

Process Control and Positioning I/O Modules

1771 Process Control I/O Modules

Catalog Number/ Module	Number of Inputs/ Outputs	Resolution	Analog Inputs	Analog Outputs	Data Format	Slots	Backplane Current Load	External Power Required	Remote Termination Panel or Wiring Arm
1771-PD PID Control Module	2 temp. inputs 2 tieback inputs 2 outputs (for 2 PID loops)	12-bit resolution	1-5V dc 4-20 mA	1-5V dc 4-20 mA	Scaled BCD ±9999	2	1.2A	±15V dc	1771-WF
1771-TCM Temperature Control Module (See pg 3-44)	8 temp. inputs (for 8 PID heat/cool loops)	16-bit resolution or 15-bits plus sign bit	Thermo- couple	None	16-bit Integer (natural binary)	1	1.1A	None	1771-RTP1
1771-WS Weigh Scale Module (See pg 3-45)	10-V output Sense input Weigh signal C2-Cal input (for 1 weigh scale)	20-bit resolution	0-30mV dc (load cells)	None	16-bit integer (natural binary) or 32-bit floating-point	1	1.5A	None	1771-RT44

For more information, see the *PID Control (2 Loop) Module Assembly Product Data*, pub. no. [1771-2.34](#).

1746 Positioning I/O Modules

Catalog Number/ Module	Description	Inputs	Maximum Input Frequency	Outputs	Module Update Time	Slots	Backplane Current Load	Terminal Block 1746-
1746-HS ¹ IMC 110 Servo Controller Module	Provides closed-loop servo control for one independent axis per module	+24V dc	300 kHz @ 0° quadrature	+24V dc	4.8ms	1	300mA @ +5V 104mA @ +24V (when using hand-held terminal)	N/A
1746-HSCE ¹ High-Speed Counter Encoder Module	Three modes of operation: • Range • Rate • Sequencer	1 count input (5V dc, 12V dc or 24V dc)	• 50 KHz for Range • 32 KHz for Rate • 50KHz for Sequencer	4 outputs (5V dc, 12V dc or 24V dc)	• Sequencer mode: 1.8ms • Range mode: 3.9ms • Rate mode: 70.0ms + rate period	1	32mA @ 5V dc	RT25G
1746-QV ¹ Open-Loop Velocity Control Module	Open-loop velocity control of a hydraulic ram	1 linear displacement transducer	160 inches @ 0.01-inch resolution	1 analog out 0–10V dc or ±10V dc	2ms	1	215mA @ 5V dc	RT27 (input) RT26 (output)

¹ This module is not compatible with an SLC 500 or SLC 5/01 processors.



The Weigh Scale Module reads data from industry-standard load cells on storage tanks, reactors, and other vessels used in batching and blending operations. It reads the weight values directly from the load-cell junction box without the need for weigh-scales, and puts the value into the PLC-5 processor. It also compares the weight to set-point values (with pre-act values) and single-transfers the results to the input image for quick response.

With the module, we provide calibration and configuration software that consists of easy-to-use faceplates.

Features

- You can set the gross or net weight to zero at any point in the process
- Two set-points can be established in the module with corresponding pre-act and dead-band values
- The set-point comparison status can be read in the input image table for quick response
- The module provides 10V excitation voltage for up to four load cells associated with a single vessel
- The Weigh Scale module supports either 3mV/V or 2mV/V industry standard load cells and load points with the C2™ Second-Generation-Calibration feature
- You get accurate readings with 20-bit A/D conversion, providing 985,000 counts of displayed resolution over the 0-30mV range
- Hard calibration, which requires test weights, is supported
- Soft calibration, which minimizes the need for test weights, is also available when used with load cells of known sensitivity and range
- C2 calibration, which minimizes the need for test weights and eliminates the need for manual entry of values, is also available when used with load points with the C2 Second-Generation-Calibration feature
- The 1771-WS module incorporates WAVESSAVER® technology of Hardy Instruments to filter out mechanical vibrations
- The module returns “weight-in-motion” and other status information

- Stand-alone Windows-based WeighScale configurator software (which we provide with the module) lets you configure and calibrate without 6200 Series and A.I. 5 Programming Software or ControlView System Software
- The 1771-WS module A/D conversion period is 50ms

Typical Applications

- Batch weighing of ingredients
- Bin inventory
- Vessel-filling applications
- Adding materials into mixing vessels

Specific applications include:

- Food and beverage batch processing
- Concrete plants
- Specialty chemical batch control
- Pharmaceuticals

Specifications

Inputs	• $1 \pm$ signal -0.3mV thru +30.3mV • $1 \pm$ sense +/- 5V dc $\pm 5\%$
Outputs	• $1 \pm$ excitation output: 10V dc +/- 5%, 1.15W max 1,000V dc minimum isolation from backplane logic circuitry • 1 C2 second-generation calibration output: 1,000V dc minimum isolation from backplane logic circuitry
Resolution	20-bit A/D resolution (985,000 counts of displayed resolution over 0-30mV range)
Number of slots	1
RTP choice	1771-RT44
Weight	0.7 kg (1.6 lb)

For selection chart, see page 3-38.

Typical Configuration

