

네트워크 카메라

제품 사용 설명서

PNM-9030V

A급 기기(업무용 방송통신기자재)

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- 시스템 운용과 관련 없는 프로그램을 실행하여 시스템이 잘못된 동작을 한 경우
- 시간 경과에 따른 제품의 변화 또는 사용 중 자연적 마모에 의한 이상

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안전하게 개인정보를 보호하고, 개인정보도용 피해를 예방하기 위해 3개월 마다 주기적으로 비밀번호를 변경하세요. 부주의한 비밀번호 관리로 인한 보안 및 기타 문제의 책임은 사용자에게 있으므로 각별히 주의하세요.

안전을 위한 주의사항

제품을 올바르게 사용하여 위험이나 재산상의 피해를 미리 막기 위한 내용입니다. 반드시 지켜 주시기 바랍니다.

 경고 지키지 않았을 경우 사용자가 사망하거나 중상을 입을 수 있습니다.	 주의 지키지 않았을 경우 사용자가 부상을 당하거나 재산상의 손해를 입을 수 있습니다.
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전원 관련

 경고	전원 및 신호선 연결 시 외부 연결 단자를 확인하고 연결하세요. 알람 단자에는 알람 신호선을 연결하고, DC 전원 입력 단자는 극성을 확인하여 DC 어댑터를 올바르게 연결하세요. 전원을 잘못 연결하면 화재, 감전, 고장의 원인이 됩니다.	연기가 나거나 이상한 냄새가 날 때는 사용을 중단하세요. 이때는 곧바로 전원을 분리 후 서비스 센터에 연락 해주세요. 그대로 계속 사용하면 화재, 감전의 원인이 됩니다.
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 주의	전원 연결단자에 전원선을 확실히 고정 후 사용하세요. 접속이 불완전한 경우는 화재의 원인이 됩니다.	어댑터 출력 케이블을 연장하여 사용하지 마세요. 전원 케이블 연장 설치가 필요한 경우 서비스 센터에 문의하세요.
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설치 관련

 경고	반드시 본 제품 구입 시 제공된 어댑터를 사용하세요. 화재, 감전, 고장의 원인이 됩니다.	천동, 번개가 치면 카메라에 문제가 생길 수 있습니다. 설치 시 접지 등 낙뢰에 의한 파손이 최소화될 수 있도록 주의하세요.
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 주의	카메라를 벽이나 천장 등에 설치 시 안전하고 확실하게 고정하세요. 낙하로 인한 부상의 원인이 됩니다.	카메라 위에 전도성 물질(드라이버, 동전, 쇠붙이 등) 및 물이 차있는 용기 등을 놓지 마세요. 화재, 감전, 낙하로 인한 상해의 원인이 됩니다.
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카메라 설치/분리시 보호용 장갑을 착용하세요. 제품 표면의 고온에 의한 화상의 원인이 됩니다.	무리한 힘을 가하여 억지로 제품을 설치할 경우 오동작으로 인해 카메라에 손상을 줄 수 있습니다. 규격에 맞지 않는 도구를 사용하여 강제로 조립할 경우 제품이 파손될 수 있습니다.	제품이 설치되는 장소에 화학 물질 또는 유증기가 있거나 발생될 수 있을 경우 제품을 설치하지 마세요. 풍기름과 같은 식용 기름 성분도 제품의 파손 및 변형을 유발할 수 있으므로, 주방 또는 조리대 근처에는 설치하지 마세요. 제품 손상의 원인이 될 수 있습니다.
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제품 설치시 화학 물질이 제품 표면에 묻지 않도록 주의하세요. 일부 세척제나 점착 성분과 같은 화학 용제는 제품 표면에 치명적인 손상을 줄 수 있습니다.	당사에서 권장하지 않는 방법으로 제품을 설치/분해하는 경우 제품의 기능/성능을 보장할 수 없습니다. 제품 사용 설명서의 “설치 및 연결”을 참조하여 설치하세요.	제품을 물 속에서 설치 또는 사용할 경우 제품의 심각한 고장을 일으킬 수 있습니다.
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참 고	습기 만지나 그늘음 등이 많은 장소에 설치하지 마세요. 화재, 감전의 원인이 됩니다.	제품에 물건을 떨어뜨리거나 충격을 주지 마세요. 진동이 심한 곳이나 자석종류가 있는 곳으로부터 멀리해 주세요.	온도가 너무 높은 곳(55°C 이상)이나 낮은 곳, 습도가 높은 곳에 설치하지 마세요. 화재, 감전의 원인이 됩니다.
직사광선이 들어오는 곳이나 난방기구 등 열이 나는 곳을 피해주세요. 화재, 감전의 원인이 됩니다.	설치된 제품을 이동하고자 할 때에는 반드시 전원을 끄고 옮기거나 재설치 하세요. 화재, 감전의 원인이 됩니다.	바람이 잘 통하는 곳에 설치하세요. 화재 및 고장의 원인이 될 수 있습니다.	

청소 관련

참 고	청소 시 제품의 각 부분에 직접 물을 뿌리지 마세요. 화재, 감전의 원인이 됩니다.	제품 표면은 깨끗하고 부드러운 마른 헝겊으로 오염 부위를 닦거나 부드러운 마른 헝겊에 물을 적셔 물이 흐르지 않도록 꼭 짰 후에 오염 부분을 닦으세요. 알코올, 솔벤트가 함유되거나, 계면활성제가 함유된 세제, 화장품류, 기름 성분들은 제품의 파손 및 변형을 유발할 수 있으니 사용하지 마세요.	
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설치 및 사용상의 주의

- 배터리(배터리 팩 또는 장착된 배터리)가 햇빛, 불 등과 같은 과도한 열에 노출되어서는 안됩니다.
- 사용자 임의로 카메라를 분해하지 마세요.
- 카메라 취급 시 항상 주의하세요.
- 카메라를 주먹으로 치거나 흔들지 않도록 하고 부주의한 보관이나 오동작으로 카메라에 손상을 입히지 않도록 주의하세요.
- 카메라를 비가 오는 장소나 습기가 많은 장소에 설치하지 않도록 주의하고 젖은 장소에 두고 동작하지 마세요.
- 제품 표면은 깨끗하고 부드러운 마른 헝겊으로 오염 부위를 닦거나 부드러운 마른 헝겊에 물을 적서 물이 흐르지 않도록 꼭 짰 후에 오염 부분을 닦으세요.
(알코올, 솔벤트가 함유되거나, 계면활성제가 함유된 세제, 화장품류, 기름 성분 등은 제품의 파손 및 변형을 유발할 수 있으니 사용하지 마세요.)
- 카메라를 직사광선이 비치지 않는 서늘한 곳에 설치하세요.
직사광선이 비치는 곳에 두면 제품에 좋지 않은 영향을 줄 수 있습니다.
- 무리한 힘을 가하여 억지로 제품을 설치 할 경우 오동작으로 인해 카메라에 손상을 줄 수 있습니다.
규격에 맞지 않는 도구를 사용하여 강제로 조립할 경우 제품이 파손될 수 있습니다.
- 제품이 설치되는 장소에 화학 물질 또는 유증기가 있거나 발생될 수 있을 경우 제품을 설치하지 마세요.
공기름과 같은 식용 기름 성분도 제품의 파손 및 변형을 유발할 수 있으므로 주방 또는 조리대 근처에는 설치하지 마세요. 제품 손상의 원인이 될 수 있습니다.
- 제품 설치시 화학 물질이 제품 표면에 묻지 않도록 주의하세요. 일부 세척제나 접착 성분과 같은 화학 용제는 제품 표면에 치명적인 손상을 줄 수 있습니다.
- 제품을 물 속에서 설치 또는 사용할 경우 제품의 심각한 고장을 일으킬 수 있습니다.
- Micro SD 메모리 카드를 구부리거나 던지지 마세요.
- 온도가 높은 곳, 습기가 많은 곳, 먼지가 많은 곳에 Micro SD 메모리 카드를 보관하거나 사용하지 마세요.
- Micro SD 메모리 카드 단자에 이물질이 묻지 않도록 주의하세요. 이물질이 묻은 경우에는 부드러운 헝겊으로 닦아주세요.
- Micro SD 메모리 카드를 빼기 전 <저장>에서 장치를 <사용 안 함>으로 설정하고 [적용] 버튼을 누른 후 카메라 전원을 끄세요.
- Micro SD 메모리 카드의 수명이 다하면 데이터가 저장되지 않습니다. 이러한 경우에는 Micro SD 메모리 카드를 새로 구입하세요.
- 본 제품을 설치하기 전 또는 사용 중에 한화비전 웹 사이트 <https://www.HanwhaVision.com> 을 방문하셔서 최신 S/W 버전을 확인하시고 다운로드하여 업데이트하세요.
- 제품 Micro USB 출력단자는 카메라 설치 편의성을 위한 단자이며 감시용으로 부적합합니다.
- 보안강화를 위하여 특수문자, 숫자, 영문 대문자, 소문자 중 다양한 조합으로 비밀번호를 설정하여 사용하시기를 권장합니다.
- 당사에서 권장하지 않는 방법으로 제품을 설치/분해하는 경우 제품의 기능/성능을 보장할 수 없습니다. 제품 사용 설명서의 “설치 및 연결”을 참조하여 설치하세요.
- 피사체 거리 이외에서는 영상 왜곡이 발생할 수 있습니다.
- 1~5ch 다채널 접속 시 15fps 기준, 설정된 fps보다 1~2 fps drop될 수 있습니다.
- Encoding 시 ±1fps 실시간 fps 변동이 발생할 수 있습니다.
- 특정한 설치 환경에서 무선 통신에 간섭이 발생할 수 있습니다. 제품과 주변 무선통신 장비 간 전파와 간섭이 발생하는 경우, 무선통신 장비와 거리를 넓히거나 통신용 안테나 방향을 조정하는 것을 권장합니다.

PC 시스템 권장 사양

- CPU : Intel(R) Core(TM) i7 3.4 GHz 이상
 - 지원 OS : MS Windows, Mac OS X
 - 지원 브라우저 : Google Chrome, MS Edge, Mozilla Firefox (Window 64bit only), Apple Safari (Mac OS X only)
- 검증된 OS 및 브라우저 상세 버전 정보는 부록을 참고하세요.
지원 브라우저에서 일부 기능은 제한될 수 있습니다.

