

WISeNeT

网络摄像机

用户手册

QND-6010R/6020R/6030R

QNO-6010R/6020R/6030R

QNV-6010R/6020R/6030R



网络摄像机 用户手册

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商标

本文件中的每个商标均经过注册。本产品的名称以及本手册中提到的其他商标均为各自公司的注册商标。

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❖ 设计和规格可能会随时更改，恕不提前通知。

❖ 初始管理员ID为“admin”，而密码则应在首次登录时设置。

请每三个月更改一次密码，以妥善保护个人信息并防止信息泄露造成的损害。

请注意，由于没有妥善管理密码而造成安全或其他方面的问题，由用户自行承担。

重要的安全说明

1. 请阅读这些说明。
2. 请您妥善保存这些说明。
3. 请您遵守所有的操作说明。
4. 请您注意所有的警告说明。
5. 请您不要在水源附近运行本机器。
6. 使用柔软干布或湿布清洁产品表面的污染区域。
(请勿使用含有酒精、有机溶剂或表面活性剂、或含油成分的清洁剂或化妆品，此类物质可能使产品变形或受损。)
7. 请您不要堵塞通风口，在装入机器时，请您注意制造商的说明。
8. 请您不要将此机器放置在热源附近，如散热器，炉子或其它发热设备。
9. 请您绝对不要移去双线插头或有接地插头的安全装置，双线插头有两个不同宽度的插塞接点，接地插头有两个插塞接点和第三个接地接点。较宽的插塞接点或附加的接地接点是用来确保您的安全的，如果随同供货的插头规格不适合您的插座，请您委托电工更换适当的插座。
10. 请您正确铺设电源线，使其不会被踩踏和尖角损坏。请您尤其注意插头处，加长电缆和电线延伸到机器处必须具备充分的保护。
11. 请您使用制造商推荐的附加设备或配件。
12. 仅可使用厂商指定或随设备出售的运载车、支脚、三脚架、支架或工作台。使用运载车时，请小心避免在移动运载车/设备组合时翻覆。
13. 在雷雨天气或长时间不用的情况下，请拔下本设备的插头。
14. 请您委托具备资格的售后服务人员进行保养工作。出现以下情况时，有必要进行保养，例如当机器被损坏时（如电线或插头损坏），有物体或液体进入到机器内部时机器受到雨淋或潮湿后，机器运行不正常或摔落在地上时。
15. 本产品必须由标有“Class 2”或“LPS”、合格的电源部件进行供电，且各产品的额定值是最小电流下额定电压为 12 Vdc。



警告

为防止火灾或电击等引起的破坏，不要把产品暴露于水中或潮湿处。请勿穿过设备上的通风栅格或其他开口插入任何金属物体。

请勿将设备放置于滴水或溅水的地方，且勿将装有水的物体（如花瓶）放在设备上面。

为了避免造成人身伤害，必须按照安装说明牢固地把本设备固定在墙壁/天花板上。

注意

	注意 不要擅自拆装机器， 避免电击	
注意：为避免触电危险，不得取下机器后盖。 机器内部没有用户可修理的部件。 修理工作只允许由具备资格的人员进行		

图形符号说明



等边三角形内带箭头的闪电符号用于警告用户：产品机壳内存在“危险电压”，其电压量足以对人员构成电击危险。



等边三角形内的感叹号用于警告用户：产品附带的文字中包含重要的操作和维护（维修）说明。

概述

CLASS I 构造

具有 CLASS I 构造的设备应连接到具有保护接地连接的电源插座。

电池

电池（安装的电池组或电池）不得暴露在过多的热量下（如阳光、火焰或类似物体）。

断开设备

如果设备出现故障，请拔下其电源插头。并请致电当地的维修人员。

当在美国以外使用时,可以利用所用的 HAR 代码和许可代理机构的接待处。

注意

如更换的电池类型不正确，可能发生爆炸。
按照说明妥当处理废旧电池。

这些维修说明仅供合格的维修人员使用。
为减少电击的危险，除了操作说明中所描述的之外，请勿执行其他任何维修工作，除非您合格这么做。

请将输入电源仅用于一部摄像机，并且不能连接其他设备。

ITE 只能连接到 PoE 网络，无需路由到外部工厂。

产品内有害物质信息

部件名称	有毒有害物质元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 Cr (VI)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印制电路板组件	×	○	○	○	○	○
金属部品	×	○	○	○	○	○
电缆	×	○	○	○	○	○
塑料部品	○	○	○	○	○	○

○：部品中有毒有害物质含量在(含量标准)的标准值内。

×：部品中有毒有害物质含量超出(含量标准)的标准值。

本表格表明机器内部含有有害物质,数据是根据部件类型,由部件制作商提供并在Hanwha Techwin内部验证后做成的。
某些部品包含的有害物质,按照现在的技术基准不能替代,Hanwha Techwin一直在为改善此项而努力。

请仔细阅读以下建议的安全预防措施。

- 请勿将本设备放置于不平的表面上。
- 请勿安装在暴露在直射阳光下、靠近供暖设备或非常寒冷区域的表面上。
- 请勿将本设备放置在传导物体附近。
- 请勿自行维修本设备。
- 请勿将一杯水放在产品上。
- 请勿安装在任何磁源附近。
- 请勿堵塞任何通风口。
- 请勿在产品上放置任何重物。
- 在安装/拆卸摄像机时，请佩戴防护手套。
产品表面温度较高，可能有烫伤的危险。

用户手册是如何使用产品的指导书。

书中所用符号的含义如下。

- 参考：用于提供产品用法的帮助信息
- 注意：如果不遵照说明是否有可能对物品和人员造成任何损害
- ※ 在使用物品之前请阅读本手册以保证安全，并将它保存在安全的地方。

在某些安装环境下，可能会发生无线通信干扰。
如果产品和附近的无线通信设备之间发生电磁干扰，建议增加与无线通信设备的距离或调整通信天线的方向。

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重要的安全说明

推荐 PC 技术规格

建议的 Micro SD/SDHC/SDXC 存储卡规格

NAS 建议规格

随机提供的物品

简图 (QND-6010R/6020R/6030R)

简图 (QNO-6010R/6020R/6030R)

简图 (QNV-6010R/6020R/6030R)

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安装 (QND-6010R/6020R/6030R)

安装 (QNO-6010R/6020R/6030R)

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在LAN环境下直接安装摄像机

将摄像机直接连接至基于 DHCP 的 DSL/有线电视网调制解调器

直接将摄像机连接到 PPPoE 调制解调器

将摄像机与使用 PPPoE/Cable 调制解调器的IP路由器连接

如何使用“Device Manager”

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自动设置 IP

路由器端口设置

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概述

推荐 PC 技术规格

- CPU：Intel(R) Core(TM) i7 3.4 GHz 或更高版本
- 支持的操作系统：Windows 7、8.1、10、Mac OS X 10.9、10.10、10.11
- 无插件 web 查看器
支持的 web 浏览器：Google Chrome 47、MS Edge 20
- 有插件 Web 查看器
支持的 web 浏览器：MS Explorer 11、Mozilla Firefox 43、Apple Safari 9 ※ 仅支持 Mac OS X
- VGA：PCIe 256MB GDDR3 或更高规格的视频图形卡

建议的 MICRO SD/SDHC/SDXC 存储卡规格

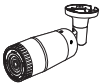
- 建议容量：4GB ~ 128GB (uhs-1 class)
- 对您的摄像机，我们建议您使用以下厂商制造的存储卡：
Micro SD/SDHC/SDXC 存储卡：Sandisk, Transcend

NAS 建议规格

- 建议容量：200GB 或更高
- 对于本摄像机，建议使用符合以下制造商规格的 NAS。
建议产品：Netgear NAS, Synology NAS

随机提供的物品

请检查产品包装内是否已包括摄像机和所有附件。
(配件因销售国家/地区而异。)

外观	品名	数量	功能	型号名称
	摄像机	1		QND-6010R/6020R/ 6030R
		1		QNO-6010R/6020R/ 6030R
		1		QNV-6010R/6020R/ 6030R
	简介 (可选)	1		QND-6010R/6020R/ 6030R, QNO-6010R/6020R/ 6030R, QNV-6010R/6020R/ 6030R
	模板	1	产品安装指南	QND-6010R/6020R/ 6030R, QNO-6010R/6020R/ 6030R, QNV-6010R/6020R/ 6030R
	电源接线板	1	插入电源插头	QND-6010R/6020R/ 6030R, QNV-6010R/6020R/ 6030R
	机器螺钉	2	在将产品安装在管道、墙上安装支架等上时，用于装配圆顶盒；或者用于堵塞孔。	QND-6010R/6020R/ 6030R, QNV-6010R/6020R/ 6030R

