Siemens SIMATIC Spares — 6ES7, 6AV Codes and Migration

cBallast Technical Sourcing · SIMATIC PLC and HMI systems · issued 2026-11-10 · cballast.com/documents/siemens-simatic-s7-hmi-spares-6es7-6av-migration

Keeping SIMATIC-controlled plants and vessels running through the S7-300/400 phase-out: how 6ES7, 6AV, 6EP and 6GK article numbers decode into family, size and generation, what the lifecycle stages (active, phase-out, spare-parts window) mean for a maintenance stock, like-for-like replacement rules including the firmware-revision trap, HMI replacement from classic panels to Comfort and Unified with the project-conversion reality stated honestly, memory cards and batteries, the migration paths to S7-1200/1500, and the spares-stocking logic that turns a dead module at sea into an hour of work instead of a charter party claim.

The short version

SIMATIC article numbers are a grammar: 6ES7 = S7 automation (the digits after it name the family: 2xx = S7-1200, 3xx = S7-300, 4xx = S7-400, 5xx = S7-1500, 1xx/19x = ET 200 distributed I/O), 6AV = HMI panels, 6EP = SITOP power supplies, 6GK = industrial communication (CPs, SCALANCE). The full string — e.g. 6ES7592-1AM00-0XB0 (S7-1500 front connector) — identifies one article exactly, down to revision.

The lifecycle clock is the whole story: S7-300 and S7-400 are in their phase-out era — new machines stopped being designed around them years ago, and Siemens's product-cancellation process runs on announced dates with a spare-parts availability window after each. Classic HMI panels (OP/TP/MP and first-gen Comfort) ride the same curve toward Unified panels. The practical meaning: every S7-300 plant is now running against a parts clock, and the maintenance stock, not the system integrator, decides uptime.

Like-for-like replacement is article-number work with one trap: the same 6ES7 code with a newer firmware/hardware revision usually drops in, but CPU and intelligent-module swaps can need the engineering project (STEP 7 / TIA) touched — the honest rule is in section 3.

HMI death is a project event, not just a hardware swap: a dead classic panel replaced by a current one (KTP400 Basic, MTP1000 Unified Comfort, MTP1200 Unified) needs the HMI project converted (WinCC flexible → TIA WinCC, Comfort → Unified) — plan the engineering hours with the hardware line.

Migration (S7-300/400 → S7-1500, ET 200SP) is a programme, not an emergency purchase — but the spares that bridge you to it are: our stock runs from S7-400 modules (6ES7431 class) through ET 200SP interface modules (6ES7193 class) to the accessories that actually fail first.

1. The article-number grammar

Prefix + digits | Family | Examples from stock | Lifecycle posture |

6ES721x / 6ES722x / 6ES723x | S7-1200 (CPUs, SMs, SBs) | Quoted by code | Current |

6ES751x / 6ES752x / 6ES759x | S7-1500 (CPUs, I/O, accessories) | 6ES7592-1AM00-0XB0 front connector | Current mainline |

6ES73xx | S7-300 (CPUs 312–319, SM/FM/CP modules) | Quoted by code | Phase-out era — stock the installed base |

6ES74xx | S7-400 (racks, CPUs, SMs) | 6ES7431-7KF00 analog input, 6ES7468 interface cable | Phase-out era — long-lead mindset |

6ES7193 / 6ES715x | ET 200SP / ET 200 distributed I/O | 6ES7193-6AP00 BaseUnit class, 6AP20 variant | ET 200SP current; older ET 200 families per their own clocks |

6ES797x | System accessories | 6ES7972-0DA00 (PROFIBUS-class accessory) | Accessories die first and are cheapest to stock |

6AV2123 / 6AV2124 / 6AV2128 | HMI: KTP Basic / Comfort / MTP Unified | KTP400 Basic, MTP1000 Unified | Basic/Unified current; classic OP/TP/MP legacy |

6EP | SITOP power supplies | Quoted by code | The most-replaced article in any cabinet |

6GK | CPs, SCALANCE switches | Quoted by code | Network parts age with Ethernet generations |

Suffix anatomy (the part after the dash, e.g. -0AA0 / -0XB0): design/revision coding. For reordering, quote the complete string from the module's own label — and the firmware version printed or readable in the engineering tool for CPUs and intelligent modules. A photo of the label beats any prose description; the Siemens LV code decoder covers the switchgear side of the same plant.

2. Lifecycle reality — reading the phase-out clock

Stage | What it means | Maintenance posture |

Active product | Orderable, developed, long horizon | Order as needed |

Phase-out announced / product cancellation | Last-order dates published; successors named | Census the installed base NOW; lay in lifetime stock of the cheap failure-prone articles (PSUs, batteries, connectors, one CPU per type) |

Spare-parts availability window | Repair/spares supply for a defined period after cancellation | Budget the migration inside this window, not after it |

After the window | Broker market, refurbished units, repair shops | Workable but provenance and warranty are per-piece judgements — stated per line when we quote this market |

The honest planning sentence for an S7-300/400 plant or vessel in 2026: the hardware will outlive the easy supply. The cheap insurance is a census (every 6ES7/6AV/6EP code on board, with firmware), a small lifetime stock of the top failure items, and a migration decision taken calmly. We run the census from nameplate photos as part of quoting — it costs you an hour with a camera.