Micro SD/SDHC/SDXC 메모리 카드 권장 사양

- 권장 용량 : 16GB ~ 256GB (MLC타입)
- 본 카메라는 다음과 같은 제조사 제품군의 메모리 카드 사용을 권장합니다.
 - 제조사 : Sandisk, Transcend
 - 제품군 : High endurance

NAS 권장 사양

- 권장 용량 : 200GB 이상 2TB 이하를 권장합니다.
- 동시접속 : NAS 1대당 최대 16대의 카메라 접속이 가능합니다.
- 본 카메라는 다음과 같은 제조사의 NAS 사용을 권장합니다.

권장 제품	가능 크기
QNAP/SYNOLGY	최대 16대 카메라 접속 가능



- NAS 장비를 영상 저장 이외의 용도로 사용할 경우 접속 가능한 카메라 최대 대수가 줄어들 수 있습니다.



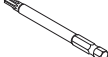
한화비전은 지구환경보전을 위하여 제품과 관련된 전 과정에서 환경을 고려하고 있으며, 고객에게 보다 친환경적인 제품을 제공하기 위하여 다양한 활동을 추진하고 있습니다.
에코(Eco)마크는 친 환경제품을 만들기 위한 한화비전의 의지이며, 유럽의 환경규제(RoHS)에 만족하는 제품임을 의미합니다.

개요

구성품 확인하기

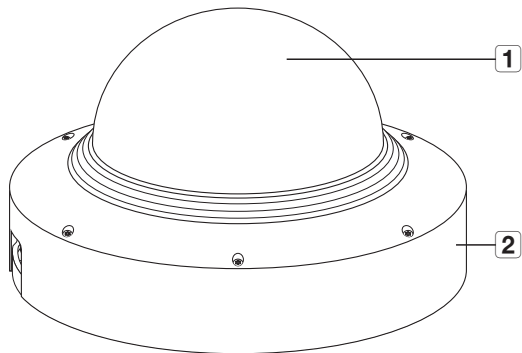
다음의 구성품이 모두 포함되어 있는지 확인하세요.
(부속 액세스러는 판매국에 따라 다를 수 있습니다.)

외관	품명	수량	용도
	카메라	1	
	설명서 및 설치 소프트웨어 CD	1	
	퀵가이드	1	
	전원 어댑터 (DC12V / 1.8A)	1	전원 연결시 사용
	전원코드	1	전원 어댑터에 연결
	전원 터미널 블록	1	전원 단자에 꽂아 사용
	템플릿	1	설치 작업시 가이드
	전원 케이블	1	전원 단자에 연결시 사용
	오디오/알람 케이블	1	오디오 및 알람 연결시 사용
	케이블 부시	1	직경 Ø7~8.5 규격 LAN 케이블 연결시 사용
		1	직경 Ø5~6.5 규격 LAN 케이블 연결시 사용

외관	품명	수량	용도
	L 렌치	1	돔 커버 분해, 조립시 사용
	태핑 나사	4	천장, 벽면 등 설치에 사용
	플라스틱 앵커	4	설치 장소 나사 체결용, 구멍에 삽입 (설치 강도 보강용)
	머신 나사	4	PIPE, WALL MOUNT 등에 설치시 케이스의 천장 조립용, 구멍을 막는데 사용
	Cap Installer	1	RJ45 케이블 연결시 사용
	카드형 흡습제	1	설치시 부착
	드릴 비트	1	돔 커버 분해, 조립 및 카메라 설치시 사용

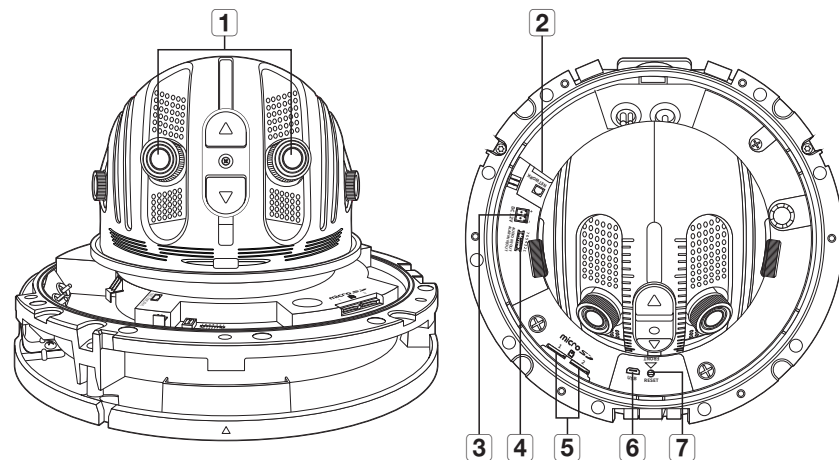
각 부분의 명칭 및 기능

외부



명칭	기능설명
1 돔 커버	렌즈 및 내부 본체를 보호하기 위해 씌우는 커버입니다.
2 카메라 케이스	카메라 본체 및 카메라 바디를 포함하고 있는 부위입니다.

내부 구성



명칭	기능설명
1 렌즈	4개의 카메라 렌즈가 파노라마 영상으로 보여줍니다.
2 네트워크 연결 단자	RJ-45 케이블을 통해 PoE+나 LAN에 연결하는 단자입니다.
3 전원 연결 단자	전원 터미널 블록과 연결하는 단자입니다.
4 오디오 및 알람 케이블 연결 단자	오디오 및 알람 케이블을 연결하여 외부 알람 기기/마이크/스피커와 연결하는 단자입니다.
5 Micro SD 메모리 카드 삽입구	Micro SD 메모리 카드를 삽입하는 단자입니다.
6 MICRO USB 단자	WiFi 동글을 연결하는 단자입니다. 스마트폰에 설치한 어플리케이션을 통해 설치 영상을 확인할 수 있습니다. 15쪽의 "WiFi 연결하기"를 참고하세요. ■ WiFi 동글과 OTG 어댑터는 별매입니다.
7 초기화 버튼	카메라의 설정을 공장 값으로 초기화하는 버튼입니다. 약 5초간 누르면 재부팅됩니다. ■ 카메라를 초기화하면 네트워크 설정은 DHCP를 사용하도록 변경됩니다. 네트워크 내에 DHCP 서버가 없는 경우는, IP 인스톨러 프로그램을 이용해 기본적인 네트워크 설정(IP Address, Subnet Mask, Gateway 등)을 다시 해야 접속이 가능합니다.

설치 및 연결

설치하기

- 본 카메라는 IP66 규격으로 방수제품이지만, 외부 케이블에 연결되는 잭 부분은 방수가 되지 않습니다. 본 제품 설치 시 케이블 외부 노출 방지를 위하여 지붕 처마 밑 설치를 권장합니다.

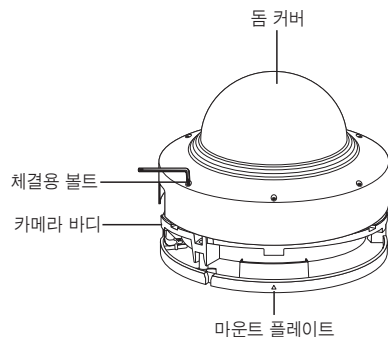
설치 전 유의사항

카메라를 설치하기 전, 아래의 주의 사항들을 반드시 숙지하세요.

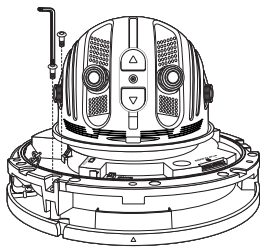
- 카메라 무게의 5배를 견딜 수 있는 장소에 설치하셔야 합니다.
- 케이블이 부적절한 곳에 끼이거나 전선의 피복이 손상될 경우 제품의 손상이나 화재로 이어질 수 있으므로 주의하세요.
- 카메라를 설치할 때, 다른 사람이 설치 장소에 접근하는 일이 없도록 해야 합니다. 그리고 귀중품이 아래에 놓여 있다면 즉시 치우세요.
- 무리한 힘을 가하여 억지로 제품을 설치할 경우 오동작으로 인해 카메라에 손상을 줄 수 있습니다. 규격에 맞지 않는 도구를 사용하여 강제로 조립할 경우 제품이 파손될 수 있습니다.

분리하기

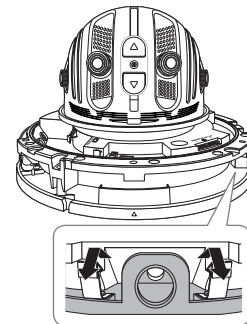
1. 부속으로 제공된 L 렌치 또는 드릴비트를 이용하여 돔 커버의 체결용 볼트를 반시계 방향으로 풀어 돔 커버를 분리하세요.



2. 카메라 바디의 체결용 나사를 푸세요.

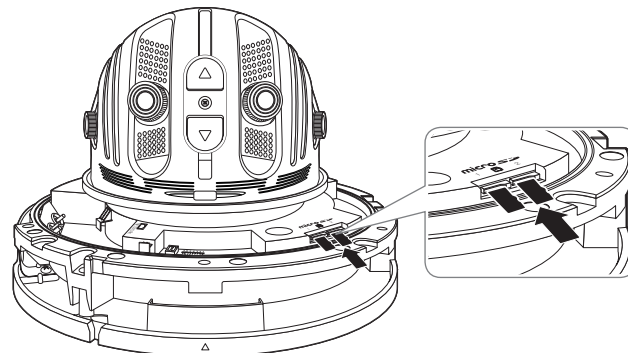


3. 그림과 같이 팬스프링을 당겨 카메라 바디와 마운트 플레이트를 분리하세요.



Micro SD 카드 넣기

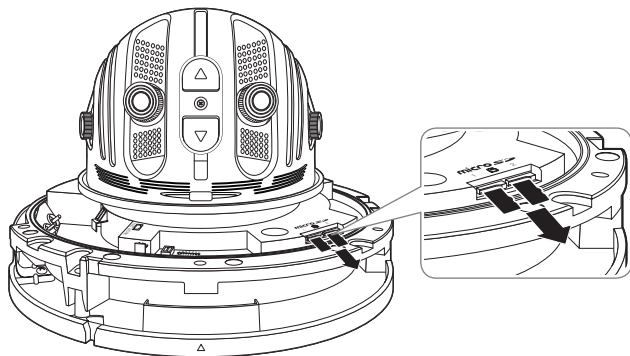
1. 카메라의 돔 커버를 분리하세요.
2. 그림과 같이 Micro SD 카드를 화살표 방향으로 밀어 넣으세요.



