

**WISENET**

# **СЕТЕВАЯ КАМЕРА**

Руководство пользователя

QND-6011

QND-6021



# Сетевая Камера

## Руководство пользователя

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Для надежной защиты личной информации и предотвращения ущерба от кражи данных меняйте пароль каждые три месяца.

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## ВАЖНЫЕ ПРАВИЛА ТЕХНИКИ БЕЗОПАСНОСТИ

1. Прочтите эти правила.
2. Сохраните эти правила.
3. Принимайте во внимание все предупреждения.
4. Следуйте всем правилам.
5. Не используйте изделие вблизи воды.
6. Очищайте загрязненные места на поверхности изделия мягкой, сухой или влажной тряпкой. (Не используйте моющие средства либо косметические продукты, содержащие спирт, растворители. либо ПАВ, либо смазочные материалы, поскольку они могут привести к деформации или повреждению продукта.)
7. Не загромождайте никакие вентиляционные отверстия. Выполните установку изделия в соответствии с инструкциями изготовителя.
8. Не устанавливайте изделие рядом с источниками тепла, такими, как радиаторы, решетки системы отопления, или другими устройствами, которые генерируют тепло (включая усилители).
9. В целях безопасности не отказывайтесь от использования вилки поляризованного или заземляющего типа. Вилка поляризованного типа имеет два ножевых контакта, один из которых шире другого. Вилка заземляющего типа имеет два контакта и третий заземляющий штырь. Широкое лезвие третьего заземляющего штыря предусмотрено для вашей безопасности. Если вилка поставляемого вместе с аппаратом шнура питания не подходит для вашей розетки, попросите опытного электрика заменить старую розетку.
10. Не наступайте на шнур питания и не допускайте его защемления, особенно вблизи от штепсельной вилки, в месте подключения к розетке и там, где шнур выходит из изделия.
11. Пользуйтесь только теми приспособлениями/ принадлежностями, которые рекомендованы изготовителем.
12. Используйте устройство только с тележкой, подставкой, штативом, кронштейном и столом, указанными производителем или приобретенными вместе с устройством. Во избежание травм вследствие опрокидывания тележки с устройством соблюдайте осторожность при ее передвижении.
13. Отсоединяйте устройство от сети во время грозы или если оно не используется в течение длительного времени.
14. Все работы, связанные с техническим обслуживанием изделия, должны выполняться квалифицированными специалистами по техническому обслуживанию. Обслуживание изделия требуется выполнять, когда изделие получило какое-либо повреждение, например, был поврежден его шнур питания или вилка шнура питания, внутрь изделия попала жидкость или посторонние предметы, изделие подверглось воздействию дождя или влаги, изделие не работает должным образом, а также после падения изделия.
15. Это изделие предназначено для использования с сертифицированным источником питания с маркировкой «Класс 2» или «LPS» и номинальной мощностью от PoE (48 В), 0,1 А.
16. Это изделие предназначено для использования с изолированным источником питания.
17. Если при установке изделия прилагать чрезмерные усилия, возможно повреждение с нарушением работы камеры. Если с силой устанавливать устройство, пользуясь неподходящими инструментами, возможно повреждение устройства.
18. Не допускается установка устройства в местах, где присутствуют или могут появляться химические вещества или пары масла. Поскольку пищевые масла, например, соевое, могут вызвать повреждение или привести к деформации устройства, не устанавливайте его на кухне или вблизи кухонного стола. В противном случае возможна порча устройства.
19. При установке устройства будьте осторожны, не допускайте попадания химических веществ на его поверхность. Некоторые химические растворители, например, очистители или клеящие вещества, могут сильно повредить поверхность продукта.
20. Если монтировать/демонтировать устройство не рекомендованным образом, нельзя гарантировать выполнение функций/соответствие характеристик устройства. Устанавливайте устройство, обратившись к разделу “Установка и подключение” в руководстве пользователя.
21. Установка или эксплуатация устройства в воде может привести к значительному повреждению изделия.
22. Быстрое изменение температуры может привести к появлению инея внутри купола, однако это не скажется на качестве видеозаписи.



## ПРЕДУПРЕЖДЕНИЕ

ВО ИЗБЕЖАНИЕ ПОВРЕЖДЕНИЙ, СЛЕДСТВИЕМ КОТОРЫХ МОЖЕТ БЫТЬ ПОЖАР ИЛИ ПОРАЖЕНИЕ ЭЛЕКТРИЧЕСКИМ ТОКОМ, НЕ ДОПУСКАЙТЕ ПОПАДАНИЯ ДАННОГО ИЗДЕЛИЯ ПОД ДОЖДЬ ИЛИ В УСЛОВИЯ ВЫСОКО Й ВЛАЖНОСТИ. ЗАПРЕЩАЕТСЯ ВСТАВЛЯТЬ КАКИЕ-ЛИБО МЕТАЛЛИЧЕСКИЕ ПРЕДМЕТЫ В ВЕНТИЛЯЦИОННЫЕ РЕШЕТКИ ИЛИ ДРУГИЕ ОТВЕРСТИЯ В ОБОРУДОВАНИИ.

Не подвергайте устройство воздействию жидкостей. Не следует также ставить на него предметы, наполненные жидкостью, например вазы.

Во избежание травм данное устройство должно быть надежно закреплено на стене/потолке в соответствии с инструкциями по установке.

## ВНИМАНИЕ

	<b>ВНИМАНИЕ</b> ОПАСНОСТЬ ПОРАЖЕНИЯ ЭЛЕКТРИЧЕСКИМ ТОКОМ. НЕ ОТКРЫВАТЬ	
<b>ВНИМАНИЕ : ВО ИЗБЕЖАНИЕ ПОРАЖЕНИЯ ЭЛЕКТРИЧЕСКИМ ТОКОМ, НЕ СНИМАЙТЕ ЗАДНЮЮ КРЫШКУ.ВНУТРИ НЕТ ДЕТАЛЕЙ, ОБСЛУЖИВАЕМЫХ ПОЛЬЗОВАТЕЛЕМ. ДЛЯ ТЕХНИЧЕСКОГО ОБСЛУЖИВАНИЯ ОБРАЩАЙТЕСЬ К КВАЛИФИЦИРОВАННОМУ СПЕЦИАЛИСТУ.</b>		

## ОПИСАНИЕ ГРАФИЧЕСКИХ ОБОЗНАЧЕНИЙ



Молния со стрелкой в равностороннем треугольнике предупреждает пользователя об “опасном напряжении” в корпусе изделия, которое может представлять риск поражения электрическим током.



Восклицательный знак в равностороннем треугольнике предупреждает пользователя о важных инструкциях по работе и обслуживанию в руководстве, которое прилагается к устройству.

## Класс Конструкции I

Устройства КЛАССА I следует подключать к ЭЛЕКТРО розетке с защитным заземлением.

## Батарея

Не подвергайте батареи (батареиный блок) чрезмерному нагреванию под воздействием солнечных лучей, огня и т.п.

Батарею невозможно заменить.

## Отключение устройства

Отсоедините вилку кабеля питания от устройства в случае повреждения. Обратитесь к местному специалисту по ремонту.

**При использовании за пределами США с соединениями одобренными соответствующим органом, может использоваться кодировка NAR.**

## ВНИМАНИЕ

Существует риск взрыва при замене батареи на батарею несоответствующего типа. Утилизируйте использованные батареи в соответствии с инструкциями.

Настоящие инструкции по обслуживанию предназначены только для квалифицированных специалистов.

Во избежание поражения электрическим током не следует выполнять работы по обслуживанию, описанные в инструкциях по эксплуатации, если вы не обладаете соответствующей квалификацией.

К источнику входного питания может подсоединяться только одна камера.

**Оборудование ITE подключается только к сети питания по Ethernet без маршрутизации на оборудование наружной установки.**

Внимательно прочитайте приведенные ниже правила техники безопасности.

- Не ставьте устройство на неровную поверхность.
- Не устанавливайте устройство на поверхность, подверженную прямым солнечным лучам, рядом с нагревательным оборудованием или в очень холодном месте.
- Не устанавливайте это устройство вблизи электропроводящего.
- Не следует ремонтировать устройство самостоятельно.
- Не следует ставить на устройство стаканы с водой.
- Не устанавливайте поблизости источники магнитного поля.
- Не допускайте заграждения вентиляционных отверстий.
- Не ставьте тяжелые предметы на устройство.
- При установке/демонтаже камеры надевайте защитные перчатки. Высокая температура поверхности изделия может вызвать ожог.

Руководство пользователя содержит инструкции по использованию продуктов.

В руководстве используются следующие обозначения.

