

1756 I/O Module Overview

The 1756 I/O product line provides a full range of digital and analog I/O to meet your application needs in a modular assembly - including diagnostic digital I/O modules and a motion control module.

- Analog I/O modules perform the required A/D and D/A conversions to directly interface analog signals to processor data values using up to 16-bit resolution. Analog I/O can be user-configured for the desired fault-response state in the event that I/O communication is disrupted. This feature provides a safe reaction/response in case of a fault.
- Digital I/O modules have digital I/O circuits that interface to on/off sensors such as pushbutton and limit switches; and on/off actuators such as motor starters, pilot lights, and annunciators. These *outputs* are directly controlled by the state of corresponding processor data bits. These *inputs* directly control the state of corresponding processor data bits.
- Digital I/O diagnostic modules provide additional capabilities beyond the other digital I/O modules. In addition to writing output values to the modules and reading input values from the modules, you can read diagnostic status about the modules and their I/O circuits.
- Motion control modules provide on-board processing of the signals to and from the I/O circuits (digital and analog) so that the velocity and positioning loops are closed on the motion control modules. Motion control is enhanced by being integral to the processor. The processor performs all of high-level motion command execution and motion trajectory planner functions; motion instructions are embedded in the processor.

This modular hardware design uses cost- and space-effective means to add I/O to your control system. Any of these modules can be used in the local chassis of a ControlLogix processor. With the exception of the motion control modules, these modules can be used in a chassis linked to a ControlLogix processor across a ControlNet network in a ControlLogix system.

Features

- Communication across the backplane for each module is based on the producer/consumer model
- Each module can be placed into any slot of a 1756 chassis
- No need to disconnect wiring to replace modules; you wire to removable terminal blocks (RTBs) that plug into the front of the modules; order RTBs separately
- All modules can be removed and inserted under power.
- Modules available in different densities (32 I/O per module max) for greater flexibility and cost savings
- Isolated inputs and outputs can be used in applications, such as motor control centers where individual voltage sources are used
- Optical isolation and digital filtering for signal noise reduction
- As a troubleshooting aid, status indicators are provided on the front of modules for input or output and fault status
- I/O module faults reported to the processor
- Solid-state digital I/O modules cover electrical ranges from 10 thru 265V ac and 10 thru 146V dc; relay contact output modules are available for ranges from 10 thru 265V ac or 5 thru 150V dc
- A range of analog signal levels including standard analog inputs and outputs; and direct thermocouple and RTD temperature inputs
- Analog module software-selectable features include digital filtering for noisy transmitters and environments, and range selection per I/O channel for added flexibility
- Analog module comprehensive self-diagnostic tests: open-input/open-loop detection; on-board error checking; 2 alarm levels for the upper range (Hi and Hi-Hi) plus over range and 2 alarm levels for the lower range (Lo and Lo-Lo) plus under range
- Scaling to engineering units makes incoming analog signals easier to work with

- User-configurable output response (last value or any user-defined value) for safe reaction to an analog module fault
- An analog module status block provides information to the processor for alarming and troubleshooting
- Mechanical keying of each module to its RTB guards against applying improper voltage to the module
- Electronic keying between each module and a Logix5550 processor guards against you installing the wrong type or revision of module in a particular slot
- Modules configured thru software rather than switches and jumpers
- With the timestamp feature, you can keep track of when inputs change state, and schedule output change of state
- Detection of open I/O wire (1756-IA8D, -IB16D, -OA8D, OB16D)
- Detection of field power loss (1756-IA8D, -OA8D, -OA8E)
- Verification of output circuit's state (1756-OA8D, -OB16D)
- Verification of output circuit's ability to function (1756-OA8D, -OB16D)
- Electronic fusing of individual outputs (1756-OA8D, -OA8E, OB8EI, -OB16D, -OB16E)
- Latching of diagnostic status to detect momentary faults (1756-IA8D, -IB16D, -OA8D, OB16D)