- 카메라를 설치하기 전에 전원과 본체를 분리한 후 Micro SD 메모리 카드를 넣으세요.
- 역방향으로 무리하게 삽입하지 마세요. Micro SD 메모리 카드와 제품이 파손될 수 있습니다.
- 비가 오거나 습도가 높은 날씨에는 Micro SD 카드 탈착을 권장하지 않습니다.
- 제품 외관 커버의 분해는 5분 이내에 완료해주세요. 그렇지 않으면 내부 결로의 원인이 될 수 있습니다.
- Micro SD 메모리 카드 장착/제거 시에는 부품 유실 및 낙하사고를 방지하기 위해 반드시 제품 본체를 평지에 내려놓으신 후 작업하세요.

Micro SD 카드 빼기

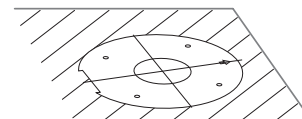
그림과 같이 화살표 방향으로 끼워진 Micro SD 카드의 끝을 살짝 누르면 자동으로 나옵니다.



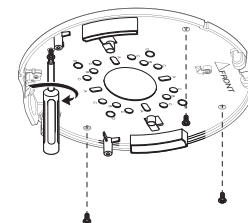
- 채널별 SD 카드를 저장해야 합니다.
- Micro SD 메모리 카드를 뺄 때 세게 눌렀다가 놓을 경우 Micro SD 메모리 카드가 튀어 나올 수 있으므로 주의하세요.
- Micro SD 메모리 카드를 빼기 전 <저장>에서 장치를 <사용 안함>으로 설정하고 [적용] 버튼을 누른 후 카메라 전원을 끄세요.
- Micro SD 메모리 카드에 데이터를 저장하고 있을 때 Micro SD 메모리 카드를 빼거나, 전원을 끄면 Micro SD 카드에 저장된 데이터가 손상될 수 있습니다.

천장 또는 벽에 설치하기

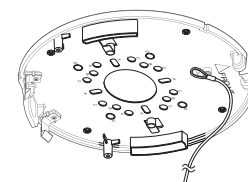
1. 부속으로 제공된 템플릿을 이용하여 설치 나사용 구멍(직경 6mm, 길이 최소 45mm)을 뚫고, 부속으로 제공된 플라스틱 앵커를 끝까지 삽입하세요.



2. 플라스틱 앵커가 삽입된 구멍에 마운트 플레이트의 설치용 구멍을 맞춘 후, 태핑 나사를 체결하세요.

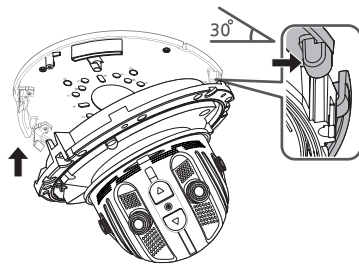


3. 안전케이블을 연결하세요.

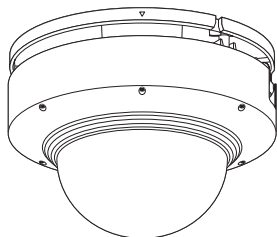


설치 및 연결

4. 카메라 바디를 마운트 플레이트에 끼우세요.
 ■ 그림과 같이 힌지에 맞춰 끼우세요
5. 카메라 내부의 단자와 필요한 케이블을 연결하세요.
6. 핀스프링을 밀어 넣으세요.
7. “카메라의 감시방향 조정하기”를 참고하여 렌즈를 원하는 방향으로 조정하세요. (14쪽)
 - 렌즈를 틸트하면 화면 기림이 발생할 수 있으므로 렌즈를 조정해야 합니다.



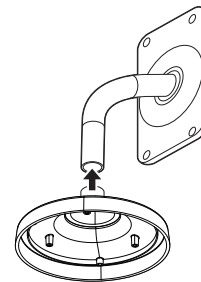
8. 돔 커버를 조립하세요.
 - 돔 커버 조립시 화살표를 일치시키세요.
 - 체결용 볼트는 방수에 문제가 없도록 L 렌치 또는 드릴비트를 이용하여 단단히 체결하세요.
 - 돔 커버의 내/외측에 부착된 보호비닐을 제거하세요.



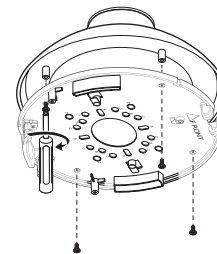
별매 마운트 어댑터에 설치하기

설치의 편리성 및 설치 장소에 따라 다음의 별매 제품을 구입하여 설치하면 편리합니다.

1. 벽형 마운트 어댑터에 행잉 마운트를 설치하세요.
 - 벽형 마운트 어댑터와 행잉 마운트는 별매품입니다.



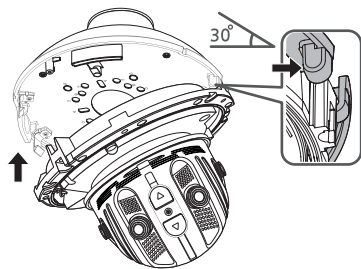
2. 마운트 플레이트와 행잉 마운트를 결합하세요.



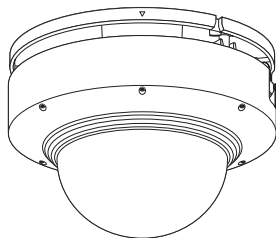
3. 안전케이블을 연결하세요.



4. 카메라 바디를 마운트 플레이트에 끼우세요.
■ 그림과 같이 힌지에 맞춰 끼우세요
5. 카메라 내부의 단자와 필요한 케이블을 연결하세요.
6. 핀스프링을 밀어 넣으세요.
7. “카메라의 감시방향 조정하기”를 참고하여 렌즈를 원하는 방향으로 조정하세요. (14쪽)
■ 렌즈를 틸트하면 화면 가림이 발생할 수 있으므로 렌즈를 조정해야 합니다.



8. 돔 커버를 조립하세요.
■ 돔 커버 조립시 화살표를 일치시키세요.
■ 체결용 볼트는 방수에 문제가 없도록 L 렌치 또는 드릴비트를 이용하여 단단히 체결하세요.
■ 돔 커버의 내/외측에 부착된 보호비닐을 제거하세요.



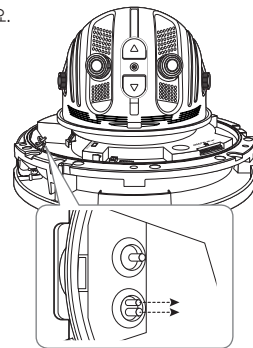
방법 1. 방수용 전원 케이블 및 LAN 케이블 연결하기

1. 돔 커버와 케이스를 분리하세요.
2. 그림과 같이 바닥에 있는 고무 마개의 길게 돌출된 부분을 당겨서 뜯어 내세요.

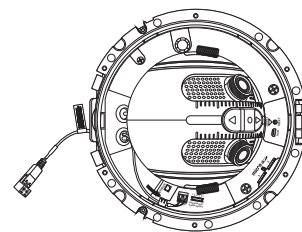


- 연결하려는 LAN 케이블의 규격에 맞는 케이블 부시를 사용하세요.

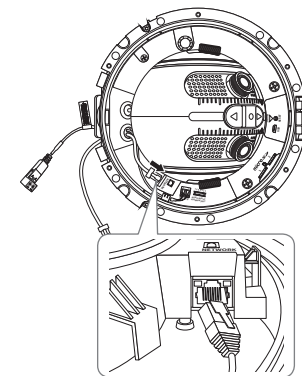
- 카메라 기본 : 직경 Ø5~6.5 케이블 사용
- 제품 구성품 : 직경 Ø7~8.5 케이블 사용



3. 2번에서 돌출된 부분을 뜯어내어 생긴 작은 홈을 통해 전원 케이블을 집어넣고, 길게 파인 홈을 따라 전원 케이블을 넣으세요.
4. 전원 케이블을 전원 터미널 블록과 연결하세요.

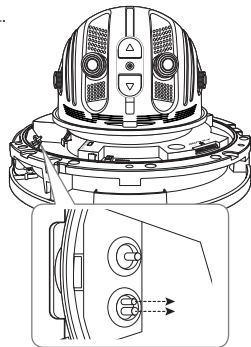


5. 2번에서 돌출된 부분을 뜯어내어 생긴 큰 홈을 통해 LAN 케이블을 집어넣으세요.
6. 케이블 커터를 이용하여 피복을 벗겨낸 다음 선들을 정렬하세요.
7. LAN 커넥터와 연결하여 LAN 튜에 넣어 넣어주세요.
8. 완성된 케이블을 이더넷 단자와 연결하세요.

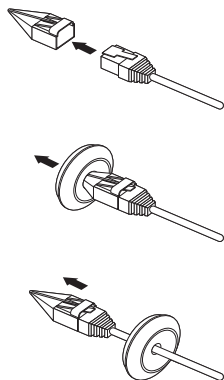


방법 2. 방수용 전원 케이블 및 LAN 케이블 연결하기

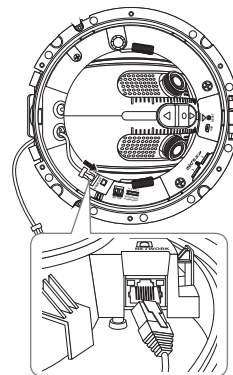
1. 돔 커버와 케이스를 분리하세요.
2. 그림과 같이 바닥에 있는 고무 마개의 길게 돌출된 부분을 당겨서 뜯어 내세요.
3. 홀이 생성된 고무 마개를 아래로 당겨서 빼세요.



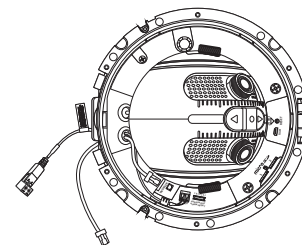
4. Cap Installer를 사용하여 RJ45 케이블을 통과시키세요.



5. 고무 마개를 다시 끼우고, LAN 케이블을 이더넷 단자와 연결하세요.

