Siemens 6AV2124-1GC01-0AX0

TECHNICAL REFERENCE / exact-model engineering dossier

Siemens 6AV2124-1GC01-0AX0 is the SIMATIC HMI KP700 Comfort key-operated panel for machine visualization and operator input. Its seven-inch TFT, programmable function keys and industrial interfaces support a WinCC Comfort project on the installed control network.

01 Product position

Complete identity	6AV2124-1GC01-0AX0
Engineering role	SIMATIC HMI KP700 Comfort Key Panel
Supported family	SIMATIC HMI Comfort Panels
Supplied boundary	Offer the complete KP700 key panel; confirm the visible hardware revision and included mounting accessories in the quotation.

Decision snapshot

Operator continuity

Preserve the installed key assignments and project navigation during replacement.

Network transition

Plan addressing and controller communication before transferring the HMI project.

Acceptance record

Archive the project and verify alarms, recipes and all used keys after startup.

How the installed system uses this item

The KP700 Comfort is a key-operated HMI, so the machine project must map its 24 illuminated function keys and system keypad to the installed operating sequence. Its 800 x 480 TFT provides the visual layer; a touchscreen project is not a like-for-like replacement because this panel has no touch input.

The panel is engineered with a 24 V DC supply and combines a two-port industrial Ethernet switch with a separate combined RS 422/485 interface. The installed project determines whether PROFINET, MPI or PROFIBUS DP is used. PROFINET IRT support begins with WinCC V12, while the base panel is configurable with WinCC Comfort V11 and later supported engineering versions.

The front face is rated IP65 when mounted and sealed as specified; the rear is IP20 and remains inside a suitable enclosure. Plan the 282 x 178 mm panel opening, cable access and permitted mounting angle together. For replacement, capture the operating project, recipes, alarm data and communication settings before removing the existing unit.

02 Interfaces and application paths

Machine operator station

Display process values and alarms while the assigned physical keys issue documented commands.

PROFINET visualization

Connect the panel through its industrial Ethernet interface to an approved controller project.

Existing MPI / PROFIBUS installation

Retain the configured serial fieldbus path when replacing an installed key panel.

Recipe and alarm operation

Use project-configured recipes, archives and message acknowledgement in the machine workflow.

Installation boundaries

Project backup	Export the existing HMI project, recipes, archives and communication settings before removal.
Panel opening	Verify the mounting cutout, seal and enclosure support before fitting the KP700.
Supply check	Measure the 24 V DC feed at the panel under load before commissioning.
Key mapping	Test every used function key, LED and system key against the approved project.
Network settings	Confirm address, device name, protocol and two-port switch connections against the control design.
Environmental boundary	Protect the IP20 rear and operate within the temperature limit for the actual mounting angle.

Diagnostic starting points

Blank front	Measure the 24 V supply at the panel under load; then inspect status and backlight behavior.
Visible screen, no commands	Trace the key event, assigned project tag and controller permissive in that order.
Ethernet offline	Confirm device name, IP address, switch-port links and project network assignment.
Fieldbus offline	Check the RS 422/485 port mode, bus connector, termination and configured station address.

03 Verified manufacturer data

The values apply to the exact KP700 Comfort article number; project functions depend on the loaded WinCC configuration.

Product type	KP700 Comfort key-operated HMI
Display technology	7 in widescreen TFT; 16.7 million colors
Resolution	800 x 480 pixels
Operator keys	24 function keys with LEDs; numeric and alphanumeric keypad
Touch input	No touchscreen
Configuration memory	12 MB user/project memory
Processor / operating system	x86 / Windows CE 6.0
Rated supply	24 V DC; permissible 19.2 to 28.8 V DC
Rated current / typical input power	0.5 A / 12 W
Industrial Ethernet	One interface with integrated two-port switch
Serial fieldbus interface	Combined RS 422 / RS 485 for MPI / PROFIBUS DP
USB interfaces	Two USB 2.0 ports and one USB Mini-B
Removable storage	Two SD card slots
PROFINET IRT	Supported from WinCC V12
Project engineering	WinCC Comfort, Advanced or Professional from V11
Front / rear protection	IP65 / IP20
Vertical operating ambient	0 to +50 °C under published mounting conditions
Max-tilt operating ambient	0 to +40 °C
Mounting cutout	282 x 178 mm
Archives	Up to 50; up to 20,000 entries per archive

