

INDUSTRIAL AUTOMATION PRODUCT

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.

CONTROLLED ENGINEERING COPY

IDENTITY	VERIFIED VALUE
Manufacturer	Siemens
System family	Siemens SIMATIC S7-400
Part number	6ES7431-7QH00-0AB0
Document status	Controlled product and system reference

DOCUMENT SCOPE

Exact article identity, official technical data, host matching, installation checks, applications, precautions and controlled acceptance evidence.

MODEL-SPECIFIC ENGINEERING 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.

System Role and Architecture

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.

FUNCTION 1
Sixteen isolated analog input channels

FUNCTION 2
16-bit conversion

FUNCTION 3
Voltage, current, resistance, thermocouple and Pt100 support

FUNCTION 4
Configurable diagnostics and interrupts

MATCHED SYSTEM COMPONENTS

NO.	DOCUMENTED COMPONENT / ROLE
01	Siemens SIMATIC S7-400
02	Matched extension cable and ClickLoc connector loop
03	3300 XL Proximity Sensor host channel
04	AISI 4140 steel target or approved equivalent

SYSTEM INTEGRATION RECORD

INTEGRATION ITEM	DOCUMENTED ROLE
Host identity	Siemens SIMATIC S7-400
Interface role	SIMATIC S7-400 SM 431 16-Channel Analog Input Module
Field / power context	The module's electrical behavior depends on the channel parameterization and field wiring.
Commissioning evidence	Identity, gap, polarity, response and alarm diagnostics recorded

INSTALLATION AND CONNECTION CHECKS

- 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.

Technical Specifications

Technical values below are limited to the named product record and directly applicable manufacturer documentation.

PARAMETER	VALUE	PARAMETER	VALUE
Siemens article number	6ES7431-7QH00-0AB0	Supported measurements	Voltage, current, resistance, thermocouple and Pt100
Module family	SM 431 analog input	Diagnostics	Configurable diagnostic functions
Input channels	16	Interrupts	Process and diagnostic interrupt support
Isolation	Isolated	Host system	SIMATIC S7-400
Resolution	16 bit	Channel configuration	Parameter-dependent measurement type and range

RELATED GE PRODUCT PAGES

1 ABB dsqc651

2 ABB ypc111b

3 Schneider Electric 140cpu43412

4 Schneider Electric 140cpu67160

5 Schneider Electric 140cpu43412u

6 Schneider Electric txsp574634m

7 Schneider Electric txsp57302m

8 Schneider Electric bmxp3420302

9 Schneider Electric bmxddo1602-321419

ENGINEERING BOUNDARY

Confirm 6ES7431-7QH00-0AB0, S7-400 rack and slot, 16 channel assignments, sensor types, ranges, compensation, connector wiring, diagnostics, interrupt settings and controlled channel-test evidence before commissioning.

PRE-INSTALLATION CHECKS

- 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.

Applications and Engineering Context

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.

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.

MODEL-SPECIFIC ACCEPTANCE EVIDENCE

CHECK	ACCEPTANCE CONDITION
Identity	6ES7431-7QH00-0AB0 recorded
Host / carrier	Siemens SIMATIC S7-400
Physical interface	Exact identity, installed position and every connected interface matched
Configuration	Recorded hardware and software configuration restored
Functional proof	Diagnostics and controlled functional response recorded

IMPORTANT NOTICE

Confirm 6ES7431-7QH00-0AB0, S7-400 rack and slot, 16 channel assignments, sensor types, ranges, compensation, connector wiring, diagnostics, interrupt settings and controlled channel-test evidence before commissioning.

Related Products and Source Record

Brand-qualified Apter Power navigation links are provided for system planning only; manufacturer evidence remains the named source record.

RELATED PRODUCTS ON APTER POWER

1

ABB dsqc651

View ABB dsqc651 page

2

ABB ypc111b

View ABB ypc111b page

3

Schneider Electric 140cpu43412

View Schneider Electric 140cpu43412 page

4

Schneider Electric 140cpu67160

View Schneider Electric 140cpu67160 page

5

Schneider Electric 140cpu43412u

View Schneider Electric 140cpu43412u page

6

Schneider Electric tsxp574634m

View Schneider Electric tsxp574634m page

7

Schneider Electric tsxp57302m

View Schneider Electric tsxp57302m page

8

Schneider Electric bmxp3420302

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9

Schneider Electric bmxddo1602-321419

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MANUFACTURER SOURCE RECORD

SIMATIC S7-400 Module Data | Siemens manual 109820852

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RECOMMENDATION SCOPE

These links support product navigation and comparison. Technical values in this document are sourced only from the manufacturer record above.