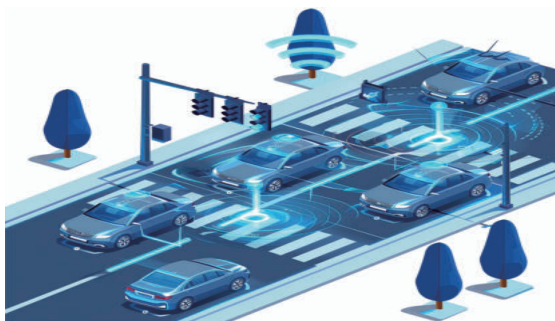
NOVITEC manufactures
ITS cameras, Robot vision and
Precision optical sensors.



Novitec products

ITS & Security

We offer products for variety of applications in road surveillance, traffic enforcement, speed camera.



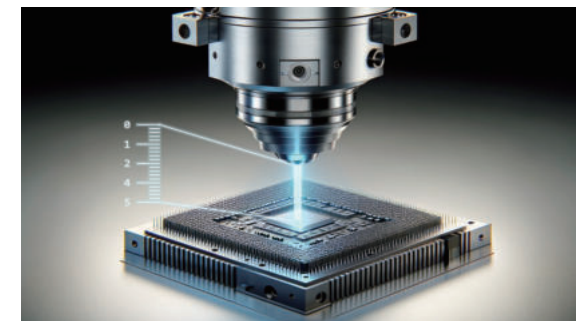
Robot vision

Provide optimal solutions for vision inspections in factory automation and robot vision.



Optical sensor

Researching precision optical measurement to provide thin film thickness measurement and 3D shape measurement sensors.



APPLICATIONS



Parking control



Surveillance



Speed enforcement



Red light enforcement



Smart intersection



Intelligent video analysis



Traffic monitoring



Access control system



Automotive



Robotics



Semiconductor



Entertainment



Inspection



Logistics



Autonomous transportation



Medical industry

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ITS & Security products

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i-Nova4 Series

3.2 MP / 5 MP / 12 MP ITS Camera

- Global shutter
- 3 Motorized zoom lens (3.6x ~ 30x)
- 3.2 MP / 5 MP / 12 MP
- Pseudo / Multishot trigger mode
- H.264 + H.265 + JPEG, ONVIF, GenICam



Applications



Smart intersection



Intelligent video analysis



Speed enforcement



Red light enforcement

Pseudo trigger



When camera receive a trigger input signal during RTSP stream, it can send a still cut image closest to the signal.











Options

3 Motor lens controller for i-Nova4.



Model	iN4M-32SC-3M11 	iN4Z-32SC-5Z150 (TBD) 
Image sensor	Sony IMX900, 1/3.1"	Sony IMX900, 1/3.1"
Resolution	2048 x 1536 pixels	2048 x 1536 pixels
Pixel size	2.25 x 2.25 μm	2.25 x 2.25 μm
Frame rate	60 fps	60 fps
Lens mount	-	-
Lens control	Motorized zoom / Focus / Iris	Motorized zoom / Focus / Iris
Focal length	3 ~ 11 mm	5 ~ 150 mm (TBD)
Trigger mode	Pseudo, External (one shot / multi shot), Software	Pseudo, External (one shot / multi shot), Software
Protocol	RTSP, GigE Vision, GenICam, ONVIF	RTSP, GigE Vision, GenICam, ONVIF
Interface	100 Mbps Ethernet (RJ45)	100 Mbps Ethernet (RJ45)
Power	+12 V DC	+12 V DC
Dimension / Weight	62 x 54 x 70mm / TBD	TBD
Certificate	TBD	TBD