Device variables	Up to 2,048; up to 400 per screen
Backup/restore	Manual and automatic methods supported

04 Integration logic

Operator interaction	A project authored for touch actions needs intentional physical-key navigation and validation.
Key and lamp proof	Verify each used key event and LED state against the operating sequence, not just the front-panel appearance.
Project retention	Back up the runtime project, recipes and archives before removing the installed unit.
Network segmentation	The two-port Ethernet switch is part of the panel connection; trace both cables in the machine drawing.
Fieldbus migration	If the legacy project uses MPI or PROFIBUS, preserve its configured serial path when planning a network change.
IRT applicability	Treat IRT as conditional on the supported WinCC engineering version and the actual project.
Cabinet protection	The IP65 front rating does not extend the IP20 rear rating to an open installation.
Tilt and heat	Review the selected installation angle because the allowable operating ambient changes with tilt.
Acceptance evidence	Record project version, interface settings, alarms, recipes and key tests after commissioning.

Further diagnostic paths

Missing alarms	Review configured alarm classes, acknowledgement permissions and archived data restoration.
Recipe mismatch	Compare imported recipe records and engineering units with the approved project backup.
Storage failure	Check the specific SD card slot and project archive path, then follow manufacturer handling guidance.
Intermittent restart	Review terminal voltage during machine startup and the cabinet temperature at the actual mounting angle.
Poor front seal	Inspect the gasket and panel cutout before relying on the front IP rating.
As-left record	Keep project image, communication settings, all key tests and alarm/recipe results.

05 Engineer questions

How should the existing HMI project be transferred to 6AV2124-1GC01-0AX0?	Back up the installed project and its device-specific data before removal. Check the WinCC engineering version and panel image, transfer the approved project by a supported interface, then test screens, key assignments and controller communication.
Why might 6AV2124-1GC01-0AX0 show screens but ignore a machine command?	A visible screen does not prove the function-key mapping or controller tag path. Verify the relevant key event in the WinCC project, the assigned PLC tag and the controller state under the site test procedure.

What should be checked if PROFINET communication on 6AV2124-1GC01-0AX0 fails after replacement?	Confirm device name and IP settings, inspect both switch ports and link indicators, and compare the loaded project with the controller network configuration. Check the supported WinCC version if the project uses IRT.
Can a touch-operated HMI project be loaded unchanged onto 6AV2124-1GC01-0AX0?	No like-for-like touch behavior is available because this is a key panel. Rework touch actions into suitable physical-key navigation and validate each operating action before release.
How should recipes and alarm history be preserved when replacing 6AV2124-1GC01-0AX0?	Use the available backup and archive paths to export the relevant project data before power-down. Restore to the replacement panel and compare recipe records, alarm acknowledgement and archive access with the maintenance baseline.
Why can the front of 6AV2124-1GC01-0AX0 be protected while the rear still needs an enclosure?	The IP65 rating applies to the installed front face; the rear is IP20. Check the gasket, cutout and cabinet protection instead of treating the complete panel as a sealed field enclosure.
What checks help isolate a blank display on 6AV2124-1GC01-0AX0?	Verify the supply at the terminals under load, inspect the panel status and backlight setting, and compare with the last known project state. Do not infer a failed display solely from a dark backlight.
Which acceptance tests complete a 6AV2124-1GC01-0AX0 replacement?	Record the full marking and project version, then test displayed values, every assigned key and LED, alarms, recipes and communication recovery. Retain the restored project and as-left configuration with the machine record.

Evidence and applicability

Siemens SIMATIC HMI KP700 Comfort data sheet, 6AV2124-1GC01-0AX0, 28 January 2026. The values apply to the exact KP700 Comfort article number; project functions depend on the loaded WinCC configuration.

Additional installation context: Siemens Comfort Panels Operating Instructions, A5E36770603-AE, July 2022.

Related product references

Catalog navigation only; these items are not identified as substitutes.

Siemens 6AV2124-0GC01-0AX0	Other product reference; confirm the complete installed model.
Siemens 6AV6647-0AH11-3AX0	Other product reference; confirm the complete installed model.
Siemens 6AV6648-0EC11-3AX0	Other product reference; confirm the complete installed model.

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