Siemens 6AV6642-0BA01-1AX0

01 Color Touch Operator Panel / system role

Product function and operating context

Siemens 6AV6642-0BA01-1AX0 supports operator actions that must remain coordinated with controller permissions, recipe destinations and alarm states.

The TP177B PN/DP combines serial fieldbus connectivity with an Ethernet interface. The project determines which connection is active; an Ethernet cable alone does not migrate a configured MPI or PROFIBUS application.

Integration checkpoints

- Machine visualization
- Recipe-controlled changeovers
- Local alarm acknowledgement
- Legacy HMI maintenance

Operator role	Touch visualization and process entry
Project services	Alarms and recipe management
Recovery path	Compatible project, runtime image and communication settings

Runtime screens, alarms and recipes belong to the downloaded HMI project. Keep a recoverable engineering project and a compatible runtime image together. A panel that boots successfully can still display stale or incorrectly mapped process information.

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02 Technical operating envelope

Display technology	5.7-inch STN, 256 colors
Pixel resolution	320 x 240
Touch technology	Analog resistive
User-data memory	2048 kbyte
Ethernet interfaces	1; 10/100 Mbit/s
Serial interfaces	RS422 and RS485

USB interfaces	1
Memory-card slot	Multimedia Card; up to 128 MB
Engineering software	WinCC flexible Compact 2005 or later
Enclosure protection	IP65 front; IP20 rear
Clock backup	No battery backup

Use the exact hardware execution with the supported system configuration and installation conditions.

How can a touch-calibration problem on 6AV6642-0BA01-1AX0 be tested safely?

Use a controlled test screen or inhibited process state to compare the touched position with the selected object. Do not test by repeatedly pressing a live start command. Inspect calibration and surface condition before changing application coordinates.

Why should recipe restoration on 6AV6642-0BA01-1AX0 be checked against the PLC?

A recipe file can contain values that are valid in the HMI yet inappropriate for the current controller program. Compare units, limits and destination tags, then prove a controlled transfer with equipment in a safe state.

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03 System integration and applications

Machine visualization

Display tags from the configured controller connection.

Recipe-controlled changeovers

Transfer validated setpoint groups through the project recipe design.

Local alarm acknowledgement

Acknowledge configured messages while preserving controller interlocks.

Legacy HMI maintenance

Restore the appropriate WinCC flexible project and original network settings.

System and supply context

6AV6642-0BA01-1AX0 belongs to the SIMATIC HMI installation described by the technical reference. Connected equipment and accessories must be included explicitly in the configured assembly.

Application boundary

The following uses describe supported engineering roles; they do not establish interchangeability with another model or remove application-specific validation.

What must accompany a backup intended to restore 6AV6642-0BA01-1AX0?

Retain the engineering project, compatible runtime version, connection settings and required recipe data. A copied screen image is not an editable project. Verify the recovery method before removing the installed panel from service.

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04 Engineering selection decisions

Why can 6AV6642-0BA01-1AX0 show valid screens while all process values are stale?

The screen project can run without a healthy PLC connection. Check the selected driver, controller address and communication diagnostics before editing tags. Verify changing test values at the PLC and at the panel rather than judging by the appearance of the screen.

Can 6AV6642-0BA01-1AX0 be moved from PROFIBUS to Ethernet by changing the cable only?

No. The HMI connection and controller endpoint must be configured for the chosen protocol. Preserve the original project until the new connection is validated, including tag addressing, update behavior and alarm acknowledgements.

What distinguishes a dark backlight from a failed 6AV6642-0BA01-1AX0 project?

Check supply and startup behavior, then assess whether the panel still communicates or responds through the supported service path. Display illumination failure and project corruption require different remedies; do not overwrite a recoverable project merely because the screen is dark.

How should 6AV6642-0BA01-1AX0 alarm acknowledgement be verified after replacement?

Generate a permitted test alarm, confirm its text and state, acknowledge it at the panel and observe the controller acknowledgement path. A disappearing HMI message alone does not prove that the machine-side alarm state was reset.

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05 Configuration boundary and references

Lifecycle and support

Spare-part / replacement-part execution. The current repair and support terms require confirmation for the installed hardware revision.

Replacement assessment

Compare the complete 6AV6642-0BA01-1AX0 identity, installed connections and configuration before selecting a replacement. The resistive touch surface and enclosure seal form separate acceptance checks. Verify touch targeting with controlled commands, then inspect the installed front seal. Rear connections remain within the cabinet protection boundary.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

Siemens product data sheet, 6AV6642-0BA01-1AX0.

Related product navigation

- Siemens 6AV6643-0CD01-1AX1
- Siemens 6AV2124-0MC01-0AX0
- Siemens 6AV3617-1JC20-0AX1

Related products for separate application assessment; verify the platform and interface. No interchangeability is implied.

Product enquiries