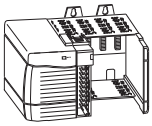
Select a ControlLogix System

Step 1
ControlLogix I/O Modules



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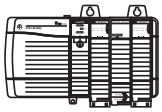
Select:
- I/O modules—Some modules have field-side diagnostics, electronic fusing, or individually isolated inputs/outputs
- A remote terminal block (RTB) or wiring system for each I/O module

Step 2
ControlLogix Integrated Motion



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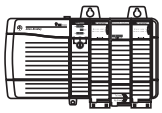
Select:
- An EtherNet/IP communication module for Integrated Motion
- Associated cables
- Select drives, motors, and accessories (use the Motion Analyzer software)

Step 3
ControlLogix Communication Modules



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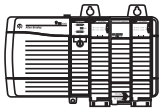
Select:
- Networks
- Communication modules
- Associated cables and network equipment
- Sufficient modules and cables if you are planning a redundant system

Step 4
ControlLogix Controllers



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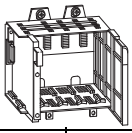
Select a controller:
- Standard ControlLogix controller
- Redundant ControlLogix controller
- Safety GuardLogix controller
- Extreme environment ControlLogix controller
- Standard Armor ControlLogix controller
- Safety Armor GuardLogix controller

Step 5
ControlLogix Chassis



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

Step 6
ControlLogix Power Supplies

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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

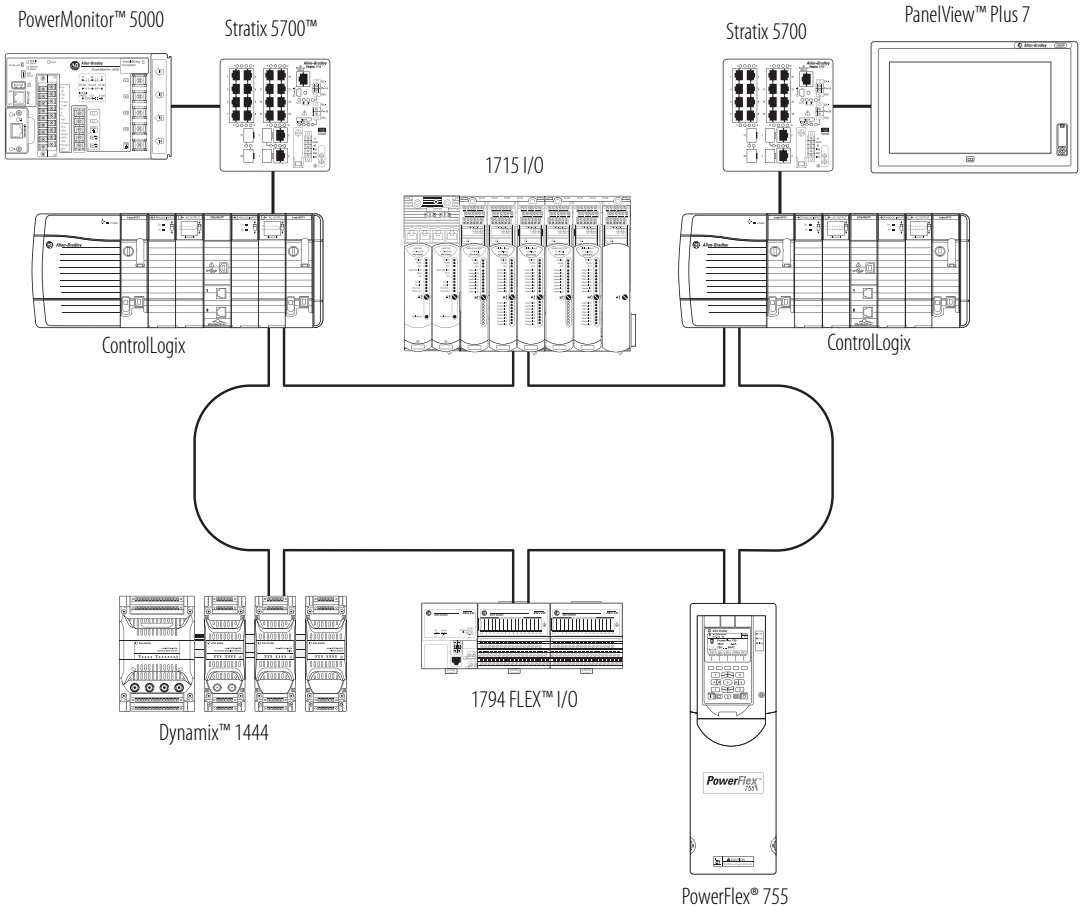
ControlLogix System Overview

The ControlLogix system provides discrete, drives, motion, process, and safety control together with communication and state-of-the-art I/O in a small, cost-competitive package. The system is modular, so you can design, build, and modify it efficiently with significant savings in training and engineering.

