Allen-Bradley

Line Interface Module

Catalog Numbers 2094-AL15S, 2094-AL25S, 2094-AL50S, 2094-AL75S, 2094-BL10S, 2094-BL25S, 2094-BL50S, 2094-BL75S, 2094-XL75S-C1, 2094-XL75S-C2, 2094-AL09, 2094-BL02

About the Line Interface Module

The Bulletin 2094 line interface module is designed to replace many of the common-input power devices required for your servo drive system. Use these instructions when mounting your module to the panel or wiring your module into the system.

For installation information regarding equipment and accessories excluded here, see Additional Resources on page 56 or the information available for those products.

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

	**WARNING:** Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
	**ATTENTION:** Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

Labels may also be on or inside the equipment to provide specific precautions.

	**SHOCK HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.
	**BURN HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.
	**ARC FLASH HAZARD:** Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

Catalog Number Explanation

Catalog numbers and descriptions for the line interface module are listed in the table below.

Cat. No.	Input Voltage	Current Rating	Description	
2094-AL15S	230V	15 A	• 230V AC auxiliary power output. • Customer-configurable branch-circuit protection. This feature provides the option for connecting CB2 and CB3 before or after the main (CB1) disconnect. See Configure Branch-circuit Protection on page 40 for more information.	• 24V DC power output with 20 A current capacity. • Branch circuit protection and disconnect when used with the variable-depth rotary mechanism (catalog number 140G-G-RVM12B). • Power to multiple Bulletin 2093 or 2094 power rails. • Internal 24V DC I/O line filter. • Internal 230V AC control line filter. • External (customer supplied) 3-phase line filter.
2094-AL25S		25 A		
2094-AL50S		50 A		
2094-AL75S		75 A		
2094-BL10S	460V	10 A		
2094-BL25S		25 A		
2094-BL50S		50 A		
2094-BL75S		75 A		
2094-XL75S-C1	230/460V	75 A	110V AC auxiliary power input.	
2094-XL75S-C2	230/460V	75 A	230V AC auxiliary power input.	
2094-AL09	230V	20 A	• 24V DC power output with 8 A current capacity. • Internal 3-phase line filter. • Internal 230V AC control line filter.	
2094-BL02	460V	30 A		

Before You Begin

Before you begin mounting your line interface module, make sure you:

- unpack your line interface module.
- understand the mounting requirements.
- establish noise zones.

Unpack Your Line Interface Module

Remove all packing material, wedges, and braces from within and around the components. After unpacking, check the item nameplate catalog number against the purchase order.

Line interface modules ship with the following items:

- Connector set for 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x* line interface modules includes I/O (IOL), VAC line (IPL), VAC load (OPL), control power (CPL), 24V brake/IO power (P1L), auxiliary 230V Output (P2L), and auxiliary 230V input (APL) connectors.
- Connector set for 2094-AL09 and 2094-BL02 line interface modules includes VAC line (IPL), VAC load (OPL), control power (CPL), and 24V brake I/O power (PSL) connectors.

  The I/O (26-pin) connector for 2094-AL09 and 2094-BL02 line interface modules is not provided. See Accessories on page 51 for the catalog number and a complete description of the connector sets.
- These installation instructions, publication 2094-IN005.

Mounting Requirements

ATTENTION: Plan the installation of your system so that you can perform all cutting, drilling, tapping, and welding with the system removed from the enclosure. Because the system is of the open type construction, be careful to keep any metal debris from falling into it. Metal debris or other foreign matter can become lodged in the circuitry, which can result in damage to components.

The following requirements apply when preparing to mount your line interface module:

- The line interface module must be enclosed in a grounded conductive enclosure offering protection as defined in standard EN 60529 (IEC 529) to IP55 such that they are not accessible to an operator or unskilled person, to comply with UL and CE requirements. A NEMA 4X enclosure exceeds these requirements providing protection to IP66.
- The panel you install inside the enclosure for mounting your system components must be on a flat, rigid, vertical surface that won't be subjected to shock, vibration, moisture, oil mist, dust, or corrosive vapors.
- Observe the Environmental Specifications on page 55.
- Maintain minimum clearances for proper airflow, easy module access, and proper cable bend radius as shown in the figures on page 5.

IMPORTANT Mount the line interface module in an upright position as shown. Do not mount the module on its side.

