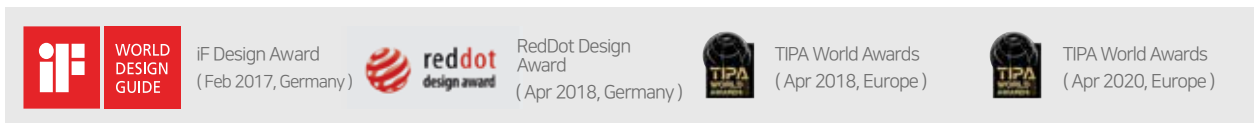# SAMYANG

SAMYANG
Thermal Solutions

SAMYANG

Samyang Optics is a global optics company that produces and supplies interchangeable camera lenses for experts with our technical expertise and manufacturing experience accumulated over 50 years, and our products are acknowledged in the worldwide market for their high quality and performance.

Moreover, our established optical techniques and manufacturing experiences enabled us to enter the "industrial machine vision and thermal solutions" market, and we are fully devoting our resources to take the growing business to a higher level.

With distinctive solutions based on our vision of seeking endless innovation to make small differences, and with "customer-oriented, prompt and transparent business management," Samyang Optics is developing into an ever-growing company that satisfies its customers.

| iF WORLD DESIGN GUIDE | iF Design Award (Feb 2017, Germany) | reddot design award | RedDot Design Award (Apr 2018, Germany) | TIPA WORLD AWARDS | TIPA World Awards (Apr 2018, Europe) | TIPA WORLD AWARDS | TIPA World Awards (Apr 2020, Europe) |

Address ㅣ 10th Floor CCMM Building, 101, Yeouigongwon-ro, Yeongdeungpo-gu, Seoul, Republic of Korea
TEL ㅣ 02-2192-8470~4 (Thermal Imaging Business Dept) FAX ㅣ 02-784-1440
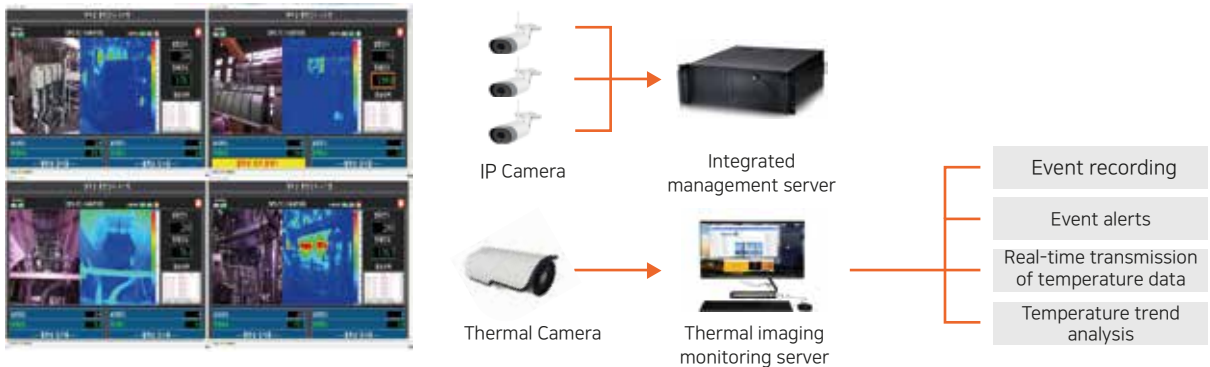Homepage ㅣ biz.samyanglens.com

Samyang Solution Features

Fire and abnormal temperatures in Korea Electric Power Corporation, railroads and subways, manufacturing facilities using high voltage and temperature, etc., could lead to catastrophes and significant business losses. Therefore, it is crucial for these fields to build solutions that prevent such events.

At Samyang Optics, we apply optimized thermal imaging sensing solutions to avoid accidents and ensure work site safety.

Accident/Disaster Prevention with Wide-area Monitoring for Fire and Abnormal Temperatures

Our thermal imaging technology detects signs of abnormal thermal changes within the monitoring area, providing temperature data and notifications.