3. Replacement rules — what drops in and what does not

Replacement case | Drop-in? | The catch |

Same 6ES7 code, newer revision (I/O modules, connectors, accessories) | Almost always | Check the compatibility note when the suffix moved; wiring and addressing unchanged |

CPU, same code, newer firmware | Usually | The project may need the newer firmware selected in STEP 7/TIA; memory card contents re-loaded — keep a project backup OFF the machine |

Successor module (different code named as replacement) | Physically often, logically sometimes | Address/parameter differences — engineering touch required; plan a commissioning window |

Classic HMI → current panel | No — project conversion event | WinCC flexible/Comfort project converted to TIA WinCC (Comfort) or Unified; panel cut-outs differ by model — check the cabinet door, not just the code |

Memory cards | Family-specific | S7-300 MMC, S7-1200/1500 SIMATIC Memory Card — not interchangeable; a CPU without its card is a brick, so the card is a spare article in its own right |

Batteries / buffering | Per family | S7-400-era buffering and clock batteries are consumables — date-label them at install |

SITOP PSU | By rating | Match voltage/current/redundancy module; the most common 03:00-at-sea failure and the cheapest shelf spare |

4. Migration without drama — and what to stock meanwhile

The migration shape for the installed base: S7-300 → S7-1500 (or S7-1200 for small machines), classic distributed I/O → ET 200SP, classic panels → Unified, engineering consolidated in TIA Portal. Siemens publishes migration tooling (project converters, module replacement lists), and the realistic unit of work is one machine or one system per window — a vessel does it per drydock (survey planning guide), a plant per summer stop. Until then, the bridge stock that actually prevents downtime, in observed failure order: SITOP PSUs per rating; HMI panels per cut-out (screens die young in engine-control rooms); memory cards per CPU family, pre-loaded where licensing allows; one spare CPU per type with the project backup current; the top I/O module types (analog inputs die first — they meet the field); PROFIBUS connectors/terminators (6ES7972 class) and patch hardware; and the front connectors (6ES7592 class) that turn a module swap into minutes. Panel-side relatives for the same cabinets live in our LV decoder, contactor cross-reference and fuse-system guide; process-side instruments in the SITRANS guide.

How buying works at cballast. We quote current SIMATIC articles, phase-out-era spares (channel and provenance stated per line — new, new-old-stock, or refurbished with source class), and run installed-base censuses from label photos so the quote doubles as your obsolescence register. Accounts are vetted at onboarding; first order prepaid; established accounts on credit terms with repeat discounts; public bodies and utilities invoiced against purchase order from the first order. RFQs to sales@cballast.com.

Frequently asked questions

What does a 6ES7 number mean?It is the SIMATIC S7 automation article prefix; the digits after it name the family (3xx = S7-300, 4xx = S7-400, 2xx = S7-1200, 5xx = S7-1500, 193 = ET 200SP) and the rest of the string the exact module and revision. Quote the complete string from the label — it is the whole identification.
Is the Siemens S7-300 discontinued?The S7-300/400 generation is in Siemens's phase-out process — cancellation dates announced, successors (S7-1500/1200, ET 200SP) named, and a spare-parts window running after cancellation. Modules remain obtainable (new stock, NOS, refurbished) but on a tightening clock: census your installed base, stock the failure-prone articles, and plan the migration inside the window.
Can I replace an S7-300 module with the same part number?For I/O modules and accessories, a same-code article (any revision) is normally a drop-in. For CPUs, match or re-select the firmware in the project and re-load the memory card from your backup. The real rule: keep the project backup current and off the machine — the hardware swap is the easy half.
My SIMATIC HMI panel died — can I just buy a new panel?Buy the current panel (Basic/Unified per duty), but plan the project conversion: classic WinCC flexible or Comfort projects must be migrated in TIA Portal, and Unified panels run only Unified projects. Check the cabinet cut-out against the new model too. Hardware plus engineering hours is the honest quote, and that is how we write it.
Which memory card does my S7 CPU need?Per family: S7-300 uses MMC cards, S7-1200/1500 use the SIMATIC Memory Card — not interchangeable. The card carries the program; a CPU without it is inert. Stock a spare card per CPU family alongside the project backup.
Are refurbished or new-old-stock SIMATIC modules safe to buy?They are how phase-out-era plants actually survive — with provenance stated, revision/firmware checked against your project, and a test-before-need policy. We mark every such line explicitly (new / NOS / refurbished with source class) so the register stays honest; unmarked "new" modules at too-good prices are the counterfeit risk zone.
What SIMATIC spares should a ship or plant keep on the shelf?In failure order: SITOP power supplies per rating, an HMI per cut-out, memory cards per CPU family, one CPU per type (project backed up), the most-used analog and digital I/O modules, PROFIBUS/PROFINET connectors and terminators, and front connectors. That short shelf converts most control-system failures into under an hour of work.
Who supplies Siemens SIMATIC spares?cballast.com quotes current and phase-out-era 6ES7/6AV/6EP/6GK articles with channel and provenance stated per line, plus the census service that turns nameplate photos into an obsolescence register. Write to sales@cballast.com.

References and related guides

Standards and sources referenced: Siemens SIMATIC catalogue structure and product-cancellation/lifecycle practice (S7-300/400 phase-out, successor naming, spare-parts windows), TIA Portal migration documentation, SIMATIC memory and buffering documentation per family.

Siemens LV code decoder — 3RT, 3VA, 5SL, 3SU

Siemens fuse systems — 3NA, 3NE SITOR, 3NW

Contactor cross-reference by AC-3 rating

Siemens SITRANS — MAG flowmeters & P200

IO-Link vs 4-20 mA vs HART

Drydock & special survey spares planning

Pilot light lamps cross-reference

Questions on a module you cannot identify or a migration scope: write to sales@cballast.com. We answer whether or not you buy from us.

Part numbers and designations are those of the original manufacturers and are given for identification. cBallast is an independent supplier. © cBallast 2026 · cballast.com