01 / Identity and job scope

ABB

DSDP170 57160001-ADF

Pulse Counter Board

Product role

ABB DSDP170 57160001-ADF is a four-channel S100 pulse-counter board for incremental position, length, speed and frequency measurements, with counting up to 2.5 MHz.

Incremental transmitter
A/B and strobe pulses

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DSTX170
Configured field interface

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DSDP170
Counting and measurement

Applicability

DSDP170 57160001-ADF uses the four-channel S100 pulse-counter design. Input levels, filtering and measurement timing depend on its board and DSTX170 connection-unit configuration; verify the installed revision before applying circuit limits.

Hardware and configuration

DSDP170 has four measurement channels for incremental pulse transmitters. Each channel includes counters and registers for position or length and speed or frequency, together with a programmable interval generator. Counting may run up or down at up to 2.5 MHz; direction comes from quadrature signals or separate up/down pulse inputs.

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
Measurement channels	4
Transmitter type	Incremental pulse transmitter
Measurement functions	Position/length; speed/frequency
Maximum pulse frequency	2.5 MHz with applicable input configuration
Count direction	Quadrature decoding or separate up/down inputs
Pulse inputs per channel	A, B and C strobe
Connection unit	DSTX170

Technical context

Each channel uses A and B pulse inputs for direction-sensitive counting and a C strobe input for synchronization. A separate digital input can synchronize the position counter, while a digital output responds to a programmed coincidence condition. Field signals connect through DSTX170; its input-level solder jumpers must match the connected transmitter before power is applied.

How does DSDP170 57160001-ADF determine counting direction?

Direction is obtained from quadrature A/B signals or from defined separate inputs for up and down counting.

What does the C input do on DSDP170 57160001-ADF?

The C input receives strobe or revolution pulses from an incremental transmitter and supports synchronization of the position counter.

03 / Installation and connection decisions

Match the complete signal chain

Identify the transmitter, DSTX170 connection unit, cable and board revision before wiring.

Check input-level selection

Confirm DSTX170 solder jumpers match the transmitter. Incorrect input strapping can damage DSDP170 inputs.

Preserve channel functions

Record A/B direction mode, C strobe use and digital synchronization/output connections.

Retain timing configuration

Document S9 interval source, S10 sharing and S11–S14 filtering before replacement.

Installation context

Board switch groups configure the address, interrupt selection, interval source, interval sharing and input filtering. S9 selects the programmable interval timer or coincidence output as the measurement-interval source, and S10 allows channels to share an interval. The front panel provides a board-fault indicator and per-channel pulse, direction, strobe, synchronization, digital-input/output and transmitter-power indications.

Which connection unit is used with DSDP170 57160001-ADF?

Field signals connect through DSTX170. Its solder-jumper input-level selection must match the transmitter; incorrect strapping can damage the board inputs.

What interval source can DSDP170 57160001-ADF use?

Switch group S9 selects a programmable interval timer or the coincidence-comparator output as the measuring-interval source for each channel.

04 / Functional acceptance planning

Application	Controlled review
Incremental position measurement	Count direction-sensitive transmitter pulses for the installed position or length measurement channel.
Speed and frequency measurement	Use the configured interval source and counting function to measure the incoming pulse rate.
Position synchronization	Use the C strobe or digital synchronization input within the controller-defined measurement sequence.
Coincidence event control	Use the programmed count-coincidence function and its digital output in the approved external control circuit.

Can channels share a measuring interval on DSDP170 57160001-ADF?

Yes. Switch group S10 allows the documented channel interval-sharing arrangement. Coordinate the setting with S9 and the controller measurement configuration.

Which indications assist troubleshooting of DSDP170 57160001-ADF?

A board-fault LED and per-channel pulse, count direction, strobe, synchronization, transmitter-power, digital-input and digital-output indications help distinguish signal and configuration conditions.

Release boundary

Use a controlled test to confirm count direction, strobe response, interval behavior and intended output action before release.

Record
Keep the original configuration

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Test
Observe controlled response

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Release
Authorize normal operation

05 / Technical handover and support

Retained information

Keep the complete DSDP170 57160001-ADF 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 DSTA002B-3BSE018317R1

ABB BC810K01-3BSE031154R1

ABB AO820-3BSE008546R1

Discuss your installed configuration

Send the full unit marking and connection details.

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