IP Camera

Integrated management server

Thermal Camera

Thermal imaging monitoring server

Event recording

Event alerts

Real-time transmission of temperature data

Temperature trend analysis

Enhancing Operational Efficiency through providing Simultaneous Images of Thermal video and Monitoring Video

With dual monitoring of thermal images and real-time images of 2M-resolution, our solutions provide abnormal temperature detection and crystal-clear images at the same time (KIR-256NW2A Model).
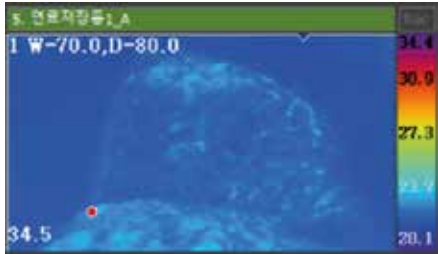

Customization support for Optimal System Management

Our operating software provides temperature data of main spots and customization support for customer requirements.
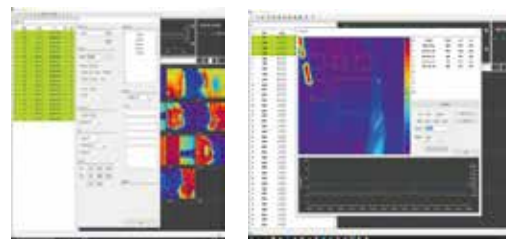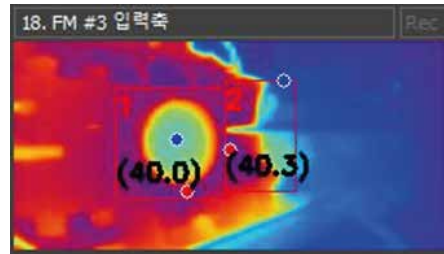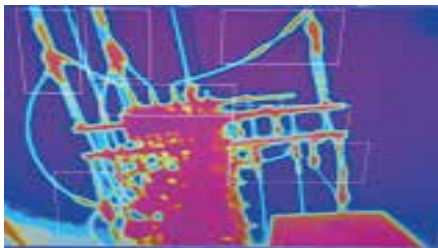
INDUSTRIAL APPLICATIONS

Overheating and Ignition Detection in Power Plants/Electricity Facilities

Detect self-ignition in fuels (coals/biofuels) used at thermal power stations

Detect overheating in generators

Monitor abnormalities in cables and objects attached to utility poles
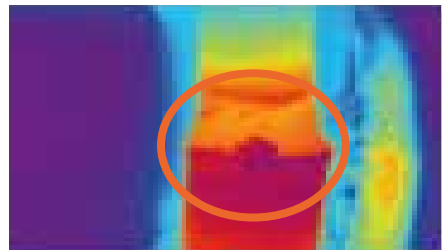

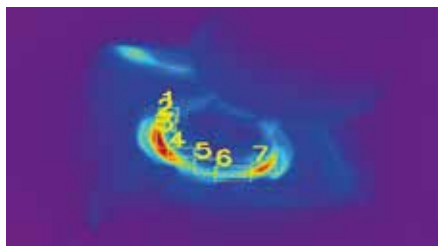Monitor safety issues/fires in the park and its surroundings

Detecting Safety Issues, Abnormal Temperatures, and Malfunctions in Manufacturing Facilities
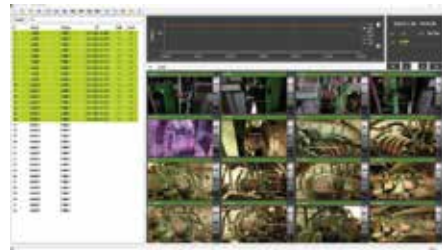

Transmit warning signals and shut down operations when a worker enters automated facilities of the factory

Pre-detect faulty soldering by checking the temperature of automated welding equipment

Display and examine temperatures of different locations

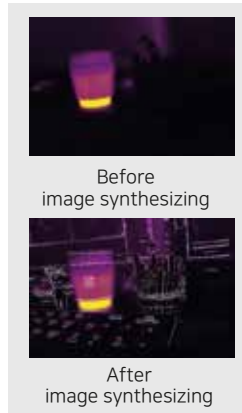Monitor abnormally high temperatures at steel meals