1756 I/O Module Selection

1756 Digital ac Input Modules

Type	Voltage Category	Operating Voltage	Maximum Signal Delay (Programmable)	Max Off-State Current	Number of Inputs	Module Cat. No. 1756-	RTB 1756-	Backplane Current Load	Applications
ac	24	10-30 ac	on=10, 11, or 12ms off=18 or 28ms	2.75mA	16 (2 sets of 8)	IN16	TBNH, TBSH	100mA @ 5V 2mA @ 24V	General-purpose 24V ac inputs
	120	79-132 ac	on=11 or 12ms off=17 or 26ms	2.5mA	8 (2 sets of 4)	IA8D	TBNH, TBSH	100mA @ 5V 3mA @ 24V	Gen-purpose 120V ac Proximity switches
		74-132 ac	on=11 or 12ms off=17 or 26ms	2.5mA	16 (2 sets of 8)	IA16	TBNH, TBSH	105mA @ 5V 2mA @ 24V	General-purpose 120V ac inputs
		79-132 ac	on=11 or 12ms off=17 or 26ms	2.5mA	16 (individually isolated)	IA16I	TBCH, TBS6H	125mA @ 5V 3mA @ 24V	General-purpose 120V ac isolated-circuit multi-phase applications
	240	159-265 ac	on=11 or 12ms off=17 or 26ms	2.5mA	16 (individually isolated)	IM16I	TBCH, TBS6H	100mA @ 5V 3mA @ 24V	General-purpose 240V ac isolated-circuit multi-phase applications

1756 Digital dc Input Modules

Type	Voltage Category	Operating Voltage	Maximum Signal Delay (Programmable)	Max Off-State Current	Number of Inputs	Module Cat. No. 1756-	RTB 1756-	Backplane Current Load	Applications
dc	24 source load	10-31.2	on=1, 2, or 3ms off=2, 3, 4, 11 or 20ms	1.5mA	16 (2 sets of 8)	IB16	TBNH, TBSH	100mA @ 5V 2mA @ 24V	General-purpose 24V dc inputs including proximity sensors
		10-30	on=1, 2, or 3ms off=4, 5, 13, or 22ms	1.5mA	16 (4 sets of 4)	IB16D	TBCH, TBS6H	150mA @ 5V 3mA @ 24V	Diagnostics for open-circuit detection - 24V dc inputs including proximity sensors
		10-31.2	on=1, 2, or 3ms off=2, 3, 4, 11 or 20ms	1.5mA	32 (2 sets of 16)	IB32	TBCH, TBS6H	150mA @ 5V 2mA @ 24V	General-purpose 24V dc inputs including proximity sensors
	24 source or sink load	10-30	on=1, 2, or 3ms off=4, 5, 6, 13, or 22ms	1.5mA	16 (individually isolated)	IB16I	TBCH, TBS6H	100mA @ 5V 3mA @ 24V	General-purpose 24V dc isolated inputs including proximity sensors
	24 sink load	10-30	on=1, 2, or 3ms off=2, 3, 4, 11 or 20ms	1.5mA	16 (2 sets of 8)	IV16	TBNH, TBSH	110mA @ 5V 2mA @ 24V	General-purpose 24V dc inputs including proximity sensors

		10-30	on=1, 2, or 3ms off=2, 3, 4, 11, or 20ms	1.5mA	32 (2 sets of 16)	IV32	TBCH, TBS6H	120mA @ 5V 2mA @ 24V	General-purpose 24V dc inputs including proximity sensors
	48 source load	30-55	on=1, 2, or 3ms off=4, 5, 6, 13, or 22ms	1.5mA	16 (2 sets of 8)	IC16	TBNH, TBSH	100mA @ 5V 3mA @ 24V	General-purpose 48V dc inputs including proximity sensors
	125 source or sink load	90-125	on=2, 3, or 4ms off=6, 7, 8, 15, or 24ms	1.5mA	16 (individually isolated)	IH16I	TBCH, TBS6H	125mA @ 5V 3mA @ 24V	General-purpose 125V dc isolated inputs including proximity sensors