- Справка : сведения по использованию устройства
- Примечание : На случай возможных повреждений имущества или вреда здоровью людей в результате несоблюдения инструкций
- ✘ Прочтите это руководство по безопасности перед использованием устройств и сохраните его в безопасном месте.

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## ХАРАКТЕРИСТИКИ УСТРОЙСТВА

- **Защита от пыли/влаги (IP42)**

При использовании в доме защитите изделие от капель бытовых жидкостей и пыли.

- **Поддерживается видео с разрешением 2 Мегапикселя**

- **Потоковая передача данных с использованием универсального кодека**

Эта сетевая камера может отображать видео с различным разрешением и качеством одновременно с помощью разных кодеков.

- **Наблюдение с помощью веб-обозревателя**

Использование веб-обозревателя для просмотра изображений в локальной сетевой среде.

- **Тревога**

Когда происходит событие, сопутствующее изображение либо пересылается по адресу электронной почты, зарегистрированному пользователем, либо отправляется на FTP-сервер, либо сохраняется на карте памяти microSD или в сетевом хранилище (NAS).

- **Детектор несанкционированного вмешательства**

Выявление попыток вмешательства в настройки видеонаблюдения.

- **Функция обнаружения расфокусировки**

Обнаруживает признаки расфокусировки объектива камеры.

- **Детектор движения**

Определение движения с конкретного видеовхода камеры.

- **Автоматическое обнаружение отключенной сети**

Обнаружение отключения сети перед запуском события.

- **Статистика подсчета людей**

Через видеоаналитику можно проверить число людей, вошедших в заданную область.

- **Соответствие ONVIF**

Данное устройство поддерживает ONVIF Profile S&G.  
Веб-сайт [www.onvif.org](http://www.onvif.org).



## РЕКОМЕНДУЕМАЯ КОНФИГУРАЦИЯ ПК

- Процессор : Intel(R) Core(TM) i7 3,4 ГГц или больше

- ОЗУ: 8 Гб или больше

- Поддерживаемые ОС : Windows 7, 8.1, 10, Mac OS X 10.12, 10.13, 10.14

- Рекомендуемый браузер: Google Chrome

- Поддерживаемые браузеры: MS Explorer11, MS Edge, Mozilla Firefox (только 64-битная Windows), Apple Safari (только Mac OSX)

- VGA : Графическая видеокарта PCIe 256 Мбайт GDDR3 или выше.

※ Подробные данные о версиях проверенных ОС и браузеров см. в приложении.

## РЕКОМЕНДУЕМЫЕ ХАРАКТЕРИСТИКИ КАРТ ПАМЯТИ МИКРО SD/SDHC/SDXC

- Рекомендуемая емкость : от 16 до 128 Гбайт (типа MLC)

- Рекомендуемые производители: SanDisk, Transcend

- Тип карты: износостойкая

- Совместимость может отличаться в зависимости от производителя и типа карты.

## РЕКОМЕНДУЕМЫЕ ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ NAS

- Рекомендуемый объем : Рекомендуемый объем – не менее 200 Гб.

- Одновременный доступ : К одному устройству NAS может иметь доступ максимум шестнадцать камер.

- Для этой модели камеры рекомендуется использование NAS со следующими техническими характеристиками производителя.




Рекомендуемые продукты	Доступные размеры
QNAP NAS	Максимальное количество камер для одновременного доступа - 16.
Synology NAS	Максимальное количество камер для одновременного доступа - 16.



▪ Если предполагается использование оборудования NAS не только для хранения видеоматериалов, количество одновременно доступных камер может быть сокращено.

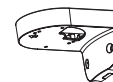
## КОМПЛЕКТ ПОСТАВКИ

Проверьте наличие всех принадлежностей в комплекте поставки камеры.  
(У изделий, продаваемых в разных странах, принадлежности могут отличаться.)

Внешний вид	Название элемента	Количество	Описание
	Камера	1	
	Краткое Руководство (необязательно)	1	
	Гарантийный талон (необязательно)	1	
	Шаблон	1	Руководство по установке устройства
	Г-образный ключ	1	Используется для снятия и замены крышки купола

## Дополнительные принадлежности для установки

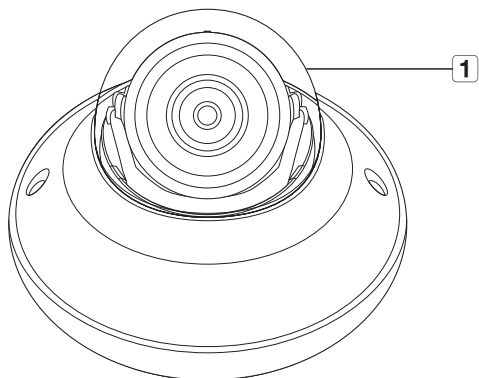
Для упрощения установки можно приобрести дополнительные принадлежности.



Наименование модели	Настенное крепление
QND-6011/6021	SBP-120MMW

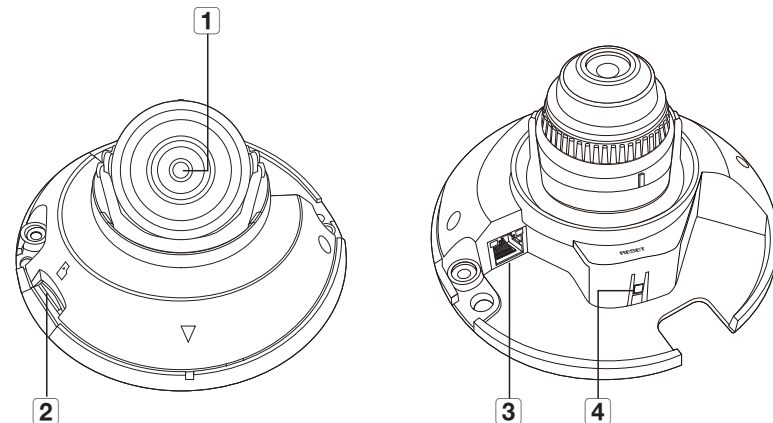
ОБЩИЙ ОБЗОР

Внешний вид



Элемент	Описание
<b>1</b> Крышка купола	Крышка корпуса, предназначенная для защиты объектива и основного устройства.

Компоненты



Элемент	Описание
<b>1</b> Объектив	Объектив видеокамеры.
<b>2</b> Отсек для карты памяти Микро SD	Отсек для карты памяти Микро SD.
<b>3</b> Соединитель PoE	Им подключается локальная сеть и напряжение питания, идущее по кабелю Ethernet.
<b>4</b> Кнопка сброса	<p>Восстановление заводских настроек по умолчанию для всех параметров камеры. Для перезагрузки системы нажмите и удерживайте в течение 5 секунд.</p> <p>Если сбросить настройки камеры, то сетевые настройки позволят активировать DHCP. Если в сети сервер DHCP отсутствует, необходимо запустить программу IP Installer, чтобы изменить основные настройки сети IP-адрес, маска подсети, шлюз и проч., прежде чем подключаться к сети.</p>



## УСТАНОВКА

### Меры предосторожности, принимаемые перед установкой

Прежде чем устанавливать камеру, обязательно прочтите приведенные далее инструкции.

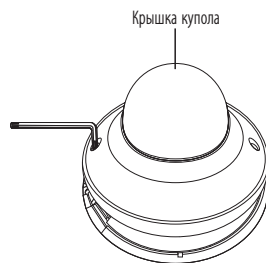
- Установку необходимо выполнять в таком месте (на потолке или стене), которое может выдержать вес в пять раз превышающий вес камеры, включая установочный кронштейн.
- Кабели с поврежденной или снятой изоляцией могут стать причиной повреждения устройства или возгорания.
- С целью предосторожности попросите посторонних лиц покинуть место установки. На всякий случай уберите все посторонние личные вещи.

### Разборка

С помощью входящего в комплект L-образного ключа вывинтите винты, вращая их против часовой стрелки, и снимите купол.

- Нет необходимости отворачивать винты полностью.

- ! ■ Сняв защитную пленку, не касайтесь руками прозрачной части купола..

