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CompactLogix™ 5370 L3 Programmable Automation Controllers

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Rockwell Automation

Agenda

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1. Hardware Overview
2. Features and Benefits
3. Applications
4. Anatomy
5. Positioning
6. Documentation

CompactLogix 5370 L3 Programmable Automation Controllers (PACs)

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Expanding on the scalability of the Logix family of controllers, the CompactLogix 5370 L3 PACs offer a wider variety of options from which to choose and provide best-fit alternatives for your specific application requirements.

This offering, together with Kinetix® 350, provides a strong motion solution with performance and cost competitiveness for customers who require high performance in a compact and affordable package and significantly lowers the cost to deploy integrated motion in a variety of machine applications, all on one common network – EtherNet/IP.

Hardware Overview

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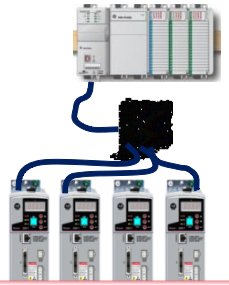
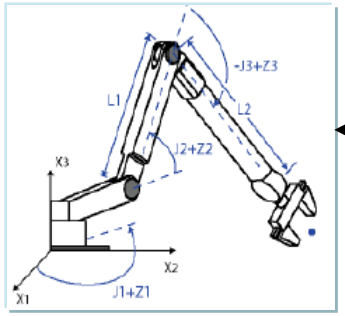
New faster CPU

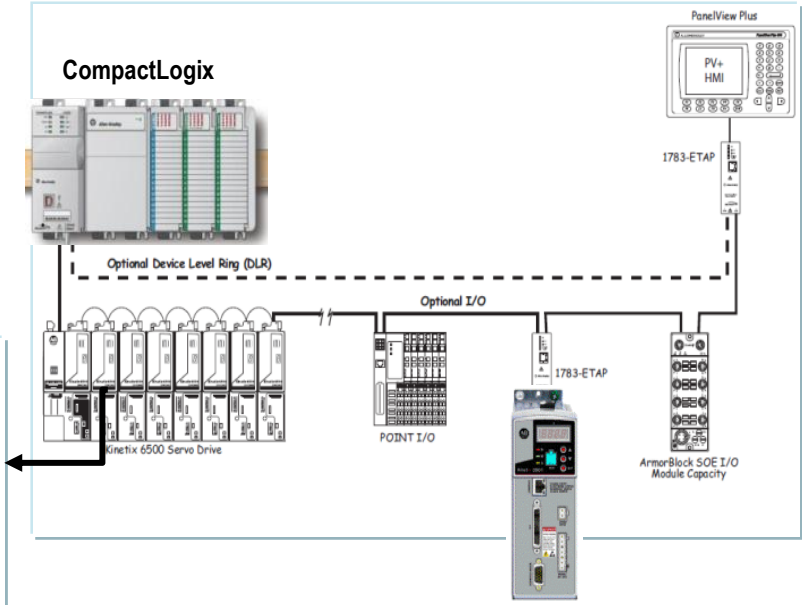
- >2x performance improvement for standard applications over current L3x series controller
- >2.5x performance improvement for motion applications over current L3x series controller

Integrated Motion support – CIP Motion

- Up to 16 axis supported on unmodified Ethernet network
- 2-3axis/ms with 2-2.5x faster application program execution
- Kinematics support (Same as ControlLogix®)
- Kinetix 350 Single Axis Servo Drive
  - Safe Torque Off
  - 240V single phase, 240/460V three phase
  - 400w – 3Kw







High performance, scalable motion solution at a lower acquisition cost for value-driven applications

Hardware Overview (cont.)

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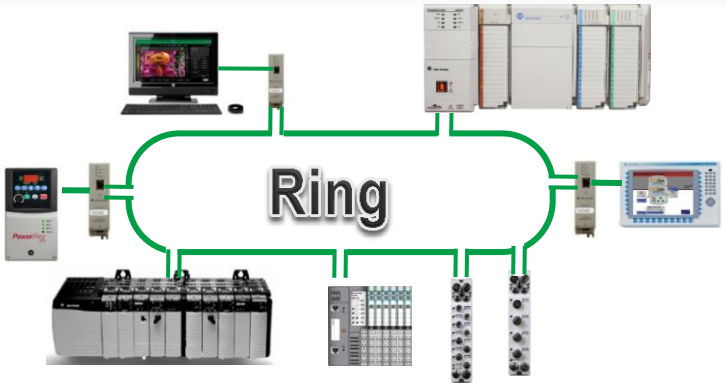
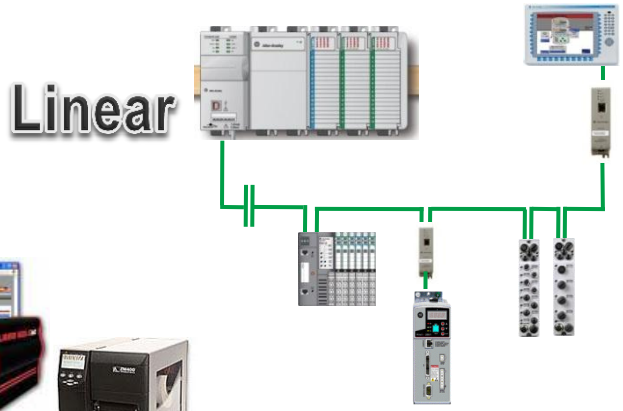
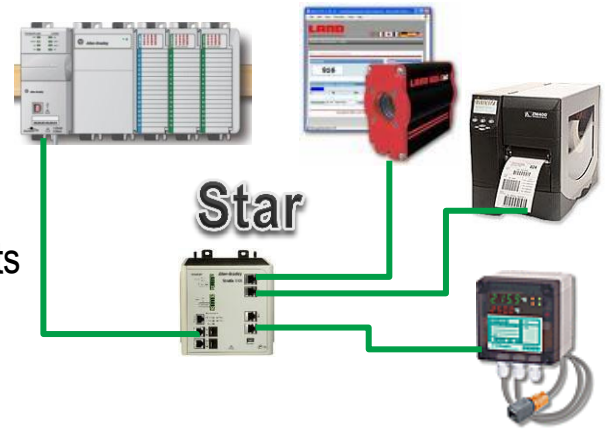
Dual Ethernet Port

- 10/100 Mbps
- Ethernet switch that supports Device Level Ring (DLR)
  - Allows user to connect the Ethernet network in a ring topology
  - Resiliency from loss of one network connection allows to replace devices/drives one at a time without stopping production – similar to star topology
  - Ring supervisor capability (same as ETAP or 1756-EN2TR)
  - Reduces the number of Ethernet switches in the system which reduces cost
- CIP Motion capability (ERM models only)
  - Supports all motion instructions including kinematics
- Open socket capabilities
  - Up to 32 sockets available
  - Supported in the embedded Ethernet ports
  - Supports packets size of up to 500bytes
  - Send using existing MSG command







Hardware Overview (cont.)

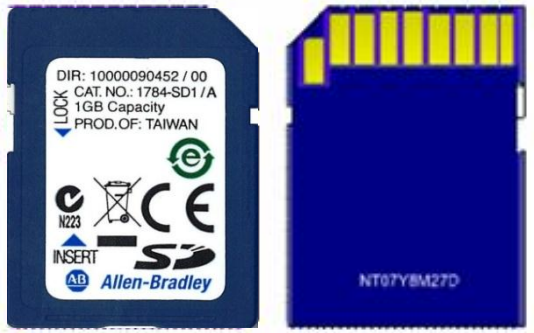
- 9-Pin D-shell serial port replaced with USB Type B port
  - USB 2.0 communicating at full-speed (12mb/s)
  - Device port (temporary connection only)
  - Improved performance for flashing firmware, uploads and downloads, on-line edits, and bridging to the backplane
  - Device only, Not a host
    - No ASCII communications via USB
      For ASCII applications use 1769-ASCII or 1769-SM2 or 1734 ASCII module
    - No connection to visualization or other USB devices
  - Connect to PC using a standard USB Type B cable
  - Used for
    - Flashing firmware
    - Upload/Downloads
    - Bridging to the backplane
    - Online edits and mode changes
- Enhanced SDRAM memory
  - Provides faster and more robust reads and writes
- Performance improvement for firmware flashing
  - existing 1769-L32E/35E to v20 via Serial port >= 15 mins
  - CompactLogix 5370 L3 PACs via USB port ~ 01 mins

Hardware Overview (cont.)

Removable Secure Digital (SD) memory card

NEW!

- Industrially rated and certified Secure Digital card
  - 1784-SD1 (1GB)
  - 1784-SD2 (2GB)
- Faster reads and writes compared to Compact Flash
- Rated for use in SIL 2 applications
- New capabilities in the CompactLogix 5370 L3 controllers
  - Application/Project storage
  - Firmware Supervisor
  - Runtime tag data read/write
- 1GB SD card ships with every CompactLogix 5370 L3 PAC



Battery-less Energy Storage Solution

NEW!

- Eliminates maintenance, transportation and environmental issues associated with lithium batteries
- Embedded in every new CompactLogix 5370 L3 controller

Product Features

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	1769-L30ER	1769-L30ERM	1769-L30ER-NSE	1769-L33ER	1769-L33ERM	1769-L36ERM
User memory	1 MB	1 MB	1 MB	2 MB	2 MB	3 MB
Controller tasks	32 tasks	32 tasks	32 tasks	32 tasks	32 tasks	32 tasks
Programs per task	100 tasks	100 tasks	100 tasks	100 tasks	100 tasks	100 tasks
Integrated Motion	--	4 axis CIP motion	--	--	8 axis CIP motion	16 axis CIP motion
Package Size	67.5mm wide x 118mm high x 105mm deep					
Certifications	cULH (Class I Division 2), KCC UL (UL 508), ULH (Class I & II, Division 2 and Class III, Divisions 1 & 2) ATEX, CE, C-Tick Marine and GOST certifications anticipated in 2012					
Local Expansion Modules	8	8	8	16	16	30
Local Expansion I/O points (max)	256	256	256	512	512	960
Built-in Communication Ports	USB and EtherNet/IP (2 ports supporting DLR)					
Communication Module Additions	DeviceNet with 1769-SDN or 3rd party					

Product Features (cont.)

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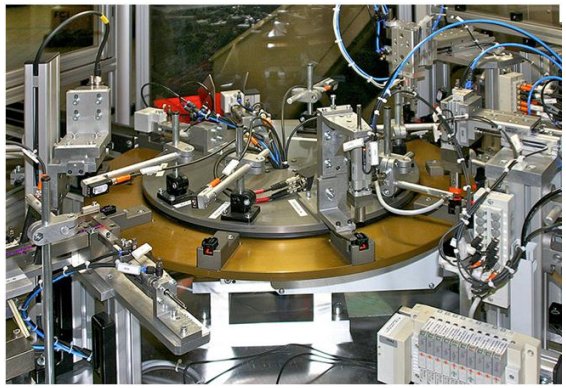
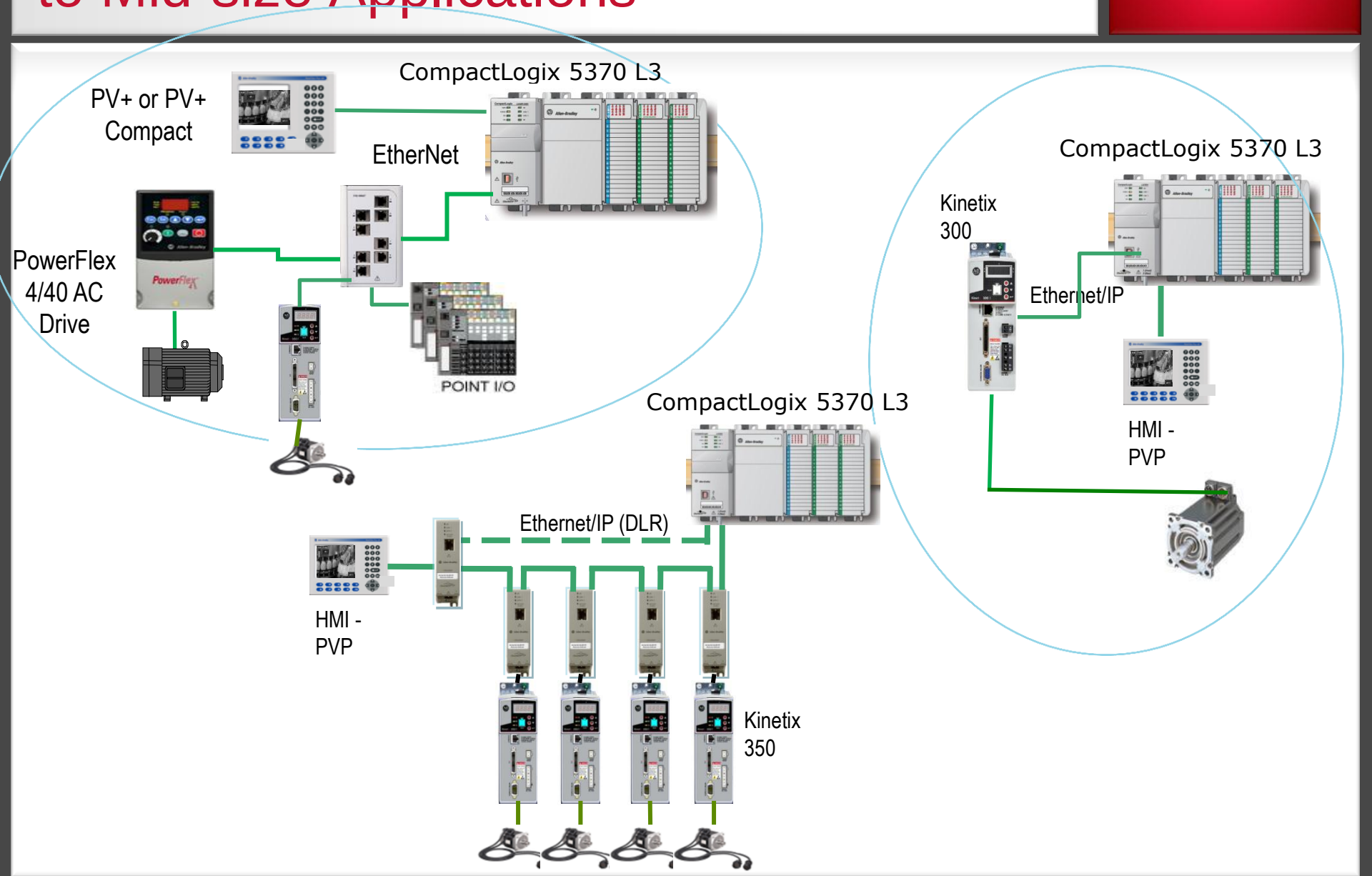
	1769-L30ER	1769-L30ERM	1769-L30ER-NSE	1769-L33ER	1769-L33ERM	1769-L36ERM
Flash Memory Card	Industrially rated and certified Secure Digital (SD) memory card (1 and 2 GB options); all controllers shipped with 1 GB card					
Controller/TCP connections	500 / 120	500 / 120	500 / 120	500 / 120	500 / 120	500 / 120
Ethernet I/O IP nodes	16	16	16	32	32	64
Total number of axes (CIP)	100	100	100	100	100	100
Servo Drives (position loop CIP)	--	4	--	--	8	16
Virtual axis	100	100	100	100	100	100
Feedback only, torque, velocity (max CIP motion drives)	--	16	--	--	32	64
Axes/ms	--	2	--	--	2	2
Kinematics support	--	yes	--	--	yes	yes
Software / Firmware	RSLogix 5000 V20 and RSLinx Classic V2.58 Firmware v20.1x or later					