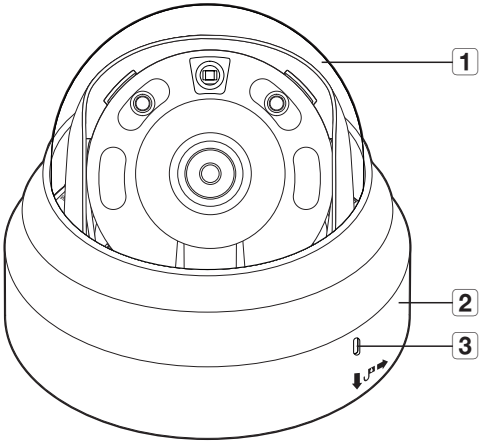
外观	品名	数量	功能	型号名称
	L 型扳手	1	用于控制摄像机的方向/ 用于拆装圆顶盖	QNO-6010R/6020R/ 6030R, QNV-6010R/6020R/ 6030R
	支架螺钉	2	用于墙壁或天花板上的安装	QND-6010R/6020R/ 6030R, QNV-6010R/6020R/ 6030R
		3		QNO-6010R/6020R/ 6030R
	警报器电缆	1	用于连接警报器	QND-6010R/6020R/ 6030R
	RJ45 防水配件	1	用于安装在潮湿的地方	QNO-6010R/6020R/ 6030R
	防晒罩	1	它可以让摄像机避免阳光直射。	QNO-6010R/6020R/ 6030R
	防晒罩固定螺钉	1	它将防晒罩与摄像机固定在一起。	QNO-6010R/6020R/ 6030R
	干燥剂	3	安装时固定在产品内部，用于防潮。	QNO-6010R/6020R/ 6030R
		1		QNV-6010R/6020R/ 6030R

概述

外观	品名	数量	功能	型号名称
	电源线	1	用于插入电源插座	QNV-6010R/6020R/ 6030R
	音频/警报器电缆	1	用于连接音频和警报器端口	QNV-6010R/6020R/ 6030R
	线缆保护衬套	1	用于连接直径为7到8.5毫米的局域网线缆。	QNV-6010R/6020R/ 6030R
	塑料固定器	2	用于固定螺钉，已插入孔中（增强固定力量）	QNV-6010R/6020R/ 6030R
选件(未包括)				
	柱式安装支架		圆柱式安装支架	QNO-6010R/6020R/ 6030R

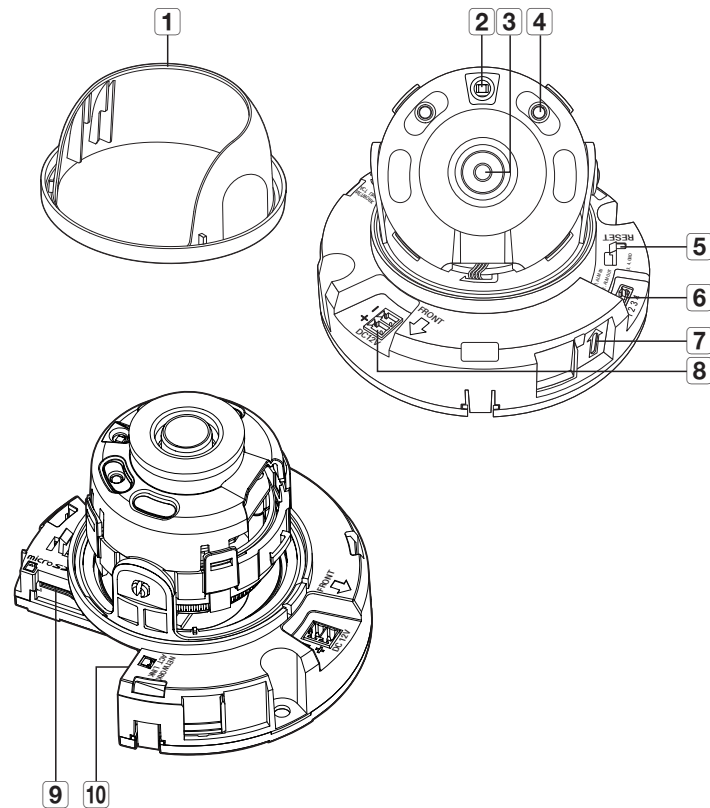
简图 (QND-6010R/6020R/6030R)

外观



名称	功能
1 球罩	用于保护镜头和机身的护盖。
2 摄像机外壳	盖住摄像机机身的外壳部分。
3 麦克风孔	内置麦克风。

组件

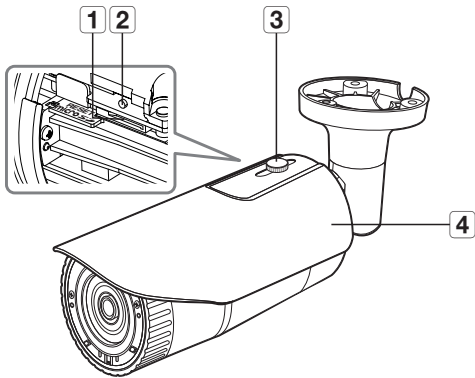


名称	功能	
1 内盖	主机身防护盖。	
2 照度传感器	检测进入光线以控制红外 LED。	
3 镜头	摄像机的镜头。	
4 红外 LED	这些红外 LED 由照度传感器控制。	
5 重置按钮	该按钮会将所有摄像机设置恢复为出厂默认值。按住约 5 秒钟可重启系统。 ■ 摄像机被重置后，其网络设置会变为 DHCP。如果网络中没有 DHCP 服务器，则使用“Device Manager”程序重新配置基本网络设置才可以从新接入网络（IP 地址，子网掩码，网关等）	
6 警报 I/O 端口	ARM-IN	用于连接警报输入传感器或外部日夜传感器。
	ARM-OUT	用于连接警报输出信号。
	GND	有通用端口可以连接报警输入/输出信号。
7 麦克风孔	内置麦克风。	
8 电源端口	用于电源接线板的端口。	
9 Micro SD 存储卡插入口	用于插入 Micro SD 存储卡的端子。	
10 网络端口	用于连接 PoE 或网络连接的以太网电缆。	

概述

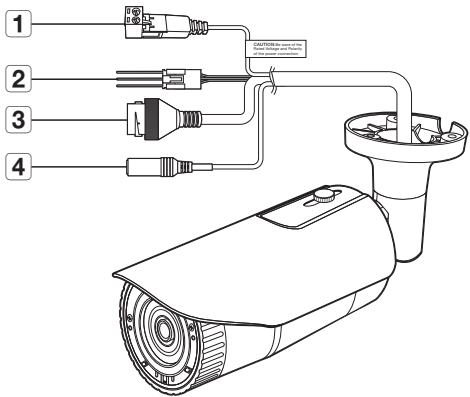
简图 (QNO-6010R/6020R/6030R)

外观



名称	功能
1 内存卡槽	(产品的内部空间) 您可以将内存卡插入此卡槽。
2 重置按钮	该按钮会将所有摄像机设置恢复为出厂默认值。 按住约 5 秒钟可重启系统。 ■ 摄像机被重置后，其网络设置会变为DHCP。如果网络中没有DHCP服务器，则要使用“Device Manager”程序重新配置基本网络设置才可以从新接入网络（IP地址，子网掩码，网关等）
3 防晒罩固定螺钉	它将防晒罩与摄像机固定在一起。
4 防晒罩	它可以让摄像机避免阳光直射。

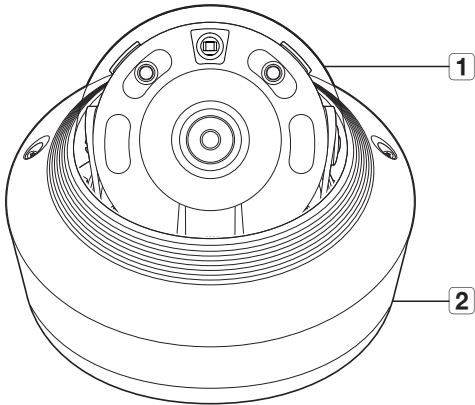
组件



名称	功能	
1 电源端口	用于插入电源线。	
2 警报 I/O 端口	ARM-OUT	用于连接警报输出信号。
	GND	有通用端口可以连接报警输入/输出信号。
	ARM-IN	用于连接警报输入传感器或外部日夜传感器。
3 网络端口	用于连接 PoE 或网络连接的以太网电缆。	
4 音频输入插孔	用于连接到麦克风。	

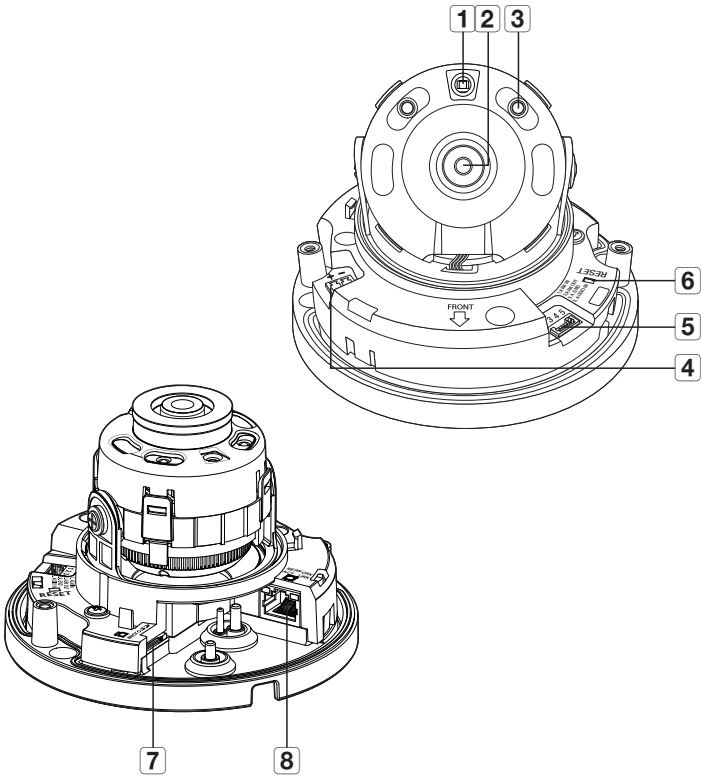
简图 (QNV-6010R/6020R/6030R)

