Milesight Troubleshooting

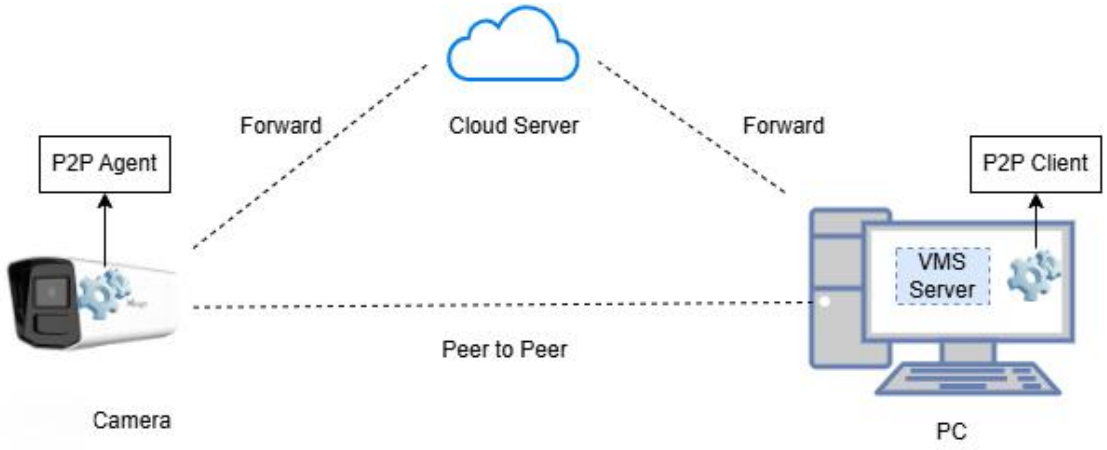
How to Connect the Solar-powered Camera to VMS using Milesight P2P Tunnel

Applicable Model: SP111/SP112

Release Date: 13th May, 2026

1. Introduction: Understanding Milesight P2P Tunnel

The Milesight P2P Tunnel solution allows you to connect your Solar-powered (SP111/SP112) cameras to your Video Management Software (VMS) through a secure, peer-to-peer (P2P) connection, even if the camera is on a private network or behind a firewall.



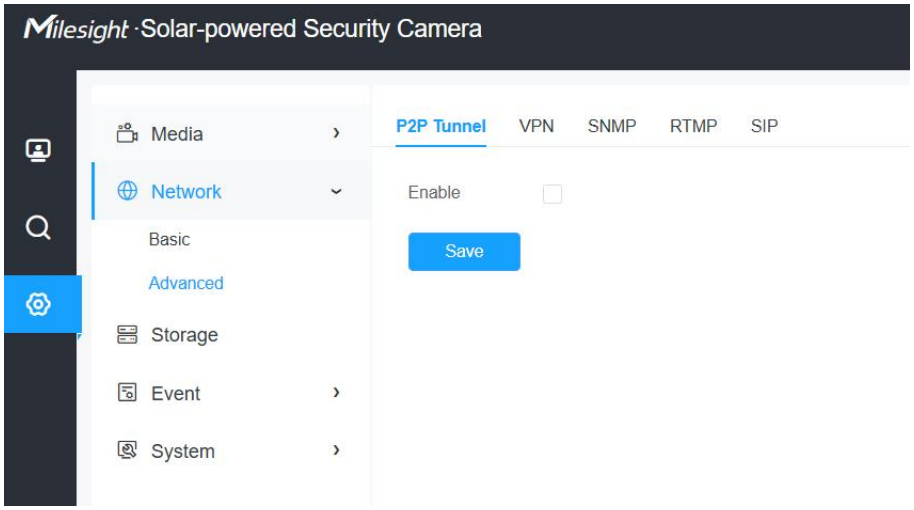
Note:

Data transmission is prioritized through peer-to-peer communication. If this link fails, data will be forwarded via the cloud server. (Depending on network conditions)

Component	Location	Role
P2P Tunnel Agent	Camera	A client pre-installed on the camera by default.
P2P Tunnel Client	VMS Server/PC	A client that needs to be manually installed on the same server or PC as the VMS.
UID & Key	Both	Unique identifier (UID) and optional security passphrase (Key) for device pairing.