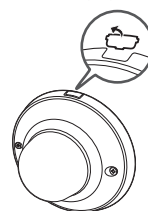


### Установка

1. Учитывая направление наблюдения, приложите шаблон и просверлите по нему отверстия.
  - Установите отметку <img alt="arrow icon" data-bbox="545 145 555 155"/>, выполненную на камере, в направлении мониторинга камеры.
2. Закрепите камеру, ввинтив два самонарезающих винта в проделанные по шаблону установочные отверстия.
3. Подсоедините соответствующий кабель к внутреннему разъему камеры.
4. Отрегулируйте направление объектива см. раздел "Регулировка направления наблюдения камеры". (стр. 10)

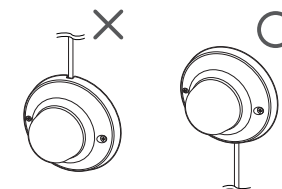
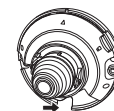
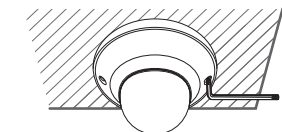
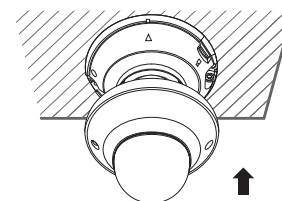
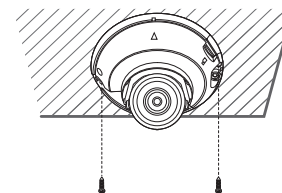
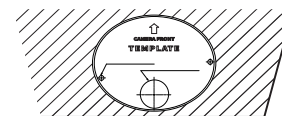
- ! ■ Не рекомендуется прикасаться к объективу камеры, так как на заключительном этапе производственного процесса объектив был сфокусирован должным образом. При касании объектива он может расфокусироваться, либо на нем останется загрязнение.

5. Установите купол и закрепите его, затянув винты, вращая их по часовой стрелке с помощью L-образного ключа.
  - Если вам нужно использовать отверстие для проводов в боковой части купола, извлеките заглушку.

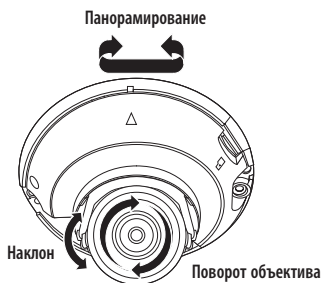


### ■ Монтаж на стене (IP42)

Если вы монтируете камеру на стене, проведите кабель LAN снизу, как это показано на рисунке, чтобы защитить камеру от влаги и пыли.



## Регулировка направления наблюдения камеры



### ▪ Настройка направления мониторинга

Направление камеры можно регулировать, только когда она закреплена на потолке. Поворот блока видеокамеры влево или вправо называется панорамированием, регулировка наклона – наклоном, а осевое перемещение объектива – вращением.

- Эффективный диапазон панорамирования составляет 350 градусов.
- Эффективный диапазон вращения - 355 градусов.
- Эффективный диапазон наклона - 69 градусов.

**!** ▪ Изображение может быть закрыто корпусом камеры в зависимости от угла.

### ▪ Способы регулировки

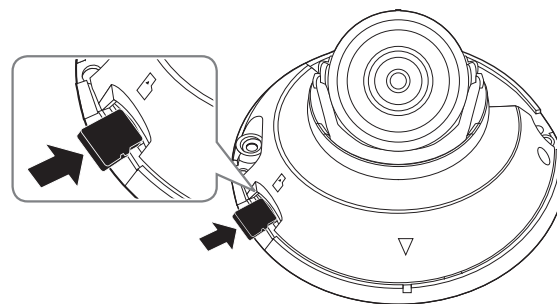
1. Установив камеру, отрегулируйте угол панорамирования в соответствии с направлением наблюдения.
2. Установите горизонтальный угол таким образом, чтобы изображение не переворачивалось.
3. Отрегулируйте угол поворота таким образом, чтобы камера была направлена на наблюдаемый объект.

## УСТАНОВКА/ИЗВЛЕЧЕНИЕ КАРТЫ ПАМЯТИ МИКРО SD

- !** ▪ Перед установкой карты Микро SD отключите кабель питания от камеры.
- Правильно расположенная карта памяти Микро SD вставляется без усилия. Принудительная установка карты памяти Микро SD не той стороной может привести к ее повреждению.
- Не рекомендуется вставлять или вынимать карту памяти Микро SD во время дождя или при высокой влажности.

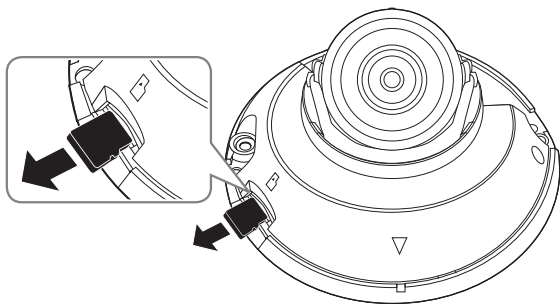
### Установка карты памяти Микро SD

1. Отделите крышку купола камеры.
2. Вставьте карту памяти Микро SD в направлении стрелки, как показано на рисунке.



## Извлечение карты памяти Микро SD

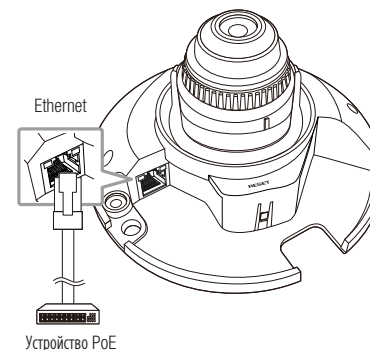
Мягко нажмите на выступающий конец карточки как показано на диаграмме, чтобы извлечь карточку из гнезда.



- При слишком сильном нажатии на карту памяти Микро SD она может “выстрелить” из разъема при отпускании пальца.
- Перед извлечением карты памяти Микро SD выключите камеру или перейдите в меню <Накопитель>, выключите устройство и нажмите кнопку [Применить].
- Если Вы выключите камеру или извлечете из продукта карту памяти Микро SD, содержащую данные, то эти данные могут быть потеряны или повреждены.

## ПИТАНИЕ И ПОДКЛЮЧЕНИЕ К СЕТИ

Подключите устройство PoE и соединители PoE камеры.



- Подключите к соединителю PoE (питание по Ethernet) маршрутизатора с включенной функцией PoE.
- Используйте PoE (питание по Ethernet), которое совместимо с протоколами IEEE802.3af.

### Спецификация сетевого кабеля

Пункт	Содержание	Примечание
Разъем	RJ45	
Ethernet	10/100BASE-T	10/100 Mbps
Кабель	Категории 5е	
Макс. расстояние	100 м	Сопротивление по постоянному току ≤ 0,125 Ом/м
Поддержка питания по Ethernet	IEEE 802.3af	

- При использовании кабеля, не соответствующего стандартам категории 5е, дальность передачи в 100 метров не гарантируется.

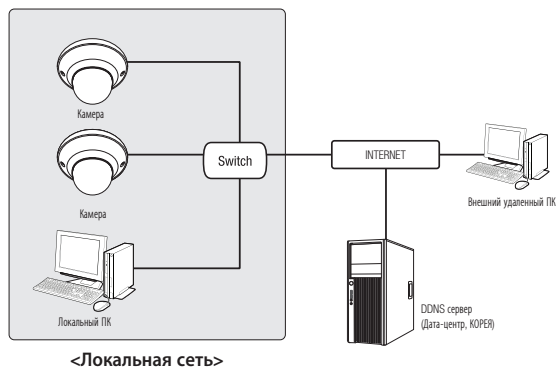
# сетевое соединение и настройка

Можно выставить сетевые настройки согласно сетевой конфигурации.

## ПОДКЛЮЧЕНИЕ КАМЕРЫ НАПРЯМУЮ К ЛОКАЛЬНОЙ СЕТИ

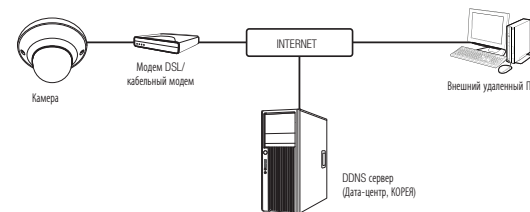
### Подключение к камере через локальный ПК в локальной сети

1. Запустите Интернет-браузер на локальном ПК.
2. Введите адрес IP-роутера в адресной строке браузера.