1756 Digital ac Output Modules

Type	Voltage Category	Operating Voltage	Max Continuous Current Per Output	Maximum Current Per Module	Number of Outputs	Catalog Number 1756-	RTB 1756-	Backplane Current Load	Applications
ac	24	10-30	2A @ 60° C	5A @ 30° C 4A @ 60° C	8 (2 sets of 4)	ON8	TBNH TBSH	200mA @ 5V 2mA @ 24V	Relay coil driver. Low voltage inductive loads.
	120	74-132	1.0A @ 30° C 0.5A @ 60° C	8A @ 30° C 4A @ 60° C	8 (2 sets of 4)	OA8D	TBNH TBSH	175mA @ 5V 250mA @ 24V	Diagnostics for output verify, pulse test, or loss of load or output circuit power - elect. fusing each output
		74-132	2A @ 60° C (4A/set @ 30° C, 2A/set @ 60° C)	8A @ 30° C 4A @ 60° C	8 (2 sets of 4)	OA8E	TBNH TBSH	200mA @ 5V 250mA @ 24V	Diagnostics for loss of output circuit power - electronic fusing on each output
	120/240	74-265	2A @ 60° C	5A @ 30° C 4A @ 60° C	8 (2 sets of 4)	OA8	TBNH TBSH	200mA @ 5V 2mA @ 24V	General purpose 120/240V ac
		74-265	0.5A @ 60° C (2A/set @ 60° C)	4A @ 60° C	16 (2 sets of 8)	OA16	TBNH TBSH	400mA @ 5V 2mA @ 24V	General purpose 120/240V ac - fused common on each set
		74-265	2A @ 30° C 1A @ 60° C	5A @ 30° C 4A @ 60° C	16 (isolated individually)	OA16I	TBCH TBS6H	300mA @ 5V 2.5mA @ 24V	Isolated 120/240V ac

1756 Digital dc Output Modules

Type	Voltage Category	Operating Voltage	Max Continuous Current Per Output	Max Cont Current Per Module	Number of Outputs	Catalog Number 1756-	RTB 1756-	Backplane Current Load	Applications
dc	12/24 source	10-30	2A @ 60° C	2A @ 60° C	8 (2 sets of 4)	OB8	TBNH TBSH	165mA @ 5V 2mA @ 24V	General purpose
			2A @ 60° C	8A @ 60° C	8 (isolated individually)	OB8EI	TBCH TBS6H	250mA @ 5V 2mA @ 24V	Electronic fusing on each output - isolated circuits
		10-31.2	1A @ 60° C	8A @ 60° C	16 (2 sets of 8)	OB16E	TBNH TBSH	250mA @ 5V 2mA @ 24V	Electronic fusing of the common on each set
		10-30	1A @ 60° C	4A @ 60° C	16 (isolated individually)	OB16I	TBCH TBS6H	350mA @ 5V 2.5mA @ 24V	Isolated circuits - general purpose
		10-28	0.35A @ 60° C	10A @ 60° C	32 (2 sets of 16)	OB32	TBCH TBS6H	300mA @ 5V 2.5mA @ 24V	General purpose
	12/24 sink	10-30.0	1A @ 60° C	8A @ 60° C	16 (2 sets of 8)	OV16E	TBNH TBSH	210mA @ 5V 2mA @ 24V	Electronically fused outputs. If one output in a set fails, all outputs in the set are forced off.
	24 source	19.2-30	2A @ 30° C 1A @ 60° C	8A @ 30° C 4A @ 60° C	16 (2 sets of 8)	OB16D	TBCH TBS6H	250mA @ 5V 140mA @ 24V	Electronic fusing
	48 source	30-60	2A @ 60° C	8A @ 60° C	8 (2 sets of 4)	OC8	TBNH TBSH	165mA @ 5V 2mA @ 24V	General purpose
	120 source	90-146	2A @ 60° C	8A @ 60° C	8 (isolated individually)	OH8I	TBCH TBS6H	210mA @ 5V 2mA @ 24V	Isolated circuits - general purpose

