Siemens 6SL3055-0AA00-5AA3

01 SMC10 Resolver Sensor Module / system role

Product function

Siemens 6SL3055-0AA00-5AA3 converts resolver feedback into the drive system feedback path while supplying the specified excitation and supervising signal amplitude.

Selected configuration

The electronics use a 24 V DC supply with a 20.4–28.8 V operating range. Current consumption is up to 0.20 A without the encoder system and 0.35 A with it, and the stated power loss is at most 10 W.

Functional path

Motor resolver	Excitation and secondary tracks	SMC10 evaluation	Configured drive feedback

Configuration	Resolver feedback with 0.5 transformation ratio
Interface	5–16 kHz excitation for the 5AA3 execution
Operating feature	24 V DC electronics supply

For the 5AA3 execution, excitation frequency is 5–16 kHz and is synchronized to the current-controller cycle. The nominal excitation voltage is 4.1 V RMS for a resolver transformation ratio of 0.5; it is not freely parameterizable.

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02 Technical operating envelope

Electronics supply	24 V DC, 20.4–28.8 V
Current without encoder system	≤0.20 A
Current with encoder system	≤0.35 A
Power loss	≤10 W
Resolver transformation ratio	0.5
Excitation voltage	4.1 V RMS, not parameterizable

Excitation frequency for 5AA3	5–16 kHz
Secondary-track amplitude threshold	1 V RMS
Maximum encoder cable length	130 m
Protection	IP20 or IPXXB
PE connection	M4 screw, 1.8 N·m
Example maximum evaluation speed	120000 rpm for 2-pole resolver at 8 kHz / 125 µs

The 5AA3 execution supports 5–16 kHz excitation. Resolver compatibility also depends on transformation ratio, winding characteristics, pole count and evaluation timing.

Operating interpretation

Resolver ratio, windings, pole count and evaluation timing jointly determine compatibility.

Configuration boundary

Restore the 5AA3 excitation boundary, cable shielding and configured motor feedback data.

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03 System integration and applications

Resolver motor feedback

Compatible resolver signals provide position and speed feedback to the drive system.

Cabinet sensor integration

The SMC10 is installed inside the controlled electrical cabinet with the prescribed supply and earth.

Feedback conversion

Excitation and secondary-track evaluation form the resolver-to-drive signal path.

Resolver fault diagnosis

Winding, cable and amplitude checks help distinguish a field-circuit problem from a module fault.

System and supply context

Siemens 6SL3055-0AA00-5AA3 operates within the following defined system context. Confirm the 5AA3 execution and the motor resolver electrical data.

Application boundary

The 5AA3 execution supports 5–16 kHz excitation. Resolver compatibility also depends on transformation ratio, winding characteristics, pole count and evaluation timing.

Can the excitation voltage of 6SL3055-0AA00-5AA3 be freely adjusted?

The stated 4.1 V RMS excitation is not parameterizable. Resolver compatibility must be checked against the specified transformation ratio and winding characteristics.

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04 Engineering selection decisions

What excitation-frequency range distinguishes 6SL3055-0AA00-5AA3 from the older 5AA0 execution?

The 5AA3 execution supports 5–16 kHz, while the older 5AA0 range is 5–10 kHz. Match the actual module execution to the resolver application.

Which resolver transformation ratio is specified for 6SL3055-0AA00-5AA3?

The stated ratio is 0.5. Confirm the motor resolver data rather than relying only on a matching connector.

Does the 130 m cable limit of 6SL3055-0AA00-5AA3 remove the need to check the resolver windings?

No. Winding resistance and inductance also determine compatibility. Cable length is only one part of the feedback-circuit assessment.

What can cause an amplitude fault on 6SL3055-0AA00-5AA3 besides a failed module?

Incorrect resolver characteristics, damaged wiring, connector problems or inadequate signal amplitude can affect the feedback. Check the complete resolver circuit and its excitation before replacing the module.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of 6SL3055-0AA00-5AA3 is unconfirmed. Apter Power availability is assessed separately from manufacturer lifecycle status.

Replacement assessment

Restore the 5AA3 excitation boundary, cable shielding and configured motor feedback data.

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 SINAMICS S110 Manual, 6SL3097-4AC10-0BP1.

Related product navigation

- Siemens 6ES7531-7KF00-0AB0
- Siemens 7KG7000-8AA/BB

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries