

说明书

QF29 is a wireless PIR motion sensor transmitter designed to operate with the QP50 wireless receiver. The QF29 operates in the frequency band of 433.92 MHz using OOK modulation. The device detects human movement through a passive infrared sensor and transmits a coded wireless alert signal to the paired receiver.

The QF29 does not contain Bluetooth, Wi-Fi, FM radio, audio playback, or other wireless communication functions. It only provides PIR motion detection and one-way wireless signal transmission.

QF29 是一款与 QP50 无线接收器配套使用的无线人体红外感应发射器。QF29 工作于 **433.92 MHz** 频段，采用 OOK 调制方式。产品通过被动红外传感器检测人体移动，并向已配对的接收器发送经过编码的无线报警信号。

QF29 不带蓝牙、Wi-Fi、FM 收音、音频播放或其他无线通信功能，仅具备人体红外感应和单向无线信号发射功能。

主要技术参数

Item / 项目	Specification / 规格
Product Name / 产品名称	Wireless Motion Sensor Transmitter 无线人体红外感应发射器
Model / 型号	QF29
Modulation Mode / 调制方式	OOK
Antenna Type / 天线类型	Monopole antenna / 单极天线
Antenna Gain / 天线增益	Approximately 3 dBi / 约 3 dBi
Wireless Communication / 无线通信	One-way transmission / 单向发射
Bluetooth Function / 蓝牙功能	Not supported / 不支持
FM Function / FM 功能	Not supported / 不支持
Operating Frequency / 工作频率	433.92 MHz
Power Supply / 电源	3 × AA Alkaline Batteries (4.5 VDC) or External DC Adapter (8–12 VDC) 3 个 AA 碱性电池(4.5 VDC)或者使用 8-12V 的适配器

工作原理

After the QF29 is powered on, the internal power supply circuit provides the required operating voltage to the PIR sensor, control circuit, coding circuit, and RF transmitter circuit. The PIR sensor continuously monitors changes in infrared radiation within its detection area. When a person moves across the detection area, the infrared energy received by the PIR sensing element changes. The PIR sensor converts this change into an electrical signal and sends it to the control circuit.

The control circuit analyzes the PIR sensor signal. When the signal meets the preset motion-detection conditions, the control circuit generates an alert command and processes the

corresponding identification code.

The encoded alert data is then sent to the RF transmitting circuit. The RF carrier is modulated using OOK modulation, and the wireless signal is transmitted through the monopole antenna. The paired QP50 receiver receives and decodes the wireless signal. When the received identification code matches the stored pairing information, the QP50 receiver activates the corresponding audible and/or visual alert.

After transmission is completed, the QF29 returns to its monitoring or low-power standby state and waits for the next motion-detection event.

The QF29 operates as a one-way wireless transmitter. It does not receive commands or feedback signals from the QP50 receiver.

QF29 通电后，内部电源电路分别为人体红外传感器、控制电路、编码电路和无线射频发射电路提供所需的工作电压。

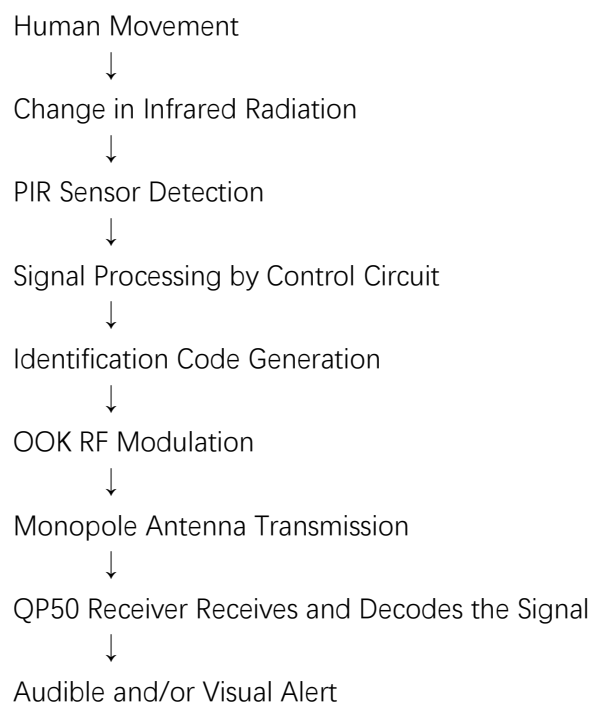
人体红外传感器持续监测其感应区域内的红外辐射变化。当人体在感应区域内移动时，红外感应元件接收到的红外能量会发生变化。人体红外传感器将这种变化转换成电信号，并把信号传送至控制电路。