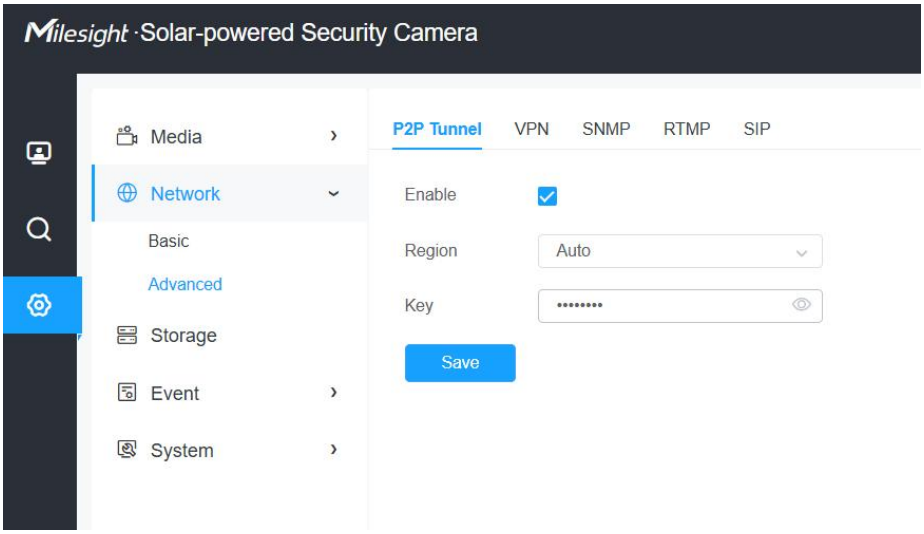
2. SP111 Camera Configuration

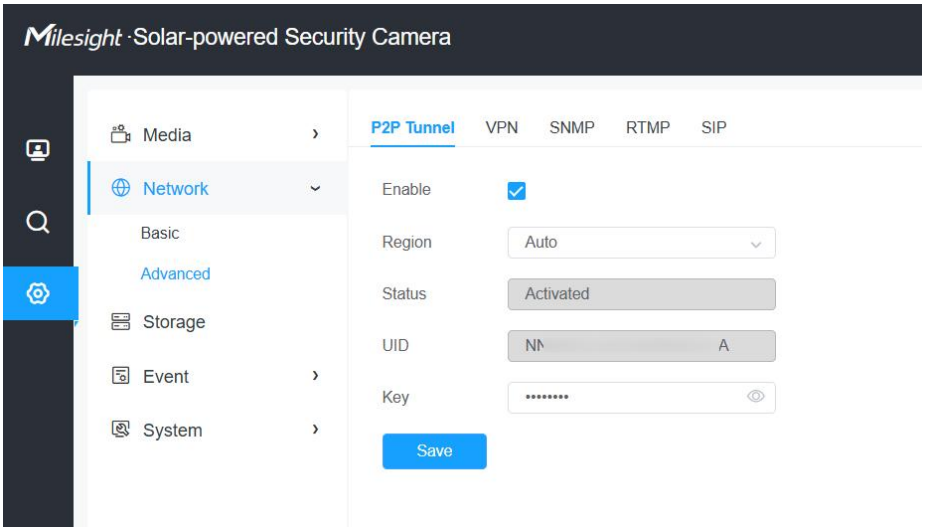
2.1. Enabling the P2P Tunnel Feature
The feature is disabled by default.
-Navigate to the SP111 web interface.
-Locate the P2P Tunnel settings.
-Set the Enable to ON.



The camera will automatically contact the cloud server (using its MAC address) to check the license status and perform activation if necessary.
A unique UID will be automatically generated.

2.2. Setting the Security Key (Optional)
Purpose: The Key acts as a security passphrase. It must be entered when adding the device on the P2P Tunnel Client for verification.