Model	iN4-50SC 	iN4-50EC 	iN4M-50SC-10M50  iN4Z-50SC-6.5Z162.5 	iN4M-50EC-10M50  iN4Z-50EC-6.5Z162.5 
Image sensor	Sony IMX567, 1/1.8"	Te2v EV2S05MC, 1/1.8"	Sony IMX567, 1/1.8"	Te2v EV2S05MC, 1/1.8"
Resolution	2448 x 2048 pixels	2560 x 1936 pixels	2448 x 2048 pixels	2560 x 1936 pixels
Pixel size	2.74 x 2.74 μm	2.8 x 2.8 μm	2.74 x 2.74 μm	2.8 x 2.8 μm
Frame rate	30 fps	30 fps	30 fps	30 fps
Lens mount	C / CS - mount	C / CS - mount	-	-
Lens control	-	-	Motorized zoom / Focus / Iris	Motorized zoom / Focus / Iris
Focal length	-	-	10 ~ 50 mm / 6.5 ~ 162.5 mm	10 ~ 50 mm / 6.5 ~ 162.5 mm
Trigger mode	Pseudo, External (one shot / multi shot) , Software	Pseudo, External (one shot / multi shot) , Software	Pseudo, External (one shot / multi shot) , Software	Pseudo, External (one shot / multi shot) , Software
Protocol	RTSP, GigE Vision, GenICam, ONVIF	RTSP, GigE Vision, GenICam, ONVIF	RTSP, GigE Vision, GenICam, ONVIF	RTSP, GigE Vision, GenICam, ONVIF
Interface	100 / 1000 Mbps Ethernet (RJ45)	100 / 1000 Mbps Ethernet (RJ45)	100 / 1000 Mbps Ethernet (RJ45)	100 / 1000 Mbps Ethernet (RJ45)
Power	12 ~ 24 V DC / 3 W	12 ~ 24 V DC / 3 W	12 ~ 24 V DC / 3 W	12 ~ 24 V DC / 3 W
Dimension / weight	TBD	60 x 60 x 54.8 mm / 270 g	TBD	10M50 : 70 x 72 x 108mm / 574g 6.5Z162.5 : 74 x 74 x 150 mm / 950 g
Certificate	TBD	KC, CE, TTA	TBD	KC, CE, TTA

Model	iN4-12SC 	iN4Z-12SC-9.5Z171 (TBD) 
Image sensor	Sony IMX565, 1/1.1"	Sony IMX565, 1/1.1"
Resolution	4096 x 3000 pixels	4096 x 3000 pixels
Pixel size	2.74 x 2.74 μm	2.74 x 2.74 μm
Frame rate	30 fps	30 fps
Lens mount	C / CS - mount	-
Lens control	-	Motorized zoom / Focus / Iris
Focal length	-	9.5 mm - 171 mm (TBD)
Trigger mode	Pseudo, External (one shot / multi shot), Software	Pseudo, External (one shot / multi shot), Software
Protocol	RTSP, GigE Vision, GenICam, ONVIF	RTSP, GigE Vision, GenICam, ONVIF
Interface	RJ45 Ethernet	RJ45 Ethernet
Power	12 ~ 24 V	12 ~ 24 V
Dimension / Weight	TBD	TBD
Certificate	TBD	TBD

i-Nova3 Series

8.9 MP ITS Camera

- Global shutter
- 3 Motorized zoom lens (30x)
- HDMI (Option)
- Pseudo / Multi shot trigger mode
- H.264 + H.265 + JPEG, ONVIF, GenICam



Applications



Smart intersection



Intelligent video analysis



Traffic monitoring



Access control system

Triple streaming

By setting the resolution and image codec of each stream (A/B/C), triple streams can be transmitted simultaneously.







- Stream A M-JPEG
- Stream B M-JPEG, H.264, H265
- Stream C M-JPEG, H.264, HDMI

Options

3 Motor lens controller for i-Nova3.



Model	iN3-89EC  	iN3Z-89EC-10Z300  
Image sensor	Te2v Emerald EV2S8M9C, 2/3"	Te2v Emerald EV2S8M9C, 2/3"
Resolution	4096 x 2160 pixels	4096 x 2160 pixels
Pixel size	2.8 x 2.8 μm	2.8 x 2.8 μm
Frame rate	30 fps	30 fps
Lens mount	C / CS - mount	-
Lens control	-	Motorized zoom / Focus / Iris
Focal length	-	10 ~ 300 mm
Trigger mode	Pseudo, External (one shot / multi shot), Software	Pseudo, External (one shot / multi shot), Software
Protocol	RTSP, GigE Vision, GenICam, ONVIF	RTSP, GigE Vision, GenICam, ONVIF
Interface	100 / 1000 Mbps Ethernet (RJ45)	100 / 1000 Mbps Ethernet (RJ45)
Power	12 ~ 24 V DC / < 8.5 W	12 ~ 24 V DC / < 14 W
Dimension / Weight	72 x 70 x 82 mm / 665 g	90 x 90 x 204 mm / 1.8 kg
Certificate	KC, CE, TTA	KC, CE, TTA

i-Nova2 Series

2 MP ITS Camera

- Global shutter
- 3 Motorized zoom lens (3.6x, 10x)
- ONVIF, GenICam
- Pseudo / Multishot trigger mode
- PoE option



Applications



Parking control



Surveillance



Speed enforcement



Red light enforcement

Multishot trigger mode

Captures up to 4 images with different brightness levels.

