

IOP301

IOP301 Isolated Analog Input Module

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PRODUCT SNAPSHOT

BRAND
METSO

FAMILY
Metso maxPAC Model IOP I/O

PART
IOP301

DOCUMENT STATUS
Controlled engineering copy

APTER POWER

WHATSAPP / PHONE

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PRODUCT OVERVIEW

METSO IOP301 provides isolated acquisition of sixteen current or voltage process signals for a documented Metso maxPAC Model IOP I/O installation.

Sixteen isolated analog input channels

Accepts documented current or voltage inputs

Field-to-logic optical isolation

100 ms input scanning

RELATED APTER POWER PAGES		
1 Siemens 6RA8075-6DS22-0AA0	2 Siemens 6SE7041-8GK85-0HA0	3 Siemens 6SE7041-8EK85-0HA0
4 Siemens 6SE7041-8EK85-1HA0	5 Siemens 6SL3200-0SP01-0AA0	6 Siemens 6SE7041-8HK85-1HA0
7 Siemens A5E36717811	8 Siemens A5E36717793	9 Siemens A5E00297630

SYSTEM COMPONENTS

DOCUMENTED COMPONENT	ROLE IN SYSTEM
Proximity probe	Matched extension cable
Proximator Sensor	AISI 4140 target

ENGINEERING CONTEXT

The component remains matched to its documented host position, connections and approved configuration. Commissioning restores that architecture and verifies the intended function under controlled conditions.

TECHNICAL DATA

PARAMETER	VALUE
Product type	Isolated analog input module
I/O system	Metso maxPAC Model IOP
Module type	IOP301
Referenced assembly number	69230 I301A
Channels	16 analog inputs
Supported signal forms	Current or voltage input
Conversion accuracy	15-bit plus sign bit
Scanning time	100 ms
Isolation	Field-to-logic optical isolation

PARAMETER	VALUE
Channel grouping	Optical isolation between each pair of channels
System loop supply	24 V available from the backplane for supported
Current-input arrangement	Supports external shunt configuration
Voltage-input arrangement	Channel configured for voltage input when the documented
Redundant application	Two modules may share a documented two-wire or
Related shunt kit	IOP306 supplies resistor and thermistor pairs for
Backplane interface	Model IOP I/O bus
Input processing	Multiplexed A/D conversion
Configuration retention	Record channel type, range, wiring and redundancy before

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1 Siemens 6RA8075-6DS22-0AA0

2 Siemens 6SE7041-8GK85-0HA0

3 Siemens 6SE7041-8EK85-0HA0

4 Siemens 6SE7041-8EK85-1HA0

5 Siemens 6SL3200-0SP01-0AA0

6 Siemens 6SE7041-8HK85-1HA0

7 Siemens A5E36717811

8 Siemens A5E36717793

9 Siemens A5E00297630

TECHNICAL NOTE

Install IOP301 only in the documented Metso maxPAC Model IOP I/O position and preserve its exact wiring, interfaces and configuration. After controlled energization, verify diagnostics and isolated acquisition of sixteen current or voltage process signals before service release.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Isolated process analog measurement

Acquires sixteen documented current or voltage field signals for maxDNA control.

Two-wire transmitter input

Supports the documented backplane-powered transmitter circuit and external shunt arrangement.

Four-wire transmitter input

Accepts separately powered field transmitters using the documented terminal arrangement.

Redundant analog input

Supports paired IOP301 modules sharing a transmitter when wired per the maxPAC guide.

PRODUCT PRECAUTIONS

1

Confirm IOP301 and the 69230 I301A assembly identity.

2

Place the maxDNA process and affected loops in the approved maintenance state.

3

Record all sixteen channel types, ranges, wiring and redundancy assignments.

4

Isolate backplane and field-loop power before removing the module.

5

Preserve external shunts, transmitter supplies and terminal polarity.

6

Seat the module only in the documented Model IOP bus position.

7

Restore configuration and review module, bus and channel diagnostics.

8

Apply controlled current or voltage signals and verify every assigned channel.

RELATED APTER POWER PAGES

1

Siemens 6RA8075-6DS22-0AA0

2

Siemens 6SE7041-8GK85-0HA0

3

Siemens 6SE7041-8EK85-0HA0

4

Siemens 6SE7041-8EK85-1HA0

5

Siemens 6SL3200-0SP01-0AA0

6

Siemens 6SE7041-8HK85-1HA0

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8

Siemens A5E36717793

9

Siemens A5E00297630

ENGINEER FAQ

Q1 What measurement role does METSO IOP301 perform in the Model IOP architecture?

It is a 16-channel isolated analog input module for the Metso Model IOP architecture.

Q2 Which current and voltage input arrangements are supported by METSO IOP301?

The documented module accepts current or voltage input arrangements.

Q3 How does the documented 15-bit-plus-sign conversion apply to METSO IOP301?

The referenced system material states 15-bit plus sign-bit conversion.

Q4 What does the documented 100 ms scan time mean for METSO IOP301?

The referenced IOP301 overview states a 100 ms scan time.

Q5 Where is optical isolation provided in the METSO IOP301 signal path?

The maxPAC guide shows optical isolation from field to logic and between each pair of channels.

Q6 How are supported transmitters powered from the METSO IOP301 backplane?

The documented circuits provide 24 V from the backplane for supported transmitter arrangements.

Q7 How can redundant two-wire and four-wire transmitter arrangements be built with METSO IOP301?

Yes, the guide documents redundant two-wire and four-wire arrangements.

Q8 Which channel-type, range, shunt, polarity and redundancy checks release METSO IOP301 after replacement?

Restore channel type, range, shunts, polarity and redundancy assignments, then inject controlled test signals.

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1 Siemens 6RA8075-6DS22-0AA0

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SOURCE Metso Automation maxPAC Hardware Reference Guide 278596 and user-authorized maxDNA overview | User-authorized Scribd references for exact IOP301 data
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