1756 Digital Contact Output Modules

Operating Voltage	Max Continuous Current Per Output	Max Cont Current Per Module	Number of Outputs	Type of Contact Outputs	Catalog Number 1756-	RTB 1756-	Backplane Current Load	Applications
10-265 ac 5-150 dc	2A @ 125/240V ac 2A @ 5-30V dc 0.5A @ 48V dc 0.25A @ 125V dc	Not Applicable	16 (isolated individually)	16 N.O.	OW16I	TBCH TBS6H	150mA @ 5V 150mA @ 24V	isolated
10-265 ac 5-150 dc	2A @ 125/240V ac 2A @ 5-30V dc 0.5A @ 48V dc 0.25A @ 125V dc	Not Applicable	8 (isolated individually)	A set of form-C contacts for each output	OX8I	TBCH TBS6H	100mA @ 5V 100mA @ 24V	<ul style="list-style-type: none"> isolated no leakage current

1756 Analog I/O Modules

Number of Inputs/Outputs/	Voltage Range	Current Range	Data Format	Module Cat. No. 1756-	RTB 1756-	Backplane Current Load	External Power Reqrd.	Step Response @ 95%	All-Channel Update/Resolution/Accuracy
8 single-ended, 4 differential or 2 high-speed diff inputs	user configurable ±10.25 • 0 thru 5.125 • 0 thru 10.25	• 0 thru 20.5mA	Integer, floating-point ²	IF8	TBCH TBS6H	150mA @ 5V 40mA @ 24V	Loop power	2 times channel update (max)	For integer: ⁴ 5-16ms @ 12-bit resolution. 14-488ms @ 16-bit resolution. For floating-point: 6-18ms @ 12-bit resolution, 14-488ms @ 16-bit resolution.
6 isolated inputs	user configurable • ±10.5 • 0 thru 5.25 • 0 thru 10.5	user configurable ¹ • 0 thru 21mA	Integer, floating-point ²	IF6I	TBNH TBSH	250mA @ 5V 100mA @ 24V	Loop Power	<80ms ³	For integer, 10ms min. For floating-point, 25ms min. 16-bit resolution.
16 single-ended, 8 differential or 4 high-speed diff inputs	user configurable • ±10.25 • 0 thru 5.125 • 0 thru 10.25	• 0 thru 20.5mA	Integer, floating-point ²	IF16	TBCH TBS6H	150mA @ 5V 65mA @ 24V	Loop power	2 times channel update (max)	For integer: ⁴ 5-16ms @ 12-bit resolution. 14-488ms @ 16-bit resolution. For floating-point: 6-18ms @ 12-bit resolution, 14-488ms @ 16-bit resolution.
4 high-speed differential inputs and 2 high-speed voltage or current outputs	Inputs (user configurable) • ±10.5V • 0 thru 10.5V • 0 thru 5.25V Outputs • +10.4V	Inputs: • 0 thru 21mA Outputs: • 0 thru 21mA	floating point	IF4FXOF2F	TBCH TBS6H	375mA @ 5V 100mA @ 24V	None	2 times channel update (max)	Inputs: 400ms update • ±10V: 14-bit resolution • 0-10V: 13-bit resolution • 0-5mA: 12-bit resolution • 0-21mA: 12-bit resolution Outputs: 1ms update • ±10V: 14-bit resolution • 0-21mA: 12-bit resolution
6 RTD inputs	RTD sensors supported: • Resistance 4-4020 • 100, 200, 500, 1000 Pt, alpha=385 • 100, 200, 500, 1000 Pt, alpha=3916 • 120 Nickel, alpha=672 • 100, 120, 200, 500 Nickel, alpha=618 • 10 Copper		Integer, floating-point ²	IR6I	TBNH TBSH	250mA @ 5V 125mA @ 24V	None	<80ms ³	For integer, 10ms min. For floating-point Ohms, 25ms min. For floating-point temperature, 50ms min. 16-bit resolution.
6 isolated thermocouple inputs	• -12mV thru 78mV • -12mV thru 30mV Thermocouples supported: • Type B: 250 to 1820°C (482 to 3308°F)		Integer, floating-point ²	IT6I	TBNH TBSH	250mA @ 5V 125mA @ 24V	None	<80ms ³	For integer, 10ms min. For floating-point mV, 25ms min. For floating-point temperature, 50ms min. 16-bit

