# Reolink IP Camera Driver

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Integrates Reolink IP cameras, doorbells, and NVRs with Control4 for live video, motion/AI detection events, PTZ control, and snapshot notifications.

## IMPORTANT: Create a Separate User Account

**You MUST create a dedicated user account in your camera/doorbell/NVR for Control4.**

If you use the same account that's logged into the Reolink app:

- ONVIF authentication will fail intermittently
- Settings may not persist when app reconnects
- Event subscriptions may be dropped

**Solution:** In the Reolink app or web interface, go to Settings > User Management and create a new admin user specifically for Control4 (e.g., "control4" or "c4user").

### Quick Configuration (Start to Finish)

1. **Add Driver:** In Composer Pro, search for "Reolink" and add the driver to your project
2. **Place in Room:** Drag the driver into the appropriate room
3. **Set Connection Info:** Select the driver, go to Connections > Camera Test tab, enter IP Address, Username, and Password
4. **Test Connection:** Go to Actions tab and run "Test Connection" to verify credentials
5. **Configure Video:** Run "Detect RTSP Path" action to auto-configure the video stream
6. **Enable Detection:** Run "Discover Detection Capabilities" to enable motion and AI events
7. **For NVR:** Set Camera Type to "NVR" and Channel Number to your camera channel (1-32)
8. **Refresh Project:** File > Refresh Navigators to see camera on touchscreens

## Configuration

### Camera Test Tab

| Setting | Description | Default |
|---|---|---|
| IP Address | Camera or NVR IP address | *Required* |
| HTTP Port | Web interface port | 80 |
| RTSP Port | Video streaming port | 554 |
| Username | Camera login | admin |
| Password | Camera password | *Required* |
| Auth Type | Authentication method | Basic |

### Properties

| Property | Description | Default |
|---|---|---|
| Camera Type | Standalone camera or NVR channel | Standalone |
| Channel Number | NVR channel (0-32) | 0 |
| Enable Event Monitoring | Enable/disable motion and AI detection | On |
| Motion Poll Interval | HTTP polling frequency in seconds (1-60) | 5 |
| Event Delivery Method | Auto, ONVIF Push, or HTTP Polling | Auto |
| Active Event Method | Current event method in use (read-only) | *Auto-detected* |
| ONVIF Port | Port for ONVIF event subscription | 8000 |
| Stream Type | Main Stream (HD) or Sub Stream (SD) | Sub Stream |
| Audio | Include audio in stream | On |
| RTSP Format | Auto, h264Preview, Preview, or Manual | Auto |
| RTSP Path | Manual override for RTSP URL path | *Auto-detected* |
| Log Level | Logging verbosity (0-5) | 2 - Warning |
| Log Mode | Output destination (auto-expires after 3 hours) | Off |

## NVR Support

For Reolink NVRs with multiple cameras:

1. Set Camera Type to "NVR"

2. Set Channel Number to the camera channel (1-32)
3. Add one driver instance per camera channel you want to monitor

**Event Delivery:** The driver automatically tries ONVIF Push first. If no events are received within 60 seconds (common with older NVR firmware), it falls back to HTTP Polling. You can also manually select a method in the Event Delivery Method property.

## Doorbell Support

> **WiFi Doorbells are NOT supported.** WiFi doorbells (battery-powered or WiFi-only models) use Reolink's P2P cloud service and do not expose a local API. Only POE (wired) doorbells can be integrated with Control4.

### POE Doorbell Configuration

There are two ways to configure a POE doorbell:

| Method | Visitor Detection | Recommendation |
|---|---|---|
| **Direct IP (Standalone)**<br>Connect to doorbell's own IP address | HTTP Polling + ONVIF<br>(full support) | **Recommended** |
| **Via NVR Channel**<br>Connect to NVR IP, specify doorbell channel | ONVIF only<br>(no HTTP fallback for visitor) | Use if direct IP unavailable |

### Recommended Setup (Direct IP)

1. Find your doorbell's IP address (check router DHCP leases or Reolink app)
2. Set **Camera Type** to "Standalone"
3. Set **Channel Number** to 0
4. Enter the doorbell's direct IP in Camera Test tab
5. Run "Discover Detection Capabilities" to enable visitor detection

### Alternative Setup (Via NVR)

1. Set **Camera Type** to "NVR"
2. Set **Channel Number** to the doorbell's NVR channel (1-32)
3. Enter the NVR's IP address in Camera Test tab

4. **Important:** Visitor detection requires ONVIF. If ONVIF fails, doorbell button presses will not be detected.

#### Why Direct IP is Better

- HTTP polling works for visitor detection (more reliable)
- If ONVIF fails, driver can still detect doorbell button presses
- The NVR API does not expose visitor state for channels

## Detection Capabilities

When you run "Discover Detection Capabilities", the driver queries the camera to determine what detection types are supported:

- **Motion Detection** - Available on all cameras
- **Person Detection** - Requires AI-capable camera
- **Vehicle Detection** - Requires AI-capable camera
- **Animal Detection** - Requires AI-capable camera

Sensor bindings are automatically created only for detection types your camera supports. If the camera does not have AI capabilities, only Motion Detection will be available.

## Spotlight Control

Cameras with a spotlight (WhiteLed) can be controlled as a light in the Control4 app. The driver automatically detects if your camera has spotlight capability when it connects.