Note:

If you leave the Key field blank on the camera, you must also leave the Key field blank on the client software.

2.3. Automatic Retry Mechanism (Troubleshooting)

If the camera fails to connect or activate the P2P service after enabling it (due to timeouts, network errors, or unactivated status), it will automatically attempt to retry the connection up to 9 times in stages:

Stage	Attempts	Frequency	Interval
Initial Retries	3 times	Fast	30 seconds apart
Intermediate Retries	3 times	Slower	1 minute apart (after a 5-minute wait)
Final Retries	3 times	Slowest	5 minutes apart (after a 1-hour wait)

If all 9 attempts fail: Automatic retries stop. To restart the process, you must manually disable the P2P Tunnel feature and then re-enable it.

3. Milesight P2P Tunnel Client Setup (on VMS Server)

The P2P Tunnel Client software must be installed on the server where your VMS is running.

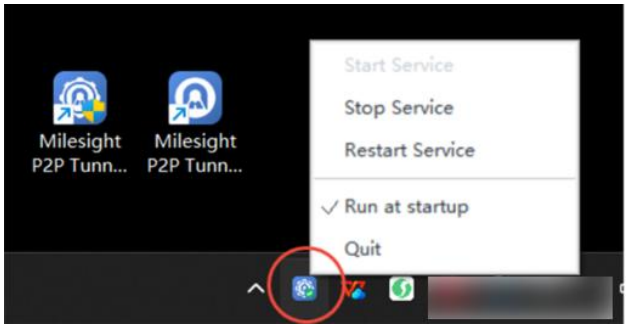
Supported Operating Systems

OS	Supported Versions
Windows	Windows 10, Windows 10 Enterprise, Windows 11, Windows Server 2016 (v1607), Windows Server 2019, Windows Server 2022
Linux	Ubuntu LTS 18.04, 20.04, 22.04, 24.04 (64-bit / amd64 only)

3.1. Installation and Access

Windows

After installation, use the Milesight P2P Tunnel Service shortcut to ensure the service is running. Access the management interface via the Milesight P2P Tunnel Web Client shortcut.



Linux

Install the client using the following command:

dpkg -i p2pTunnel_amd64_V1.0.1.deb

Once installed, the service starts automatically on boot. Use the following commands to manage the service:

Action	Command
Check service status	systemctl status p2pTunnel.service
Start service	systemctl start p2pTunnel.service
Stop service	systemctl stop p2pTunnel.service
Restart service	systemctl restart p2pTunnel.service
Uninstall	dpkg -P p2ptunnel

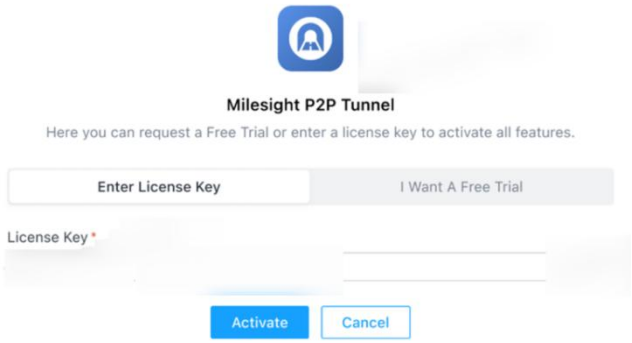
Access Address: The default access is http://127.0.0.1:18080/.

Security Note:

The web interface is accessible from the local machine only. The interface and operations are identical on both Windows and Linux.