	<ul style="list-style-type: none"> Type C: 0 to 2315°C (23 to 4199°F) Type E: -270 to 1000°C (-454 to 1832°F) Type J: -210 to 1200°C (-346 to 2192°F) Type K: -270 to 1372°C (-454 to 2502°F) Type N: -270 to 1300°C (-454 to 2372°F) Type R: -50 to 1768°C (-58 to 3214°F) Type S: -50 to 1768°C (-58 to 3214°F) Type T: -270 to 400°C (-454 to 752°F) 								resolution.
4 outputs	• ±10.4	• 0 thru 21mA	Integer, floating-point ²	OF4	TBNH TBSH	150mA @ 5V 120mA @ 24V	None	2 times channel update (max)	For integer: 6ms. For floating-point: 10ms. 15-bit resolution.
6 isolated outputs	Not Applicable	• 0 thru 21mA	Integer, floating-point ²	OF6CI	TBNH TBSH	250mA @ 5V 225mA (<550 Id) or 300mA (>550 Id) @ 24V	None	<2ms + channel scan	For integer, 10ms min. For floating-point, 25ms min. 13-bit resolution.
6 isolated outputs	• ±10.5	Not Applicable	Integer, floating-point ²	OF6VI	TBNH TBSH	250mA @ 5V 175mA @ 24V	None	<2ms + channel scan	For integer, 10ms min. For floating-point, 25ms min. 14-bit resolution.
8 outputs	• ±10.4	• 0 thru 21mA	Integer, floating-point ²	OF8	TBNH TBSH	150mA @ 5V 210mA @ 24V	None	2 times channel update (max)	For integer: 6ms. For floating-point: 10ms. 15-bit resolution.

¹ The module does not supply input current loop power.

² Scaling is available only with the floating-point format.

³ Notch filter dependent

⁴ Update period dependent on the module filter selection and wiring method.

1756 High-Speed Control Modules

Catalog Number/Module	Axes	Inputs	Maximum Input Frequency	Outputs	Loop Update Period	Location	Backplane Current Load	RTB
1756-HSC High-Speed Counter Module	2 counters	Digital (5, or 12-24V dc) single-ended or differential inputs for channels A, B, and Z for each counter	250k Hz for quadrature, 500k Hz for rate measurement, 1M Hz for pulse counting	4 digital outputs 5V dc @ 20mA or 10-30V dc @ 1.0A with electronic fusing	Loop (inputs to outputs) <ul style="list-style-type: none"> 60µs Module (loop to backplane) <ul style="list-style-type: none"> 2ms 	Local or remote chassis	300mA @ 5V dc; 3.0mA @ 24V dc	1756-TBCH, -TBS6H
<p>Description - This intelligent I/O module has two 24-bit counter registers, each with channel A, B, and Z inputs. The module can be configured for quadrature encoder input, pulse counting, or rate measurement. Count and rate measurement can be multicast to other processors at intervals as short as 2ms. Each of the 4 outputs support on/off windows. Any output can be assigned to either counter; all can be assigned to the same counter. Outputs have electronic fusing for short-circuit protection.</p>								
1756-PLS Programmable Limit Switch Module	1	A resolver interface plus 16 digital (12-24V dc) inputs for enabling outputs between set points	1800 rpm	16 digital outputs 12-24V dc with electronic fusing	Loop (inputs to outputs) <ul style="list-style-type: none"> 100µs Module (loop to backplane) <ul style="list-style-type: none"> 2ms 	Local or remote chassis (3 slots)	1A @ 5V dc; 125mA @ 24V dc	1756-TBNH, -TBSH (quantity, 3)
<p>Description - This intelligent I/O module interfaces to an Allen-Bradley 486-SJ-R3 resolver to provide a programmable limit switch. You program a low-limit set point and a high-limit set point to define an arc within the axis rotation during which you may want to turn on one or more of the 16 digital outputs. In programming the limit switch, you can make use of the 16 digital inputs to control the enabling of outputs between the set points.</p>								