- **Supported cameras:** Reolink Duo, TrackMix, and other models with built-in spotlight
- **Control type:** Simple on/off switch (no dimming)
- **UI integration:** Appears as "Camera Spotlight" light in Control4 app

When the camera comes online, the driver checks for WhiteLed support. If available, the spotlight appears as a controllable light in the Control4 interface alongside your camera.

## Event Delivery Methods

| Method | Description | Best For |
|---|---|---|
| ONVIF Push | Camera POSTs events directly to Control4 (lowest latency) | Standalone cameras, newer NVRs |
| HTTP Polling | Driver polls camera every N seconds | Older NVRs, legacy cameras |

| | | |
|---|---|---|
| Auto | Tries ONVIF Push first, auto-falls back to HTTP if no events received | Default (recommended) |

**Firmware Compatibility:** Some older NVR firmware (v2.x) accepts ONVIF subscriptions but never sends notifications. The driver automatically detects this and falls back to HTTP Polling after 60 seconds. Newer firmware (v3.x+) typically works with ONVIF Push.

**Note:** When a driver is deleted or disabled, all TCP listeners are properly cleaned up to prevent resource leaks.

## Actions

### Configuration

| Action | Description |
|---|---|
| Test Connection | Verify camera is reachable with current credentials |
| Detect RTSP Path | Auto-detect and configure correct RTSP stream path |
| Refresh Device Info | Update camera model, firmware, serial number properties |
| Import Camera Name | Set driver name in Composer from camera's configured name |

### Detection Management

| Action | Description |
|---|---|
| Discover Detection Capabilities | Query camera and create sensor bindings for supported AI types |
| Clear Detection Bindings | Remove all dynamic sensor bindings |
| Check Motion Polling Status | Show current polling state, method, and interval |

### Device Control

| Action | Description |
|---|---|
| Get Device Info | Display camera model and firmware in Lua output |
| Reboot Camera | Restart the camera (takes 30-60 seconds to come back online) |

### Diagnostics

| Action | Description |
|---|---|

| | |
|---|---|
| Diagnose AI Detection | Test AI detection API and show supported detection types |
| Diagnose ONVIF | Test ONVIF connectivity and event subscription capabilities |

## Events

Available in Composer Programming:

| Event | Description |
|---|---|
| Motion Detected / Cleared | Motion sensor triggered or cleared |
| Person Detected / Cleared | AI detected person presence |
| Vehicle Detected / Cleared | AI detected vehicle presence |
| Animal Detected / Cleared | AI detected animal presence |
| Visitor Detected / Cleared | Doorbell button pressed (doorbells only) |
| Camera Online | Camera became reachable |
| Camera Offline | Camera unreachable after 3 consecutive failures |

## Variables

| Variable | Type | Description |
|---|---|---|
| Motion Detected | Boolean | Current motion state |
| Person Detected | Boolean | Current person detection state |
| Vehicle Detected | Boolean | Current vehicle detection state |
| Animal Detected | Boolean | Current animal detection state |
| Visitor Detected | Boolean | Doorbell button pressed (doorbells only) |
| Camera Online | Boolean | Camera reachability (1=online, 0=offline) |
| Camera Status | String | Online, Offline, or Connecting |
| Last Motion Time | String | Timestamp of last motion event |
| Last Event Type | String | Motion, Person, Vehicle, or Animal |
| Last Preset | Number | Last PTZ preset called |

## Troubleshooting

### No Video

Run "Detect RTSP Path" action. If auto-detect fails, try manual RTSP Format: `h264Preview` or `Preview`

### Driver Status "Offline"

Check IP address and credentials. Run "Test Connection" and check Lua output for errors.

### Detection Events Not Firing

1. Verify "Enable Event Monitoring" is set to "On"
2. Run "Discover Detection Capabilities" action
3. Enable motion/AI detection in Reolink app
4. Check "Active Event Method" shows ONVIF or HTTP Polling (not Disabled)

### Snapshots Not Working

Verify credentials are correct. Snapshot URL requires valid username/password.

### Camera Not Responding

Use "Reboot Camera" action to restart the camera. Wait 30-60 seconds for it to come back online.

### Doorbell Button Not Detected

1. **WiFi doorbell?** WiFi doorbells are not supported - only POE doorbells work
2. **Via NVR?** Visitor detection requires ONVIF when using NVR channel. Check that "Active Event Method" shows "ONVIF Push"
3. **ONVIF failing?** Try connecting directly to doorbell IP instead of through NVR (see Doorbell Support section)
4. Enable Log Level 4 (Debug) and press doorbell - check Lua output for "Visitor" or "Doorbell" messages

## Support

Configure motion zones, AI sensitivity, and PTZ presets using the Reolink mobile app or web interface.

## Version History

### Version 20260728

- Corrected pan, tilt, zoom and preset routing on recorders and hubs so commands reach the selected camera
- Improved handling of diagnostic information

### Version 20260628

- Improved authorization handling

### Version 20260416

- Initial release

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**Diagnostics and telemetry.** This driver periodically reports basic diagnostic information to McGlothlin Inc to monitor product reliability and assist with support: a unique controller identifier, the driver name and version, the controller operating system version, driver memory usage, uptime, and error counts, together with diagnostic error details. No video, images, audio, recorded media, or camera credentials are transmitted.