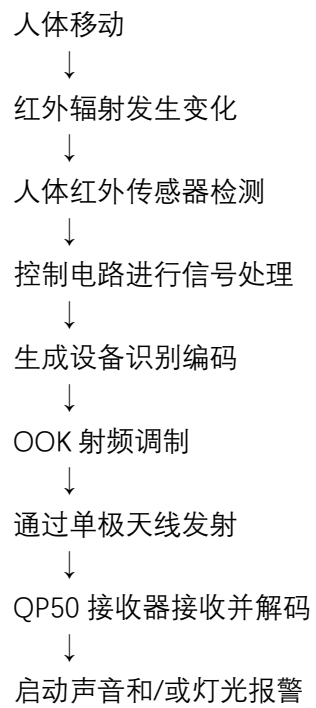
控制电路对人体红外传感器输出的信号进行分析。当信号达到预设的人体移动触发条件时，控制电路产生报警指令，并处理对应的设备识别编码。

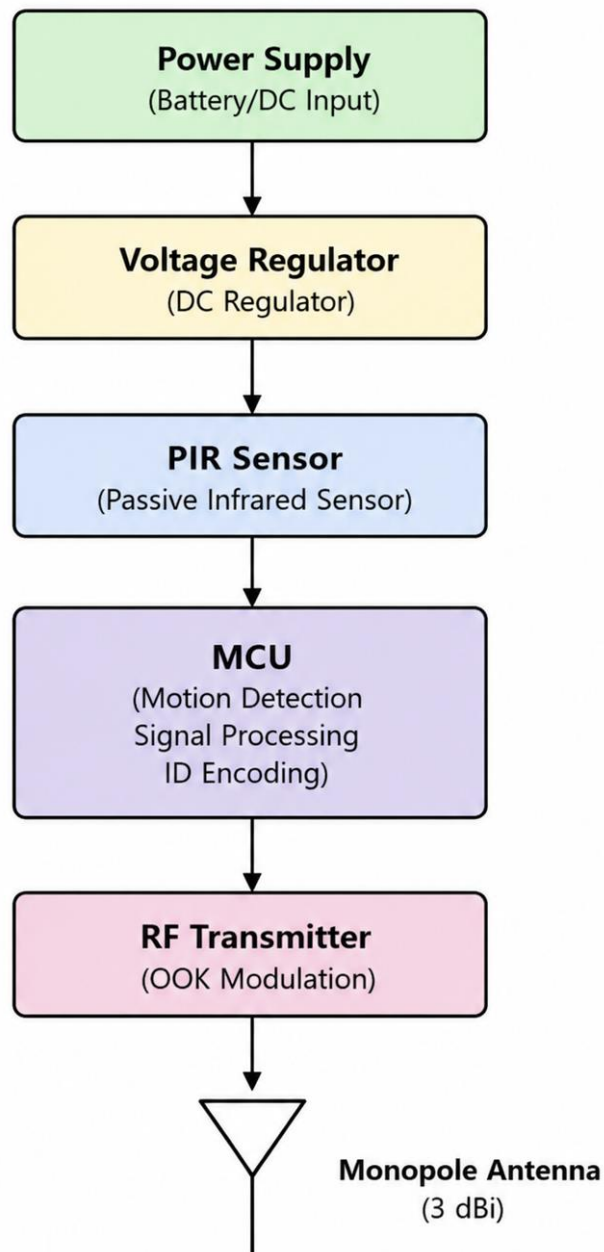
经过编码的报警数据随后被传送至射频发射电路。射频载波采用 OOK 方式进行调制，并通过单极天线将无线信号发射出去。

已与 QF29 配对的 QP30 接收器接收到无线信号后，对信号进行解码。当接收到的设备识别编码与接收器中保存的配对信息一致时，QP30 接收器启动相应的声音和/或灯光报警提示。无线信号发送完成后，QF29 返回监测状态或低功耗待机状态，等待下一次人体移动触发。QF29 属于单向无线发射设备，不接收 QP30 接收器发送的控制指令或反馈信号。

信号流程







FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

IC Warning

This device contains licence-exempt transmitter (s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient un émetteur(re) ou un récepteur(re) exempt de licence, conforme aux RSS exemptes de licence de l'Innovation, Science et Développement économique du Canada. Son fonctionnement est soumis aux deux conditions suivantes :

- (1) Cet appareil ne doit pas provoquer d'interférences.
- (2) Cet appareil doit accepter toute interférence, y compris celles pouvant entraîner un fonctionnement indésirable de l'appareil.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

L'appareil a été évalué pour répondre aux exigences générales en matière d'exposition aux RF. L'appareil peut être utilisé en condition d'exposition portable sans restriction.