外观



名称	功能
1 球罩	用于保护镜头和机身的护盖。
2 摄像机外壳	盖住摄像机机身的外壳部分。

组件



概述

名称	功能
1 照度传感器	检测进入光线以控制红外 LED。
2 镜头	摄像机的镜头。
3 红外 LED	这些红外 LED 由照度传感器控制。
4 电源端口	用于电源接线板的端口。
5 音频和警报器端口	连接音频和警报线缆、以连接外部警报设备/麦克风的终端。
6 重置按钮	该按钮会将所有摄像机设置恢复为出厂默认值。 按住约 5 秒钟可重启系统。  摄像机被重置后，其网络设置会变为DHCP。如果网络中没有DHCP服务器，则要用“Device Manager”程序重新配置基本网络设置才可以从新接入网络（IP地址，子网掩码，网关等）
7 Micro SD存储卡插入口	用于插入Micro SD存储卡的端子。
8 网络端口	用于连接 PoE 或网络连接的以太网电缆。

安装与连接

安装 (QND-6010R/6020R/6030R)

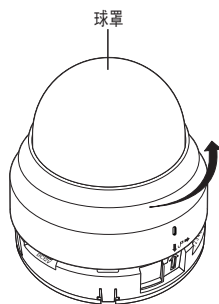
安装前注意事项

安装之前，请确保阅读下列说明：

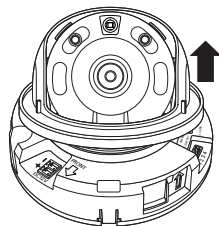
- 用于安装它的区域（天花板或墙壁）的可承受重量必须至少 5 倍于包括安装支架在内的摄像机重量。
- 注意电缆夹在不适当的地点或电缆皮受损，以免发生火灾或产品破损。
- 为安全起见，让其他人远离安装地点。请立刻收拾放在安装地点下面的贵重品。

拆解

1. 用一只手握住摄像机底部，另一只手逆时针转动内罩。

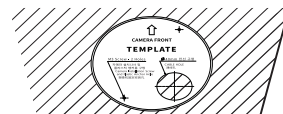


2. 向上提升内罩以将其分离。

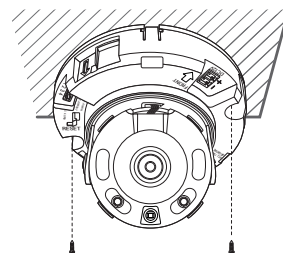


安装

1. 将安装模板贴到所选的安装区域，然后如图所示打出 3 个孔。



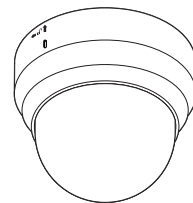
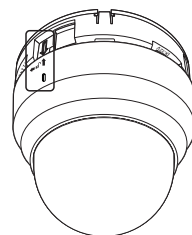
2. 使用随附产品提供的 2 个自攻螺钉，将摄像机固定在安装模板钻的 2 个孔中。
 - 使摄像机上压印的 <◁ ▷> 标志朝向摄像机监视方向。
3. 使用适当的电缆连接摄像机内部端子。
4. 请参阅“**调整摄像机的监视方向**”来调整镜头，使其面向所需的方向。（第 17 页）



- ! ■ 我们建议您不要触摸镜头，因为在最终制造流程中摄像机镜头已正确对焦。如果触摸镜头，镜头可能会无法对焦或者沾染灰尘或异物。

5. 请将内罩连接到主体上。
6. 用手握住摄像机底部时，请用另一只手握住并推它的护罩让两个箭头标记对齐，如图所示。

- ! ■ 要装配圆顶盖，确保箭头相互对准，然后牢牢按下圆顶盖。如在组装过程中球盖安反，或未能正确组装，可能出现漫反射现象，也可能使镜头部分安反，从而导致拍摄范围发生变化。
- 确保球盖已经如图所示，正确连接至底座部分。如卡扣未能正确连接，球盖可能坠落、导致受伤。



安装与连接

安装 (QNO-6010R/6020R/6030R)

- 此摄像机防水并且符合 IP66 规格，但连接到外部电缆的插孔不防水。建议您将本产品安装在屋檐下，防止电缆因暴露在户外而受损。

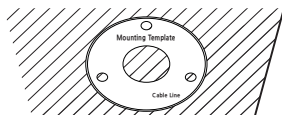
安装前注意事项

安装之前，请确保阅读下列说明：

- 用于安装它的区域（天花板或墙壁）的可承受重量必须至少 5 倍于包括安装支架在内的摄像机重量。
- 注意电缆夹在不适当的地点或电缆皮受损，以免发生火灾或产品破损。
- 为安全起见，让其他人远离安装地点。请立刻收拾放在安装地点下面的贵重物品。

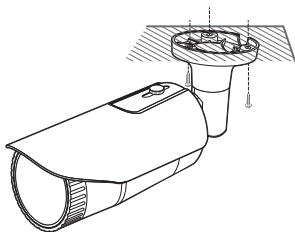
安装

1. 如下图所示，将安装模板放置在所需位置，钻 3 个相同大小的孔。



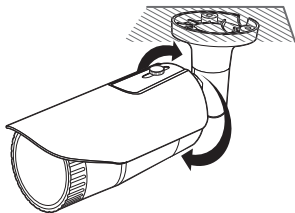
2. 将随附的 3 枚自攻螺钉分别插入 3 个孔中并拧紧，以固定摄像机。

3. 将适当的电缆连接至摄像机终端。



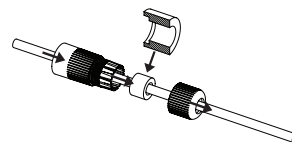
4. 使用提供的 L 型扳手调整摄像机的方向。

- 当您使用支架调整摄像机的位置时，请松开支架螺丝、调整摄像机，随后将支架螺丝拧紧。如果您在螺丝拧紧时试图强行调节摄像机，可能会导致划伤或其他问题。

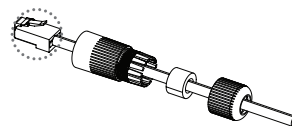


如何将 RJ45 防水电缆连接到 LAN 电缆

1. 沿箭头方向插入。

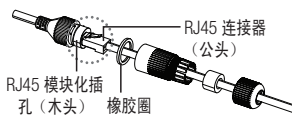


2. 将 LAN 连接器（公头）连接到电缆。

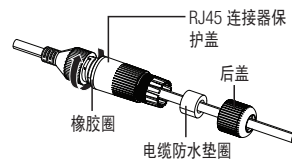


3. 将 RJ45 模块化插孔（木头）连接到 RJ45 连接器（公头）。

- 请保留拆下的每个零部件。

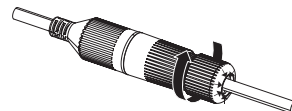


4. 通过顺时针旋转 RJ45 模块化插孔（木头）和 RJ45 保护盖（按箭头方向）来进行组装。



5. 通过顺时针旋转 RJ45 保护盖和后盖（按箭头方向）来进行组装。组装后盖时，使用电缆防水垫圈与电缆紧密相连，以使其能够防水。

- 您必须安装彻底，以将后盖向上旋转至 RJ45 连接器螺纹的末端。

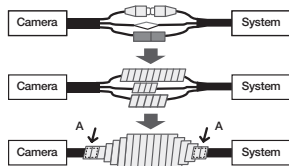


室外安装

当您本产品安装在建筑外部时，请用防水丁基橡胶带对其进行防水处理（商店有售），防止水从连接到外部的电缆缝隙中渗入。

1. 连接电源、I/O、音频和 LAN 电缆。
2. 用防水带(丁基橡胶)，包裹住黑色电缆套管（区域 A）和电缆连接区域，确保一半以上的丁基橡胶带重叠。

- !**
- 如未对电缆套管进行适当的防水操作，它可能直接导致漏水。确保使用橡胶带保护电缆。
 - 防水丁基橡胶带由丁基橡胶制成，可拉伸为正常长度的 2 倍。



安装 (QNV-6010R/6020R/6030R)

- !**
- 此摄像机防水并且符合 IP66 规格，但连接到外部电缆的插孔不防水。建议您将本产品安装在屋檐下，防止电缆因暴露在外而受损。

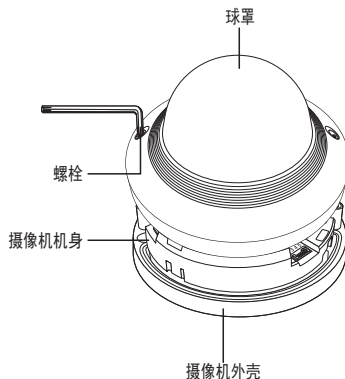
安装前注意事项

安装之前，请确保阅读下列说明：

- 用于安装它的区域（天花板或墙壁）的可承受重量必须至少 5 倍于包括安装支架在内的摄像机重量。
- 注意电缆夹在不适当的地点或电缆皮受损，以免发生火灾或产品破损。
- 为安全起见，让其他人远离安装地点。
请立刻收拾放在安装地点下面的贵重品。