- Удаленный ПК во внешней сети или в Интернете не может подключиться к камере, установленной в интранет, если не задана правильная переадресация портов или установлен фаервол. В этом случае обратитесь к системному администратору для устранения проблемы.
- Для задания IP-адреса, маски подсети, шлюза, порта HTTP, порта VNP и типа IP в установщике IP можно использовать первоначальный пароль "4321". Для лучшей защиты после изменения сетевого интерфейса войдите в web viewer и поменяйте пароль.
- Согласно заводским настройкам по умолчанию, IP-адрес назначается сервером DHCP автоматически. Если сервер DHCP отсутствует, будет задан следующий IP-адрес: 192.168.1.100. Чтобы изменить IP-адрес, используйте программу IP Installer. Для получения дополнительных сведений о программе IP Installer см. раздел "**Настройка статического IP-адреса**". (стр. 13)

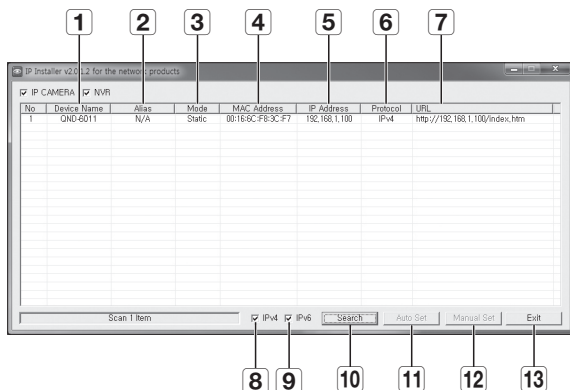
## ПРЯМОЕ ПОДКЛЮЧЕНИЕ КАМЕРЫ К МОДЕМУ DSL/КАБЕЛЬНОМУ МОДЕМУ С ПОДДЕРЖКОЙ ПРОТОКОЛА DDNS



1. Подсоедините напрямую ПК пользователя с сетевой камерой.
2. Запустите программу IP Installer и измените IP-адрес камеры, чтобы использовать веб-браузер на рабочем столе для подключения к Интернету.
3. Установите подключение к интерактивной программе просмотра в веб-браузере.
4. Перейдите на страницу **[Настройка]**.
5. Перейдите на страницу **[Сеть] - [DDNS]** и настройте параметры DDNS.
6. Перейдите по меню **[Basic] - [IP & Порт]** и задайте тип IP для **[DHCP]**.
7. Подсоедините камеру, отключенную от ПК, непосредственно к модему.
8. Перезапустите камеру.

- За информацией об установке DDNS обратитесь к онлайнной справке программы Web Viewer.
- За информацией о задании формата IP-адреса обратитесь к онлайнной справке программы Web Viewer.

## ЭЛЕМЕНТЫ ЭКРАННОГО МЕНЮ ПРОГРАММЫ IP INSTALLER



Элемент	Описание
<b>1</b> Device Name	Название модели подключенной камеры. Щелкните этот столбец, чтобы отсортировать список по названиям моделей. Поиск прекратится, если щелкнуть мышью до его окончания.
<b>2</b> Alias	Эта функция сейчас недоступна.
<b>3</b> Mode	Текущее состояние сетевого соединения: <Static> или <Dynamic>.
<b>4</b> MAC(Ethernet) Address	Адрес Ethernet для подключенной камеры. Щелкните этот столбец, чтобы отсортировать список по адресам Ethernet. Поиск прекратится, если щелкнуть мышью до его окончания.
<b>5</b> IP Address	IP-адрес. Щелкните этот столбец, чтобы отсортировать список по IP-адресам. Поиск прекратится, если щелкнуть мышью до его окончания.
<b>6</b> Protocol	Настройка сети для конкретной камеры. Заводская настройка по умолчанию "IPv4". Камера с настройкой IPv6 отображается как "IPv6".
<b>7</b> URL	DDNS URL-адрес для доступа из внешней сети Интернет. Этот адрес будет заменен на <IP Address> камеры, если произойдет сбой регистрации DDNS.
<b>8</b> IPv4	Поиск камер с настройкой IPv4.

Элемент	Описание
<b>9</b> IPv6	Поиск камер с настройкой IPv6. Активируется в среде, где имеется поддержка IPv6.
<b>10</b> Search	Поиск камер, подключенных в данный момент к сети. Эта кнопка будет неактивной, если ни IPv4, ни IPv6 не выбраны.
<b>11</b> Auto Set	Программа IP Installer автоматически настраивает параметры сети.
<b>12</b> Manual Set	Настройка сети вручную.
<b>13</b> Exit	Выход из программы IP Installer.

- Используйте последнюю версию IP Installer. Последнюю версию можно загрузить с веб-сайта Hanwha Techwin.
- Если поддерживаемой ОС является Windows 8.1, рекомендуется вместо IP Wisenet использовать Диспетчер устройств Wisenet. Программу Диспетчер устройств Wisenet можно загрузить, посетив веб-сайт Hanwha Techwin (<http://www.hanwha-security.com>) из меню <Технический справочник> - <Онлайновый инструмент>.

## НАСТРОЙКА СТАТИЧЕСКОГО IP-АДРЕСА

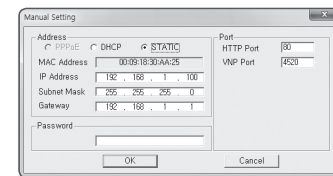
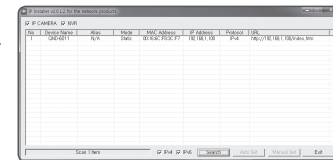
### Настройка сети вручную

Запустите <IP Installer\_v2.XX.exe>, чтобы получить доступ к списку поиска камеры. Кнопки [Auto Set] и [Manual Set] будут неактивны при первом запуске программы.

- Для обнаруженных камер с настройкой IPv6 эти кнопки также будут неактивны, так как эти камеры не поддерживают данную функцию.

1. Выберите камеру в списке поиска. Проверьте MAC-адрес, указанный на наклейке видеокмеры. Кнопки [Auto Set] и [Manual Set] станут активными.
2. Нажмите кнопку [Manual Set]. Появится диалоговое окно Manual Setting. <IP Address>, <Subnet Mask>, <Gateway>, <HTTP Port> и <VNP Port> камеры отображаются в заданных величинах.
3. В разделе <Address> укажите необходимую информацию.
  - MAC (Ethernet) Address : Указанный на наклейке MAC-адрес отображается автоматически и не требует установки дополнительных пользовательских настроек.

- Соответствующие параметры IP устанавливаются только, когда DHCP не проверена.



## В случае отсутствия Широкополосный маршрутизатор

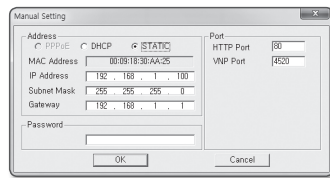
Узнайте значения параметров <IP Address>, <Subnet Mask> и <Gateway> у своего сетевого администратора.

### 4. В разделе <Port> укажите необходимую информацию.

- HTTP Port : Используется для получения доступа к камере через веб-обозреватель. Значение по умолчанию - 80.
- VNP Port : используется для управления передачей видеосигнала. Значение по умолчанию - 4520.

### 5. Введите пароль.

Укажите пароль учетной записи "admin", которая использовалась для доступа к камере.



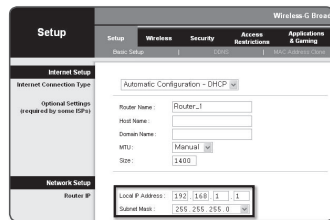
- ! По соображениям безопасности для пароля рекомендуется использовать сочетание цифр, строчных и прописных букв, а также специальных символов.
- За информацией об изменении пароля обратитесь к онлайнной справке программы Web Viewer.

### 6. Нажмите кнопку [OK].

Ручная настройка сети завершена.

## В случае использования Широкополосный маршрутизатор

- IP Address : введите адрес, который соответствует IP-диапазону, заданному Широкополосный маршрутизатор.  
пр) 192.168.1.2~254, 192.168.0.2~254, 192.168.XXX.2~254
- Subnet Mask : параметр <Subnet Mask> Широкополосный маршрутизатор соответствует параметру <Subnet Mask> камеры.
- Gateway : параметр <Local IP Address> Широкополосный маршрутизатор соответствует параметру <Gateway> камеры.



- Параметры могут различаться в зависимости от модели Широкополосный маршрутизатор.  
Для получения дополнительных сведений см. руководство пользователя соответствующего маршрутизатора.
- Дополнительную информацию о переадресации портов на широкополосном маршрутизаторе см. в разделе "Настройка Переадресации Диапазона Портов (Распределение Портов)". (Стр. 15)

## Если к Широкополосный маршрутизатор подключено несколько камер

Настройте параметры, связанные с IP-адресом и портами, в соответствии друг с другом.

пр)

Категория	Камера №1	Камера №2	
<b>Настройки, связанные с IP</b>	IP Address Subnet Mask Gateway	192.168.1.100 255.255.255.0 192.168.1.1	192.168.1.101 255.255.255.0 192.168.1.1
<b>Настройки, связанные с портами</b>	HTTP Port VNP Port	8080 4520	8081 4521

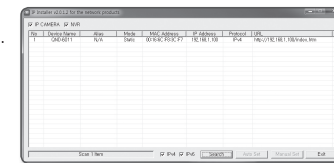
- Если для параметра <HTTP Port> выбрано значение свыше 80, необходимо указать номер <Port> в адресной строке веб-обозревателя, прежде чем получить доступ к камере.  
пр) http://IP-адрес : Порт HTTP  
http://192.168.1.100:8080

## Автоматическая настройка сети

Запустите <IP Installer\_v2.XX.exe>, чтобы получить доступ к списку поиска камеры. Кнопки [Auto Set] и [Manual Set] будут неактивны при первом запуске программы.