Figure 1 - Minimum Clearance Requirements (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)

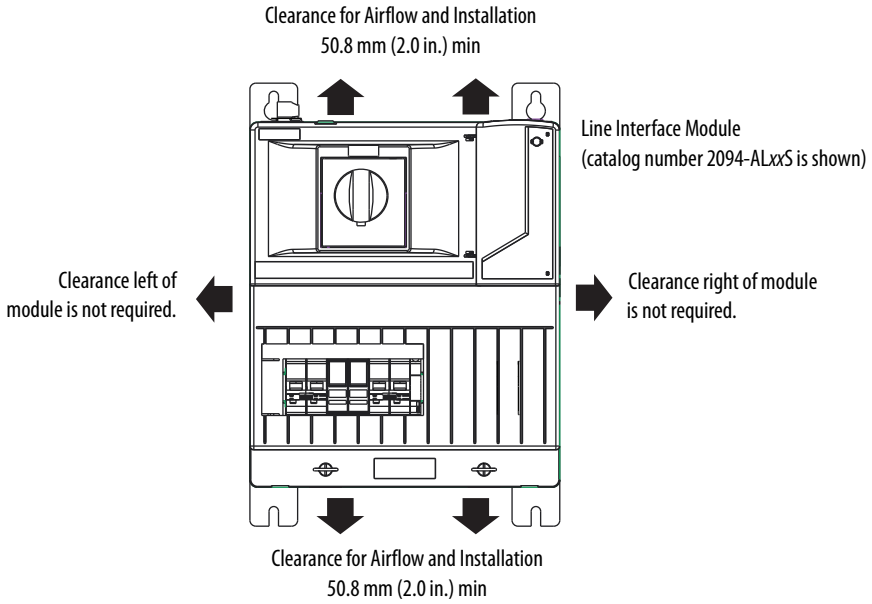
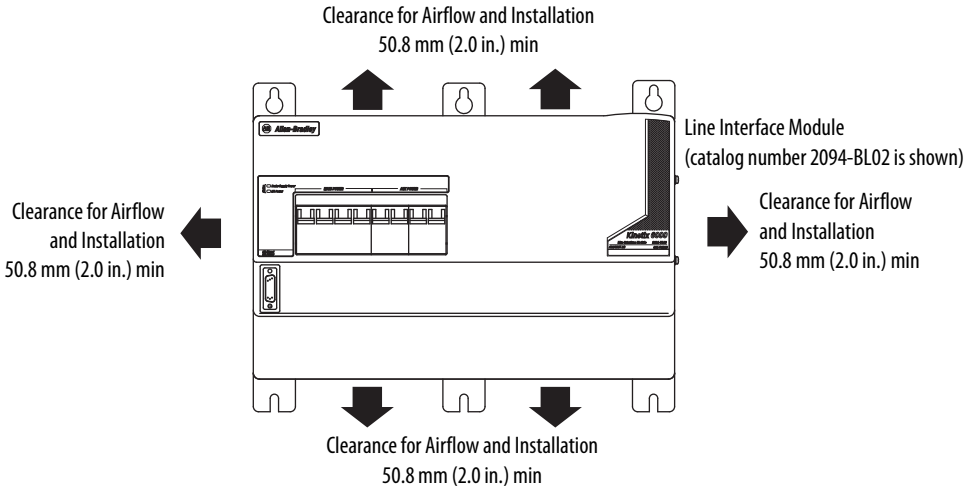


Figure 2 - Minimum Clearance Requirements (catalog numbers 2094-AL09 and 2094-BL02)



Cat. No.	Cabinet Depth Clearance, min
2094-AL*xx*S	200 mm (7.9 in.)
2094-XL75S	
2094-BL*xx*S	250 mm (9.8 in.)
2094-AL09	200 mm (7.9 in.)
2094-BL02	300 mm (11.8 in.)