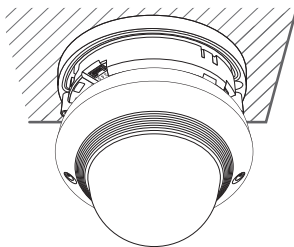
拆解

1. 使用随附提供的 L 型扳手，按照逆时针方向拧松 2 颗紧固螺栓，即可卸下顶盖。



安装

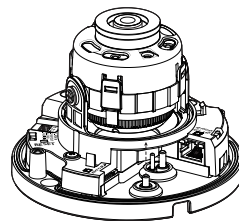
1. 使用作为附件提供的模板，钻螺钉安装孔（直径为 6 毫米，最小深度为 55 毫米）并将作为附件提供的塑料锚栓牢牢插入底端。
2. 将底孔套入固定器也，然后插入并固定支架螺钉（M4.5xL50）。
3. 连接和排放必要的电缆，以免在安装摄像机时损坏或缠绕它们。
4. 请参阅“调整摄像机的监视方向”来调整镜头，使其面向所需的方向。（第 17 页）
5. 闭合球罩。
 - 使用 L 型扳手拧紧固定螺栓可防止渗水。



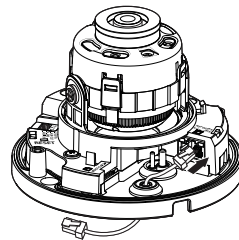
连接 LAN 线缆

1. 卸下球罩和壳体。
2. 拉出底座上橡皮塞的长突出部，然后如图所示将其取下。

- !**
- 将适当的线缆保护套管用于要连接的局域网线缆。
 - 基础摄像机-使用直径为5到6.5毫米的线缆。
 - 所提供组件-使用直径为7到8.5毫米的线缆。



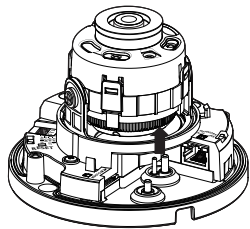
3. 将 LAN 电缆插入在上述步骤 2 中取下橡皮塞突出部后出现的大孔。
4. 使用电缆剪去除外皮，然后对齐电缆。
5. 为 LAN 电缆接上一个 LAN 接头，然后插入 LAN 工具。
6. 将准备就绪的 LAN 电缆连接到以太网端口。



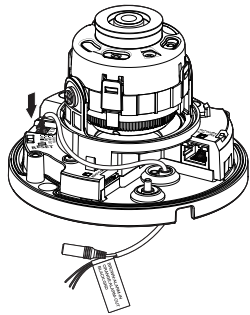
安装与连接

连接音频/警报线缆和电源线

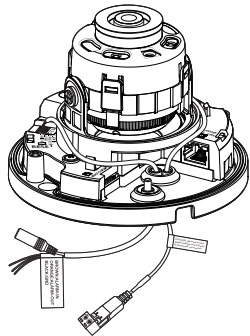
- 1. 卸下球罩和壳体。
- 2. 如图所示，拉出底座上的橡皮塞。



- 3. 在卸下 2 号橡胶帽后会出现一个孔，将警报器/音频线缆插入此孔中，并将该线缆连接至警报器端子。
- 4. 对齐电缆，以便在安装摄像机时不会损坏或挤压电缆。
- 5. 将警报器/音频线缆上的橡胶帽插入到孔中。



- 6. 通过长条形刻槽将电源线插入小孔中。
- 7. 将电源线连接到电源接线板。
- 8. 请参阅“[调整摄像机的监视方向](#)”来调整镜头，使其面向所需的方向。（第 17 页）
- 9. 联接球罩。



连接至非捆绑销售的适配器

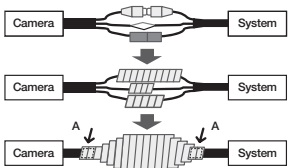
选择并购买下列其中一个必要的选件（非捆绑销售），它应该适合您的安装位置或为您提供方便。

- 1. 从壳体取下球罩，参考“[拆解](#)”部分。（第 15 页）
- 2. 使用随附的机器螺钉将摄像机外壳固定到非捆绑销售的适配器上。
- 3. 连接和排放必要的电缆，以免在安装摄像机时损坏或缠绕它们。
- 4. 以“[拆解](#)”的相反顺序安装摄像机机身。
- 5. 请参阅“[调整摄像机的监视方向](#)”来调整镜头，使其面向所需的方向。（第 17 页）
- 6. 闭合球罩。
 - 使用 L 型板手拧紧固定螺栓可防止渗水。

室外安装

当您本产品安装在建筑外部时，请用防水丁基橡胶带对其进行防水处理（商店有售），防止水从连接到外部的电缆缝隙中渗入。

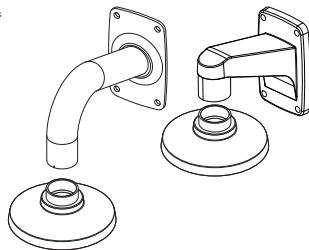
- 1. 连接电源、I/O、BNC 和 LAN 电缆。
- 2. 用防水带(丁基橡胶)，包裹住黑色电缆套管（区域 A）和电缆连接区域，确保一半以上的丁基橡胶带重叠。
 - ! ■ 如未对电缆套管进行适当的防水操作，它可能直接导致漏水。确保使用橡胶带保护电缆。
 - 防水丁基橡胶带由丁基橡胶制成，可拉伸为正常长度的 2 倍。



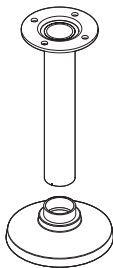
可选的安装附件

为了方便安装，您可以购买可选的附件。

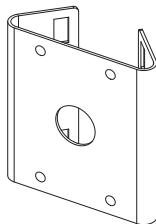
1. 墙上安装适配器 (SBP-300WM 或 SBP-300WM1) / 悬挂安装适配器 (QND-6010R/6030R : SBP-300HM8, QND-6020R : SBP-300HM7)
将圆顶摄像机安装到墙上时使用该适配器。



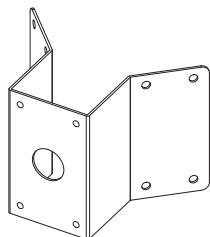
2. 天花板安装适配器 (QND-6010R/6030R : SBP-300HM8, QND-6020R : SBP-300HM7)
将圆顶摄像机安装到混凝土天花板上时使用该适配器。



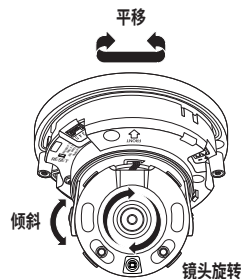
3. 柱式安装适配器 (SBP-300PM)
这是在直径大于 80 毫米的柱子上安装墙上安装适配器 (SBP-300WM 或 SBP-300WM1) 时使用的适配器。



4. 角落安装适配器 (SBP-300KM)
这是在墙角安装墙上安装适配器 (SBP-300WM 或 SBP-300WM1) 时使用的适配器。



调整摄像机的监视方向 (QND-6010R/6020R/6030R, QNV-6010R/6020R/6030R)



调整监视方向

仅当摄像机固定到天花板上时才能调整摄像机方向。

调整时，左右旋转摄像机装置称为“平移”，调整倾斜度称为“倾斜”，沿镜头轴转动镜头称为“旋转”。

- 平移的有效范围是共 350 度。
- 旋转的有效范围是共 355 度。
- 倾斜的有效范围是共 67 度。



- 某些角度的图像会被摄像机壳遮住。
- 在拆卸球罩和摄像机壳构成的整体后，不要用力转动焦点/缩放镜头。否则可能会导致因马达故障而不能正确聚焦。

调整方法

1. 安装摄像机之后，根据监视方向调整平移角度。
2. 设置为水平角度，使图像不会颠倒。
3. 调整倾斜角度，以便摄像机面朝监视的对象。

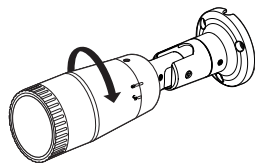
安装与连接

插入/取出 MICRO SD 存储卡

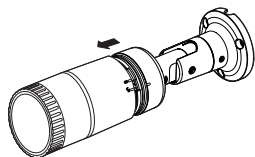
- 安装摄像机前，请先从摄像机拔下电源线后，插入 Micro SD 保存卡。
- 请不要将Micro SD存储卡往逆方向强行插入,以免存储卡破损。
- 下雨或湿度较高时，不建议插拔内存卡。
- 产品盖子的拆卸应该在5分钟之内完成，否则会有内部结露的风险。

插入 Micro SD 存储卡 (QNO-6010R/6020R/6030R)