- Для обнаруженных камер с настройкой IPv6 эти кнопки также будут неактивны, так как эти камеры не поддерживают данную функцию.

1. Выберите камеру в списке поиска.  
Проверьте MAC-адрес, указанный на наклейке видеокamеры. Кнопки [Auto Set] и [Manual Set] станут активными.
2. Нажмите кнопку [Auto Set].  
Появится диалоговое окно Auto Setting.  
Значения параметров <IP Address>, <Subnet Mask> и <Gateway> будут установлены автоматически.



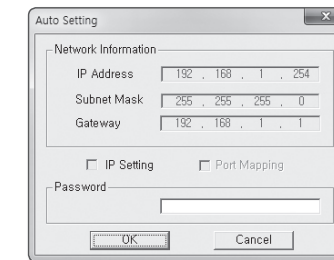
### 3. Введите пароль.

Укажите пароль учетной записи "admin", которая использовалась для доступа к камере.

- ! По соображениям безопасности для пароля рекомендуется использовать сочетание цифр, строчных и прописных букв, а также специальных символов.
- За информацией об изменении пароля обратитесь к онлайнной справке программы Web Viewer.

### 4. Нажмите кнопку [OK].

Автоматическая настройка сети завершена.



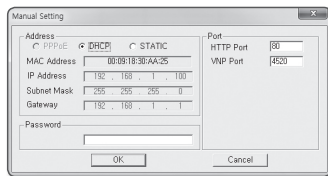
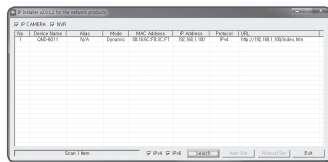
## НАСТРОЙКА ДИНАМИЧЕСКОГО IP-АДРЕСА

### Настройка динамического IP-окружения

- Примеры динамического IP-окружения
  - Сервер DHCP назначает IP-адрес Широкополосный маршрутизатор с подключенными камерами.
  - Прямое подключение камеры к модему с помощью протоколов DHCP
  - Внутренний сервер DHCP назначает IP-адреса по локальной сети.

### Просмотр динамического IP-адреса

1. Запустите программу IP Installer на локальном компьютере. В списке отобразятся видеокamеры с адресами, заданными в поле <Dynamic IP>.
2. Выберите видеокamеру в результатах поиска.
3. Нажмите кнопку [Manual Set] и проверьте данные в поле <Dynamic IP>. Если снять флажок <DHCP>, то значение параметра IP можно изменить на <Static>.

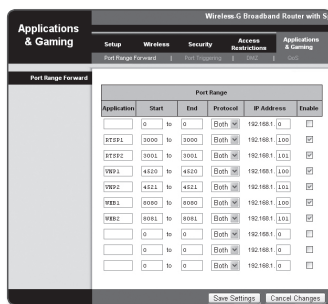


## НАСТРОЙКА ПЕРЕАДРЕСАЦИИ ДИАПАЗОНА ПОРТОВ (РАСПРЕДЕЛЕНИЕ ПОРТОВ)

После установки Широкополосный маршрутизатор с подключенными камерами необходимо настроить для него переадресацию диапазона портов, чтобы с удаленного компьютера можно было получить доступ к подключенным камерам.

### Переадресации диапазона портов вручную

1. В меню настроек Широкополосный маршрутизатор выберите <Applications & Gaming> - <Port Range Forward>. Сведения о настройке переадресации диапазона портов для Широкополосный маршрутизатор стороннего производителя см. в его руководстве пользователя.
2. Выберите <TCP> и <UDP Port> для каждой камеры, подключенной к Широкополосный маршрутизатор. Номер каждого из портов, конфигурируемых в IP-маршрутизаторе, следует устанавливать в соответствии с номером, назначенным в пункте меню <Настройка> - <Basic> - <IP & Порт> в Web viewer камеры.



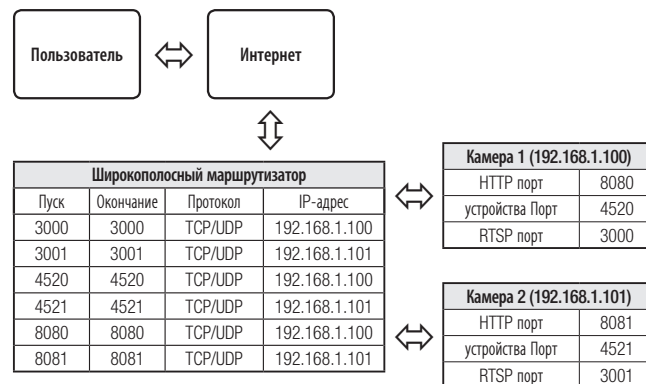
3. Затем нажмите кнопку [Save Settings]. Заданные настройки будут сохранены.

- Выше приведены инструкции для Широкополосный маршрутизатор CISCO.
- Параметры могут различаться в зависимости от модели Широкополосный маршрутизатор. Для получения дополнительных сведений см. руководство пользователя соответствующего маршрутизатора.

### Настройка переадресации диапазона портов для нескольких сетевых камер

- Правило переадресации порта для Широкополосный маршрутизатор можно задать с веб-страницы его настроек.
- С помощью экрана настройки камеры можно изменить все порты.

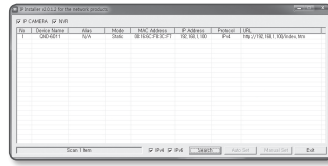
Когда камера 1 и камера 2 подключены к маршрутизатору:



- Переадресация портов выполняется без дополнительной настройки роутера, если роутер поддерживает функцию UPnP (включи и работай). После подключения сетевой камеры установите <Quick connect> в <Wisenet DDNS> на <Вкл.> в меню "Настройка → Сеть → DDNS".

## ПОДКЛЮЧЕНИЕ К КАМЕРЕ С ЛОКАЛЬНОГО КОМПЬЮТЕРА ОБЩЕГО ДОСТУПА

1. Запустите программу IP Installer.  
Она выполнит поиск подключенных камер и составит список найденных.
2. Дважды щелкните нужную камеру, чтобы получить к ней доступ.  
Запустится веб-обозреватель и подключится к выбранной камере.



- Получить доступ к найденной камере можно и другим способом: просто введите IP-адрес камеры в адресную строку веб-обозревателя.

## ПОДКЛЮЧЕНИЕ К КАМЕРЕ С УДАЛЕННОГО КОМПЬЮТЕРА ЧЕРЕЗ ИНТЕРНЕТ

Поскольку программа IP Installer запущена на удаленном компьютере, который находится вне сетевого кластера Широкополосный маршрутизатор, доступ к камерам в сети Широкополосный маршрутизатор можно получить, используя URL-адрес DDNS камеры.

1. Прежде чем получить доступ к камере в сети Широкополосный маршрутизатор, необходимо настроить переадресацию диапазона портов для Широкополосный маршрутизатор.
2. На удаленном компьютере запустите веб-обозреватель и введите DDNS URL-адрес камеры или IP-адрес Широкополосный маршрутизатор в адресную строку.  
пр) <http://ddns.hanwha-security.com/ID>

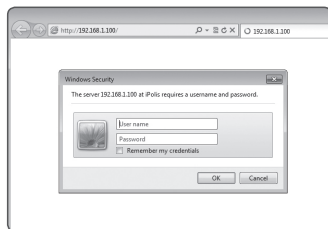
- За информацией о регистрации DDNS обратитесь к онлайн-справке программы Web Viewer.



## ПОДКЛЮЧЕНИЕ К КАМЕРЕ

### Обычный порядок действий

1. Запустите веб-обозреватель.
2. Введите IP-адрес камеры в адресную строку.  
пр) IP-адрес (IPv4) : 192.168.1.100  
→ http://192.168.1.100  
- появится диалоговое окно входа.  
• IP-адрес (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111  
→ http://[2001:230:abcd:ffff:0000:0000:ffff:1111] - появится диалоговое окно входа.



### Номер порта HTTP отличен от 80

1. Запустите веб-обозреватель.
2. Введите IP-адрес и номер порта HTTP камеры в адресную строку.  
пр) IP-адрес: 192.168.1.100: номер порта HTTP(8080)  
→ http://192.168.1.100:8080 - появится диалоговое окно входа.

