

# ControlLogix I/O Modules

The ControlLogix architecture provides a wide range of input and output modules to span many applications, from high-speed digital to process control. The ControlLogix architecture uses a Producer/Consumer model so that input information and output status can be shared among multiple controllers.

Each ControlLogix I/O module mounts in a ControlLogix chassis and **requires** a removable terminal block (RTB) or a 1492 interface module (IFM) to connect all field-side wiring. RTBs and IFMs are not included with the I/O modules. They must be ordered separately.

For detailed specifications, see 1756 ControlLogix I/O Modules Specifications Technical Data, publication [1756-TD002](#).

## AC Digital Input Modules

Cat. No.	Inputs/Outputs	Voltage Category	Operating Voltage Range	Removable Terminal Block
1756-IA8D	8 diagnostic inputs (4 points/group)	120V AC	79...132V AC	1756-TBNH 1756-TBSH
1756-IA16	16 inputs (8 points/group)	120V AC	74...132V AC	1756-TBNH 1756-TBSH
1756-IA16I	16 individually isolated inputs	120V AC	74...132V AC	1756-TBCH 1756-TBS6H
1756-IA32	32 inputs (16 points/group)	120V AC	74...132V AC	1756-TBCH 1756-TBS6H
1756-IM16I	16 individually isolated inputs	240V AC	159...265V AC	1756-TBCH 1756-TBS6H
1756-IN16	16 inputs (8 points/group)	24V AC	10...30V AC	1756-TBNH 1756-TBSH

## AC Digital Output Modules

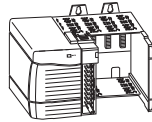
Cat. No.	Inputs/Outputs	Voltage Category	Operating Voltage Range	Removable Terminal Block
1756-OA8	8 outputs (4 points/group)	120/240V AC	79...265V AC	1756-TBNH 1756-TBSH
1756-OA8D	8 diagnostic, electronically fused outputs (4 points/group)	120V AC	74...132V AC	1756-TBNH 1756-TBSH
1756-OA8E	8 electronically fused outputs (4 points/group)	120V AC	74...132V AC	1756-TBNH 1756-TBSH
1756-OA16	16 mechanically fused/group outputs (8 points/group)	120/240V AC	74...265V AC	1756-TBNH 1756-TBSH
1756-OA16I	16 individually isolated outputs	120/240V AC	74...265V AC	1756-TBCH 1756-TBS6H
1756-ON8	8 outputs (4 points/group)	24V AC	10...30V AC, current > 50 mA 16...30V AC, current < 50 mA	1756-TBNH 1756-TBSH

# Select a ControlLogix System



## Step 1 [ControlLogix I/O Modules](#)

[Page 10](#)



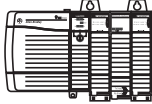
### Select:

- I/O modules—Some modules have field-side diagnostics, electronic fusing, or individually isolated inputs/outputs
- A remote terminal block (RTB) or wiring system for each I/O module



## Step 2 [ControlLogix Integrated Motion](#)

[Page 18](#)



### Select:

- An EtherNet/IP communication module for Integrated Motion
- Associated cables
- Select drives, motors, and accessories (use the Motion Analyzer software)



## Step 3 [ControlLogix Communication Modules](#)

[Page 19](#)



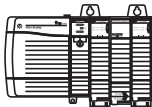
### Select:

- Networks
- Communication modules
- Associated cables and network equipment
- Sufficient modules and cables if you are planning a redundant system



## Step 4 [ControlLogix Controllers](#)

[Page 24](#)

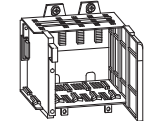


### Select a controller:

- Standard ControlLogix controller
- Redundant ControlLogix controller
- Safety GuardLogix controller
- Extreme environment ControlLogix controller
- Standard Armor ControlLogix controller
- Safety Armor GuardLogix controller

## Step 5 [ControlLogix Chassis](#)

[Page 30](#)



### Select:

- A chassis with sufficient slots
- Slot fillers for empty slots

## Step 6 [ControlLogix Power Supplies](#)

[Page 31](#)



### Select:

- One power supply for each chassis, if you are using standard power supplies
- A power supply bundle if you are planning a redundant power supply system

## Accessories—I/O Modules

### 1756 Removable Terminal Blocks

Removable terminal blocks (RTBs) provide a flexible interconnection between your plant wiring and 1756 I/O modules. The RTB plugs into the front of the I/O module. The type of module determines the RTB you need. You can choose screw-clamp or spring-clamp RTBs.



RTBs are not shipped with I/O modules. You must order them separately. The standard housing on the front of the wiring arm is not necessarily deep enough for 2.5 mm<sup>2</sup> (14 AWG) wiring. If you plan to use 2.5 mm<sup>2</sup> (14 AWG) wiring, also order the extended housing. For more information on Extended-Depth Housing, see Rockwell Automation Knowledgebase article #41488, Use of the 1756-TBE Extended Terminal Housing. You can access the article at: <https://rockwellautomation.custhelp.com/> (login is required).

Attribute	1756-TBNH	1756-TBSH	1756-TBCH	1756-TBS6H	1756-TBE
Description	20-position NEMA screw-clamp removable block	20-pin spring-clamp removable terminal block with standard housing	36-pin cage-clamp removable terminal block with standard housing	36-pin spring-clamp removable terminal block with standard housing	Extended-depth terminal block housing
Screw torque	0.8...1 N•m 7...9 lb•in		0.4 N•m 4.4 lb•in		—

### Wiring Systems

As an alternative to buying RTBs and connecting the wires yourself, you can buy a wiring system of the following:

- Interface modules (IFMs) that provide the I/O terminal blocks for Digital I/O modules. Use the prewired cables that match the I/O module to the IFM.
- Analog interface modules (AIFMs) that provide the I/O terminal blocks for analog I/O modules. Use the prewired cables that match the I/O module to the AIFM.
- I/O module-ready cables. One end of the cable assembly is an RTB that plugs into the front of the I/O module. The other end has individually color-coded conductors that connect to a standard terminal block.