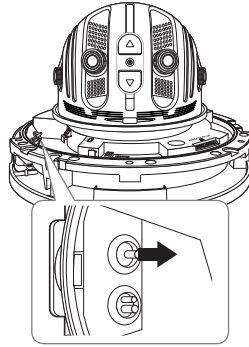


6. 2번에서 돌출된 부분을 뜯어내어 생긴 작은 홀을 통해 전원 케이블을 집어넣고, 길게 파인 홀을 따라 전원 케이블을 넣으세요.
7. 전원 케이블을 전원 터미널 블록과 연결하세요.

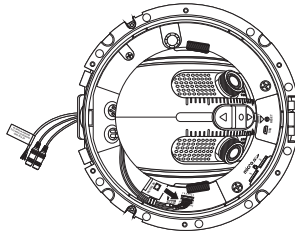


오디오/알람 케이블 연결하기

1. 돔 커버와 케이스를 분리하세요.
2. 그림과 같이 바닥에 있는 고무 마개를 당겨서 제거하세요.



3. 2번에서 고무 마개를 제거하여 생긴 홈을 통해 오디오/알람 케이블을 집어넣고, PCB의 알람 터미널에 연결하세요.
4. 카메라 설치 시 케이블에 손상이 가거나 끼이지 않도록 케이블을 정돈하세요.
5. 오디오/알람 케이블에 있는 고무 마개를 홈에 끼우세요.
6. “카메라의 감시방향 조정하기”를 참고하여 렌즈를 원하는 방향으로 조정하세요. (14쪽)
7. 돔 커버를 조립하세요.



별매 마운트 어댑터에 설치하기

설치의 편리성 및 설치 장소에 따라 다음의 별매 제품을 구입하여 설치하면 편리합니다.

1. “분리하기”를 참고하여 돔 커버와 케이스를 분리하세요. (8쪽)
2. 카메라 케이스를 부속으로 제공된 머신 나사를 이용하여 별매 마운트 어댑터에 고정하세요.
3. 케이블을 연결하고, 카메라 설치 시 케이블에 손상이 가거나 끼이지 않도록 케이블을 정돈하세요.
4. 카메라 바디를 “분리하기”의 반대 순서로 조립하세요.
5. “카메라의 감시방향 조정하기”를 참고하여 렌즈를 원하는 방향으로 조정하세요. (14쪽)
6. 돔 커버를 조립하세요.
 - 체결용 볼트는 방수에 문제가 없도록 L 렌치 또는 드릴비트 이용하여 단단히 체결하세요.

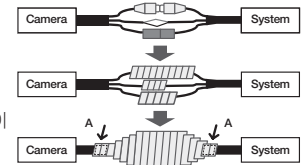
옥외 설치하기

건물 외부 설치시 외부에서 연결된 케이블의 틈으로 누수될 우려가 있으므로 다음과 같이 시중에 판매하는 방수 부틸 고무 테이프로 방수처리 바랍니다.

1. 전원, I/O, LAN 등의 케이블을 연결하세요.
2. 검은색 케이블 자켓 (A부분)을 포함하여 케이블 연결부까지 부틸 고무 테이프의 반 이상이 겹치도록 하여 방수 테이프를 감아주세요.



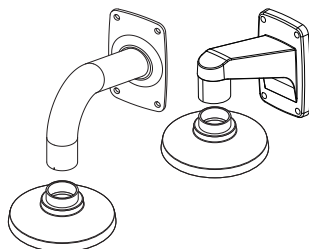
- 연결된 케이블 자켓 부분의 방수처리가 미흡하면 직접적인 누수 원인이 되므로 특히 촘촘하게 테이핑하여 주시기 바랍니다.
- 방수용 부틸 고무 테이프는 원래 길이의 2배 이상 늘어나는 부틸 고무 소재입니다.



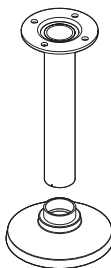
설치 관련 별매 제품

설치의 편리성 및 설치장소에 따라 다음의 별매 제품을 구입하여 설치하면 편리합니다.

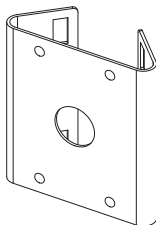
1. WALL MOUNT ADAPTOR(SBP-300WM 또는 SBP-300WM1)/
HANGING MOUNT (SBP-276HM)
돔 카메라를 벽에 설치할 경우에 사용되는 마운트 어댑터입니다.



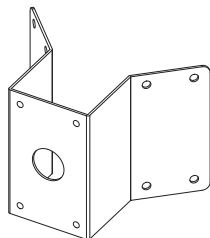
2. CEILING MOUNT ADAPTOR(SBP-300CM)/HANGING MOUNT
(SBP-276HM)
콘크리트 천장에 돔 카메라를 설치할 경우에 사용되는 마운트 어댑터입니다.



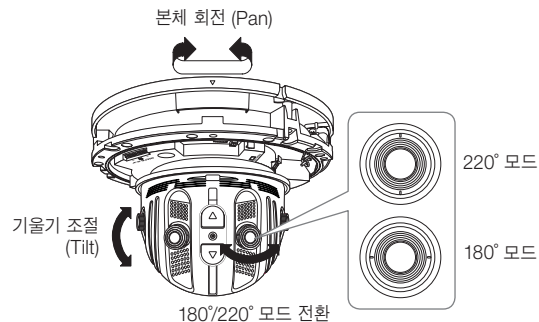
3. POLE MOUNT ADAPTOR(SBP-300PM)
80mm이상의 원기둥에 WALL MOUNT ADAPTOR(SBP-300WM 또는
SBP-300WM1)을 설치할 때 사용되는 마운트 어댑터입니다.



4. CORNER MOUNT ADAPTOR (SBP-300KM)
벽의 모서리부에 WALL MOUNT ADAPTOR (SBP-300WM 또는 SBP-
300WM1)을 설치할 때 사용되는 마운트 어댑터입니다.



카메라의 감시방향 조정하기



■ 감시 방향 조정

카메라가 천장에 고정된 상태에서 카메라의 방향을 조절할 수 있습니다. 이때 카메라의 본체를 좌우로 회전시키는 것을 Pan, 기울기를 조절하는 것을 Tilt라고 합니다.

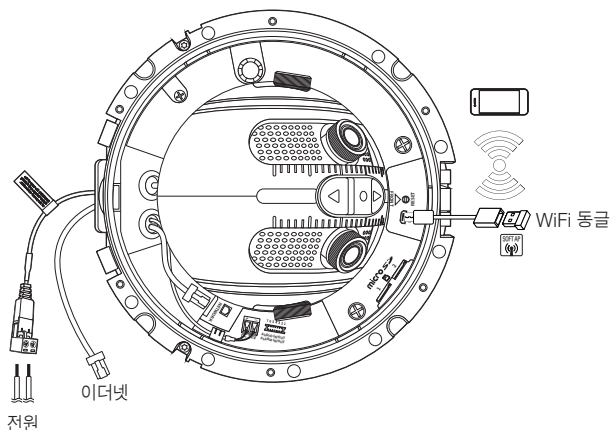
- Pan 회전 각도는 총 355° 입니다.
- Tilt 회전 각도는 총 60° 입니다.

! 일부 각도에서 카메라 케이스에 의해 상가림이 발생할 수 있습니다.

■ 조정방법

1. 모니터링 할 방향을 고려하여 카메라를 설치한 후 Pan 각도를 조정하세요.
2. Tilt 각도를 조정하여 모니터링 할 방향으로 향하게 하세요.
3. 렌즈를 돌려 180°/220° 모드를 변경하세요.

다른 기기와 연결하기



- ! ■ 제품 Micro USB 출력단자는 카메라 설치 편의성을 위한 단자이며 감시용으로 부적합합니다.

이더넷 연결하기

이더넷 케이블을 연결하여 로컬 네트워크나 인터넷에 연결하세요.

WiFi 연결하기

카메라 설정

1. Micro USB 단자에 OTG 어댑터(5핀)와 WiFi 동글을 연결하세요.

스마트폰 설정

1. Wisenet Installation 어플리케이션을 설치하세요.
2. WiFi를 켜고 후 카메라의 SSID를 선택하세요.
3. Wisenet Installation 어플리케이션을 실행하세요.
4. 카메라에 로그인 하면 영상이 연결됩니다.
 - 최초 접속시 로그인 없이 영상이 실행됩니다.
5. 스마트폰으로 영상을 보며 카메라의 화질을 조정 할 수 있습니다.

WiFi 동글 추천업체

Manufacturer	Model
NETIS	WF2123 n300
EDIMAX	EW-7811Un
IP Time	N100mini
TP-LINK	TL-WN823N V1
ASUS	USB-N13
NETGEAR	WNA3100M

전원 연결하기

전원 어댑터의 +, - 선을 드라이버를 사용하여 카메라의 전원 입력 단자에 연결하세요.

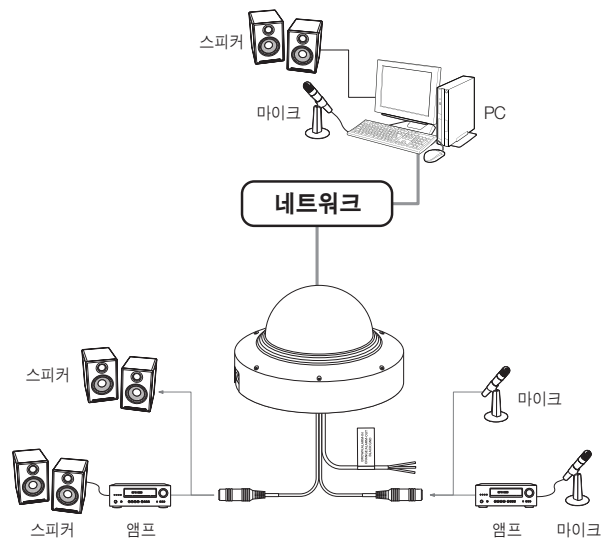
- ! ■ PoE+, DC 12V 전원을 동시 투입 시 기기전원은 DC 12V 전원으로 동작합니다.
- PoE+ 기능이 가능한 라우터를 사용하여 연결하면, 별도의 전원을 연결하지 않아도 사용 가능합니다.
 - PoE+는 IEEE802.3at 규격이 지원되는 장비를 사용하세요.
 - 기기의 전원은 PoE+, DC 12V 중 단일 전원 사용을 권장합니다.
 - DC 12V는 극성이 있으므로 주의하여 연결하세요.
 - 외부기기 연결시에는 반드시 연결되는 장치의 전원을 끈 상태에서 연결하세요.
 - 세트와 어댑터 전원선을 먼저 연결한 후 전원 220V를 켭습니다.
 - 어댑터 출력 케이블을 연장하여 사용하지 마세요.
전원 케이블 연장 설치가 필요한 경우 서비스 센터에 문의하세요.