### Использование URL-адреса

1. Запустите веб-обозреватель.
2. Введите DDNS URL-адрес камеры в адресную строку.  
пр) URL-адрес: http://ddns.hanwha-security.com/ID  
- появится диалоговое окно входа.

 ■ Сетевое подключение выключено только в среде LAN.

### Подключение через UPnP

1. Запустите систему клиента или операционную систему в подтверждение UPnP протокола.
2. Кликните имя камеры для поиска.  
В операционной системе Windows кликните на имя камеры для поиска в меню сети.  
- Отобразится окно входа.

### Соединение через службу Bonjour

1. Запустите систему клиента или операционную систему в подтверждение Bonjour протокола.
2. Кликните имя камеры для поиска.  
В операционной системе Mac кликните имя камеры для поиска во вкладке Bonjour в браузере Safari.  
- Отобразится окно входа.

### Просмотр DDNS-адреса

Если камера подключена непосредственно к кабельному модему на основе DHCP или к модему DSL, то IP-адрес будет изменяться каждый раз при соединении с Интернет-провайдером (компанией, с которой у вас подписка).

В этом случае вам не будет сообщаться об изменении IP-адреса, выполненном DDNS.

Если вы регистрируете устройство с динамическим IP-адресом на сервере DDNS, то во время доступа к этому устройству вы всегда можете проверить, как изменился его IP-адрес.

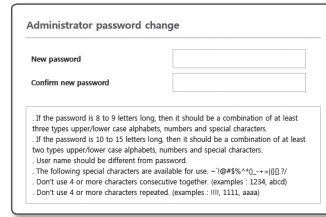
Чтобы зарегистрировать устройство на сервере <DDNS>, посетите веб-сайт <http://ddns.hanwha-security.com> Сначала зарегистрируйте камеру, а затем задайте <Сеть> - <DDNS> для <Wisenet DDNS> в программе Web Viewer, а также укажите <Код продукта>, который использовался для регистрации DDNS.

## УСТАНОВКА ПАРОЛЯ

Когда доступ к продукту выполняется первый раз, необходимо зарегистрировать пароль входа в систему.

Когда откроется окно “Смена пароля”, введите новый пароль.

- Для нового пароля от 8 до 9 символов, необходимо использовать не менее 3 символов из числа следующих: строчные/прописные буквы, цифры и специальные символы. Для пароля от 10 до 15 символов необходимо использовать не менее 2 типов указанных символов.
  - Допускаются следующие специальные символы : ~!@#\$\$%^&\*()-+=![];?/
- Для лучшей защиты пароля не рекомендуется повторять одинаковые символы либо символы, последовательно расположенные на клавиатуре.
- При утрате пароля можно нажать кнопку [RESET] для инициализации продукта. Не теряйте пароль, сохраните его в записной книжке или запомните.

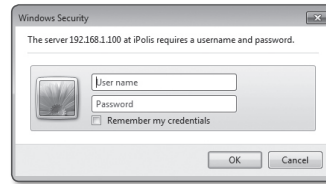


## ВХОД

При каждом доступе к камере будет появляться окно входа.

Укажите идентификатор пользователя и пароль для доступа к камере.

1. Введите “admin” в поле ввода <User Name>. Идентификатор администратора “admin” постоянный и не подлежит изменению.
2. Введите пароль в поле ввода <Password>.
3. Нажмите кнопку [OK]. После входа в систему отобразится экран интерактивной программы просмотра.



- При доступе к камере через модуль Web viewer уделите внимание безопасности и проверьте, зашифрованы ли данные, содержащие изображение.
- Если установить флажок “Remember my credentials” во время ввода данных, то в следующий раз и далее вход в систему будет выполняться автоматически без запроса данных.
- Лучшее качество видео обеспечивается при размере экрана 100%. При уменьшении экрана изображение может быть обрезано по краям.

## НАСТРОЙКА WEB VIEWER

1. Щелкните по значку [Настройка (⚙)].
2. Откроется окно настроек.
3. Можно задать по локальной сети базовую информацию о камере, а также настройки видео, аудио, локальной сети, событий, анализа и системы.
4. Выберите <Справка (📖)> для просмотра подробного описания каждой функции.

**ХАРАКТЕРИСТИКИ**

Элементы		Описание	
		QND-6011	QND-6021
Видео	Устройство обработки изображения	1/2,8" 2MP CMOS	
	Количество эффективных пикселей	1920(Г) x 1080(В)	
	Мин. освещенность	Цветное : 0,1 Lux (F2.0, 1/30 с)	Цветное : 0,1 Lux (F1.6, 1/30 с)
Объектив	Фокусное расстояние (коэффициент трансфокации)	2,8мм фикс. фокус	4мм фикс. фокус
	Макс. относительное отверстие	F2.0	F1.6
	Угловое поле зрения	Г: 113,74° / В: 61,5° / Гл: 134,45°	Г: 87,6° / В: 46,4° / Гл: 104,5°
	Регулятор фокусировки	фиксированный	
Панорама/Наклон/Поворот	Диапазон панорамирования/наклона/поворота	0°~350° / 0°~69° / 0°~355°	
Рабочие характеристики	Название камеры	Отображается до 85 знаков	
	День/Ночь	Авто (Электроснабжение)	
	Компенсация подсветки	BLC, WDR, SSSDR	
	Широкий динамический диапазон	120dB	
	Цифровое шумоподавление	SSNR	
	Детектор движения	4 зон, многоугольных областей	
	Зоны маскирования	6 зон, прямоугольные зоны	
	Регулировка усиления	Поддержка	
	Баланс белого	ATW / AWC / Средний / Внутри / Снаружи	
	LDC	Поддержка	
	Скорость электронного затвора	Минимум / Максимум / Защита от мерцания (1/5~1/12,000 с)	
	Поворот видео	Переверот, Зеркальное отображение, Вид вестибуля (90° / 270°)	
	Аналитика	Определение расфокусировки, Обнаружение движения, Вмешательство в работу	
	Анализ данных	Счет людей	
	Триггеры сигналов тревоги	Аналитика, Отключение сети	
	События тревоги	<ul style="list-style-type: none"> <li>Загрузка файлов через FTP, электронную почту</li> <li>Уведомление по электронной почте</li> <li>Запись на SD/SDHC/SDXC или NAS по запускающему событию</li> </ul>	

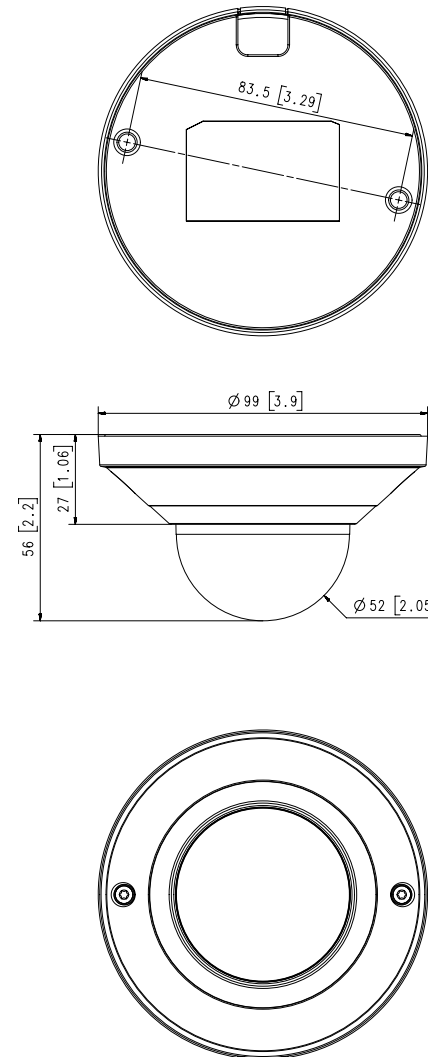
Элементы	Описание	
	QND-6011	QND-6021
Ethernet	RJ-45 (10/100BASE-T)	
Формат сжатия видео	H.265/H.264 : Главная/Высокий, MJPEG	
Разрешение	1920 x 1080, 1280 x 960, 1280 x 720, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360	
Макс. частота кадров	H.265/H.264 : Макс. 30кадр/с / 25кадр/с (60Гц/50Гц) MJPEG : Макс. 15кадр/с / 12кадр/с (60Гц/50Гц)	
Кодек Smart	WiseStream II	
Настройка качества видео	H.264/H.265 : Заданной скорости бит MJPEG : Уровень контроля качества	
Способы управления скоростью передачи бит	H.264/H.265 : CBR или VBR MJPEG : VBR	
Поток	Одноадресная (6 пользователей)/многоадресная передача Многопоточность (до 3 профилей)	
Протокол	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP	
Безопасность	Проверка подлинности при входе HTTPS (SSL) проверка подлинности при входе Digest фильтрация IP-адресов регистрация доступа пользователей Способ проверки подлинности 802.1X (EAP-TLS, EAP-LEAP)	
Функция Edge Store	Micro SD/SDHC/SDXC 1slot 128 Гбайт	
Программируемый интерфейс	ONVIF Profile S/G/T SUNAPI(HTTP API) Открытая платформа Wisenet	
Язык веб-страницы	Английский, Корейский, Французский, Немецкий, Испанский, Итальянский, Китайский, Русский, Японский, Шведский, Португальский, Чешский, Польский, Турецкий, Голландский, Венгерский, Греческий	
Веб-обозреватель	Поддерживаемые ОС : Windows 7, 8.1, 10, Mac OS X 10.12, 10.13, 10.14 Рекомендуемый браузер: Google Chrome Поддерживаемые браузеры: MS Explore11, MS Edge, Mozilla Firefox (только 64-битная Windows), Apple Safari (только Mac OS X)	
Память	ОЗУ 512 МБ, флэш-память 256 МБ	

