# Siemens TI-405-4DAC-2
# Technical Reference

## TECHNICAL IDENTITY

| | |
|---|---|
| Product function | four-channel analog output module |
| System family | SIMATIC TI 405 |
| Complete identity | TI-405-4DAC-2 |
| Technical scope | Signal, power, communication and configuration characteristics |

## VALIDATED SPECIFICATIONS

| | |
|---|---|
| Alternate identifier | 405-4DAC-2 |
| Output channels | 4 |
| Resolution | 12 bit |
| Current ranges | 0 to 20 mA; 4 to 20 mA |
| Voltage ranges | 0 to 5 V; 0 to 10 V; ±5 V; ±10 V |
| User supply | 24 V DC |
| Compatibility reference | F4-04DA compatibility mode |
| Acceptance focus | Confirm end-to-end response |

## MODEL-SPECIFIC VERIFICATION POINTS

| | |
|---|---|
| Installed execution | Match the complete TI-405-4DAC-2 marking and suffix. |
| Signal boundary | Confirm the source and destination assigned to the four-channel analog output module path. |
| Configuration baseline | Retain range, scaling, address and diagnostic behavior. |
| Acceptance result | Verify stable status plus the expected end-to-end response. |

ApterPower product support
Scan for model-specific assistance.

# Functional architecture

## SIGNAL AND SYSTEM BOUNDARY

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|---|---|
| Input boundary<br>Confirm the installed source and electrical class before connecting TI-405-4DAC-2. | Processing role<br>The module performs the four-channel analog output module function inside SIMATIC TI 405. |
| Output boundary<br>Match the receiving channel, load or communication endpoint. | Configuration boundary<br>Retain range, scaling, addressing and status handling assigned to this position. |

## PARAMETER INTERPRETATION

| | |
|---|---|
| Alternate identifier | 405-4DAC-2 — verify this value against the installed interface. |
| Output channels | 4 — verify this value against the installed interface. |
| Resolution | 12 bit — verify this value against the installed interface. |
| Current ranges | 0 to 20 mA; 4 to 20 mA — verify this value against the installed interface. |
| Voltage ranges | 0 to 5 V; 0 to 10 V; ±5 V; ±10 V — verify this value against the installed interface. |
| User supply | 24 V DC — verify this value against the installed interface. |
| Compatibility reference | F4-04DA compatibility mode — verify this value against the installed interface. |
| Acceptance focus | Confirm end-to-end response — verify this value against the installed interface. |

## DATA PATH CHECKS

| | |
|---|---|
| Source<br>Stable source condition with correct common or reference. | Conversion<br>Expected module status and configured engineering range. |
| Transfer<br>Correct backplane, network or rack ownership. | Destination<br>Expected controller value, output response or operator indication. |

# Interfaces and compatibility

## INTERFACE REQUIREMENTS

| | |
|---|---|
| Electrical class | Match the installed voltage, current or communication standard. |
| Channel ownership | Retain every configured channel and terminal assignment. |
| Reference potential | Restore commons, shields and protective grounding as designed. |
| Connector fit | Inspect keys, latches and mating contacts before insertion. |
| Software mapping | Keep the original address, tag ownership and diagnostic mapping. |
| System state | Use the approved maintenance state during replacement. |
| Compatibility | Confirm the receiving rack and surrounding module execution. |
| Response | Prove the complete path under a controlled input or command. |

## INTEGRATION CONTEXTS

| | |
|---|---|
| Installed-base maintenance<br>Restore the assigned four-channel analog output module position without changing the surrounding system design. | Loop and channel service<br>Retain terminal assignments, scaling and channel ownership during controlled replacement. |
| Fault isolation<br>Separate module, field wiring and configuration causes during troubleshooting. | Commissioning<br>Prove the complete signal path before returning the process to service. |

## DIAGNOSTIC FOCUS

| | |
|---|---|
| Status indication<br>Review ready, fault and communication indications. | Static value<br>Compare the resting value with the retained process reference. |
| Dynamic value<br>Apply an approved change and observe proportional tracking. | Alarm path<br>Confirm expected alarm, interlock and operator indications. |

# Technical verification plan

## BENCH AND FIELD CHECKS

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|---|---|
| Identity check | Read the complete TI-405-4DAC-2 marking and suffix. |
| Unpowered inspection | Check terminal condition, contamination and mechanical damage. |
| Continuity check | Confirm conductors, commons and shields against the saved connection map. |
| Power check | Verify supply level and polarity before module insertion. |
| Configuration check | Compare retained range, scaling, address and status settings. |
| Static test | Confirm a stable idle value or state. |
| Dynamic test | Drive a controlled change through the full signal path. |
| Release test | Verify diagnostics, alarms, interlocks and operator visibility. |

## ACCEPTANCE CRITERIA

| | |
|---|---|
| Mechanical<br>Module seated, keyed and latched without strain. | Electrical<br>Supply, polarity, reference and shielding verified. |
| Logical<br>Address, range, scaling and channel ownership restored. | Functional<br>End-to-end response agrees with the process reference. |

## ENGINEERING LIMITS

| | |
|---|---|
| Substitution | Do not substitute a nearby suffix without verifying every interface. |
| Field modification | Do not alter calibrated or keyed hardware. |
| Mixed systems | Confirm rack, terminal and software compatibility before energization. |
| Release authority | Return the loop or controller only after the acceptance test passes. |

# Technical selection summary

## MODEL-SPECIFIC DECISION POINTS

| | |
|---|---|
| Alternate identifier | 405-4DAC-2 must agree with the intended four-channel analog output module position. |
| Output channels | 4 must agree with the intended four-channel analog output module position. |
| Resolution | 12 bit must agree with the intended four-channel analog output module position. |
| Current ranges | 0 to 20 mA; 4 to 20 mA must agree with the intended four-channel analog output module position. |
| Voltage ranges | 0 to 5 V; 0 to 10 V; ±5 V; ±10 V must agree with the intended four-channel analog output module position. |
| User supply | 24 V DC must agree with the intended four-channel analog output module position. |
| Compatibility reference | F4-04DA compatibility mode must agree with the intended four-channel analog output module position. |
| Acceptance focus | Confirm end-to-end response must agree with the intended four-channel analog output module position. |

## RELATED SIEMENS TECHNICAL PAGES

| | |
|---|---|
| Siemens 6DL3100-8AA | https://www.apterpower.com/Siemens/Siemens-Teleperm/6dl3100-8aa |
| Siemens 500-2151 | https://www.apterpower.com/Siemens/Siemens-Texas-Instruments/500-2151 |

## SELECTION CHECKLIST

| | |
|---|---|
| Model | TI-405-4DAC-2 |
| Platform | SIMATIC TI 405 |
| Assigned role | four-channel analog output module |
| Interfaces | Match source, destination and terminal hardware |
| Configuration | Match range, scaling, address and diagnostics |
| Acceptance | Confirm static, dynamic and alarm response |