Example Applications

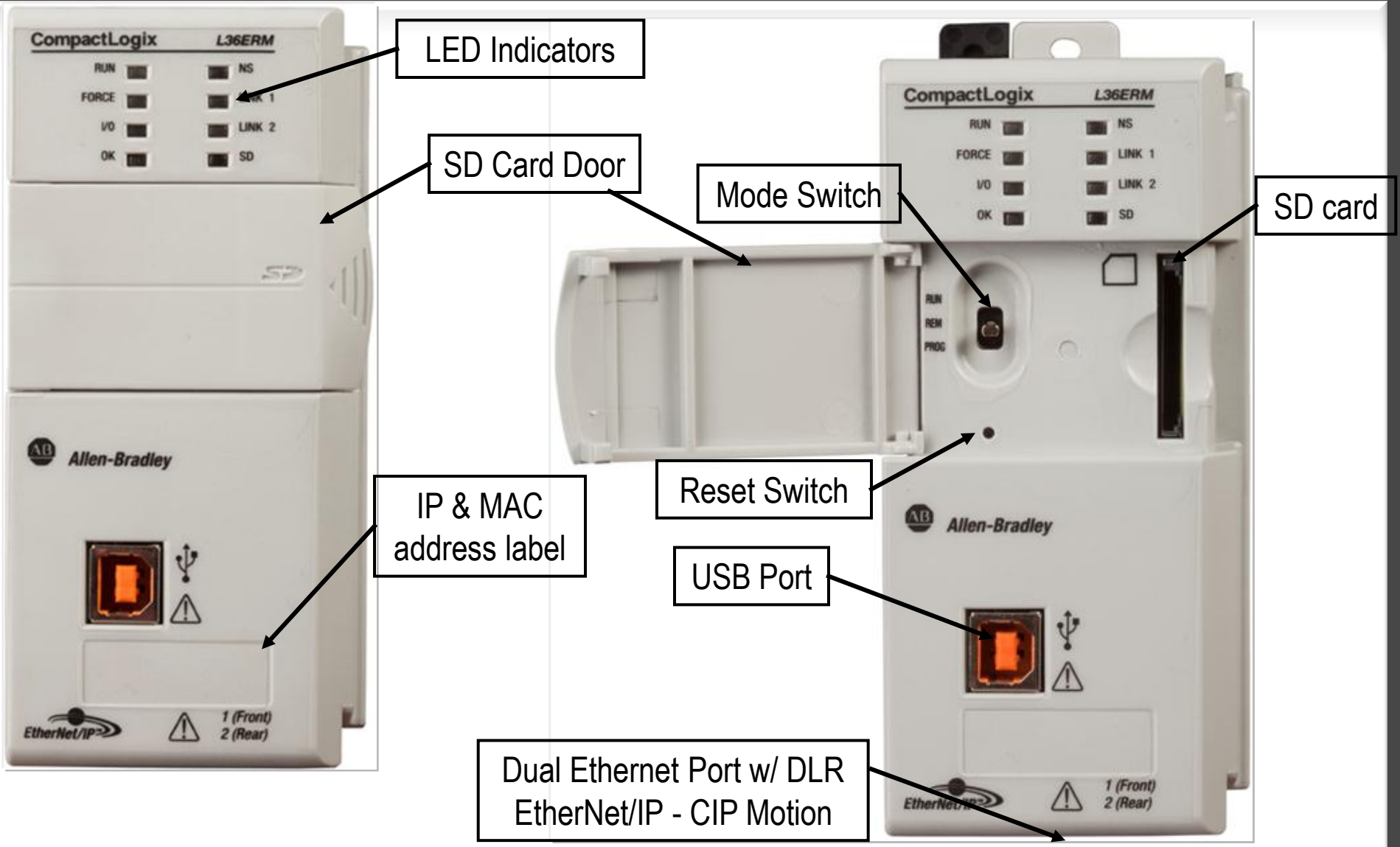
- Indexing Tables
- Automatic assembly machines
- Simple case packers and erectors
- Hoisting & Cranes
- Winders, Rewinders, Slitters
- Process Skids
- Packaging
  - Vertical form fill and seal equipment
  - Horizontal form fill and seal equipment



