

CBS-AAV-VGD Visual Gun (VMS), 1ch, 1yr

AI Alarm Verification



AI Alarm Verification by Bosch is a cloud-based Video Content Analysis alarm verifier for intelligent Bosch cameras. It uses specialized AI models in the cloud to verify alarms triggered by cameras, in order to improve detection accuracy and to reduce unwanted alarms.

This variant of the Bosch Visual Gun Verification service verifies alarms that are triggered by Bosch IVA Pro Visual Gun Detection through the Milestone XProtect® video management software.

This service complements the camera-based Bosch IVA Pro Visual Gun Detection. Refer to the IVA Pro Visual Gun Detection datasheet, available for download in the Bosch online catalog.

Integration with Milestone XProtect®

AI Alarm Verification seamlessly integrates with Milestone XProtect® using version 2023 R3 or higher. The integration is done through two main components:

- **Management Client Plugin:** This plugin enables basic configuration within Milestone XProtect®. Once a Bosch camera is enabled for the service, the plugin automatically adjusts settings to activate AI Alarm Verification and to optimize performance, including stream settings.
- **AI Gateway:** This Windows service runs in the background, connects to Milestone XProtect®, and manages alarms triggered by selected cameras. The service subscribes to gun detection alarms and sends representative images or videos to the Bosch-managed cloud, which is hosted on AWS or Azure, for verification using a powerful Bosch-developed AI module. To select the hosting provider and hosting location, contact your local

- ▶ Seamlessly integrates into Milestone XProtect® for operation and configuration of the AI Alarm Verification features
- ▶ After configuration, provides the operator with clear verification feedback within the existing Milestone user interface
- ▶ Assign and flexibly allocate and reallocate licenses to Bosch cameras in the system
- ▶ Integrated fallback option for robustness in case of connectivity issues

sales representative.

Based on the AI analysis, the alarm is either verified and displayed to the operator, or rejected and potentially removed from the operator's view.

Functions

After the installation and the setup of the Management Client Plugin and registration in the Remote Portal, the service provides feedback to the operator in Milestone XProtect® that is based on the verification results of the high-performance cloud service. The results can be as follows:

- Verified: the alarm triggered by the camera was correct
- Rejected: the alarm triggered by the camera was not correct
- Unverified: the alarm from the camera could not be verified

With the Management Client Plugin, the user can configure how verified, rejected, or unverified alarms are displayed in the alarm list. You can further apply different levels of sensitivity to the service, such as verifying alarms only when obtaining high-confidence results.

The threshold settings allow you to choose between different sensitivity thresholds in the Management Client Plugin. You should evaluate and thoroughly test the setting based on the application scenario. Bosch recommends using the standard setting. The standard setting was tested with a generalized data set, and generated a lower ratio of false alarms. The implementation is designed to generate a timeout whenever the cloud service cannot be reached. In such an event, all alarms are shown to

the operator as a fallback. The service will additionally generate messages in the log files to inform the operator of the exception to take measures, such as restoring network connectivity.

Frequency and volume of requests

- **Scalable request limits:** The service is designed to manage significant load increases efficiently. Refer to the Service Level Agreement, available for download in the Bosch online catalog
- **Absolute request limits:** The Service Level Agreement outlines the specific limits per camera to ensure service performance and reliability

Operational requirements and system availability

- **Fallback alarm:** The system triggers a fallback alarm in the event an error, such as a web service being unavailable, the processing time being too long, the request limits being exceeded, or if another error occurs. The AI Gateway includes a fixed timeout after 13 seconds. This timeout starts to count the time after the successful provisioning of the video from the Milestone Recording Server to the AI Gateway service
- **Log integration:** AI Gateway logs are integrated into the Milestone XProtect® logs. Bosch recommends performing a regular log review
- **Adjustable filter strength:** You can adjust the cloud-based AI detector's filter strength to customize detection sensitivity

Regulatory information

i Notice Disclaimer

This software is not designed, intended, or authorized for use in any type of system or application in which the failure of the software could lead to a risk to health and safety. The user is responsible to verify that the software and its specified functionalities are suitable for the intended application, in particular with respect to accuracy, safety and security.

Parts included

Quantity	Component
1	Set-up of a cloud-based Visual Gun Verification service for IVA Pro Visual Gun Detection in Milestone XProtect®

Technical specifications

Operational requirements and system availability

To illustrate the performance and reliability of the AI Alarm Verification service, Bosch conducted thorough tests on a specific system configuration. This example system configuration has the following characteristics:

- Standalone Milestone XProtect® video management software with the AI Gateway service installed on the same machine

- Milestone XProtect® versions 2023 R3 and 2024 R1
 - Bosch DINION 5100i IR camera, with 5MP resolution, using firmware version 9.10, and with an activated Visual Gun Detection license
- The result of the testing conducted by Bosch is as follows:

- Alarm verification roundtrip time was approximately 7-8 seconds when idle with the recommended internet connection

This example system configuration is meant as a reference. While other system configurations are possible, they have not been tested. Therefore, it is essential to perform rigorous testing of specific configurations in order to ensure optimal performance and reliability.

System requirements and setup

To use Visual Gun Verification, Bosch cameras must be equipped with the IVA Pro Visual Gun Detection license. Gun detection must also be activated on these cameras.

i Notice

IVA Pro Visual Gun Detection requires a specific site-dependent setup to function properly. AI Alarm Verification requires the alarm source or the camera with IVA Pro Visual Gun Detection to be correctly installed and configured first.

Milestone XProtect® video management software

- Requires Milestone XProtect®, version 2023 R3 or higher
- To ensure reliable verifications, Milestone machines must not be overloaded in terms of CPU, disk space, RAM, or network connection
- The AI Gateway must run either on the same machine as Milestone XProtect®, or on a different machine with a stable network connection to the Milestone XProtect® video management software

Device requirements

- Compatible Bosch cameras with activated IVA Pro Visual Gun Detection. The camera must be correctly configured, and must comply with the application requirements or restrictions
- Cameras must continuously record in the Milestone XProtect® system and must be locally connected
- For lossless video and for metadata transmission, the device requires a fast and reliable connection between cameras and the VMS

Network requirements

- Bosch recommends a minimum upload bandwidth of 10 Mbit/s. This recommendation can be different depending on camera type, settings, and alarm scenarios. A lower bandwidth can cause

longer processing times for verification results. A lower bandwidth can also cause more timeouts, leading to an increased number of fallback alarms

Licensing and management

A system integrator setting up the service requires a Remote Portal account and must assign a license to the AI Gateway.

The registration process for the gateway follows a defined process in the Remote Portal. The Bosch AI Alarm Verification Management Client Plugin for Milestone XProtect® assists with configuration and setup.

Licenses for AI Alarm Verification services are managed and activated in the Remote Portal.

Required AI Gateway software versions

- The AI Gateway must have the latest software version for optimal performance and compatibility
- Bosch requires regular updates approximately every three months. There may be exceptional hotfixes that require an update in a shorter timeframe. Once an updated software version becomes available, older software versions can be deactivated after three months. Using outdated software can prevent the AI Gateway from communicating with the cloud, disrupting the AI Alarm Verification service
- Bosch recommends using the latest camera firmware and the latest Milestone XProtect® video management software version

Ordering information

CBS-AAV-VGD Visual Gun (VMS), 1ch, 1yr

Cloud-based Visual Gun Verification service for IVA Pro Visual Gun Detection Alarms in Milestone XProtect®

Order number **CBS-AAV-VGD**

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