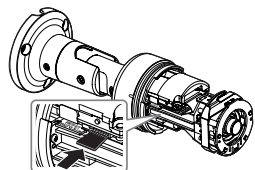
1. 按照开锁 [🔓] 方向旋转前盖。



2. 将前盖拉出并与摄像机分开。

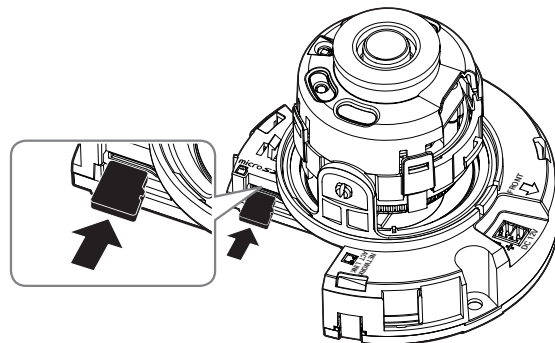


3. 按照图中箭头所示方向插入内存卡。

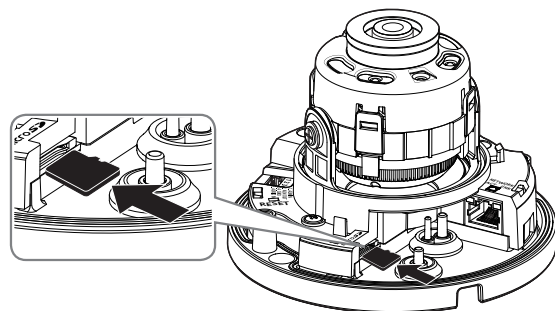


插入 Micro SD 存储卡 (QND-6010R/6020R/6030R, QNV-6010R/6020R/6030R)

1. 将摄像机的圆顶盖分开。
2. 按照图中箭头所示方向插入内存卡。



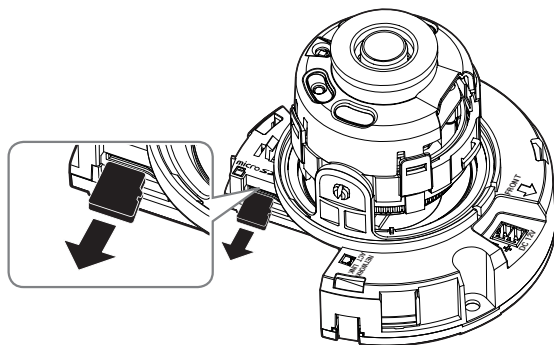
<QND-6010R/6020R/6030R>



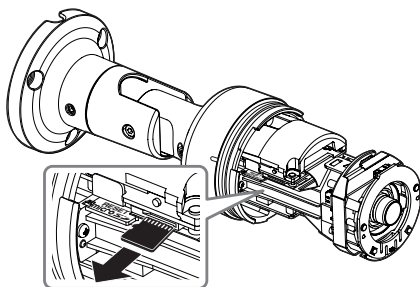
<QNV-6010R/6020R/6030R>

取出 Micro SD 存储卡

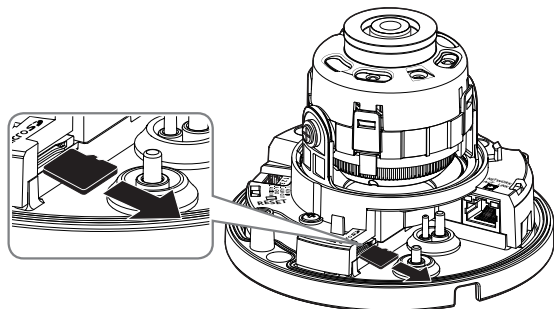
轻轻地按压存储卡露在外面的一端，依图示的方式从拆槽中弹出存储卡。



<QND-6010R/6020R/6030R>



<QNO-6010R/6020R/6030R>



<QNV-6010R/6020R/6030R>



- 过度用力按Micro SD存储卡，可能会导致存储卡从卡槽中猛然弹出。
- 移除微型 SD 存储卡之前，关闭摄像机或转到<存储器>后设置为<关>，最后按 [应用 (应用)] 按钮。
- 将数据保存在Micro SD存储卡时，若取出存储卡或关掉电源，会导致已存数据的损失。

存储卡信息(未包含)

什么是存储卡？

存储卡是一种外部数据储存设备，它的开发为使用数字设备进行录制和共享音频、视频和文本数据提供了崭新的方式。

选择一款适合您的存储卡

本摄像机支持 Micro SD/SDHC/SDXC 存储卡。

根据存储卡的型号和制作材料不同，您可能会遇到兼容性的问题。

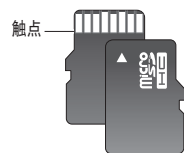
对您的摄像机，我们建议您使用以下厂商制造的存储卡：

Micro SD/SDHC/SDXC 存储卡：Sandisk, Transcend

建议将 4GB ~ 128GB (uhs-1 class) 的存储卡与本摄像机配合使用。

播放速度取决于存储卡的读写速度。若储存卡读写速度不够快，播放速度会变慢。请使用读写速度快的存储卡。

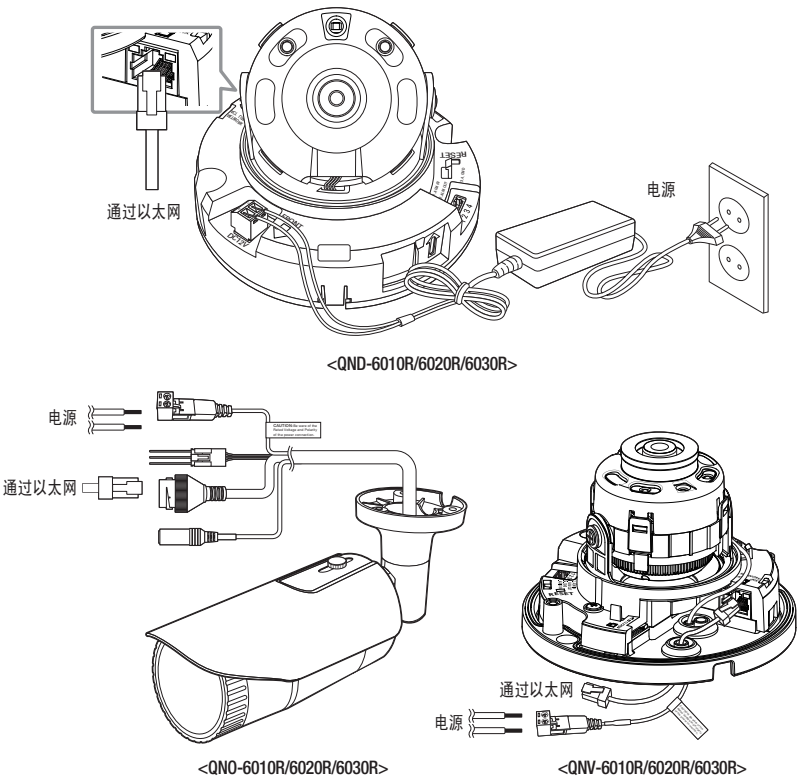
存储卡组件



Micro SD/SDHC/SDXC

安装与连接

与其他设备连接



以太网连接

将以太网电缆连接到本地网络或互联网。

电源

使用螺丝刀将每股电源线 (+, -) 连接至摄像机的相应电源端口。

- ❗ 如果同时供应 PoE 和 DC 12V，将采用来自 PoE 的电源为产品供应。
 - 您也可以使用具有 PoE 功能的路由器为摄像机供电。
 - 使用符合 IEEE 802.3af 协议的 PoE。
 - 仅可使用 PoE 和 DC 12V 的电源之一。
- 在连接电源线时，切勿弄反极性。
- 如果要连接外部设备，则必须先关闭外部设备再继续进行。

每个型号的电源电缆规格

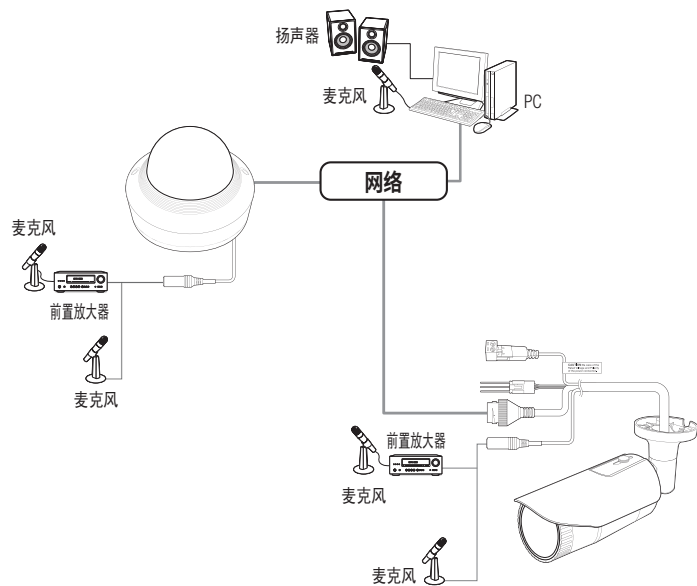
对于 DC 12V 输入：

股线类型 (AWG)	#22	#20	#18
电缆长度 (最大)	24米	38米	60米

网线规格

名称	内含物	备注
连接器	RJ45	
以太网	10/100BASE-T	10/100 Mbps
电缆	UTP 超5e类	
最大距离	100米	
PoE 支持	IEEE 802.3af	