1756 Configurable Flowmeter Module

Catalog Number / Module	Channels	Inputs per Channel	Maximum Input Frequency	Outputs	Update Period	Location	Backplane Current Load	RTB
1756-CFM Configurable Flowmeter Module	2 (totalizer or high-resolution frequency mode)	<ul style="list-style-type: none"> • 2 flowmeter inputs (0-40V dc) with selectable threshold: 50mV (magnetic pickup), 1.3V (TTL), or 4V (preamp) • 2 gate inputs: 5V dc or 12-24V dc, differential 	100kHz	2 current-sourcing outputs: <ul style="list-style-type: none"> • 10-30V dc, 1A max. • 4.5-5.5V dc, 20mA max. • Can be tied to any gate input 	Sum of channel update periods: <ul style="list-style-type: none"> • high-resolution frequency mode: 5msec per channel • totalizer mode: 50msec per channel 	Local or remote chassis (1 slot)	300mA @ 5V dc; 6.0mA @ 24V dc	1756-TBNH, -TBSH
<p>Description - This intelligent I/O module offers two configurable flowmetering channels that interface with magnetic pickups, single-channel shaft encoders, turbine flowmeters, TTL pulses, or output from preamps. Each channel operates in either totalizer mode, for metering applications, or in high-resolution frequency mode, for speed or rate-control applications. Both fill and prover functions are supported within the resettable or nonresettable totalizer mode. A 12-segment K-factor correction table makes it easy to scale any turbine flowmeter, and AGA 7 compensation is available on the module.</p> <p>The module has two configurable high-current outputs that may be connected to one or both channels. These outputs may be triggered on flow or frequency, acceleration, full flow state, trickle flow state, prover run state, or prover range state.</p>								

1756 Motion Control Modules

Motion control is integrated into the ControlLogix system. Motion control program execution and motion planner functions reside in the ControlLogix processor, thereby integrating motion and sequential control. A ControlLogix processor can control a maximum of 16 motion control modules for a maximum of 32 axes. All motion control modules must be in the local chassis with the processor.

Motion instructions are embedded in the processor module. The ControlLogix processor module performs all high-level motion command execution and motion-trajectory planner functions. The ControlLogix processor module sends coarse position commands across the high-speed backplane to the motion control module. You establish the update period for this communication across the backplane.

The motion control module uses the coarse position commands to generate fine planner movement. For each axis, it generates an analog velocity output signal for a drive based on the position command, the position as an accumulation of the incremental position feedback from an encoder, and velocity feedback derived from the encoder input. The positioning and velocity loops are closed on the motion control module.

RSLogix 5000 programming software provides complete programming and commissioning support for the ControlLogix motion control system. This software provides wizards for axis configuration (including drive hookup diagnostics and auto tuning) and supports ladder-based application programming for motion instructions.

Catalog Number/Module	Axes	Inputs	Maximum Input Frequency	Outputs	Servo Loop Update Period	Location	Backplane Current Load	RTB
1756-M02AE Servo Module	2	Digital inputs for <ul style="list-style-type: none"> • drive fault • home • registration • E-stop • encoder (quadrature) 	4M Hz	Analog output for <ul style="list-style-type: none"> • velocity command Digital output for <ul style="list-style-type: none"> • enable drive 	200µs	Local chassis only	700mA @ 5V dc; 2.5mA @ 24V dc	1756-TBCH, -TBS6H
<p>Description - This servo module is an intelligent I/O module that provides 2 axes of servo positioning control. Because motion control is integral to the ControlLogix processor, this servo module must be installed into the local chassis, in the same backplane with the ControlLogix processor. All necessary configuration parameters are sent from the processor to the servo module. The position loop is closed on the servo module with the quadrature encoder inputs. The velocity loop is also closed on the servo module with a velocity feedback signal derived from the encoder inputs. The servo loop has a 32-bit gain resolution. The absolute position range is \$1,000,000,000 increments.</p>								