네트워크 케이블 규격

항목	내용	비고
Connector	RJ45 (10/100/1000BASE-T)	
Ethernet	10/100/1000Base-T	1000BASE-T로 동작하려면 기가용 허브에 UTP 6 이상인 케이블을 사용해야 합니다.
Cable	UTP Category 6	
Max Distance	100M	
PoE+ Support	IEEE 802.3at	DC저항 ≤ 0.188 Ω/m

설치 및 연결

오디오 입력/출력 연결하기



1. 카메라의 AUDIO IN 단자에 마이크가 연결된 앰프의 LINE OUT 단자 또는 마이크를 연결하세요.
2. 카메라의 AUDIO OUT 단자에 스피커가 연결된 앰프의 LINE IN 단자 또는 스피커를 연결하세요.
3. 오디오 입력 사양을 확인하세요.

• 오디오 코덱

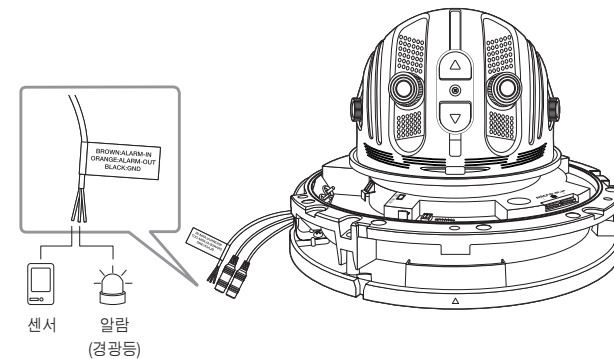
- 오디오 입력 : G.711 PCM (Bit Rate: 64kbps / Sampling Frequency: 8kHz), G.726 ADPCM (Bit Rate: 16Kbps, 24Kbps, 32Kbps, 40Kbps / Sampling Frequency: 8kHz), AAC (Bit Rate: 48Kbps / Sampling Frequency: 16kHz)

• Full duplex 오디오

- 오디오 입력 : 선택가능 (외부마이크/라인 입력), 지원 전압 : 2.5VDC(4mA) 입력 임피던스 : 2K Ohm
- 오디오 출력 : 라인 출력 (3.5mm mono jack), 최대 출력 : 1Vrms
- 임피던스 : 600Ω

알람 입출력 단자 연결하기

입출력 단자를 통해 알람 입출력을 연결하세요.



- ALARM-IN : 알람 입력 센서를 연결하는 단자입니다.
- ALARM-OUT : 알람 출력신호를 연결하는 단자입니다.
- GND : 알람 입/출력 신호를 연결하는 공통 단자입니다.



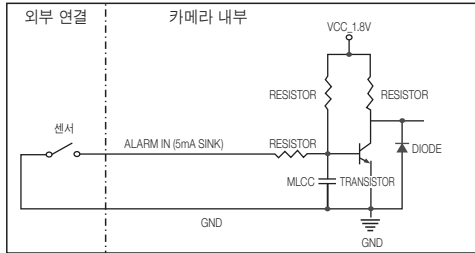
- Open Collector 방식으로 전압 및 전류 사양을 초과하는 장치(경광등, 사이렌 등)를 연결할 경우 제품이 고장날 수 있습니다.

전압 및 전류 사양 초과하는 장치를 연결할 경우 "알람 출력 연결도"를 참고하세요. (17쪽)

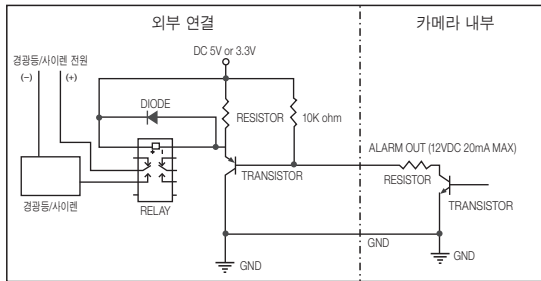
외부 센서와 연결하기

각종 센서의 신호선(2선) 중 한 선은 [ALARM IN] 단자에 연결하고, 다른 한 선은 [GND] 단자에 연결하세요.

알람 입력 연결도



알람 출력 연결도



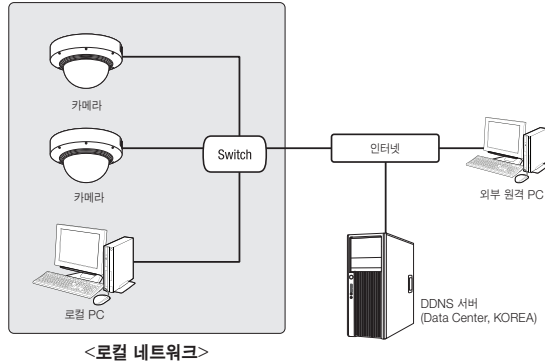
네트워크 연결 및 설정

사용자의 네트워크 연결 구성에 따라 카메라의 네트워크 환경을 설정할 수 있습니다.

LAN 환경에서 직접 카메라 설치하기

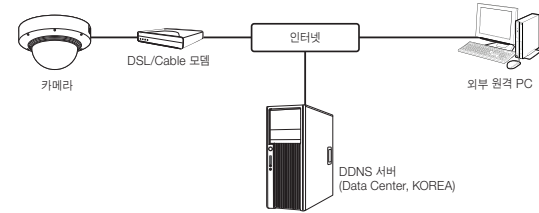
LAN 환경에 있는 로컬 PC에서 카메라 접속하기

1. 로컬 PC의 인터넷 브라우저를 실행하세요.
2. 브라우저의 주소창에 접속하려는 카메라의 IP 주소를 입력하세요.



- LAN 환경의 외부 인터넷에 있는 원격 PC에서 LAN 환경 안에 설치되어 있는 카메라에 접속할 경우 포트 포워딩이 되어 있지 않거나 방화벽이 설치되어 있으면 접속이 되지 않을 수 있습니다.
이때는 네트워크 관리자에게 문의하세요.
- IP 인스톨러에서 초기 비밀번호인 "4321"로 IP Address, Subnet Mask, Gateway, HTTP Port, VNP Port, IP type이 설정 가능 합니다. 네트워크 인터페이스 변경 후 보안강화를 위하여 웹뷰어에 접속하여 비밀번호를 반드시 변경하세요.
- 제품 출하 시 IP 주소는 DHCP 서버로부터 자동으로 할당받도록 설정되어 있습니다.
DHCP 서버가 없는 경우, IP 주소는 192.168.1.100으로 설정됩니다.
IP 주소를 변경하려면, IP 인스톨러를 이용하세요.
IP 인스톨러 사용방법은 "Static IP 설정하기"를 참고하세요. (19쪽)

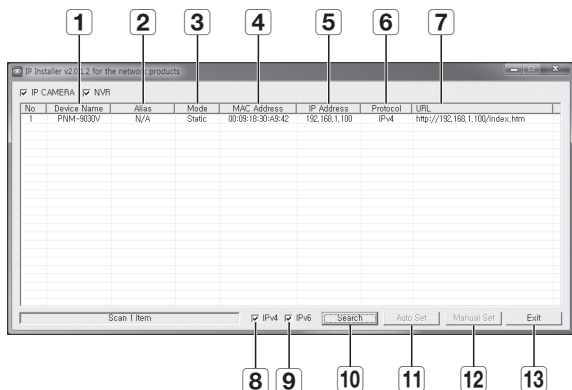
DHCP 방식의 DSL/Cable 모뎀에 직접 카메라 설치하기



1. 사용자 컴퓨터와 네트워크 카메라를 직접 연결하세요.
2. IP 인스톨러를 사용하여 해당 카메라의 IP 주소를 사용자 컴퓨터에서 인터넷 브라우저를 통하여 접속할 수 있는 IP 주소로 변경하세요.
3. 인터넷 브라우저를 이용하여 웹뷰어에 접속하세요.
4. **[설정]** 페이지로 이동하세요.
5. **[네트워크]** - **[DDNS]** 설정 페이지로 이동하여 DDNS를 설정하세요.
6. **[Basic]** - **[IP 및 포트]** 설정 페이지로 이동하여 IP 형식을 **[DHCP]**로 설정하세요.
7. 카메라를 사용자 컴퓨터에서 분리하여 모뎀에 직접 연결하세요.
8. 카메라를 재부팅하세요.

- DDNS 설정 방법은 웹뷰어의 온라인 도움말을 참고하세요.
- IP 형식의 설정 방법은 웹뷰어의 온라인 도움말을 참고하세요.

IP 인스톨러의 명칭 및 기능



명칭	기능
1 Device Name	연결된 카메라의 모델명입니다. 컬럼을 누르면 모델명 기준으로 정렬합니다. 단, 검색 도중 누르면 검색이 중단됩니다.
2 Alias	이 기능은 지원하지 않습니다.
3 Mode	<Static>, <Dynamic> 중 현재 연결된 네트워크의 상태를 나타냅니다.
4 MAC(Ethernet) Address	연결된 카메라의 이더넷 주소입니다. 컬럼을 누르면 이더넷 주소 기준으로 정렬합니다. 단, 검색 도중 누르면 검색이 중단됩니다.
5 IP Address	IP 주소입니다. 컬럼을 누르면 IP 주소 기준으로 정렬합니다. 단, 검색 도중 누르면 검색이 중단됩니다.
6 Protocol	카메라의 네트워크 설정입니다. 제품 출하 시 초기값은 IPv4입니다. IPv6로 설정된 카메라는 IPv6로 표시됩니다.
7 URL	외부 인터넷에서 접속할 수 있는 DDNS URL 주소입니다. 단, DDNS 등록이 실패한 경우에는 카메라의 <IP Address>로 표시됩니다.
8 IPv4	IPv4로 설정된 카메라를 검색합니다.