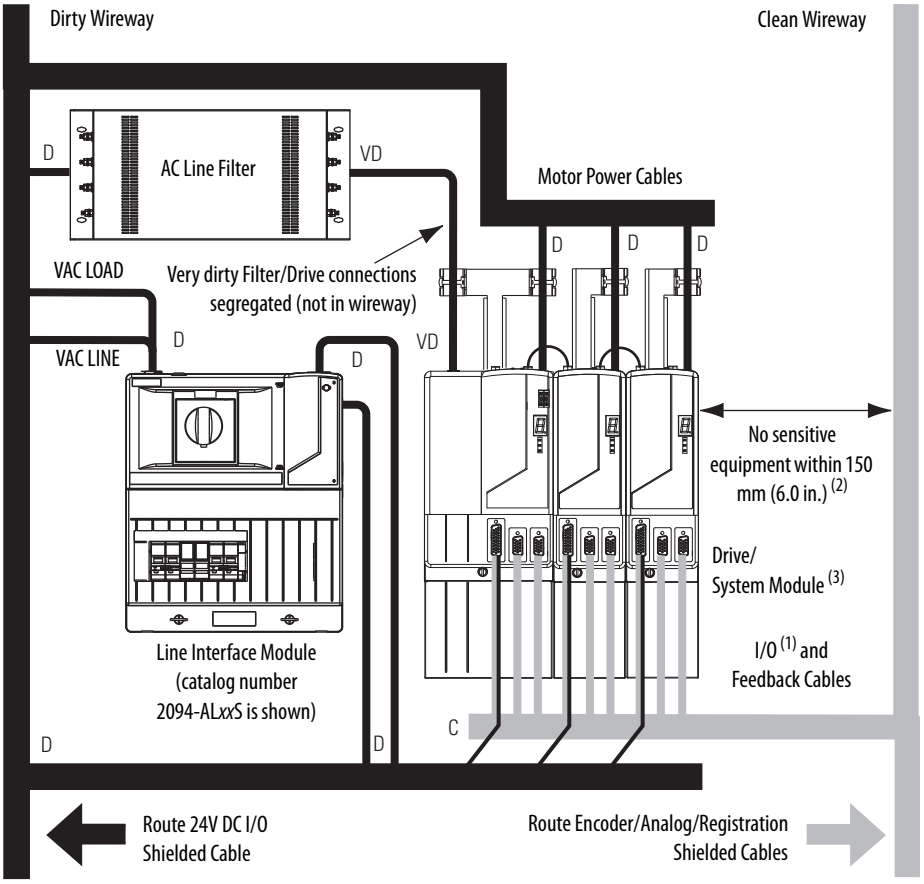
For Power Dissipation Specifications, see page 54.

Establishing Noise Zones

Observe these guidelines when a 2094-AL*xx*S, 2094-BL*xx*S, or 2094-XL75S-C*x* line interface module is used in the system and mounted left of the drive with the AC (EMC) line filter mounted above the module:

- The clean zone (C) is to the right and beneath the drive system (gray wireway).
- The dirty zone (D) is to the left and above the drive system, and above and below the line interface module (black wireway).
- The very dirty zone (VD) is from the filter output to drive. Shielded cable is required on the EMC filter (LOAD side) and the braided shield attached to the clamp (when provided).
- The sercos fiber-optic cables are immune to electrical noise.

Figure 3 - Establishing Noise Zones (EMC filter above the line interface module)