Catalog Number/Module	Axes	SERCOS Ring Data Rate	Maximum Fiber Optic Transmission Range	Loop Update Period	Location	Backplane Current Load	Connector
1756-M08SE Servo Module	8 (1394-SJTxx-D drives only)	4M bits per sec	<ul style="list-style-type: none"> • Plastic: 32m • Glass: 200m 	<ul style="list-style-type: none"> • 1ms for 1-4 axes • 2ms for 5-8 axes 	Local chassis only	600mA @ 5V dc; 2.5mA @ 24V dc	F-SMA standard screw-type fiber optic connector
<p>Description – This servo module interfaces the ControlLogix processor with up to 8 axes of motion control operating in either position or velocity mode. Communication between the module and drives is via IEC 61491 SERIAL Real-time COmmunication System (SERCOS) using glass or plastic fiber optic cabling. Fiber optics helps ensure reliable high-speed data transmission with excellent noise immunity, improved performance and elimination of interconnect wiring. The SERCOS interface uses a ring topology with one master (the SERCOS module) and multiple slaves (the axes). Configuration data is sent from the ControlLogix processor to the servo modules.</p>							
1756-M16SE Servo Module	16	8M bits per sec	<ul style="list-style-type: none"> • Plastic: 32m • Glass: 200m 	<ul style="list-style-type: none"> • 0.5ms for 1-4 axes • 1ms for 5-8 axes • 2ms for 9-16 axes 	Local chassis only	600mA @ 5V dc; 2.5mA @ 24V dc	F-SMA standard screw-type fiber optic connector
<p>Description – This servo module interfaces the ControlLogix processor with up to 16 axes of motion control operating in either position or velocity mode. Communication between the module and drives is via IEC 61491 SERIAL Real-time COmmunication System (SERCOS) using glass or plastic fiber optic cabling. Fiber optics helps ensure reliable high-speed data transmission with excellent noise immunity, improved performance and elimination of interconnect wiring. The SERCOS interface uses a ring topology with one master (the SERCOS module) and multiple slaves (the axes). Configuration data is sent from the ControlLogix processor to the servo modules.</p>							

Weights of ControlLogix I/O Modules

Catalog Number and Weight in kg (lb)

- 1756-IA8D 0.2 (0.5)
- 1756-IA16 0.2 (0.5)
- 1756-IA16I 0.2 (0.5)
- 1756-IB16 0.2 (0.5)
- 1756-IB16D 0.2 (0.5)
- 1756-IB16I 0.2 (0.5)
- 1756-IB32 0.2 (0.5)
- 1756-IC16 0.2 (0.4)
- 1756-IF6I 0.3 (0.6)
- 1756-IF8 0.2 (0.5)
- 1756-IF16 0.2 (0.5)
- 1756-IH16I 0.2 (0.5)
- 1756-IM16I 0.3 (0.6)
- 1756-IN16 0.2 (0.5)
- 1756-IR6I 0.3 (0.6)
- 1756-IT6I 0.3 (0.6)
- 1756-M02AE 0.2 (0.5)
- 1756-OA8 0.3 (0.6)
- 1756-OA8D 0.3 (0.7)
- 1756-OA8E 0.3 (0.7)
- 1756-OA16 0.3 (0.6)
- 1756-OA16I 0.3 (0.7)
- 1756-OB8 0.2 (0.5)
- 1756-OB8EI 0.2 (0.5)
- 1756-OB16D 0.3 (0.6)
- 1756-OB16E 0.2 (0.5)
- 1756-OB16I 0.2 (0.5)
- 1756-OB32 0.2 (0.5)
- 1756-OC8 0.3 (0.6)
- 1756-OF4 0.2 (0.5)
- 1756-OF6CI 0.3 (0.6)
- 1756-OFVI 0.3 (0.6)
- 1756-OF8 0.2 (0.5)
- 1756-OH8I 0.3 (0.6)
- 1756-ON8 0.3 (0.6)
- 1756-OW16I 0.3 (0.6)
- 1756-OX8I 0.3 (0.6)
- 1756-PLS 1.1 (2.3)