SPECIFICATIONS

KIR - 80/ 160N

KIR-80/160N   KIR-80/160NW2A

KIR - 80/ 160NW2A

Before
image synthesizing

After
image synthesizing

- Clear Resolution by Outline Image Synthesis Process
- Support CMOS up to 1600 x 1200 (Optional)
- POE Support/IP67
- Support SDK Software
- High-Temperature Measurement (Optional)
- IR LED Lamp (Optional)

Target : 30cmx120cm

KIR - 80NW   Recognition Distance 13M
KIR - 160NW Recognition Distance 23M

Model	KIR - 80/ 160N Series		KIR 80/160NW Series	
Line-up	KIR - 80N	KIR - 160N	KIR - 80NW2A	KIR - 160NW2A
Thermal Image				
Thermal Resolution	80 x 60	160 x 120	80 x 60	160 x 120
Thermal Pixel Size	17μm	12μm	17μm	12μm
Thermal FOV	IR H : 51° V : 37.5°	IR H : 56° V : 42°	IR H : 51° V : 37.5°	IR H : 56° V : 42°
Thermal IFOV	11.6 mrad	6.5 mrad	11.6 mrad	6.5 mrad
NETD	< 50mK			
Frame rate	< 9fps (8.6fps)			
Measurment Range	0℃ ~ 120℃			
LOW Gain Mode Range (Optional)	Option : KIR - 160NB High Gain Mode : -10° to +140℃ Low Gain Mode : -10° to +400℃ (at room temperature) -10° to +450℃ (typical)		Option : KIR - 160NW2B High Gain Mode : -10° to +140℃ Low Gain Mode : -10° to +400℃ (at room temperature) -10° to +450℃ (typical)	
Accuracy	High gain Mode : ±5℃ or 5% (typical) / Low Gain Mode : ±10℃ or 10% (typical)			
VISIBLE Image				
VISIBLE Image Support	-		YES	
VISIBLE Image Resolution	-		640 x 480 (MIN) 1600 x 1200 (MAX)	
VISIBLE FOV	-		D : 70°	
Camera Spec				
Streaming Data Format	-		RAW Data stream UDP, RTSP Unicast RTSP : MJPEG Streaming	
Protocol	TCP/IP, UDP, ICMP, HTTP, RTP, RTSP, RTCP / Modbus TCP (Option)			
IR - LED Lamp (Optional)	-		YES (KIR - 80/160NW2C)	
Power Supply and Operating Conditions				
POE compatibility	-		802.3af (15W)	
Power Supply	12Vdc (±10%)			
Power Comsumption	≤ 3W		≤ 6W	
Waterproof	-		IP67	
Operating Temperatures	-10℃ ~ 65℃ (Store at -40℃ ~ -80℃)			
General				
Dimensions (WxDxH)	46.2 x 75 x 29.6mm		70.5 x 21 x 110mm	
Weight	150g		315g	

SPECIFICATIONS

KIR-256NW1A/ 2A

KIR-256NW1A

KIR-256NW2A

- VISBLE Image and Thermal Image (Optional)
- Alerts for specific temperatures
- Temperature trend analysis and warning
- Max. 10 of Thermal Image ROI
- Max. 3 of VISIBLE Image PrivacyMask
- ONVIF Profile-S

