

# 1746 Multi-Channel High-Speed Counter Module for Demanding Positioning, Packaging and Material Handling Applications

**The right choice for your high-speed counting application**



The new 1746-HSCE2 multi-channel high-speed counter expands the application capability of your SLC 500™ system. It provides the features and performance to serve high-speed positioning, packaging, and material handling applications that demand fast throughput from multiple high-speed input devices.

## **Multiple Input and Output Channels**

This new counter module provides two sets of A, B, and Z input channels allowing two quadrature, differential line driver, incremental encoders to be monitored. A and B input channels can also be configured to count single-ended pulse inputs from up to 4 input devices. In addition to monitoring an encoder marker pulse, the Z/gate input channel can also be used for storing, holding, and resetting count data.

The module also provides four on-board outputs for controlling external loads and four soft output bits whose status can be made available to the SLC backplane. These outputs are electronically protected and provide a high current rating of 1 amp at 5-30V dc.

## **Capability to serve demanding applications**

Frequency response up to 1 MHz, 700 usec typical throughput, and 24 bit count capability are just a few reasons why the HSCE2 is ready to tackle the toughest high-speed counting applications. The module can also be configured for ring or linear counting, rate calculation, output control by count range, output control by rate range, and pulse gating.

The HSCE2 is compatible with all SLC 500 CPU modules (5/01 through 5/05) and can be used with the 1747-ASB in a remote I/O chassis.

## Configuration flexibility

The module can be easily configured to allow the user to choose the counter functionality best suited for the application. A choice of three operating modes allows the user to configure the module for counting inputs signals from 1 to 4 input devices.

Any combination of the eight outputs can be assigned and controlled by any combination of up to four counters on the module. Each A, B, and Z input channel can be configured for 5, 12, or 24V dc operation via individual jumpers on the module.

## 1746-HSCE2 Specifications

Input Capability	2 sets of +/-A, +/-B, +/-Z inputs; interface capability for 2 quadrature/differential encoders or 4 pulse single-ended inputs
Input Voltage	4.2-12V dc, 10-30V dc; jumper selectable for each A, B, Z channel
Frequency Response	250 KHz @ X4, 500 KHz @ X2, 1 MHz for all other
Maximum Count	+/- 32,768 (16 bit) with 5/01, 5/02, and 1747-ASB in remote chassis +/- 8,388,607 (24 bit) with 5/03, 5/04, and 5/05 CPUs
Counting Capability	Linear counter, ring counter, rate calculation
Gate/Reset Capability	Store/hold/continue counting capability
I/O Throughput to Backplane and On-Board Outputs	300-1600 usec; 700 usec typical
Physical Output Capability	4 solid-state outputs, 5-30V dc, 1 amp maximum per point @ 60°C, 1.5 amps maximum per module @60°C, electronically protected
Soft Output Capability	4 soft outputs

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