Example Configuration—ControlLogix System

A simple ControlLogix system consists of a standalone controller and I/O modules in one chassis. For a more comprehensive system, use the following:

- Multiple controllers in one chassis
- Multiple controllers joined across networks
- I/O in multiple platforms that are distributed in many locations and connected over multiple I/O links



Conformal Coating

A conformal coating solution is offered on select ControlLogix products. Conformal coating helps protect the assembly by providing a layer of protection against contaminants and humidity to extend product life in harsh, corrosive environments. Conformally coated products have a 'K' suffix at the end of the catalog number, such as 1756-A4K. Conformally coated, Allen-Bradley® products meet or exceed these requirements:

- ANSI/ISA 71.04.2013 G3 Environment (10-year exposure)
- IEC 61086-3-1 Class 2
- IPC-CC-830
- MIL-I-46058C
- EN600068-2-52 salt mist test, severity level 3

The most current list of conformally coated products can be found by contacting your local Rockwell Automation distributor, sales office, or at the following location:

http://www.ab.com/en/epub/catalogs/12762/2181376/2416247/360807/ControlLogix-System.html

ControlLogix-XT System

ControlLogix-XT™ (Extended Temperature) controllers function the same way as traditional ControlLogix controllers with an extended temperature range. The ControlLogix-XT products include control and communication system components that are conformally coated to extend product life in harsh, corrosive environments:

- The standard ControlLogix system can withstand temperature ranges from 0…60 °C (33…140 °F).
- When used independently, the ControlLogix-XT system can withstand temperature ranges from -25…70 °C (-13…158 °F).

Analog RTD and Thermocouple Modules

Cat. No.	Inputs/Outputs	Range	Resolution	Removable Terminal Block
1756-IR6I	6 individually isolated RTD inputs	1…487 Ω 2…1000 Ω 4…2000 Ω 8…4000 Ω	16 bits 1…487 Ω: 7.7 mΩ/bit 2…1000 Ω: 15 mΩ/bit 4…2000 Ω: 30 mΩ/bit 8…4020 Ω: 60 mΩ/bit	1756-TBNH 1756-TBSH
1756-IRT8I	8 individually isolated inputs, RTD or thermocouple inputs (2 CJC)	1…500 Ω 2…1000 Ω 4…2000 Ω 8…4000 Ω -100…100 mV	24 bits 0…510Ω: 0.06 mΩ/count 0…1020Ω: 0.12 mΩ/count 0…2040Ω: 0.25 mΩ/count 0…4080Ω: 0.50 mΩ/count -101…101 mV: 0.01 µV/count	**1756-TBCH** **1756-TBS6H**
1756-IR12	12 channels RTD mode	1…500 Ω 2…1000 Ω 4…2000 Ω 8…4000 Ω	24 bits 0…510Ω: 0.06 mΩ/count 0…1020Ω: 0.12 mΩ/count 0…2040Ω: 0.25 mΩ/count 0…4080Ω: 0.50 mΩ/count	1756-TBCH 1756-TBS6H
1756-IT16	16 channels, thermocouple mode 2 CJC	-100…100 mV	24 bits -101…101 mV: 0.01 µV/count	1756-TBCH 1756-TBS6H
1756-IT6I	6 individually isolated thermocouple inputs 1 CJC	-12…78 mV -12…30 mV	16 bits -12…78 mV: 1.4 µV/bit -12…30 mV: 0.7 µV/bit	1756-TBNH 1756-TBSH
1756-IT6I2	6 individually isolated thermocouple inputs 2 CJC	-12…78 mV (1.4 µV per bit) -12…30 mV (0.7 µV per bit)	16 bits -12…78 mV: 1.4 µV/bit -12…30 mV: 0.7 µV/bit	1756-TBNH 1756-TBSH

Analog Output Modules

Cat. No.	Inputs/Outputs	Range	Resolution	Removable Terminal Block
1756-OF4	4 voltage or current outputs	±10V 0…20 mA	Voltage: 15 bits across 10.5V, 320 µV/bit Current: 15 bits across 21 mA, 650 nA/bit	1756-TBNH 1756-TBSH
1756-OF6CI	6 individually isolated outputs, current	0…21 mA	13 bits across 21 mA (2.7 µA)	1756-TBNH 1756-TBSH
1756-OF6VI	6 individually isolated outputs, voltage	±10.5V	14 bits across 21V (1.3 mV) (13 bits across 10.5V +sign bit)	1756-TBNH 1756-TBSH
1756-OF8	8 voltage or current outputs	±10V 0…20 mA	15 bits across 21 mA - 650 nA/bit 15 bits across 10.4V - 320 µV/bit	1756-TBNH 1756-TBSH
1756-OF8H	8 voltage or current outputs, HART interface	±10V 0…20 mA 4…20 mA	15…16 bits	1756-TBNH 1756-TBSH
1756-OF8I	8 individually isolated outputs, current or voltage	±10V 0…10V 0…5V 0…20 mA	16 bit ±10.5V (0.32 mV/count) 0…10.5V (0.16 mV/count) 0…5.25V (0.08 mV/count) 0…21 mA (0.32 µA/count)	1756-TBCH 1756-TBS6H
1756-OF8IH	8 individually isolated current outputs	0…20 mA 4…20 mA	15 bits across 24 mA, 732 nA per bit	1756-TBCH 1756-TBS6H

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^2 (14 AWG) wiring. If you plan to use 2.5 mm^2 (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.