3.2. License Management

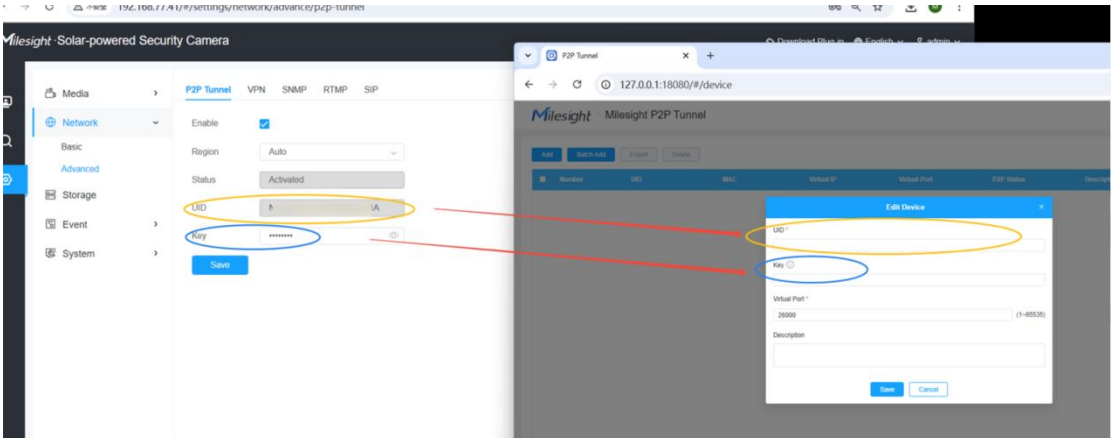
The client supports a 30-day Free Trial or Purchased Licenses (provided by the After-Sales team).



Trial Expiry: If the trial expires or the license is invalid, the P2P Tunnel functionality (like video forwarding) will stop. Re-enter the valid license in the System menu to restore service.

3.3. Adding the Device

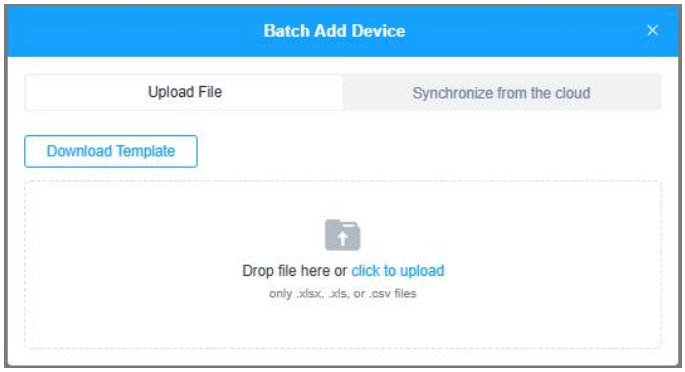
You can add devices one-by-one or in bulk:

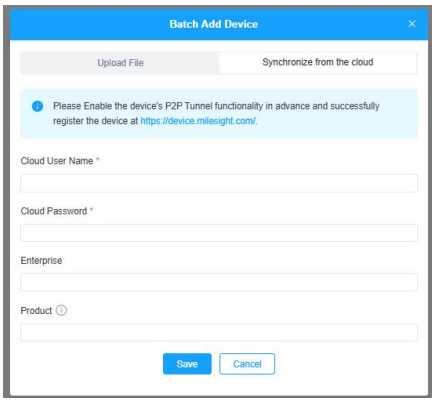


Method	Description
Single Add	Click Add and enter the device details.
Batch Add (File)	Select Batch Add Device → Upload File.
Batch Add (Sync)	Select Batch Add Device → Synchronize from CCTV Management Platform. (Requires Cloud Platform v11.15)

Device Input

①Enter the camera's unique UID.
②Enter the Key (if you set one on the camera).
③The client will assign a unique Virtual Port Number to this device.





4. Connecting the Camera to Your VMS

Once the device is added successfully to the Milesight P2P Tunnel Client, the camera is now accessible locally via the generated Virtual Port.

4.1. VMS Connection Format
When adding the camera to your VMS, use the following details:
IP Address: 127.0.0.1 (The local host IP address)
Port Number: [The Unique Virtual Port Number assigned by the Client]
Example: If the client assigns Virtual Port 55001, you add the camera to the VMS as 127.0.0.1:55001.
ONVIF: This local virtual port acts as the ONVIF port. The VMS will use the ONVIF protocol via this virtual port to automatically discover other stream ports (like the RTSP port).

4.2. Final Result

By connecting to 127.0.0.1:[Virtual Port], the camera can be managed and viewed in your VMS just like a standard, locally-wired camera.