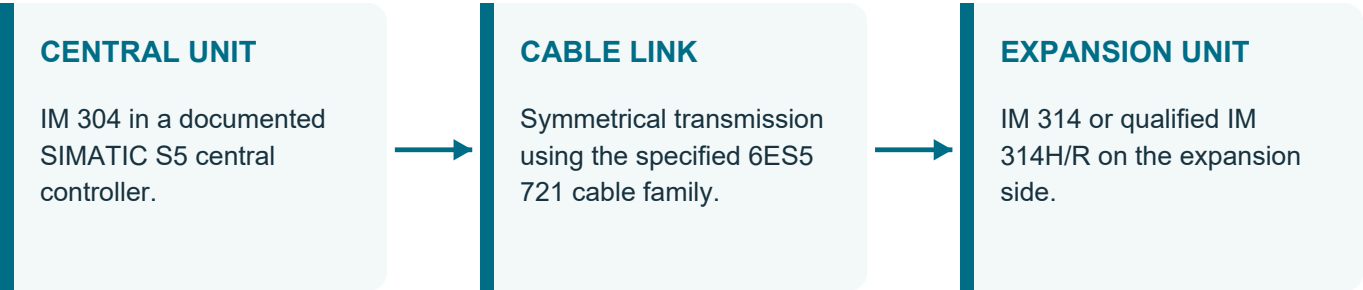


6ES5304-3UB11

SIMATIC S5 IM 304 interface module

A symmetrical interface in the central controller, linking compatible SIMATIC S5 expansion units through a matched IM 314 interface. The complete 6ES5 304-3UB11 order number is identified in the Siemens jumper-setting instructions.

System position



IDENTITY	VERIFIED TECHNICAL ROLE
Complete order number	6ES5304-3UB11
Functional identity	IM 304 central-controller symmetrical interface
Matched expansion module	IM 314 family, selected for the installed S5 architecture
Interface method	Two parallel symmetrical links; RS-485 differential cable signalling

CONFIGURATION BOUNDARY

The host, expansion rack, partner interface, cable route and X11/X21/X22 jumper settings must match the controlled Siemens configuration; a similar-looking IM is not an interchangeable substitute.

Interface and signal architecture

The IM 304 carries central-to-expansion traffic over a symmetrical cable path. Its two front links are X3 and X4; each can serve a documented expansion branch.

INTERFACE	DOCUMENTED PURPOSE
Backplane side	S5 bus connection via the IM 304 backplane connectors.
X3 / X4 front links	Two 50-pin front connectors for symmetrical cable interfaces.
Address and data	16-bit address and 16-bit data are multiplexed over 16 shared lines.
Control / monitoring	Separate control and monitoring signals; optocouplers isolate these signals.
Physical signalling	Differential cable interface following RS-485 signalling.
Expansion pair	IM 314 / IM 314H/R receives the corresponding expansion-side link.

Connection topology

ONE EXPANSION BRANCH

IM 304 X3 or X4 to a compatible expansion interface. The final expansion unit of each group requires the specified terminator.

FAULT-TOLERANT PATH

In approved S5 fault-tolerant architectures, IM 304 can connect redundant central controllers or extension modules according to the Siemens system design.

ENGINEERING LIMIT

Do not infer suitability from connector shape alone. Confirm the exact host and IM 314 variant before wiring or jumper changes.

Electrical and link limits

PARAMETER	MANUFACTURER VALUE
Module supply	5 V DC, tolerance $\pm 5\%$
IM 304 current	Approximately 1.2 A
IM 304 to final IM 314	Up to 600 m per interface with specified cable
IM 304 to IM 324U	Up to 100 m, only through the permitted X4 path
IM 304 to IM 324R	Up to 10 m, only through the permitted X4 path
Transmission throughput	Manufacturer range 100 kbytes/s to 2 Mbytes/s
Connected interface count	Up to four IM 314 or IM 314H/R units per IM 304 interface

Environmental conditions

OPERATION

0 to +55 °C

STORAGE

-40 to +70 °C

HUMIDITY

Up to 95% at 25 °C;
non-condensing.

INSTALLATION CHECK

The approved link length drives X11 selection. Potential difference between linked S5 devices must not exceed 7 V; provide equipotential bonding as instructed.

Configuration and diagnostics

SETTING	ENGINEERING CHECK
X11 jumper	Select the range that covers the longest X3 or X4 cable: up to 10, 100, 250, 450 or 600 m. The up-to-10-m special setting is restricted in the source manual.
X12 test link	Keep the test jumper installed; Siemens states it must always be plugged in.
X21 / X22	Enable X4 / X3 respectively only when that cable branch is connected.
X13-X15	Set the data-driver and peripheral-ready signal paths to the approved system arrangement.
Fault LEDs	The X3/X4 fault indicators can flag loss of expansion supply, missing terminator, cable break or incorrect DIP-switch selection.

RELEASE CRITERIA

Before restart, confirm complete part number, partner IM type, cable length, X11 range, X3/X4 enablement, terminations and both interface fault indicators.

MANUFACTURER SOURCE

Siemens AG, IM 304 / IM 314 Instructions, C79000-B8576-C716-02, sections 1-3. Check the complete installed revision and host-system manual before service.

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