명칭	기능
9 IPv6	IPv6로 설정된 카메라를 검색합니다. IPv6가 지원되는 환경에서만 활성화됩니다.
10 Search	현재 네트워크 상에 연결된 네트워크 카메라를 검색합니다. 단, IPv4와 IPv6 모두 체크되어 있지 않으면 버튼이 비활성화됩니다.
11 Auto Set	네트워크 설정을 IP 인스톨러가 자동으로 설정해줍니다.
12 Manual Set	네트워크 설정을 사용자가 직접 입력합니다.
13 Exit	IP 인스톨러 프로그램을 종료합니다.

- IP 인스톨러는 동봉된 CD에 포함되어 있는 버전을 사용하거나, 최신 버전을 사용하세요.
최신 버전은 한화비전 웹 사이트 <https://www.HanwhaVision.com> 에서 받으실 수 있습니다.
- 디바이스 매니저 프로그램은 한화비전 웹 사이트(<https://www.HanwhaVision.com>)로 접속하여 <지원> - <Online Tool>에서 다운로드 받을 수 있습니다.

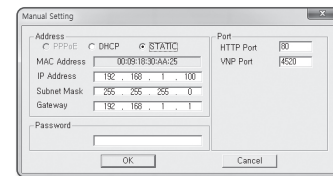
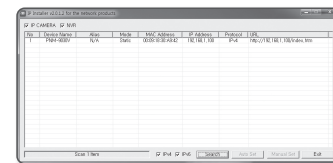
Static IP 설정하기

수동으로 네트워크 설정하기

<IP Installer_v2.XX.exe> 프로그램을 실행하여 카메라 검색 목록이 나타나게 하세요.
초기 실행시에는 [Auto Set] 버튼과 [Manual Set] 버튼이 모두 비활성화되어 있습니다.

- IPv6로 검색된 카메라는 이 기능을 지원하지 않으므로 버튼이 비활성화됩니다.

1. 검색목록에서 원하는 카메라를 선택하세요.
카메라에 부착된 스티커에 명시된 MAC ADDRESS를 확인하세요.
[Auto Set] 버튼과 [Manual Set] 버튼이 활성화됩니다.
2. [Manual Set] 버튼을 클릭하세요.
수동 설정 창이 나타납니다.
카메라의 <IP Address>, <Subnet Mask>, <Gateway>, <HTTP Port>, <VNP Port>가 기존에 설정되어 있는 값으로 표시됩니다.
3. <Address>에서 IP 관련 항목을 설정하세요.
 - MAC(Ethernet) Address : 카메라에 부착된 스티커에 명시된 MAC ADDRESS가 자동으로 표시되므로 설정하지 않아도 됩니다.



- DHCP가 체크되지 않은 상태에서, IP 관련 항목의 설정이 가능합니다.

네트워크 연결 및 설정

IP 공유기를 사용하지 않는 경우

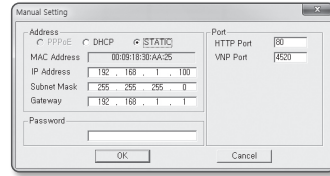
네트워크 관리자에게 <IP Address>, <Subnet Mask>, <Gateway> 설정값을 문의하세요.

4. <Port>에서 포트 관련 항목을 설정하세요.

- HTTP Port : 인터넷 브라우저를 사용하여 카메라에 접속할 때 사용되는 HTTP 포트이며, 초기값은 80입니다.
- VNP Port : 영상전송을 제어하는 포트이며, 초기값은 4520입니다.

5. 비밀번호를 입력하세요.

카메라에 접속시 사용하는 "admin" 사용자의 로그인 비밀번호를 입력합니다.



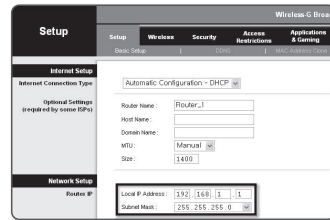
- 보안강화를 위하여 특수문자, 숫자, 영문 대문자, 소문자 중 다양한 조합으로 비밀번호를 설정하여 사용하시기를 권장합니다.
- 비밀번호 변경 방법은 웹뷰어의 온라인 도움말을 참고하세요.

6. [OK] 버튼을 클릭하세요.

수동 네트워크 설정이 완료됩니다.

IP 공유기를 사용하는 경우

- IP Address : IP 공유기가 제공하는 사실 IP 범위에 맞게 설정하세요.
예) 192.168.1.2~254, 192.168.0.2~254, 192.168.XXX.2~254
- Subnet Mask : IP 공유기의 <Subnet Mask>가 카메라의 <Subnet Mask> 값이 됩니다.
- Gateway : IP 공유기의 <Local IP Address>가 카메라의 <Gateway> 값이 됩니다.



- 연결된 IP 공유기 모델에 따라 설정 방법이 다를 수 있습니다. 해당 공유기의 사용설명서를 참고하세요.
- IP 공유기의 포트 포워딩 설정 방법은 "포트 포워딩 (포트 맵핑) 설정하기"를 참고하세요. (21쪽)

IP 공유기에 카메라가 2대 이상 연결되어 있는 경우

카메라의 IP 관련 항목, Port 관련 항목을 각각 다르게 설정해 주세요.

예)

	구분	1번 카메라	2번 카메라
IP 관련 항목	IP Address	192.168.1.100	192.168.1.101
	Subnet Mask	255.255.255.0	255.255.255.0
	Gateway	192.168.1.1	192.168.1.1
Port 관련 항목	HTTP Port	8080	8081
	VNP Port	4520	4521

- <HTTP Port>가 80 이외의 번호로 설정되어 있는 경우 인터넷 브라우저의 주소 입력란에 <Port> 번호도 함께 입력을 해야 카메라에 접속이 가능합니다.

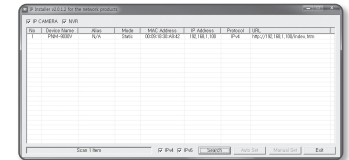
예) http://IP주소 : HTTP Port
http://192.168.1.100:8080

자동으로 네트워크 설정하기

<IP Installer_v2.XX.exe> 프로그램을 실행하여 카메라 검색 목록이 나타나게 하세요. 초기 실행시에는 [Auto Set] 버튼과 [Manual Set] 버튼이 모두 비활성화되어 있습니다.

- IPv6로 검색된 카메라는 이 기능을 지원하지 않으므로 버튼이 비활성화됩니다.

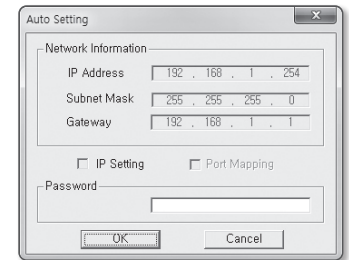
1. 검색목록에서 원하는 카메라를 선택하세요.
카메라에 부착된 스티커에 명시된 MAC ADDRESS를 확인하세요.
[Auto Set] 버튼과 [Manual Set] 버튼이 활성화됩니다.
2. [Auto Set] 버튼을 클릭하세요.
자동 설정 창이 나타납니다.
자동으로 검색된 <IP Address>, <Subnet Mask>, <Gateway>를 표시합니다.
3. 비밀번호를 입력하세요.
카메라에 접속시 사용하는 "admin" 사용자의 로그인 비밀번호를 입력합니다.



- 보안강화를 위하여 특수문자, 숫자, 영문 대문자, 소문자 중 다양한 조합으로 비밀번호를 설정하여 사용하시기를 권장합니다.
- 비밀번호 변경 방법은 웹뷰어의 온라인 도움말을 참고하세요.

4. [OK] 버튼을 클릭하세요.

자동 네트워크 설정이 완료됩니다.



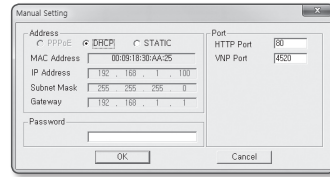
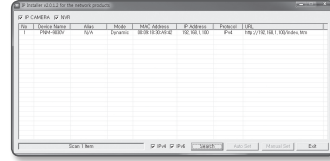
Dynamic IP 설정하기

Dynamic IP 환경 설정하기

- Dynamic IP 사용 환경 예
 - IP 공유기에 카메라를 설치한 경우, DHCP를 이용하여 IP를 할당 받는 경우
 - DHCP 방식을 사용하는 모델에 카메라를 직접 설치한 경우
 - LAN 환경에서 내부 DHCP 서버로부터 IP를 할당 받는 경우

Dynamic IP 확인하기

- 사용자의 로컬 PC에서 IP 인스톨러를 실행하세요.
<Dynamic IP>를 할당 받은 카메라가 리스트에 보여집니다.
- 검색된 카메라를 선택하세요.
- [Manual Set] 버튼을 클릭하여 현재 카메라에 설정된 <Dynamic IP>를 확인하세요.
<DHCP>를 해제하면 <Static>으로 IP를 변경할 수 있습니다.

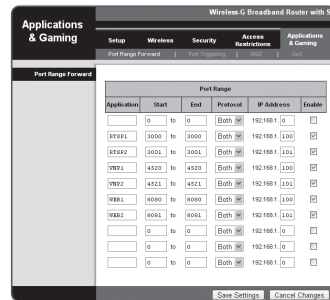


포트 포워딩 (포트 맵핑) 설정하기

IP 공유기에 카메라가 설치된 경우, IP 공유기 외부 원격 PC에서 IP 공유기 내부의 카메라에 접속하기 위해서는 IP 공유기에 포트 포워딩을 설정해 주어야 합니다.

수동으로 포트 포워딩 설정하기

- IP 공유기의 설정 메뉴에서 <Applications & Gaming> - <Port Range Forward>를 클릭하세요.
타사 IP 공유기의 포트 포워딩 메뉴 위치 및 설정 방법은 각 IP 공유기의 사용설명서를 참고하세요.
- IP 공유기에 연결되어 있는 각 카메라에 대해 <TCP>와 <UDP Port>를 선택하세요.
IP 공유기에 설정할 각 포트 번호는 카메라 웹뷰어의 <설정> - <Basic> - <IP 및 포트>에서 지정한 포트 번호에 맞게 설정해야 합니다.



- 설정이 완료되면 [Save Settings] 버튼을 클릭하세요.
설정이 저장됩니다.