Model	KIR - 256NW Series			
Lineup	KIR - 256NW1A	KIR - 256NW1A-90	KIR - 256NW2A	KIR - 256NW2A-90
Thermal Image				
Thermal Resolution	256 x 192	256 x 192	256 x 192	256 x 192
Thermal Pixel Size	12μm	12μm	12μm	12μm
Thermal FOV	IR H : 42° V : 32°	IR H : 90° V : 62.5°	IR H : 42° V : 32°	IR H : 90° V : 62.5°
Thermal Image Sensor	Uncooled Microbolometer (Vox) LWIR, Wavelength (8 ~ 14μm)			
NETD	< 60mK			
Frame Rate	25fps			
Measurement Range	-20℃ ~ 120℃ Low Gain Mode : 100℃ ~ 450℃			
Accuracy	High Gain Mode : ±2℃ or ±2% (50cm@25℃) , Low Gain Mode : ±10℃ / ±10%			
VISIBLE Image				
VISIBLE Image Support	-		1/2.8″ 2.13M Progressive Scan CMOS, 2.9μm x 2.9μm	
VISIBLE Image Resolution	-		1920 x 1080	
VISIBLE FOV	-		H : 56°, V : 29°	H : 86°, V : 50°
Camera Spec				
Streaming Data Format	VISIBLE Stream : 1920x1080@30fps , H.264 (Unicast) Thermal Image Stream : 512x384@25fps or 256x192@25fps , H.264 (Unicast)			
Protocol	TCP/IP, UDP, ICMP, HTTP, FTP, DHCP, RTP, RTSP, RTCP, NTP, UPnP, SMTP, SNMP, IGMP, DNS, 802.1X, QoS, IPv6			
Features	Thermal Palette : WB/BW and 4 Other Types Thermal ROI CH : 10CH (MIN,MAX for Full Screen , MIN,MAX per Zone) VISIBLE Privacy Mask : 3 Alarm; Event Input, Event Output : 1 Input, 1 Output			
ONVIF	ONVIF Profile-S			
Power Supply and Operating Conditions				
POE Compatibility	802.3af (15W)			
Power Supply	12Vdc (±10%), 1A			
Power Comsumption	Default. < 3.5W , Max. < 8W (LAMP ON)			
Waterproof	-		IP66	
Operating Temperature	-10℃ ~ 50℃ (Store at -40℃ ~ 80℃)			
General				
Dimensions (WxDxH)	90 x 950 x 313.5mm		68 x 82 x 102mm	
Weight	855g		670g	

SPECIFICATIONS

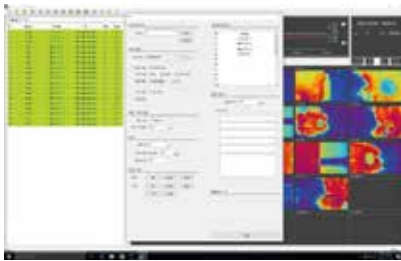## SAMYANG Management Software

- Monitor up to 98CH
- 200 Cameras can be linked
- Recodring, capture, and pop-up function
- Max 10 individual ROIs
- Review recorded video
- SNS service and DB registrations (Optional)

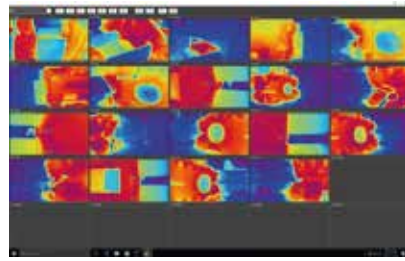※ System Requirements CPU l Intel Core i7-6700 RAM l 16G HDD l 500G, 1G Ethenet
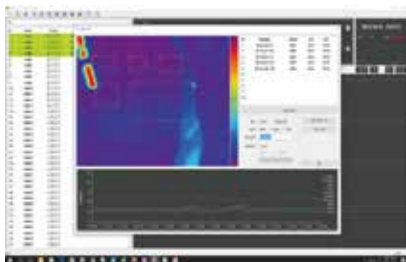
Main Features

Easy to use

- Hard disk management
- Choose settings for registered cameras at once/one by one
- Registration for DB link
- Group Management for registered cameras

Various Display

- Wide range of pseudo-colors for each camera
- Support sub-windows for dual monitors
- Screen split modes up to 49 screens

Useful ROI and Alarm Setting

- Track temperatures of 10 ROI areas
- Track full-screen temperatures
- Set to display pop-up messages and start recording when an abnormal temperature is detected
- SMS alert function

Alarm Setting using VISIBLE Image

- Alarm modes and analysis based on famillar VISIBLE Images
- Track temperature trends while watching VISIBLE images

SAMYANG