连接音频输入



1. 将摄像机的音频输入端口连接至麦克风或麦克风连接至的扩音器的线性输出端口。

■ 可以使用摄像机内置麦克风，而无需连接外部麦克风。
(仅适用于 QND-6010R/6020R/6030R)

2. 检查音频输入的规格。

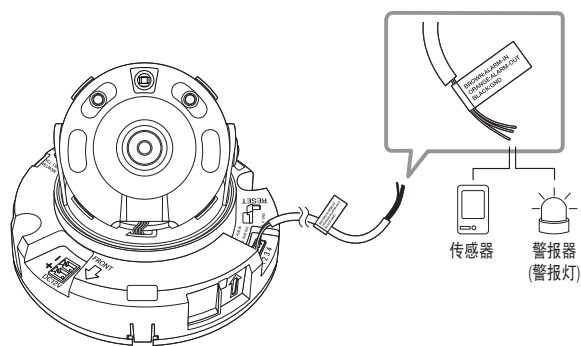
• 音频编解码器

- 音频输入：G.711 PCM(比特率: 64Kbps / 采样频率: 8kHz), G.726 ADPCM(比特率: 16Kbps、24Kbps、32Kbps、40Kbps / 采样频率: 8kHz)

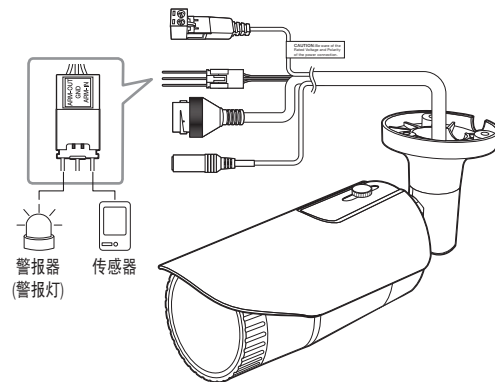
• 全双工音频

- 音频输入 (QND-6010R/6020R/6030R): 可选 (内置麦克风)，支持的电压: 2.5VDC (4mA)，输入电阻: 2K 欧姆
- 音频输入 (QNO-6010R/6020R/6030R, QNV-6010R/6020R/6030R): 可选 (麦克风/线路输入)，支持的电压: 2.5VDC (4mA)，输入电阻: 2K 欧姆

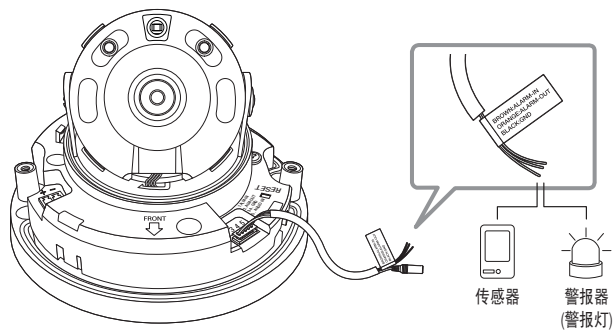
连接到 I/O 端口



<QND-6010R/6020R/6030R>



<QNO-6010R/6020R/6030R>



<QNV-6010R/6020R/6030R>

将警报输入/输出电缆连接到端口盒的相应端口。

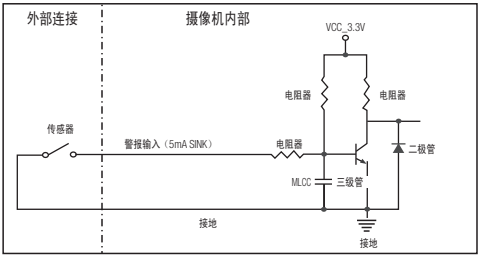
- ALARM-IN：用于连接警报输入传感器或外部日夜传感器。
- ALARM-OUT：用于连接警报输出信号。
- GND：警报输入/输出信号的公共端。

❗ 如果使用开路集电极方法连接超出电压和电流规格的设备（如闪光灯和报警器），它可能导致故障。在连接超出电压和电流规格的设备时，参考“**警报输出线路图**”。（第 22 页）

连接外接传感器

将传感器每根信号线（2 线）的一股线连接至 [ALARM IN] 端口，并将另一股线连接至 [GND] 端口。

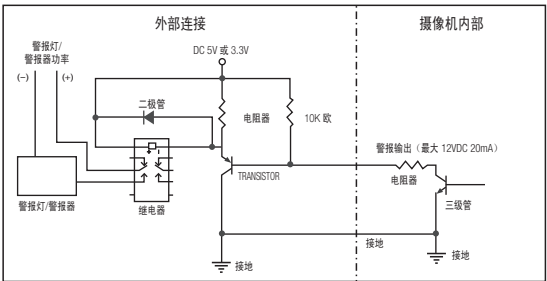
警报输入线路图



要连接警报输出

如果使用开路集电极方法连接超出电压和电流规格的设备（如闪光灯和报警器），它可能导致故障。在连接超出电压和电流规格的设备时，参考下面的警报输出连接线路图。

警报输出线路图



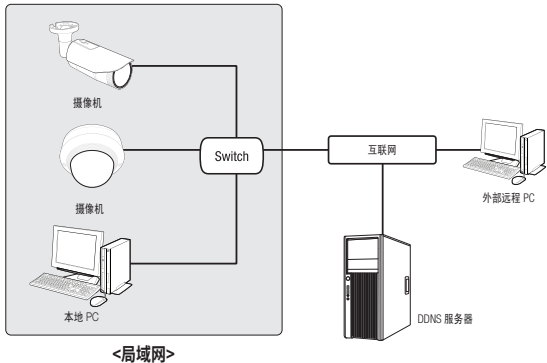
网络连接和设置

可根据您的网络配置来设置网络的设定。

在LAN环境下直接安装摄像机

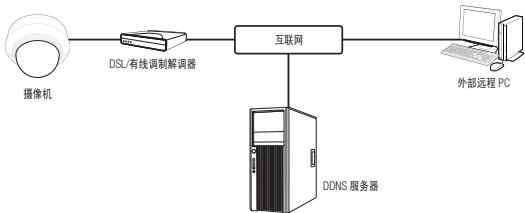
连接局域网内的本地 PC 和摄像机

- 1. 启动本地 PC 上的Web浏览器。
- 2. 在浏览器地址栏中输入要访问的摄像机IP地址。



- 在正确设置防火墙或端口转发前，局域网外部的远程互联网 PC 可能无法连接安装于内部网的摄像机。在此情况下，联系网络管理员解决问题。
- 出货时，摄像机被设置为DHCP服务器自动分配IP地址。如果没有可用的 DHCP 服务器，则会将 IP 地址设置为 192.168.1.100。要更改IP地址，请使用“Device Manager”。有关如何使用Device Manager，请参阅“使用Device Manager”。（第 25 页）

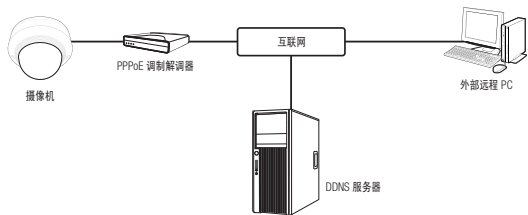
将摄像机直接连接至基于 DHCP 的 DSL/有线电视网调制解调器



- 1. 直接将用户 PC 与网络摄像机连接。
 - 2. 使用“Device Manager”将摄像机的IP地址更改为可通过用户计算机从Internet浏览器从访问的IP地址。
 - 3. 使用Web浏览器连接至 Web Viewer。
 - 4. 移至 [设置] 页面。
 - 5. 移至 [网络] - [DDNS] 并配置 DDNS 设置。
 - 6. 移至 [Basic] - [IP & 端口]，并将网络类型设置为 [DHCP]。
 - 7. 将摄像机与用户PC分开，并直接连接到调制解调器。
 - 8. 重新启动摄像机。
- 要了解如何设置 DDNS 的信息，请参阅 Web 查看器的在线帮助内容。
 - 要了解如何设置 IP 格式的信息，请参阅 Web 查看器的在线帮助内容。

网络连接和设置

直接将摄像机连接到 PPPoE 调制解调器

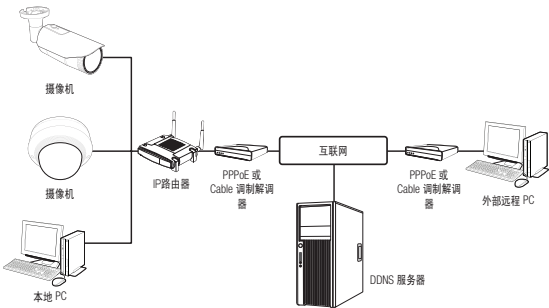


1. 直接将用户 PC 与网络摄像机连接。
2. 使用“Device Manager”将摄像机的IP地址更改为可通过用户计算机从Internet浏览器访问的IP地址。
3. 使用Web浏览器连接至 Web Viewer。
4. 移至 [设置] 页面。
5. 移至 [网络] - [DDNS] 并配置 DDNS 设置。
6. 移动到 [Basic] - [IP & 端口] 设置页面，将“IP 类型”设置为 [PPPoE]，然后输入网络服务的 ID 和密码。
7. 将摄像机与用户PC分开，并直接连接到调制解调器。
8. 重新启动摄像机。

