01 / Identity and job scope

ABB

DSAO120 57120001-EY

Analog Output Board

Product role

ABB DSAO120 57120001-EY is an eight-channel S100 analog-output board for bipolar voltage or current signals, with 12-bit resolution including sign.

Controller	>	DSAO120	>	DSTA170
Configured analog value		Eight bipolar outputs		Field connection

Applicability

The DSAO120 functions apply to DSAO120 57120001-EY with its matched S100 connection unit. DSAO120A isolation and OSP features are separate and are not assigned to this board.

Hardware and configuration

DSAO120 provides eight analog-output channels for an Advant S100 I/O system. Its nominal signal ranges are 0 to ±10 V or 0 to ±20 mA, with 12-bit resolution including sign. These bipolar outputs allow the controller to command an appropriately matched field device through either a voltage or current interface.

Planning basis

This Apter Power guide supports identification and engineering planning. Apply the complete manufacturer and machine-builder procedures for the actual installation.

02 / Configuration and interface readiness

Item	Configuration relationship
Output channels	8
Voltage range	0 to ±10 V
Current range	0 to ±20 mA
Resolution	12 bits including sign
Galvanic isolation	None
Connection unit	DSTA170
Signal selection	By field-wiring connection

Technical context

The channels are not galvanically isolated. Current or voltage operation is selected by connecting the signal wiring to the corresponding terminals on DSTA170, rather than by treating the voltage and current connections as independent channels. The complete installation includes the output board, appropriate connection cable and field connection unit.

What conversion resolution does DSAO120 57120001-EY use?

The specified resolution is 12 bits including the sign. Do not substitute the 12 bits plus sign description of DSAO120A.

Are the outputs of DSAO120 57120001-EY galvanically isolated?

No. DSAO120 has non-isolated outputs. DSAO120A is a separate design with different isolation characteristics.

03 / Installation and connection decisions

Preserve the exact variant

Retain DSAO120 57120001-EY; DSAO120A has different isolation and configuration characteristics.

Review signal connections

Check whether every field circuit uses voltage or current and record its return path.

Observe non-isolated wiring

Assess grounding and connected circuit potentials for the non-isolated DSAO120 outputs.

Control the process before work

Prevent unintended equipment movement or process changes before disconnecting outputs or adjusting a channel.

Installation context

Front-mounted potentiometers provide gain and zero-point adjustment. The analog-output boards are factory adjusted for current output; using voltage output may require readjustment to obtain the applicable accuracy. Preserve the installed channel scaling and use the ABB adjustment procedure and suitable test equipment before returning a changed channel to control service.

How is the signal type selected for DSAO120 57120001-EY?

Current or voltage is chosen through the signal connection on the matched connection unit. DSTA170 provides the appropriate field-wiring connections.

Which adjustments are accessible on DSAO120 57120001-EY?

Gain and zero-point adjustments are provided by potentiometers on the front. Adjustment should follow the applicable ABB procedure and the installed channel configuration.

04 / Functional acceptance planning

Application	Controlled review
Bipolar voltage control	Provide a 0 to ±10 V signal to a compatible field input using the appropriate connection and return.
Bipolar current control	Provide a 0 to ±20 mA signal where the installed process interface and scaling are designed for that range.
Multichannel process outputs	Maintain eight independent configured output channels within the supported S100 controller arrangement.
Analog channel calibration	Use the front gain and zero adjustments with the applicable procedure when restoring channel accuracy or changing signal use.

Is DSAO120 57120001-EY factory adjusted for voltage output?

The analog-output boards are factory adjusted for current output. Voltage operation may require readjustment to achieve the applicable accuracy.

What must be checked before changing a channel on DSAO120 57120001-EY?

Check voltage/current selection, return wiring, scaling and the effect on the controlled load. Secure the process before adjustment and verify the restored output under controlled conditions.

Release boundary

Confirm the commanded and measured signal, polarity, scaling and field response before restoring automatic operation.

Record
Keep the original configuration

>

Test
Observe controlled response

>

Release
Authorize normal operation

05 / Technical handover and support

Retained information

Keep the complete DSAO120 57120001-EY marking, host identity, connection photographs, configuration backup and controlled-test results in the service record.

Support planning

Confirm current support and replacement guidance with ABB for the installed identity and configuration. Apter Power availability and dispatch are separate quotation matters.

Reference basis

ABB S100 I/O Hardware Reference Manual, 3BSE002413R501, March 2004; Advant Controller 450 Product Guide, 3BSE015953R201 Rev. B.

Apter Power technical summary; not a manufacturer-issued manual. Apply the original instructions for the actual installation.

Related industrial automation products

Navigation only; no substitution or compatibility claim.

ABB AO610 3BHT300008R1

ABB DI620 3BHT300002R1

ABB CI610 3BHT300003R1

Discuss your installed configuration

Send the full unit marking and connection details.

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