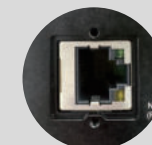








Options

1. Detachable LED
2. Waterproof
3. PoE - IEEE 802.3at



White / IR (850nm) LED



Model	iN2-23SC-C 	iN2-23OC-C 	iN2M-23SC-6M22  iN2M-23SC-5M50 	iN2M-23OC-6M22  iN2M-23OC-5M50 
Image sensor	Sony IMX392, 1/2.3"	ON-Semi AR0234CS, 1/2.6"	Sony IMX392, 1/2.3"	ON-Semi AR0234CS, 1/2.6"
Resolution	1920 x 1080 pixels	1920 x 1080 pixels	1920 x 1080 pixels	1920 x 1080 pixels
Pixel size	3.45 x 3.45 μm	3 x 3 μm	3.45 x 3.45 μm	3 x 3 μm
Frame rate	30 fps	30 fps	30 fps	30 fps
Lens mount	C / CS - mount	C / CS - mount	-	-
Lens control	-	-	Motorized zoom / Focus / Iris	Motorized zoom / Focus / Iris
Focal length	-	-	6 ~ 22 mm / 5 ~ 50 mm	6 ~ 22 mm / 5 ~ 50 mm
Trigger mode	Pseudo, External (one shot / multi shot), Software	Pseudo, External (one shot / multi shot), Software	Pseudo, External (one shot / multi shot), Software	Pseudo, External (one shot / multi shot), Software
Protocol	RTSP, Novitec protocol, ONVIF	RTSP, Novitec protocol, ONVIF	RTSP, Novitec protocol, ONVIF	RTSP, Novitec protocol, ONVIF
Interface	100 / 1000 Mbps Ethernet (RJ45)	100 / 1000 Mbps Ethernet (RJ45)	100 / 1000 Mbps Ethernet (RJ45)	100 / 1000 Mbps Ethernet (RJ45)
Power	12 ~ 24 V DC / < 4 W	12 ~ 24 V DC / < 4 W	12 ~ 24 V DC / < 4 W	12 ~ 24 V DC / < 4 W
Dimension / Weight	46 x 46 x 40.5 mm / 137 g	46 x 46 x 40.5 mm / 137 g	6M22 : 62 x 54 x 85.6 mm / 319 g, 5M50 : 62 x 54 x 98.5 mm / 375 g	
Certificate	KC, CE	KC, CE	KC, CE	KC, CE

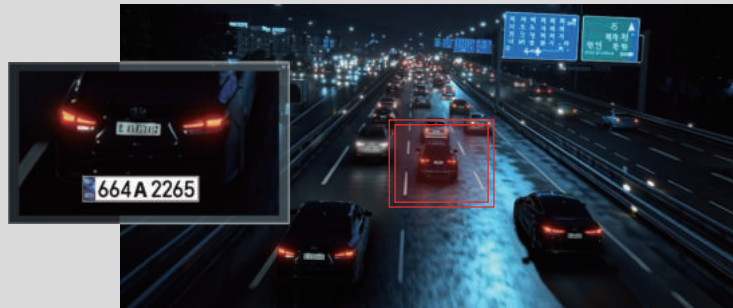
h-Nova




Camera Housing

- Modular camera installation
- Rugged outdoor housing
- High-speed capture
- Day & Night operation
- Thermal & Vibration resistant
- Flexible mounting options



It is used for license plate recognition in highway speeding enforcement and toll gate payment processing, as well as in mobile parking and stopping enforcement vehicles.



Model	hN-20-850 	hN-30-850 	hN-40-850 
Lane detected	Up to 2 Lanes	Up to 2 Lanes	Up to 2 Lanes
Working distance	Up to 25 m (82 ft)	Up to 35 m (115 ft)	Up to 45 m (147 ft)
Illuminator	20 LEDs (IR 850 nm)	30 LEDs (IR 850 nm)	40 LEDs (IR 850 nm)
Water & Dust protection	IP 65	IP 65	IP 65
Power supply voltage	24 V DC / 100 ~ 305 V AC	24 V DC / 100 ~ 305 V AC	24 V DC / 100 ~ 305 V AC
Storage temperature / Humidity	-30 ~ 80°C / Up to 90%	-30 ~ 80°C / Up to 90%	-30 ~ 80°C / Up to 90%
Operating temperature/ Humidity	-20 ~ 60°C / Up to 90%	-20 ~ 60°C / Up to 90%	-20 ~ 60°C / Up to 90%
Dimensions	230 x 120 x 310 mm	230 x 120 x 310 mm	230 x 120 x 310 mm
Weight	-	-	-

