

CV-X420F

2-Megapixel Camera Vision-System Controller

KEYENCE CV-X420F is a CV-X vision-system controller supporting two-megapixel cameras. It processes acquired images and communicates inspection results to the production-control system.

PRODUCT SNAPSHOT

BRAND
KEYENCE

FAMILY
KEYENCE CV-X machine vision system

PART
CV-X420F

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PRODUCT OVERVIEW

KEYENCE CV-X420F is a CV-X vision-system controller supporting two-megapixel cameras. It processes acquired images and communicates inspection results to the production-control system.

1

Processes images from supported two-megapixel industrial cameras

2

Executes configured inspection and measurement tools

3

Coordinates triggers, lighting, result outputs, and image storage

4

Provides the operator and network interfaces for an inline vision station

SYSTEM COMPONENTS

supported KEYENCE camera

camera cable and lens

inspection lighting and controller

trigger sensor and machine I/O

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
GT2-H32	High-accuracy digital contact sensor head	Open product page

TECHNICAL DATA

PARAMETER	VALUE
Controller type	Vision-system controller
Supported camera class	2 megapixel

PARAMETER	VALUE
Series	CV-X

SYSTEM CONNECTION AND ACCEPTANCE RECORD

RECORD ITEM	DOCUMENTED ASSIGNMENT
Installed host / carrier	supported KEYENCE camera
Companion hardware	camera cable and lens
Field connection	inspection lighting and controller
Primary system function	Processes images from supported two-megapixel industrial cameras
Controlled acceptance duty	Presence and assembly verification

TECHNICAL NOTE

Back up the CV-X420F program, preserve camera-port and I/O assignments, and validate trigger timing, image focus, inspection thresholds, and result-handshake behavior before production release.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Presence and assembly verification

Processes images from supported two-megapixel industrial cameras

Dimensional vision measurement

Executes configured inspection and measurement tools

Code and character inspection

Coordinates triggers, lighting, result outputs, and image storage

Automated defect detection

Provides the operator and network interfaces for an inline vision station

PRODUCT PRECAUTIONS

- 1 Verify CV-X420F and the saved inspection program before replacement.
- 2 Isolate controller and lighting power before cable changes.
- 3 Label every camera, trigger, illumination, network, and result-I/O connection.
- 4 Protect camera connectors and observe ESD controls.
- 5 Restore the exact camera model, lens, lighting, and calibration files.
- 6 Confirm trigger polarity and acquisition timing with the conveyor stopped.
- 7 Run known-good and known-bad samples through every inspection branch.
- 8 Archive the final program and verify PLC result-handshake sequencing.

ENGINEER FAQ

Q1 Which installed hardware must be matched before fitting CV-X420F?

Match the complete CV-X420F marking to supported KEYENCE camera and camera cable and lens, then confirm the assigned KEYENCE CV-X machine vision system position and approved system configuration.

Q3 What isolation is required before installing CV-X420F?

Place presence and assembly verification in the approved maintenance state, isolate every applicable power, signal, and stored-energy source, and prove the work area safe.

Q5 How can an engineer function-test CV-X420F after installation?

Apply a controlled input, reference, or limited output appropriate to 2-megapixel camera vision-system controller, observe the system indication and diagnostics, and confirm the intended process response.

Q7 Can CV-X420F be replaced by a visually similar model without review?

No. Verify the complete part number, electrical execution, connector arrangement, companion hardware, and approved software or rack configuration.

Q2 How should the field connections for CV-X420F be recorded before replacement?

Record terminal or connector identity, polarity, shield, cable tag, channel assignment, and the as-found diagnostic state before disconnecting CV-X420F.

Q4 Which configuration check is essential when commissioning CV-X420F?

Restore only the approved model-specific channel, range, address, scale, or interface settings and compare them with the physical installation before enabling the process function.

Q6 What should be checked if CV-X420F reports an unstable or incorrect value?

Check seating, supply, grounding, shielding, matched components, mechanical installation, and the signal path before changing configuration or replacing additional hardware.

Q8 What commissioning evidence should be retained for CV-X420F?

Retain the full CV-X420F identity, as-left wiring and settings, measured functional-test results, final diagnostics, and authorization to return the affected equipment to service.