- 要了解如何设置 DDNS 的信息，请参阅 Web 查看器的在线帮助内容。
- 要了解如何设置 IP 格式的信息，请参阅 Web 查看器的在线帮助内容。

将摄像机与使用 PPPoE/CABLE 调制解调器的IP路由器连接

适用于小型网络环境，如家庭、SOHO 以及普通的商店。



配置与IP路由器连接的本地PC的网络设置

在配置连接到IP路由器的本地 PC 的网络设置时，遵循以下说明。

- 选择：<网上> → <属性> → <本地连接> → <常规> → <属性> → <Internet 协议 (TCP/IP)> → <属性> → <自动获得 IP 地址> 或 <使用下面的 IP 地址>。
- 若您选择的是 <使用下面的 IP 地址>，遵照以下说明操作：

例1) 若IP路由器的地址 (LAN IP) 为 192.168.1.1
IP 地址：192.168.1.100
子网掩码：255.255.255.0
默认网关：192.168.1.1

例2) 若IP路由器的地址 (LAN IP) 为 192.168.0.1
IP 地址：192.168.0.100
子网掩码：255.255.255.0
默认网关：192.168.0.1

例3) 若IP路由器的地址 (LAN IP) 为 192.168.xxx.1
IP 地址：192.168.xxx.100
子网掩码：255.255.255.0
默认网关：192.168.xxx.1

- 关于IP路由器的地址，请参见产品文档。
- 如需IP路由器的正向端口的更多信息，请参阅“路由器端口设置”。(第 27 页)

如何使用“DEVICE MANAGER”

- “Device Manager”可以访问Hanwha Techwin网站的（http://www.hanwha-security.com）<在线工具>进行下载。
- 您可以在主页的<帮助>菜单中查看如何使用“Device Manager”。

自动搜寻摄像机

如果摄像机连接到安装了“Device Manager”的PC相同的网络,则可以使用搜索功能查找网络摄像机。

- 请在“Device Manager”主界面上点击<搜索>。
- 确保在搜索列表中搜索到了要连接的摄像机。
 - 请在摄像机附带标签上确认MAC地址。

设置IP地址

若要更改摄像机的网络设置, <状态>项目应标有 <Login OK>。您可以通过单击“Device Manager”主界面 上的 <验证> 来登录。

设置 Static IP

手动输入并设置IP地址和端口信息。

- 在搜索列表中, 单击要更改IP设置的摄像机。
- 在“Device Manager”主界面上单击<IP分配>。
- 选择<分配IP地址>。
 - 摄像机的IP信息将显示为先前设置的值。
- 输入IP相关项目和端口相关项目。



如果不使用IP路由器

有关<IP地址>、<子网掩码>和<网关>设置, 请与网络管理员联系。

- HTTP端口：用于使用Web浏览器访问摄像机, 默认值为 80。
- RTSP端口：此端口为控制实时流媒体的端口, 默认值为554。

如果使用IP路由器

- IP Address：输入IP路由器提供的 IP 范围内的地址。
例) 192.168.1.2~254, 192.168.0.2~254,
192.168.XXX.2~254
- Subnet Mask：IP路由器的 <子网掩码> 将是摄像机的 <子网掩码>。
- Gateway：IP路由器的 <本地 IP 地址> 将是摄像机的 <Gateway>。



- 设置可能因连接的IP路由器型号而异。
有关详细信息, 请参阅适用路由器的用户手册。
- 如需IP路由器的正向端口的更多信息, 请参阅“路由器端口设置”。(第 27 页)

如果IP路由器连接了多个摄像机

分别设置摄像机的IP相关项目和Port相关项目。

例)

类别	摄像机 1	摄像机 2
IP 相关设置	IP地址 子网掩码 网关	192.168.1.100 255.255.255.0 192.168.1.1
端口相关设置	HTTP端口 RTSP端口	8080 554

- 如果 <HTTP端口> 设置为除 80 以外的值, 您必须在Web浏览器的地址栏中提供 <Port> 号, 才能访问摄像机。
例) http://IP address: HTTP Port
http://192.168.1.100:8080

- 单击[应用]按钮。
- 显示成功确认信息时请点击[确定]按钮。

网络连接和设置

设置 Dynamic IP

通过DHCP自动分配IP地址

- 动态 IP 环境示例
 - 如果连接了摄像机的IP路由器由 DHCP 服务器分配了 IP 地址
 - 将摄像机直接连接到使用DHCP方式的调制解调器时
 - 在LAN环境下, 从内部DHCP服务器获取IP时

1. 在搜索列表中单击要更改IP设置的摄像机。
2. 在“Device Manager”主界面上单击<IP分配>。
3. 请选择<自动获取一个IP地址 (DHCP)>。
4. 请点击[适用]按钮。
5. 请在显示成功确认消息时点击[确定]按钮。



手动注册摄像机

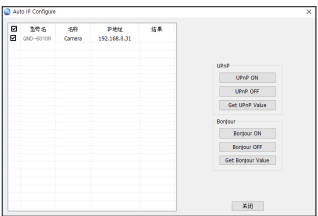
如果通过搜索功能找不到摄像机, 或者摄像机连接到外部网络, 则可以手动输入 IP 信息以远程查找摄像机并进行注册。

1. 在“Device Manager”主界面上单击<添加设备>-<手动注册设备>。
2. 请输入要搜索的IP地址范围。
3. 请选择要注册的摄像机的<型号名>并输入HTTP端口、用户ID和密码。
4. 单击[注册]按钮。
5. 确保在列表中注册了所需的摄像机。
 - 检查相机附带标签上的MAC地址。



自动设置 IP

1. 在搜索列表中, 单击要自动设置IP的摄像机。
2. 在“Device Manager”主界面上单击<+>。
 - 将会出现设备设置菜单。
3. 单击设备设置菜单中的<Auto IP Configure (IP自动设置)>。
4. 单击[关闭]按钮。

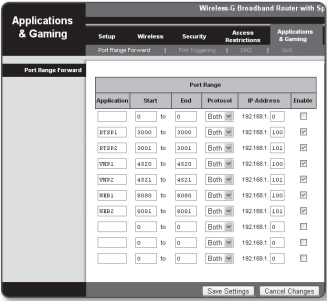


路由器端口设置

如果您安装了连接摄像机的IP路由器,就必须设置在IP路由器上前移的端口范围,以便远程 PC 可以其中的摄像机。

手动端口设置

- 1. 从IP路由器的 Setup 菜单中, 选择 <Applications & Gaming> - <Port Range Forward>。
关于第三方IP路由器端口转发的菜单位置和设置方法, 请参阅各个IP路由器制造商提供的用户手册。
- 2. 对连接到IP路由器的每个摄像机选择 <TCP> 和 <UDP Port>。
应当按照摄像机 web 查看器<设置> - <Basic> - <IP & 端口>中指定的端口数量设置要配置给 IP 路由器的各端口数量。
- 3. 完成后, 单击 [Save Settings]。
将保存设置。

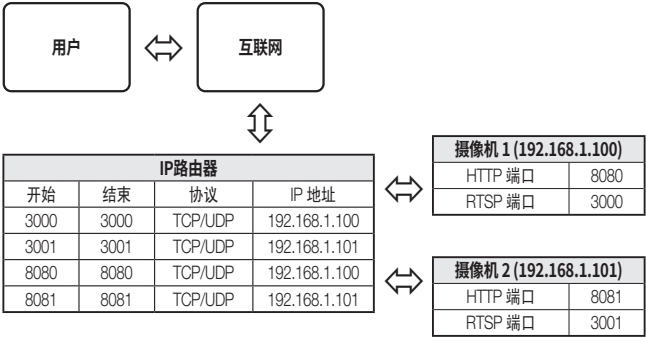


- 设置端口转发说明是CISCO IP路由器设置的示例。
- 设置可能因连接的IP路由器型号而异。
有关详细信息, 请参阅适用路由器的用户手册。

设置多个网络摄像机的端口范围前移

- 在路由器的设置页面, 可设置路由器的端口转发。
- 用户可以使用摄像机设置屏幕更改每个端口。

当摄像机 1 和摄像机 2 连接至同一路由器时:



- 如果路由器支持 UPnP (通用即插即用) 功能, 无需额外路由器设置即可实现端口转发。
连接好网络摄像机之后, 选择“设置 -> 网络 -> DDNS”下<Wisenet DDNS>中<快速连接>菜单中的复选框。

网络连接和设置

从共享的本地 PC 连接到摄像机

1. 运行“Device Manager”。
它将扫描连接的摄像机，并显示摄像机列表。
2. 双击要访问的摄像机。
Web浏览器将启动，并连接到摄像机。



■ 您也可以在Web浏览器的地址栏中键入所发现摄像机的 IP 地址的方式访问摄像机。

从远程 PC 通过互联网连接到摄像机

在IP路由器的网络集群外部的远程计算机上，用户可以使用摄像机的DDNS URL访问IP路由器网络内的摄像机。

1. 您应该设置IP路由器端口范围前移，然后才能访问IP路由器网络中的摄像机。
2. 为了从外部的远程PC访问摄像机，启动浏览器后，在地址栏上输入DDNS URL地址或IP路由器的IP地址。
例) <http://ddns.hanwha-security.com/ID>



■ 要使用WiseNet DDNS，您必须先先在WiseNet DDNS主页（<http://ddns.hanwha-security.com>）上注册会员，然后在**我的DDNS**> **[产品注册]**中注册产品。

