Siemens 6ES7416-2XK02-0AB0

01 Capture the running project

1. **Capture the running project**
2. Rebuild network identity
3. Restore memory and program
4. Validate consistent process data
5. Return normal program ownership

Work sequence

Archive the project and record firmware, memory-card type, retained-data requirements and diagnostics. Identify the CPU operating mode and approved output state before stopping the process.

Acceptance condition

The saved project and retention plan can reconstruct the required application state.

Code working memory	0.8 Mbyte
Data working memory	0.8 Mbyte

Memory budgeting: Assess code, data and load memory separately; memory-card expansion does not expand the working-memory partitions.

Record the observed condition, test method and result for this stage. Resolve any difference before moving to rebuild network identity.

Siemens 6ES7416-2XK02-0AB0

02 Rebuild network identity

1. Capture the running project
2. **Rebuild network identity**
3. Restore memory and program
4. Validate consistent process data
5. Return normal program ownership

Work sequence

Record both interface roles, addresses, rates and connected partners. Compare the intended slave counts and I/O allocation with the resources of the selected interface, including clock-synchronous restrictions.

Acceptance condition

Each physical network agrees with its configured CPU interface.

Load-memory expansion	Up to 64 Mbyte RAM or FLASH card
Bit-operation time	0.08 µs minimum

Data consistency: Keep the chosen process-image or system-function access method coherent throughout each multi-byte data path.

Record the observed condition, test method and result for this stage. Resolve any difference before moving to restore memory and program.

Siemens 6ES7416-2XK02-0AB0

03 Restore memory and program

1. Capture the running project
2. Rebuild network identity
3. **Restore memory and program**
4. Validate consistent process data
5. Return normal program ownership

Work sequence

Install the intended memory and restore the approved project under the site procedure. Check working-memory use separately from load-memory capacity and review startup behavior before releasing outputs.

Acceptance condition

The project fits the CPU and the required startup data is present.

S7 timers / counters	512 / 512
Memory markers	16 Kbyte

Interface allocation: Apply separate MPI/DP and DP resource limits and verify the assigned master/slave role before download.

Record the observed condition, test method and result for this stage. Resolve any difference before moving to validate consistent process data.

Siemens 6ES7416-2XK02-0AB0

04 Validate consistent process data

1. Capture the running project
2. Rebuild network identity
3. Restore memory and program
4. **Validate consistent process data**
5. Return normal program ownership

Work sequence

Exercise representative multi-byte input and output paths and confirm process-image assignments. Review diagnostics and partner status while comparing real values with the PLC interpretation.

Acceptance condition

Communication and application values are coherent under the tested operating conditions.

Interfaces	MPI/DP and PROFIBUS DP
Maximum bus rate	12 Mbit/s

Memory budgeting: Assess code, data and load memory separately; memory-card expansion does not expand the working-memory partitions.

Record the observed condition, test method and result for this stage. Resolve any difference before moving to return normal program ownership.

Siemens 6ES7416-2XK02-0AB0

05 Return normal program ownership

1. Capture the running project
2. Rebuild network identity
3. Restore memory and program
4. Validate consistent process data
5. **Return normal program ownership**

Work sequence

Remove all temporary forces and modifications, validate interlocks and record the final RUN state and diagnostic condition. Confirm the expected restart and retention behavior through the approved acceptance plan.

Acceptance condition

Normal program control, network health and retained data have been accepted together.

Data blocks	Up to 4095; up to 64 Kbyte each
Function blocks / functions	Up to 2048 FB / 2048 FC

Siemens 6ES7531-7KF00-0AB0

Siemens 6ES7392-1AJ00-0AA0

Siemens 6ES7331-1KF02-0AB0

Related products require separate compatibility assessment. Retain the final configuration and signed test outcome.