u-Nova2

Robot vision 2D Camera

- Global shutter
- 2.3MP / 5MP / 8.9MP
- USB 3.0 Interface
- Compact size
- GenICam



g-Nova3D

Robot vision 3D Camera

- Dual laser line extraction
- 32,160 profiles @ 1280 x 32 pixels
- 1/16 sub-pixel laser position detection



Applications



Medical industry



Inspection



Logistics



Robotics



Entertainment

Applications



Automotive




Robotics




Semiconductor



Autonomous transportation

Model	uN2-23C 	uN2-50C 	uN2-89EC 
Image sensor	ON-semi AR0234CS	Te2v Emerald EV2S05MC	Te2v Emerald EV2S8M9C
Sensor size	1/2.6"	1/1.8"	2/3"
Color / Mono	Color	Color	Color
Resolution	1920 x 1200 pixels	2560 x 1936 pixels	4096 x 2160 pixels
Pixel size	3 x 3 μm	2.8 x 2.8 μm	2.8 x 2.8 μm
Frame rate	120 fps	54 fps	32 fps
Lens mount	C / CS - mount	C / CS - mount	C / CS - mount
Interface	USB 3.0 Super speed	USB 3.0 Super speed	USB 3.0 Super speed
Power	5 V via USB	5 V via USB	5 V via USB
Dimension / Weight	44 x 30 x 43.3 mm / 70 g 29 x 29 x 41.5 mm / 47 g	44 x 30 x 43.3 mm / 70 g 29 x 29 x 41.5 mm / 47 g	44 x 30 x 43.3 mm / 70 g 29 x 29 x 41.5 mm / 47 g
Certificate	KC, CE	KC, CE	KC, CE

Model	gN3D-13L 
Image sensor	Luxima LUX1310, 2/3"
Resolution	1280 x 1024 pixels
Pixel size	6.6 x 6.6 μm
Shutter mode	Global shutter
Profile speed	1,060 Profile / Sec @ 1280 x 1024 pixels 32,160 Profile / Sec @ 1280 x 32 pixels
Image data format	Mono8 (2D), Coord3D_C16 (3D)
I/O port	Encoder / Trigger input, Profile sync output
Interface	Gigabit Ethernet
Power	12 ~ 24 V DC / < 6 W
Dimension / weight	65 x 65 x 52.5 mm / 386 g
Certificate	KC, CE

Swing3D

Robot vision 3D Sensor

- Real-time point cloud
- 1.3 million 3D points
- Rotating line lasers allow 3D scans from fixed positions
- Wide scan range (Up to 2745 x 1755 mm coverable, large model)
- GenICam
- Extended FOV



Applications



Automotive



Robotics



Semiconductor



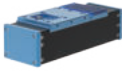
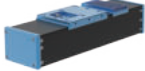

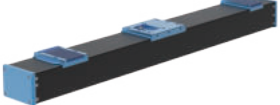
Logistics



Medical industry

Extended mode



Model	Extra small		Small		Medium		Large	
								
	*mm							
Extended FOV (0.5sec / Scan)	158	210	284	389	511	689	970	1304
Normal FOV (1sec / Scan)	236	201	463	392	833	702	1579	1334
Extended FOV	339	204	704	453	1290	868	2456	1650
	365	205	777	472	1434	921	2745	1755
Mode	Normal	Extended	Normal	Extended	Normal	Extended	Normal	Extended
Clearance distance	425 mm	375 mm	650 mm	540 mm	1200 mm	990 mm	2300 mm	1900 mm
Measurable depth distance	> 200 mm	> 300 mm	> 360 mm	> 580 mm	> 670 mm	> 1090 mm	> 1280 mm	> 2100 mm
Dimension / Weight	94 x 80 x 307 mm / 1.5 kg		94 x 80 x 338 mm / 1.6 kg		94 x 80 x 470 mm / 2.6 kg		94 x 80 x 832 mm / 2.9 kg	
Baseline	195 mm		275 mm		405 mm		767 mm	