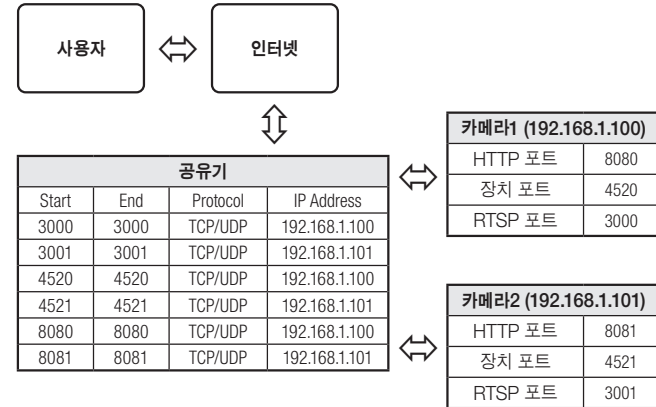


- 위 설명은 CISCO IP 공유기로 설정한 예시입니다.
- 연결된 IP 공유기 모델에 따라 설정 방법이 다를 수 있습니다.
해당 공유기의 사용설명서를 참고하세요.

여러대의 카메라를 포트 포워딩 설정하기

- 공유기의 포트 포워딩 설정은 공유기의 설정 페이지를 통해서 변경할 수 있습니다.
- 각 포트는 사용자가 카메라의 설정 페이지에서 변경할 수 있습니다.

예) 공유기에 카메라1과 카메라2가 연결되어 있는 경우 :



- UPnP(Universal Plug and Play) 기능을 지원하는 공유기를 사용하면 공유기 설정 없이 포트 포워딩을 할 수 있습니다.
네트워크 카메라 접속 후 <설정 → 네트워크 → DDNS> 메뉴에서 <DDNS>의 <클릭 커넥트>의 체크박스를 선택하세요.

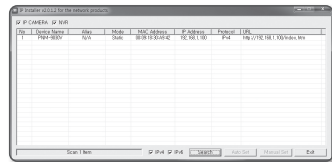
네트워크 연결 및 설정

공유된 로컬 PC에서 카메라 접속하기

1. IP 인스톨러를 실행하세요.
연결된 카메라를 검색하여 리스트에 표시합니다.
2. 연결할 카메라를 더블 클릭하세요.
인터넷 브라우저가 시작되면서 카메라에 접속합니다.



- 사용자가 직접 인터넷 브라우저를 실행시켜, 주소 창에 검색된 카메라의 IP 주소를 입력하여 접속할 수도 있습니다.



외부의 원격 PC에서 인터넷으로 카메라에 접속하기

IP 공유기 외부의 원격 PC에서는 IP 인스톨러를 사용할 수 없으므로, 사용자는 카메라의 DDNS URL을 이용하여 IP 공유기 내부의 카메라에 접속할 수 있습니다.

1. IP 공유기 내부에 설치되어 있는 카메라를 외부에서 접속하기 위해서는 반드시 IP 공유기에 포트 포워딩 설정을 하세요.
2. 외부 원격 PC에서 인터넷 브라우저를 실행하여 주소창에 카메라에 접속하기 위한 DDNS URL 주소, 또는 IP 공유기의 인터넷 IP 주소를 입력하세요.
예) <http://ddns.hanwha-security.com/ID>

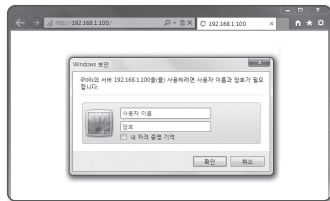


- DDNS 등록 방법은 네트워크 설정 가이드를 참고하세요.

카메라에 접속하기

일반적인 방법인 경우

1. 인터넷 브라우저를 실행하세요.
2. 주소 입력란에 카메라의 IP주소를 입력 하세요.
예) • IP주소 (IPv4) : 192.168.1.100인 경우 → `http://192.168.1.100`
- 로그인 창이 나타납니다.
• IP주소 (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111인 경우
→ `http://[2001:230:abcd:ffff:0000:0000:ffff:1111]`
- 로그인 창이 나타납니다.



HTTP Port가 80이 아닌 경우

1. 인터넷 브라우저를 실행하세요.
2. 주소 입력란에 카메라의 IP주소와 HTTP 포트번호를 입력하세요.
예) IP 주소 : 192.168.1.100:HTTP 포트번호(8080)인 경우
→ `http://192.168.1.100:8080` - 로그인 창이 나타납니다.

URL로 접속하기

1. 인터넷 브라우저를 실행하세요.
2. 주소 입력란에 카메라의 DDNS URL을 입력하세요.
예) URL 주소 : `http://ddns.hanwha-security.com/ID`
- 로그인 창이 나타납니다.

 Local 망으로만 구성된 환경에서는 접속할 수 없습니다.

UPnP를 이용하여 접속하기

1. UPnP 프로토콜을 지원하는 클라이언트나 운영체제를 실행하세요.
2. 검색되는 카메라의 이름을 클릭하세요.
Windows 운영체제 컴퓨터에서는 네트워크 메뉴에 검색되는 카메라 이름을 클릭하세요.
- 로그인 창이 나타납니다.

Bonjour를 이용하여 접속하기

1. Bonjour 프로토콜을 지원하는 클라이언트나 운영체제를 실행하세요.
2. 검색되는 카메라의 이름을 클릭하세요.
Mac 운영체제 컴퓨터에서는 Safari의 Bonjour 탭에 검색되는 카메라의 이름을 클릭하세요.
- 로그인 창이 나타납니다

DDNS 주소를 확인하려면

카메라가 DHCP 방식의 케이블 모뎀이나 DSL 모뎀에 직접 연결되어 있는 경우, ISP(사용자가 가입한 통신회사 서버)에 연결을 시도할 때마다 IP 주소가 변경됩니다.
이 경우 사용자는 변경된 IP 주소를 알 수 없습니다.

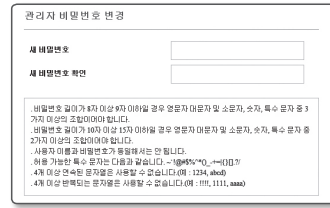
유동 IP를 사용하는 제품을 DDNS 서버에 등록해 놓으면 제품에 접속하고자 할 때 변경된 IP 주소를 쉽게 알 수 있습니다.

IP 주소를 <DDNS> 서버에 등록하기 위해서는 먼저 `http://ddns.hanwha-security.com/ID` 페이지에서 제품을 등록한 후 카메라 웹뷰어의 <네트워크> - <DDNS> 항목을 <DDNS>로 설정하고, <제품 ID>에 DDNS 서버에서 등록한 제품 아이디를 입력하세요.

비밀번호 설정하기

최초 제품 접속 시 반드시 로그인 비밀번호를 등록해야합니다.
“비밀번호 변경” 창이 나타나면 새로운 암호를 입력하세요.

- 새로운 비밀번호는 8자 이상 9자리 이하는 영 대/소문자, 숫자 특수 문자 중 3종류 이상을 사용해야 하며, 10자 이상 15자리 이하는 2종류 이상을 사용해야 합니다.
 - 사용 가능한 특수문자 : ~!@#\$%^&*()_+=|{}[]?/
- 보안강화를 위하여 동일한 문자 반복 사용이나 연속된 키보드 배열을 비밀번호로 사용하지 않는 것을 권장합니다.
- 비밀번호 분실 시 카메라에 있는 [RESET] 버튼을 눌러 제품 초기화를 해야 하므로 반드시 메모 또는 기억하시길 바랍니다.



관리자 비밀번호 변경

새 비밀번호

새 비밀번호 확인

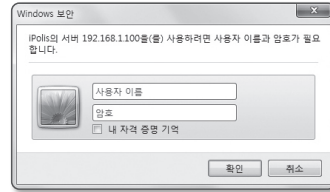
비밀번호 길이가 8자 이상 9자 이하일 경우 영문자 대문자 및 소문자, 숫자, 특수 문자 중 3가지 이상의 조합이어야 합니다.
비밀번호 길이가 10자 이상 15자 이하일 경우 영문자 대문자 및 소문자, 숫자, 특수 문자 중 2가지 이상의 조합이어야 합니다.
사용자 이름과 비밀번호가 동일해서는 안 됩니다.
허용 가능한 특수 문자는 다음과 같습니다. ~!@#\$%^&*()_+=|{}[]?/ (공백 제외)
4개 이상 연속되는 문자열은 사용하지 않습니다. (예 : 1111, 1111, aaaa)

로그인하기

카메라에 접속할때마다 로그인 창이 뜹니다.
설정된 사용자 이름과 암호를 입력해야 카메라에 접속할 수 있습니다.

1. <사용자 이름> 입력란에 “admin”을 입력하세요.
관리자의 아이디 “admin”은 고정이며 변경할 수 없습니다.
2. <암호> 입력란에 설정한 암호를 입력하세요.
3. [확인] 버튼을 클릭하세요.
로그인이 완료되면 카메라 라이브 뷰어 화면이 나타납니다.

- 카메라 웹뷰어 접속시 영상정보가 암호화 되어있지 않으니 보안에 각별히 주의하시길 바랍니다.



Windows 보안

iPolis의 서버 192.168.1.100(폴) 사용하려면 사용자 이름과 암호가 필요합니다.

사용자 이름

암호

☐ 내 자격 증명 기억

[확인] [취소]

- 사용자 이름과 암호를 입력한 후 “내 자격 증명 기억”에 체크표시를 할 경우 다음 접속 시 사용자 이름과 암호가 자동으로 설정됩니다.
- 화면비율이 100% 일 때 가장 좋은 화면을 볼 수 있습니다. 화면비율을 줄일 경우 화면이 잘려져서 보일 수 있습니다.

카메라 웹뷰어 설정하기

1. [설정 (⚙️)] 아이콘을 클릭하세요.
2. 설정 화면이 나타납니다.
3. 네트워크 상에서 카메라의 기본 정보, 비디오 및 오디오, 네트워크, 이벤트, 분석, 시스템 설정을 실행할 수 있습니다.
4. <도움말 (?)>을 클릭하면 각 기능에 대한 상세한 설명을 확인할 수 있습니다.