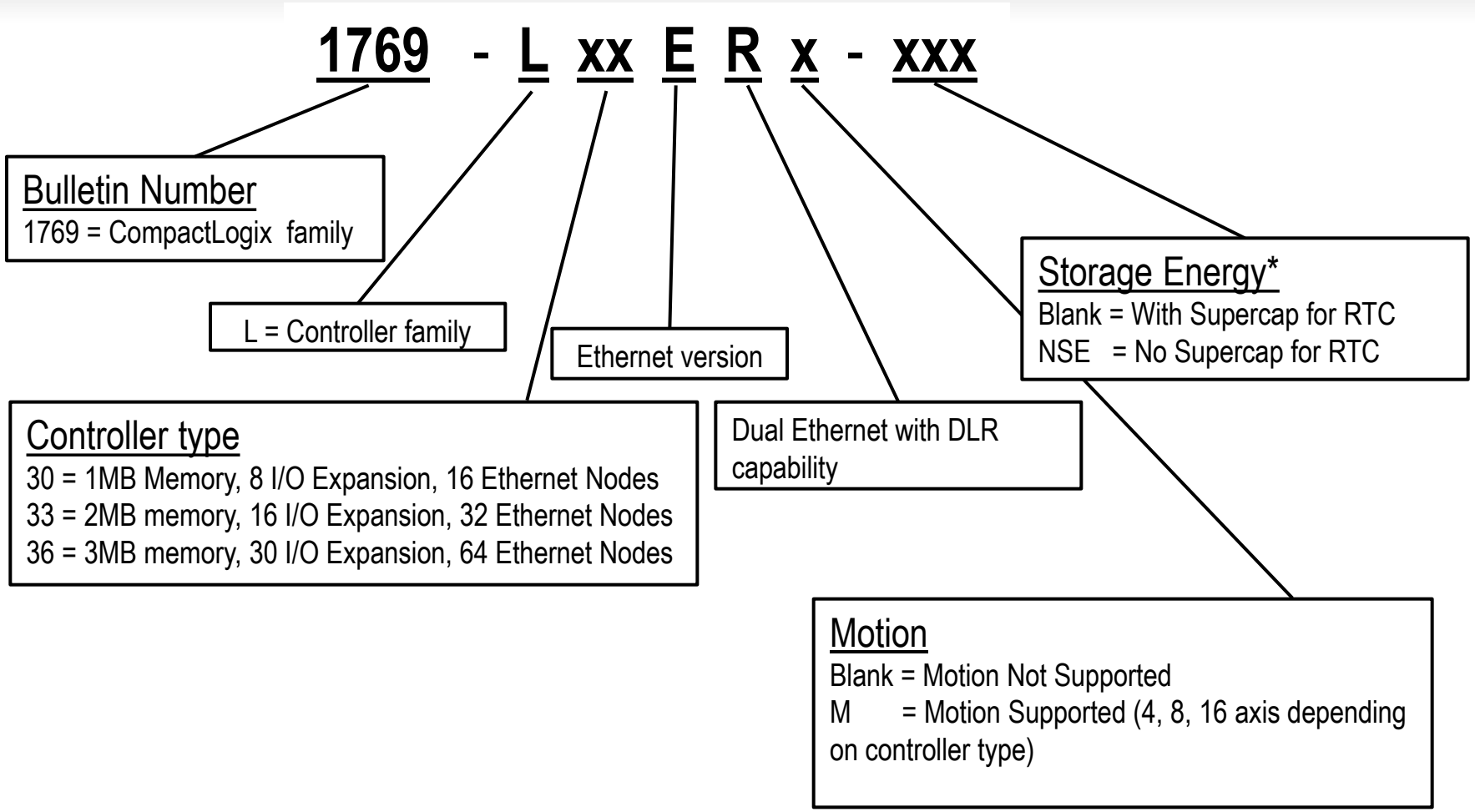
Typical Configuration for Simple, Small to Mid-size Applications



Anatomy



Understanding Catalog Nomenclature



Note: * Applicable for L30ER only

Positioning

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Controllers without Integrated Motion

General Purpose Machine Controller

Small Machine Controller

Small Stand-Alone & Ancillary Equipment Controller


L16ER-BB1B


L18ER-BB1B


L24ER-QB1B


L24ER-QBFC1B


L30ER/L30ER-NSE


L33ER

Controllers with Integrated Motion


L18ERM-BB1B
2 axis with Kinematics


L27ERM-QBFC1B
4 axis with Kinematics


L30ERM
4 axis with Kinematics


L33ERM
8 axis with Kinematics


L36ERM
16 axis with Kinematics

Note: NSE – No Storage Energy (No RTC SuperCap)

Documentation*

Publication Title	Publication Number
CompactLogix 5370 L3 Programmable Automation Controllers Product Profile	1769-PP010
Version 21: Studio 5000 Automation and Engineering Design Environment	9324-PP006
CompactLogix Controllers, Revision 20 Firmware Release Notes	1769-RN020
CompactLogix Controllers (1769-L3x) Packing Contents	1769-PC006
CompactLogix System User Manual	1769-UM021
CompactLogix Selection Guide	1769-SG001
CompactLogix Technical Data	1769-TD005
CompactLogix Controllers Quick Start	IASIMP-QS023
CIP Motion Configuration and Startup User Manual	MOTION-UM003
Logix5000 Motion Controllers Instructions Reference Manual	MOTION-RM002
Logix 5000 Controllers Execution Time and Memory Use Reference Manual	1756-RM087
Connect POINT I/O Modules over a DeviceNet Network Quick Start	IASIMP-QS026
Connect POINT I/O Modules over an EtherNet/IP Network Quick Start	IASIMP-QS027
Connect a PowerFlex 40 Drive over a DeviceNet Network Quick Start	IASIMP-QS028
Connect a PowerFlex 40 Drive over an EtherNet/IP Network Quick Start	IASIMP-QS029
Connect a PowerFlex 70 Drive over a DeviceNet Network Quick Start	IASIMP-QS030
Connect a PowerFlex 70 Drive over a EtherNet/IP Network Quick Start	IASIMP-QS031
Connect a Kinetix 350 Multi-axis Servo Drive System over an EtherNet/IP Network Quick Start	IASIMP-QS032
Connect a PanelView Plus Terminal over an EtherNet/IP Network Quick Start	IASIMP-QS033

*Available at product release.

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