Сеть

Элементы	Описание	
	QND-6011	QND-6021
Условия	Рабочая температура/влажность	-10°C ~ +55°C (14°F ~ +131°F) / Относительная влажность менее 90%.
	Температура хранения/влажность	-30°C ~ +60°C (-22°F ~ +140°F) / Относительная влажность менее 90%.
	Сертификация	IP42, IK08
Электропитание	Входное напряжение	PoE(EEE802.3af, класс 2)
	Потребляемая мощность	PoE: макс. 4,8 Вт, обычно 2,8 Вт
Физические характеристики	Цвет/материал	Белый/пластик
	Код RAL	RAL9003
	Параметры/вес устройства	Ø99 x 56 мм(Ø3,9 x 2,2"), 145 g

ПРИЛОЖЕНИЕ

Единицы измерения: мм [дюймы]



## ПОИСК И УСТРАНЕНИЕ НЕПОЛАДОК

ПРОБЛЕМА	РЕШЕНИЕ
Если доступ производится через подключаемый программный модуль Free webviewer на Safari через HTTPS, видео не отображается.	<ul style="list-style-type: none"> <li>При первоначальном доступе к https во всплывающем окне с предложением аутентификации выберите "Просмотр сертификата подлинности" и установите флажок "Всегда доверять при соединении по IP, назначенному программе веб-просмотра".</li> <li>Если модуль веб-просмотра по-прежнему не отображает видео после выбора "Далее" в окне сообщения внизу, нажмите командную кнопку + Q, чтобы выйти из браузера Safari, вновь войдите в систему и следуйте процедуре, приведенной выше.</li> </ul>
Нет доступа к камере через веб-браузер.	<ul style="list-style-type: none"> <li>Проверьте на правильность сетевые настройки камеры.</li> <li>Убедитесь в правильности подключения всех сетевых кабелей.</li> <li>Убедитесь в том, что камера получает динамический IP-адрес при использовании DHCP-технологии.</li> <li>Если камера подключена к Широкополосный маршрутизатор, убедитесь в том, что переадресация портов настроена правильно.</li> </ul>
Происходит разрыв соединения по время мониторинга видео в экране просмотра.	<ul style="list-style-type: none"> <li>При любом изменении настроек камеры или сети происходит разрыв соединения с наблюдательными терминалами.</li> <li>Проверьте все сетевые соединения.</li> </ul>
Когда я заново вхожу в программу веб-просмотра или подключаю потоковую передачу клиенту, видео не отображается.	<ul style="list-style-type: none"> <li>Максимальное число доступных профилей - 3. Если используется 4 или более профилей, может нарушиться соединение. Пример: если действует доступ MJPEG, H264 и H265, а затем осуществляется доступ с другим профилем, соединение будет потеряно.</li> </ul>
Программа IP Installer не находит камеру, подключенную к сети.	<ul style="list-style-type: none"> <li>Отключите фаервол на своем ПК и заново запустите поиск камеру.</li> </ul>
Картинки перекрываются.	<ul style="list-style-type: none"> <li>Убедитесь в том, что две или более камеры не транслируют данные на один и тот же multicast-адрес. Картинки могут перекрываться, если один адрес используется несколькими камерами.</li> </ul>
Нет картинок.	<ul style="list-style-type: none"> <li>Если задан метод передачи на группу адресов, убедитесь, что в локальной сети, к которой подключена камера, есть роутер, поддерживающий технологию multicast.</li> </ul>

ПРОБЛЕМА	РЕШЕНИЕ
<Детектор движения> в меню <Аналитика> установлено в <Активировать>, но уведомления по электронной почте не приходят, даже когда произошло событие аналитики.	<ul style="list-style-type: none"> <li>Проверьте настройки в следующей последовательности: <ul style="list-style-type: none"> <li>А. Проверьте настройки параметра &lt;Дата и время&gt;.</li> <li>В. Для параметра &lt;Детектор движения&gt; необходимо задать значение &lt;Активировать&gt;.</li> <li>С. Проверьте, выбран ли в меню &lt;Настройка событий&gt; параметр &lt;Настройка событий&gt;.</li> </ul> </li> </ul>
Не удается записать данные на карту памяти Micro SD.	<ul style="list-style-type: none"> <li>Проверьте, исправна ли карта памяти.</li> </ul>
Карта памяти Micro SD установлена, однако камера работает неверно.	<ul style="list-style-type: none"> <li>Проверьте, в правильном ли направлении вставлена карта памяти. Возможность использования карт памяти, отформатированных на других устройствах, не гарантируется.</li> <li>Снова отформатируйте карту памяти в меню &lt;Настройка&gt; → &lt;Событие&gt; → &lt;Накопитель&gt;.</li> </ul>
Не удается произвести запись в NAS.	<ul style="list-style-type: none"> <li>Убедитесь в том, что информация, зарегистрированная в NAS, указана верно.</li> <li>Убедитесь в том, что IP-адрес NAS введен правильно.</li> <li>Убедитесь в том, что ID/пароль NAS введены правильно.</li> <li>Убедитесь в том, что доступ к папке, установленной в качестве основной папки с использованием ID номера NAS, открыт.</li> <li>Убедитесь в том, что с элементов NAS SMB/CIFS сняты флажки (выделения).</li> <li>Убедитесь в том, что IP-адрес NAS и IP-адрес камеры имеют одинаковый формат. <ul style="list-style-type: none"> <li>Ex) Начальное значение маски подсети для NAS и камеры 255.255.255.0.</li> <li>Если IP-адрес 192.168.20.32, то IP-адрес NAS должен быть в диапазоне 192.168.20.1~192.168.20.255.</li> </ul> </li> <li>Проверьте, не осуществлялась ли попытка получения доступа под другим пользователем без форматирования основной папки (сохраненной или используемой).</li> <li>Убедитесь в том, что используется рекомендуемое оборудование NAS.</li> </ul>
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Component Name	License	URL
Base Kernel	GPL 2.0	
Busybox	GPL 2.0	<a href="http://www.busybox.net/downloads/snapshots">http://www.busybox.net/downloads/snapshots</a>
iproute2-4.3.0	GPL 2.0	
iptables-1.4.21	GPL 2.0	<a href="http://ftp.netfilter.org/pub/iptables">http://ftp.netfilter.org/pub/iptables</a>
ethtool-4.2	GPL 2.0	
mtd-1.5.2	GPL 2.0	<a href="ftp://ftp.infradead.org/pub/mtd-utils">ftp://ftp.infradead.org/pub/mtd-utils</a>
mi-diag-2.11	GPL 2.0	
rp-pppoe-3.11	GPL 2.0	<a href="http://www.roaringpenguin.com/pppoe/">http://www.roaringpenguin.com/pppoe/</a>
wpa_supplicant-2.5	GPL 2.0	
bash-4.3.30	GPL 3.0	
zeroconf	GPL 2.0	

## LGPL SW

Component Name	License	URL
glibc	LGPL 2.0	
inetutils	LGPL 3.0	
neon-0.29.6	LGPL 2.0	<a href="http://www.webdav.org/neon/">http://www.webdav.org/neon/</a>

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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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established by T-Engine Forum  
on January 23, 2004  
revised on June 17, 2004  
revised on December 21, 2006  
revised on March 24, 2009

### Article 1. Scope of License Agreement

1. This License Agreement sets forth copyrights and the terms and conditions of use applicable to the source code of T-Kernel distributed by T-Engine Forum and any derivative work created therefrom.

### Article 2. Definition

1. "T-Kernel" means a real-time operating system controlled and distributed by T-Engine Forum on behalf of the copyright holder thereof.
2. "Source Code" means a source program, including related comments and documentations, for the T-Kernel and the Ported Source Code defined in Article 2.8 which is registered with T-Engine Forum.
3. "Hardware-dependent Part" means the part of the Source Code which depends on hardware and needs to be changed when the Source Code is ported and operated on the target hardware, and is designated and separated as such part.
4. "Compiler-dependent Part" means the part of the Source Code which depends on compiler and needs to be changed when the Source Code is ported and operated on the target hardware, and is designated and separated as such part.
5. "Header File" means the part of the Source Code which contains definitions necessary to develop application programs.
6. "T-Engine Hardware" means the hardware which is manufactured in accordance with the T-Engine Hardware specifications or the  $\mu$ T-Engine Hardware specifications issued by T-Engine Forum, and registered with T-Engine Forum.
7. "Similar Hardware to T-Engine Hardware" means any hardware (including software which emulates hardware) other than that defined in Article 2.6 above, on which the T-Kernel can be operated.
8. "Ported Source Code" means a source program produced from the Source Code by modifying only its Hardware-dependent Part and/or Compiler-dependent Part to enable it to be operated on the T-Engine Hardware or the Similar Hardware to T-Engine Hardware. The Ported Source Code which is registered with T-Engine Forum shall be included in the Source Code.
9. "Modified Source Code" means a source program modified from the Source Code for the purpose of improving its performance, increasing or decreasing its function, and the like. The Ported Source Code shall not be included in the Modified Source Code.
10. "Binary Code" means an executable code form which is created by compiling programs, which include all or part of the Source Code or the Modified Source Code.
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12. "Embedded Product" means any product which operates with executable code form of the Source Code, the Modified Source Code or the Binary Code loaded on its hardware.
13. "End User" means a consumer who uses the Embedded Product.
14. "System Developer" means any person who develops the Embedded Product by itself or has a third party develop the same, and provides, whether with or without payment, the End User with the Embedded Product.
15. "Distributor of Modification" means any person who produces the Modified Source Code and, whether with or without payment, distributes the same to any third party.

**16.** "Patch for Modification" means a difference, program, system, or the like in order to create the Modified Source Code from the Source Code or the Binary Code thereof.

**17.** "Vicarious Execution of Patch Processing" means vicarious execution service to create the Modified Source Code applying the Patch for Modification to the Source Code or the Binary Code thereof.

**18.** "Source Code User" means a person who uses the Source Code.

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2. to transmit a work to the general public through the Internet communication, broadcasting, and the like automatically in response to a request from the public; and
3. to distribute a copy of a work to the general public or a large number of specific persons.

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1. The copyrights of the Source Code shall be owned by Ken Sakamura.

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1. As provided for in this Article, T-Engine Forum shall provide, and grant a license to use, the Source Code free of charge to any person who has taken the necessary procedure for registration as prescribed by T-Engine Forum and agreed to the T-License.

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3. to run the Source Code modified in accordance with the provision of Article 4.3 (1) above for its own research, development and the like.
4. to distribute the Binary Code created from the Source Code provided by T-Engine Forum hereunder or from the Source Code modified in accordance with the provision of Article 4.3 (1) above.
4. In accordance with the license granted under Article 4.1 above, the System Developer may perform the following acts:

1. to perform any and all acts set forth in the Article 4.3 above.
2. to develop and manufacture the Embedded Product containing the Binary Code, and, whether with or without payment, provide the End User with the same and make the Binary Code available to the End User on the Embedded Product.

5. The Source Code User and the System Developer shall be obligated to give a notice that the Source Code is used, in such a way as separately specified by T-Engine Forum, when they use the Source Code or the Binary Code, or make the Binary Code available for the End User on the Embedded Product.

#### **Article 5. Distribution of Modified Source Code**

1. Any of A- members of T-Engine Forum may become the Distributor of Modification by obtaining the approval of T-Engine Forum through the registration procedure as prescribed by the Forum provided that only the department of the A- member which has taken the registration procedure may distribute the Modified Source Code in such a way as provided for in this Article as long as it holds the Amembership.

2. The Distributor of Modification may create the Modified Source Code based on the Source Code provided by T-Engine Forum and the Patch for Modification to be applied to create such Modified Source Code from the Source Code.

3. The Distributor of Modification shall, prior to the distribution, inform T-Engine Forum of and register a name and description of the Modified Source Code in such a way as specified by T-Engine Forum.

4. The Distributor of Modification shall determine the name of the Modified Source Code subject to the rules separately established by T-Engine Forum and publish an appropriate notice as required by the rules on the Patch for Modification and the Modified Source Code.

5. The Distributor of Modification may distribute the Modified Source Code to a third party, whether with or without payment, provided that the Distributor of Modification shall take the necessary measures to prohibit the third party from making the re-Distribution of the Modified Source Code.

6. Developer with the Patch for Modification. Provided, however, that the Distributor of Modification shall be obligated to confirm that the System Developer is the Source Code User duly licensed under Article 4.1.

7. The Distributor of Modification may perform the Vicarious Execution of Patch Processing for the System Developer.

8. The System Developer shall not distribute the Modified Source Code in further modified form to any third party as a stand-alone software product.

9. The System Developer may, under the same obligation as imposed in Article 4.5, make the Embedded Product available for the End User through use of the Patch for Modification distributed by the Distributor of Modification or the Derivative Works obtained through the Vicarious Execution of Patch Processing.

#### **Article 6. Distribution and Registration of the Ported Source Code**

1. The Source Code User and the System Developer may, whether with or without charge, distribute to any third party only the following parts of the Ported

Source Code on the T-Engine Hardware or the Similar Hardware to T-Engine Hardware:

1. The Hardware-dependent Part and/or Compiler-dependent Part; provided that the Source Code User and the System Developer shall inform T-Engine Forum of, and T-Engine Forum may publish, a method for distributing said Part(s) to third parties.

2. The Header File; provided that the Header File shall be distributed together with the Binary Code of the Ported Source Code.

2. Any member of T-Engine Forum may request T-Engine Forum to register and distribute, as an original source code for T-Kernel, the Ported Source Code on the T-Engine Hardware or the Similar Hardware to T-Engine Hardware.

3. Any member of T-Engine Forum who requests the distribution mentioned in the preceding paragraph shall accede to the following conditions:

1. The member shall confirm that the object hardware is the T-Engine Hardware or the Similar Hardware to T-Engine Hardware.
2. The member shall provide T-Engine Forum with a complete set of operational environment for the object hardware and T-Kernel free of charge when requesting the distribution.
3. The member shall submit test results of the Ported Source Code to T-Engine Forum when requesting the distribution.

4. In the event that T-Engine Forum accepts the request mentioned in Article 6.2, T-Engine Forum shall register and distribute the Ported Source Code as the Source Code for T-Kernel. Provided, however, that the Ported Source Code may be treated in the same way as the Modified Source Code until the time of registration hereunder.

5. The provision set forth in Article 3 shall apply to the Ported Source Code registered in accordance with this Article.

#### **Article 7. Use for Other Purpose**

1. Any use of the Source Code, the Modified Source Code or the Ported Source Code other than those stipulated in Articles 4, 5 and 6 shall be subject to the prior approval of T-Engine Forum.

#### **Article 8. Limited Warranty**

1. T-Engine Forum and the copyright holder of the Source Code warrant that the Source Code does not infringe third party's copyrights. Provided, however, that T-Engine Forum and the copyright holder of the Source Code make no warranty as to the Hardware-dependent Part and/or Compiler-dependent Part set forth in Article 6.2 in the Ported Source Code by any third party.

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2. In case of breach of this License Agreement by a member of T-Engine Forum, T-Engine Forum may take appropriate measures against the member; for example, the member is disqualified from membership, depending on what kind of breach has been committed by it.

3. Any legal dispute which may arise in relation to any breach of this License Agreement shall be subject to the exclusive jurisdiction of the Tokyo District Court.

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2. This License Agreement is executed in both Japanese text and English text provided that the Japanese text shall govern the interpretation and performance of this License Agreement.

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Julian Seward, [jseward@bzip.org](mailto:jseward@bzip.org)

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Component Name	License	URL
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Component Name	License	URL
zlib-1.2.8	zlib / libpng	<a href="http://zlib.net/">http://zlib.net/</a>

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Jean-loup Gailly Mark Adler

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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](http://www.ietf.org/rfc/rfc1951.txt) (deflate format) and [rfc1952.txt](http://www.ietf.org/rfc/rfc1952.txt) (gzip format).



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