사양

항 목		내용
영상	촬상 소자	1/2.8" 5M CMOS x 4CH
	총 화소수	2,704(H) x 2,104(V) 5.69M x 4CH
	유효 화소수	2,616(H) x 1,964(V) 5M x 4CH
	주사 방식	Progressive Scan
	최저조도	컬러 : 0.15Lux(F2.0, 1/30sec, 30IRE) 흑백 : 0.01Lux(F2.0, 1/30sec, 30IRE)
	비디오 출력	USB : Micro USB 타입 B, 1280x720 설치용
	초점거리	4mm
렌즈	최대 구경비	F2.0
	화각	[180° 모드] H : 180°, V : 70° [220° 모드] H : 220°, V : 52°
	최소 지근 거리	3m(9.84ft) : 최소관찰거리
	렌즈 타입	고정초점
	마운트 타입	Board-in type (M12)
	팬 범위	355°
	틸트 범위	60°
팬/틸트/회전	회전 범위	-
	카메라 타이틀	Off / On (총 글자수 75개) - 영/숫자/기호 - 최대 5행, 색상 (회색/녹색/빨강/파랑/검정/흰색), 투명도, 해상도별 자동크기조정
	Day & Night	Auto (ICR) / Color / B/W / Schedule
카메라 기능	역광보정	Off / BLC / WDR
	Wide Dynamic Range	120dB
	콘트라스트 개선	SSDR (Off / On)
	노이즈 제거	SSNRlll (2D+3D Noise Filter) (Off / On)

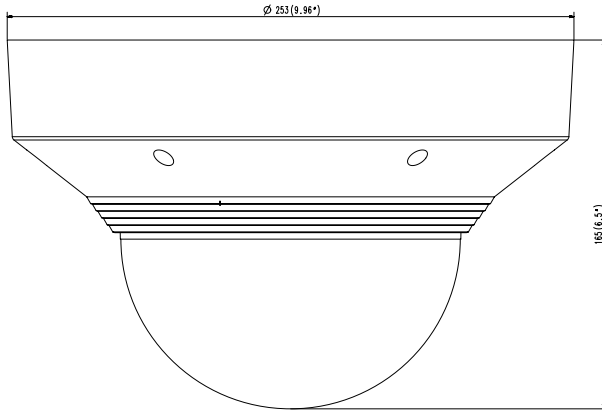
항 목		내용
카메라 기능	왜곡보정	지원
	안개보정	Auto/Manual/Off
	동작탐지	Off / On (최대 8개의 사각형 동작 탐지 영역 설정 가능), 핸드오버
	프라이버시 기능	Off / On (최대 16개 사각형 프라이버시 영역 설정 가능) - 색상 : 회색/녹색/빨강/파랑/검정/흰색 - 모자이크
	Gain Control	Off / Low / Middle / High
	화이트밸런스	ATW / AWC / Manual / Indoor / Outdoor
	콘트라스트	레벨 조정
	전자셔터	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
	Flip / Mirror	Flip : On/Off Mirror : On/Off
	디지털 PTZ	지원
	지능형 영상 분석	템퍼링, 배회, 방향감지, 가상선, 출/입감지, 발생/소멸감지, 움직임감지, 오디오감지, 음원분류, 히트맵
	알람 입출력	입력 1개 / 출력 1개
	오디오 입력	라인 입력 지원 전압 : 2.5VDC(4mA), 입력 임피던스 : 2K Ohm
	오디오 출력	라인 출력 (3.5mm stereo mini jack)
	알람 트리거	알람 입력, 움직임 감지, 영상/음원 분석, 네트워크 단절
이벤트 대응 동작		- FTP와 E-Mail을 통해서 파일 전송 및 업로드 - E-Mail을 통한 알람 - 알람트리거 발생시 SD/SDHC/SDXC 메모리 또는 NAS에 녹화 - 외부 알람 출력
	픽셀 카운터	지원

항 목		내용
네트워크	이더넷	RJ-45 (10/100/1000 BASE-T)
	비디오 압축 방식	H.265 (HEVC) : Main H.264 (MPEG-4 Part 10/AVC) : Main/Baseline/High MJPEG
	해상도	[180° mode] 6096x2540, 5760x2400, 5472x2280, 5184x2160, 4800x2000, 4560x1900, 4096x1704, 3840x1600, 2688x1120, 2560x1064, 2048x852, 1920x800, 1280x532, 640x264 [220° mode] 7744x1936, 6096x1524, 5760x1440, 5472x1368, 5184x1296, 4800x1200, 4560x1140, 4096x1024, 3840x960, 2688x672, 2560x640, 2048x512, 1920x480, 1280x320, 640x160
	최대 프레임레이트	H.265/H.264 : Max. 30fps at all resolutions Motion JPEG : Max. 15fps at under 2MP
	스마트압축	수동모드(영역5개)
	WiseStreamII	지원
	화질 제어	H.264/H.265 : 비트레이트 레벨 제어 MJPEG : 비트레이트 레벨 제어
	비트레이트 제어	H.264/H.265 : CBR 또는 VBR Motion JPEG : VBR
	동시 전송 능력	멀티 스트리밍 (채널별 5개 또는 3개 프로파일)
	오디오 압축 방식	G.711 μ -law / G.726 Selectable G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC : 48Kbps at 16KHz
	오디오 통신	양방향
	IP	IPv4, IPv6
	프로토콜	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, LLDP

항 목		내용
네트워크	보안	HTTPS(SSL) 인증 방식 다이제스트 인증 방식 IP 주소 필터링 사용자 접속 로그 기록 802.1X 인증 방식 (EAP-TLS, EAP-LEAP)
	전송 방식	유니캐스트 / 멀티캐스트
	최대 동시접속자	15명 (유니캐스트 모드)
	Edge Storage	SD/SDHC/SDXC 2슬롯 (up to 256GB) - 저장된 영상/이미지 다운로드 가능 NAS(Network Attached Storage) Local PC에 수동 영상 저장 지원
	S/W 응용 인터페이스	ONVIF Profile S/G SUNAPI(HTTP API)
	웹페이지 언어	한국어
	웹뷰어	지원 OS : Windows 7 / 8.1 / 10, MAC OS X 10.10, 10.11, 10.12 지원 브라우저 : Google Chrome 63, MS Edge 41, Mozilla Firefox 57 (Window 64bit only), Apple Safari 11 (Mac OS X only)
	통합 관리 소프트웨어	Smart viewer, SSM
	동작 온도	-40°C ~ +55°C / 90% RH 이하 * 기동온도 : -30°C 이상
	보관 온도	-40°C ~ +60°C / 90% RH 이하
동작 환경	방진/방수 대응	IP66
	충격대응	IK10
	전원	사용전원/소비전류 PoE+(IEEE802.3at Class4), DC12V
외관	소비 전력	최대 25.5W (PoE+), 최대 21.0W (DC12V)
	색상/재질	아이보리 / 알루미늄
	외형 치수 (ØxH)	Ø253mm x H165mm
무게	무게	3.2Kg

외관도

단위: mm (인치)



문제 해결하기

문제	해결
Safari에서 https로 플러그인 프리 웹뷰어 접속 시 영상이 나오지 않아요.	• https 처음 접속 시 발생하는 웹사이트 신원 팝업에서 "인증서 보기" 클릭 후 "웹뷰어 설정 IP에 연결할 때 항상 신뢰" 항목의 체크박스를 선택하세요. • 만일 아래 메시지에서 "계속" 선택 후 로그인하여 영상이 나오지 않는 경우, command+Q를 눌러 Safari 브라우저 종료 후 재접속하여 위의 절차를 따르세요.
브라우저로 카메라에 접속되지 않아요.	• 카메라의 네트워크 설정값들이 올바르게 되어 있는지 확인하세요. • 네트워크 케이블은 연결이 올바르게 되어 있는지 확인하세요. • DHCP로 연결하는 경우 카메라가 정상적으로 유동 IP를 획득했는지 확인하세요. • 카메라가 공유기에 설치되어 있는 경우, 포트 포워딩 설정이 올바르게 되어 있는지 확인하세요.
영상을 모니터링 하고 있던 웹뷰어의 접속이 끊어졌어요.	• 다른 접속자가 카메라 설정값을 변경하거나, 네트워크 설정을 바꾸거나 하게 되면 접속되어 있던 웹뷰어는 접속이 끊어집니다. • 네트워크 연결이 잘 되어있는지 확인하세요. • 카메라가 PPPoE 네트워크에 연결된 경우, 네트워크 상황이 나빠지면 웹뷰어의 접속이 끊어질 수 있습니다.
IP 인스톨러 프로그램에서 네트워크에 연결된 카메라가 검색되지 않아요.	• PC의 방화벽 설정을 해제하신 후 다시 검색하시기 바랍니다.
영상이 겹쳐져 보여요.	• 두 대 이상의 카메라가 동일한 멀티캐스트 주소를 사용하지 않고 서로 다른 주소로 설정되어 있는지 확인하시기 바랍니다. 동일한 주소를 사용하면 영상이 겹쳐서 보일 수 있습니다.
영상이 보이지 않아요.	• 영상 전송방식이 멀티캐스트로 설정되어 있는 경우, 카메라가 접속한 로컬망에 멀티캐스트를 지원하는 라우터가 존재하는지 확인하세요.
오디오 입력 설정이 되어 있는데 음성 녹음이 되지 않아요.	• <Basic>-<비디오 프로파일>에서 <오디오 입력>을 사용한다고 체크해야 합니다.

문제	해결
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It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

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revised on June 17, 2004
revised on December 21, 2006
revised on March 24, 2009

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bzip2/libbzip2 version 1.0.5 of 10 December 2007

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Jean-loup Gailly Mark Adler

jlgp@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files http://www.ietf.org/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format).

CCTV 설치 유의사항

공개된 장소에 CCTV 설치 운영시 이것만은 꼭 알아 두세요

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[4] CCTV 영상정보의 무단 유출 · 공개금지

- 개인영상정보를 제공하는 경우 본인 확인 후 필요 최소한으로 제공, 타인영상은 모자이크 처리

[5] CCTV 운영관리 방침수립 · 공개

- 개인 영상정보관리책임자 지정, CCTV 운영관리 방침을 홈페이지 등에 공개

[6] CCTV 영상정보의 안전성 확보조치

- 관리자 외 접근 통제, 관리자별 개별 ID 발급, 잠금장치 마련 등

법 위반 내용과 정도에 따라 과태료 또는 벌금 등이 부과될 수 있습니다.