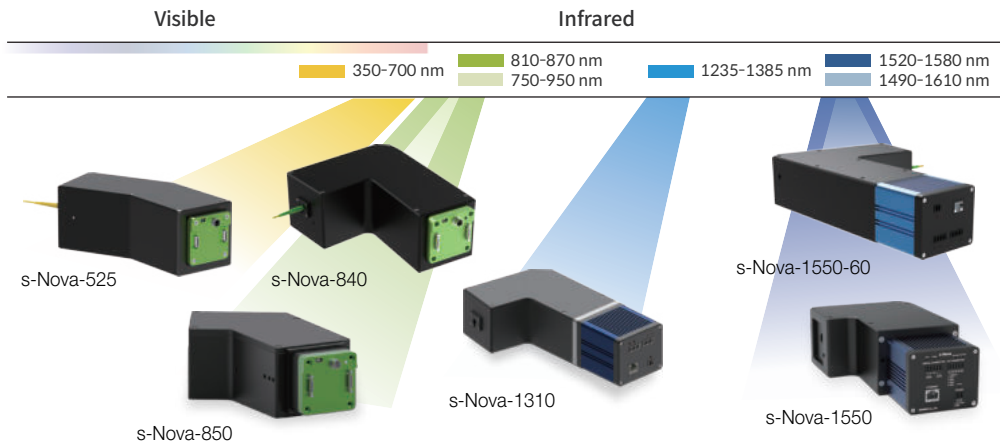
Spectrometer



s-Nova Series

Features

- High-resolution, High-speed measurement
- Reliable wavelength calibration traceable to international standards
- SDK support



Spectrometer	Spectral range	Spectral resolution	Max. speed	Optical input connector	Interface	Dimensions / Weight
s-Nova-525	350-700 nm	0.171 nm	250 kHz	FC/APC FC/PC SMA	Camera Link USB3.0	245 x 130 x 82 mm / 2.1 kg
s-Nova-840	810-870 nm	0.03 nm				225 x 162 x 78 mm / 2.3 kg
s-Nova-850	750-950 nm	0.1 nm				130 x 246 x 78 mm / 2.2 kg
s-Nova-1310	1235-1385 nm	0.15 nm	40 kHz	FC/APC FC/PC SMA	Gigabit Ethernet	136 x 253 x 68 mm / 2 kg
s-Nova-1550-60	1520-1580 nm	0.06 nm				245 x 130 x 82 mm / 2.6 kg
s-Nova-1550	1490-1610 nm	0.1 nm				142 x 245 x 76 mm / 2.7 kg

Thickness measurement sensor



t-Nova Series

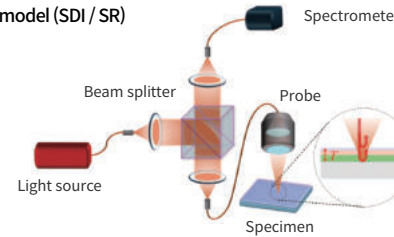
Features

- Robustness to vibration
- Various target materials transparent to the measurement light
- All-in-one-spectrometer, Light source, Measurement probe all included

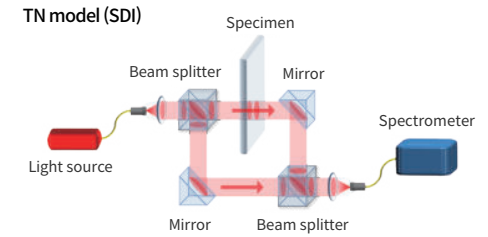


Measurement principles

R model (SDI / SR)



TN model (SDI)



Optical thickness sensor	t-Nova-850			t-Nova-1550		
	TN	T	R	TN	T	R
Measurands	Physical thickness, Refractive index		Optical thickness	Physical thickness, Refractive index		Optical thickness
Thickness range*	Min.	6 µm	400 nm	20 µm	2 µm	
	Max.	1.2 mm		3 mm		
Thickness resolution	10 nm	10 nm (or 0.1 nm)		10 nm	10 nm (or 0.1 nm)	
Refractive index resolution	0.001	-		0.001	-	
Measurement principles	SDI		SDI, SR	SDI		SDI, SR
Max. measurement speed	250 kHz			40 kHz		
Wavelength range	750 nm - 950 nm			1490 nm - 1610 nm		
Target materials	Photoresists, oxide and nitride films glass substrates			Glass and silicon substrates / coatings		
Optical fiber connector	FC/APC, FC/PC			FC/APC, FC/PC		
Software support	Software development kit (SDK), Viewer			Software development kit (SDK), Viewer		

* Refractive index of 1.5