

6ES7431-7QH00-0AB0

SIMATIC S7-400 SM 431 16-Channel Analog Input Module

Siemens 6ES7431-7QH00-0AB0 is an isolated SIMATIC S7-400 SM 431 analog input module with 16 universal inputs, 16-bit conversion, diagnostics and process/diagnostic interrupt support.

PRODUCT SNAPSHOT

BRAND
Siemens

FAMILY
Siemens SIMATIC S7-400

PART
6ES7431-7QH00-0AB0

DOCUMENT STATUS
Controlled engineering copy

APTER POWER

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PRODUCT OVERVIEW

6ES7431-7QH00-0AB0 acquires sixteen universal analog process signals for a configured SIMATIC S7-400 station.



Sixteen isolated analog input channels



16-bit conversion



Voltage, current, resistance, thermocouple and Pt100 support



Configurable diagnostics and interrupts

SYSTEM COMPONENTS

DOCUMENTED COMPONENT	ROLE IN SYSTEM
6ES7431-7QH00-0AB0 product assembly	Matched host system
Documented field interfaces	Approved configuration record

ENGINEERING CONTEXT

The module's electrical behavior depends on the channel parameterization and field wiring. Commissioning restores the STEP 7 hardware configuration, sensor type, measuring range, compensation and diagnostic settings before controlled signal injection.

TECHNICAL DATA

PARAMETER	VALUE
Siemens article number	6ES7431-7QH00-0AB0
Module family	SM 431 analog input
Input channels	16
Isolation	Isolated
Resolution	16 bit

PARAMETER	VALUE
Supported measurements	Voltage, current, resistance, thermocouple and Pt100
Diagnostics	Configurable diagnostic functions
Interrupts	Process and diagnostic interrupt support
Host system	SIMATIC S7-400
Channel configuration	Parameter-dependent measurement type and range

RELATED GE PRODUCT PAGES

1 Schneider Electric 140cpu43412u

2 Schneider Electric txsp574634m

3 Schneider Electric txsp57302m

4 Schneider Electric bmxp3420302

5 Schneider Electric bmxddo1602-321419

6 ABB dsqc651

7 ABB ypc111b

8 Schneider Electric 140cpu43412

9 Schneider Electric 140cpu67160

TECHNICAL NOTE

Match 6ES7431-7QH00-0AB0 to the configured S7-400 rack and STEP 7 hardware configuration. Record the slot, front connector, every channel type/range, sensor wiring, compensation, diagnostics and interrupt settings before replacement.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Process measurement

Acquires configured analog field signals.

Temperature acquisition

Supports thermocouple and Pt100 inputs.

S7-400 rack maintenance

Restores an exact SM 431 slot.

Channel commissioning

Supports controlled value injection and diagnostic testing.

PRODUCT PRECAUTIONS

1

Confirm 6ES7431-7QH00-0AB0 and SM 431 on the module label.

2

Place the S7-400 process and affected loops in the approved maintenance state.

3

Back up the STEP 7 hardware configuration and channel parameters.

4

Isolate field supplies and record slot, connector and all 16 channel assignments.

5

Use ESD controls and inspect connector keying and wiring condition.

6

Restore sensor type, range, compensation, diagnostics and interrupt settings.

7

Review module and channel diagnostics after controlled energization.

8

Inject representative signals on every affected channel and record response before release.

ENGINEER FAQ

Q1 How is the exact 6ES7431-7QH00-0AB0 execution identified?

Match the full Siemens article 6ES7431-7QH00-0AB0 and SM 431 marking.

Q2 What documented function does 6ES7431-7QH00-0AB0 perform?

It acquires sixteen isolated universal analog inputs with 16-bit conversion.

Q3 Which installed system must be matched before fitting 6ES7431-7QH00-0AB0?

Match the configured S7-400 rack, slot and STEP 7 hardware configuration.

Q4 Which interfaces must be recorded for 6ES7431-7QH00-0AB0?

Record the front connector and every channel's sensor type, range, compensation and wiring.

Q5 What handling controls apply to 6ES7431-7QH00-0AB0?

Isolate field supplies and use ESD controls before handling the module.

Q6 What must be restored after installing 6ES7431-7QH00-0AB0?

Restore slot assignment, channel parameters, diagnostics and interrupt configuration.

Q7 What evidence confirms 6ES7431-7QH00-0AB0 is ready for service?

Retain channel diagnostics and controlled voltage/current/resistance/temperature test results as applicable.

Q8 Which manufacturer record supports the 6ES7431-7QH00-0AB0 page?

Siemens SIMATIC S7-400 Module Data manual 109820852 documents the exact SM 431 article and functions.

RELATED APTER POWER PAGES

1 Schneider Electric 140cpu43412u

2 Schneider Electric txsp574634m

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6 ABB dsqc651

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SOURCE SIMATIC S7-400 Module Data | Siemens manual 109820852

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