连接到摄像机

通常, 您应该

1. 启动Web浏览器。
2. 在地址栏中键入摄像机的 IP 地址。
例) • IP 地址 (IPv4) : 192.168.1.100 → http://192.168.1.100
- 将会出现登录对话框。
• IP 地址 (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111 →
http://[2001:230:abcd:ffff:0000:0000:ffff:1111] - 将会出现登录对话框。

如果 HTTP 端口为除 80 以外的值

1. 启动Web浏览器。
2. 在地址栏中键入摄像机的 IP 地址和 HTTP 端口号。
例) IP 地址 : 192.168.1.100:HTTP 端口号(8080)
→ http://192.168.1.100:8080 - 将会出现登录对话框。

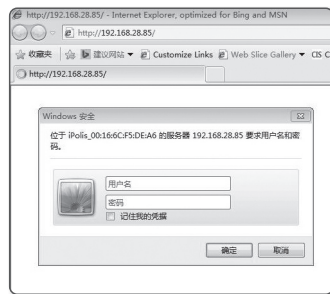
使用 URL

1. 启动Web浏览器。
2. 在地址栏中键入摄像机的 DDNS URL。
例) URL 地址 : http://ddns.hanwha-security.com/ID
- 将会出现登录对话框。

■ 在只有Local网的环境下, 无法访问摄像机。

通过 UPnP 连接

1. 运行支持 UPnP 协议的客户端或操作系统。
2. 单击搜索到的摄像机名称。
若是Windows操作系统, 单击在网络菜单上被搜索到的摄像机名称。
- 登录窗口即显示出来。



通过 Bonjour 连接

1. 运行支持 Bonjour 协议的客户端或操作系统。
2. 单击搜索到的摄像机名称。
若是Mac操作系统, 在Safari的Bonjour选项卡上, 单击被搜索到的摄像机名称。
- 登录窗口即显示出来。

检查 DDNS 地址

如果摄像机直接连接到 DHCP 有线电视网调制解调器、DSL 调制解调器或 PPPoE 调制解调器, 每当您尝试连接到 ISP (互联网服务提供商) 服务器时, 您的网络 IP 地址都会更改。

在这种情况下, 将不会通知您 IP 地址已被 DDNS 更改。

一旦您向 DDNS 服务器注册了基于动态 IP 的设备, 当尝试访问该设备时, 就可以轻松检查更改的 IP。

要向 <DDNS> 服务器注册您的设备, 请访问 <http://ddns.hanwha-security.com> 并先注册您的设备, 然后将 Web Viewer 的 <网络> - <DDNS> 设置为 <Wisenet DDNS>, 在<产品ID>上输入已在DDNS服务器上所注册的产品ID。

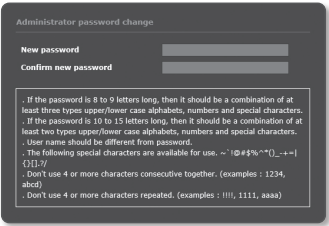
web 查看器

密码设置

首次访问产品时,必须先注册登录密码。



- 对于 8 到 9 位的新密码,必须至少使用下列 3 种类型:大写字母/小写字母、数字和特殊字符。对于 10 到 15 位的密码,必须至少使用上述两种类型。
 - 允许使用的特殊字符为:~!@#\$%^&*()_+=~[]{}?/
- 为了获得较高的安全性,建议您不要重复使用相同的字符作为密码,也不要使用连续的键盘输入作为密码。
- 如果您丢失了密码,可按住[RESET]按钮初始化该产品。因此请使用记事簿写下或记住您的密码以防丢失。



登录

每当访问摄像机时,登录窗口都会出现。

输入用户 ID 和密码以访问摄像机。

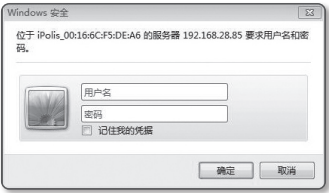
- 在 <用户名> 输入框中输入“**admin**”。
管理员 ID,即“**admin**”是固定的,无法更改。
- 在 <密码> 输入字段中输入密码。
- 单击 [确定]。
如果已成功登录,您将会看到 Live Viewer 屏幕。



- 因视频数据没加密,访问摄像机网络查看器时应格外注意。



- 如果您在完成输入之后选中“**记住我的密码**”选项,则从下次起将自动登录,而不会提示输入登录信息。
- 如果屏幕大小是 100%,则您可以体验最佳视频质量。降低该比率可能会切掉边框上的图像。



设置摄像机WEB查看器

- 单击[设置 (⚙️)]图标。
- 出现设置窗口。
- 可通过网络配置摄像机基本信息、视频、音频、网络、事件、分析和系统设置。
- 单击<帮助 (🔗)>查看各项功能的详细描述

故障排除

故障	解决方法
在 Safari 上通过 HTTPS 访问无插件 web 浏览器时,将不会播放任何视频。	- 在初次访问 https 时出现的验证演出窗口中,点击"查看验证证书"然后选择"连接至指定 web 查看器 IP 时始终信任"复选框。 - 如在下列消息窗口中选择“下一步”之后,web 查看器依然无法播放视频,请按命令键 + Q 退出 Safari 浏览器,再次访问并执行上述步骤。
无法使用Web浏览器访问摄像机。	- 检查摄像机的网络设置 是否正确。 - 检查网络线缆是否正确 连接。 - 若使用 DHCP 连接、检查摄像机是否能够 无故障地获得动态 IP 地址。 - 若摄像机与IP路由器连接、确认是否 正确设置了端口转发。
查看器在监视期间断开。	- 已连接的查看器在摄像机或网络配置发生更改时会断开。 - 检查所有的网络连接。 - 若摄像机通过 PPPoE 网络进行连接, 查看器在网络状况不佳的情况下可能会断开。
初次访问 web 查看器或将流连接至客户端时,不会显示任何视频。	可使用的配置文件的最大数量是 3。如果您使用 4 个或更多配置文件, 可能使连接中断。 示例) 如先访问 MJPEG、H264 和 H265, 然后再访问其他配置文件, 将使连接中断。
在“Device Manager”中找不到连接到网络的摄像机。	关闭 PC 上的防火墙设置、再次搜索摄像机。
图像重叠。	检查是否将多个摄像机应当设置的不同地址设为了同一多播地址。多个摄像机共享同一地址可能会导致图像的重叠。
无图像出现。	如果传输方法设置为多播, 请检查摄像机所连接的 LAN 中是否有路由器支持多播。

故障	解决方法
即使在<事件>页面下<移动探测>项设置为<开>时生成了移动探测事件,也无法将文件传送至电子邮件。	- 按以下顺序验证设置： A. 检查 <日期和时间> 设置。 B. <移动探测> 应设置为 <启用>。 C. 检查 <事件设置> 菜单的 <电子邮件> 选项是否选择为使用。
无法录制到 Micro SD 内存卡。	检查内存卡是否有缺陷。
插入了 Micro SD 内存卡,但摄像机操作不正常。	- 检查是否以正确的方向插入内存卡。 不能保证本摄像机装置能正常使用由其他设备格式化的内存卡 - 在 <设置> → <事件> → <存储器> 菜单中, 再次格式化内存卡。
无法录制到 NAS。	确认 NAS 中注册的信息正确无误。
系统报告 NAS 设置失败。	- 确认 NAS 的 IP 地址有效。 - 确认 NAS 的 ID/密码有效。 - 确认您可以访问使用 NAS 的 ID 指定为基本文件夹的文件夹。 - 确认 NAS 的 SMB/CIFS 项已被取消选中。 - 确认 NAS IP 地址和摄像机 IP 地址的格式正确。 Ex) NAS 和摄像机子网掩码的初始值是 255.255.255.0。 如果 IP 地址是 192.168.20.32, NAS IP 地址的范围应该是 192.168.20.1~192.168.20.255。 - 检查在未对已存或使用过的默认文件夹进行格式化前, 是否以其他用户进行连接。 - 确认使用了建议的 NAS 设备。

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Component Name	License	URL
Base Kernel	GPL 2.0	
Busybox	GPL 2.0	http://www.busybox.net/downloads/snapshots
iproute2-4.3.0	GPL 2.0	
iptables-1.4.21	GPL 2.0	http://ftp.netfilter.org/pub/iptables
ethtool-4.2	GPL 2.0	
mtdd-1.5.2	GPL 2.0	ftp://ftp.infradead.org/pub/mtdd-utils
mi-diag-2.11	GPL 2.0	
rp-pppoe-3.11	GPL 2.0	http://www.roaringpenguin.com/pppoe/
wpa_supplicant-2.5	GPL 2.0	
bash-4.3.30	GPL 3.0	
zerocoinf	GPL 2.0	

LGPL SW

Component Name	License	URL
glibc	LGPL 2.0	
inetutils	LGPL 3.0	
neon-0.29.6	LGPL 2.0	http://www.webdav.org/neon/

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- Version 1.1

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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

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 2. The Header File; provided that the Header File shall be distributed together with the Binary Code of the Ported Source Code.
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 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.
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5. The provision set forth in Article 3 shall apply to the Ported Source Code registered in accordance with this Article.

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bzip2/libbzip2 version 1.0.5 of 10 December 2007

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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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