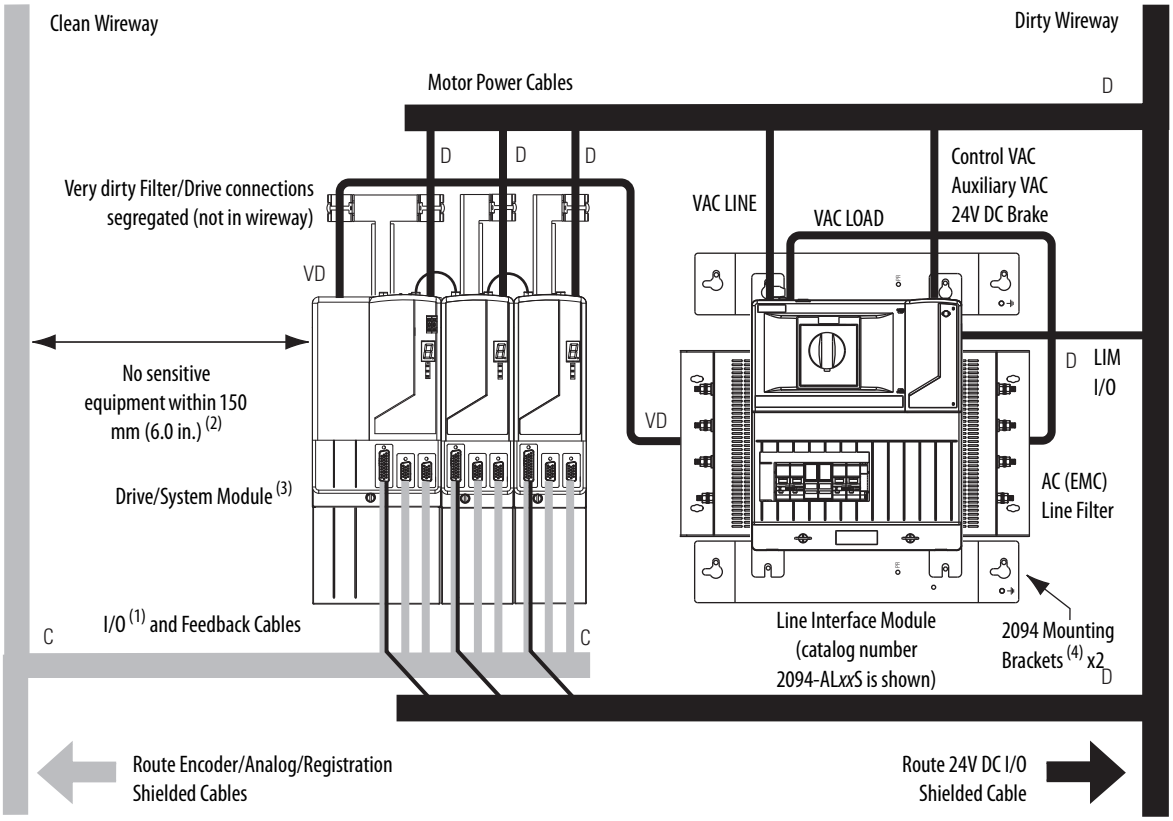


(1) If drive system I/O cable contains (dirty) relay wires, route cable with module I/O cable in dirty wireway.
(2) When space does not permit the 150 mm (6.0 in.) segregation, use a grounded steel shield instead. For examples, see the System Design for Control of Electrical Noise Reference Manual, publication GMC-RM001.
(3) The Kinetix® 6000 drive is shown as an example of any drive or other device in configuration with the line interface module; however, noise zones of other products will vary.

Observe these guidelines when a 2094-AL*xx*S, 2094-BL*xx*S, or 2094-XL75S-C*x* line interface module is used in the system and mounted right of the drive with the AC (EMC) line filter mounted behind the line interface module:

- The clean zone (C) is to the left and beneath the drive system (gray wireway).
- The dirty zone (D) is to the right and above the drive, and above and below the line interface module (black wireway).
- The very dirty zone (VD) is from the filter output to drive. Shielded cable is required on the EMC filter (LOAD side) and the braided shield attached to the clamp (when provided).
- The sercos fiber-optic cables are immune to electrical noise.

Figure 4 - Establishing Noise Zones (EMC filter behind the line interface module)



(1) If the drive system I/O cable contains (dirty) relay wires, route cable with the module I/O cable in dirty wireway.

(2) When space does not permit the 150 mm (6.0 in.) segregation, use a grounded steel shield instead. For examples, see the System Design for Control of Electrical Noise Reference Manual, publication GMC-RM001.

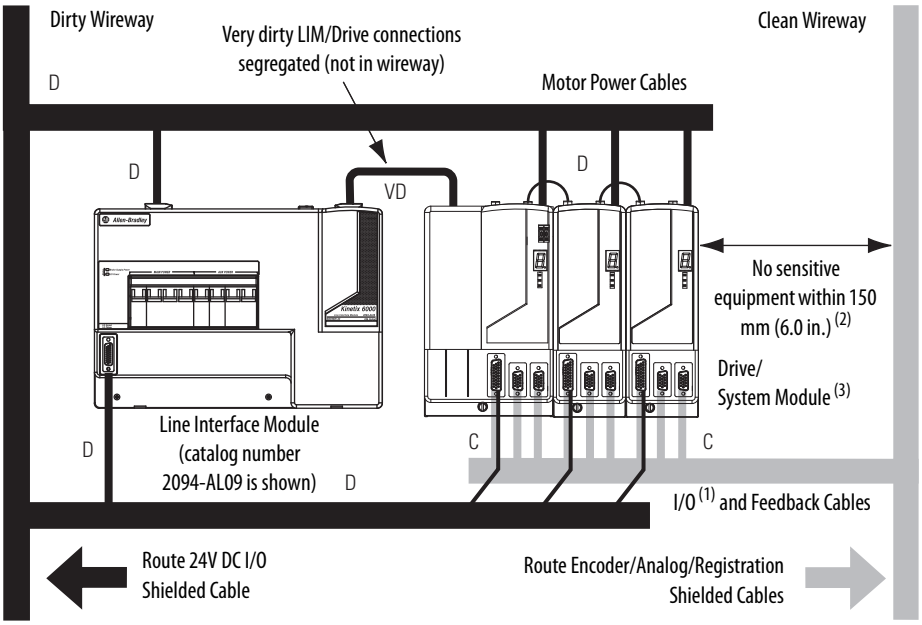
(3) The Kinetix 6000 drive is shown as an example of any drive or other device in configuration with the line interface module; however, noise zones of other products will vary.

(4) Only the 2094-AL*xx*S and 2094-XL75S-C*x* line interface modules are compatible with 2094 mounting brackets. The 2094-BL*xx*S, 2094-AL09, and 2094-BL02 line interface modules are not compatible.

Observe these guidelines when a 2094-AL09 or 2094-BL02 line interface module is used in the drive system:

- The clean zone (C) is to the right and beneath the drive system (gray wireway).
- The dirty zone (D) is to the left and above the drive, and above and below the line interface module (black wireway).
- The very dirty zone (VD) is limited to where the line interface module VAC output jumpers over to the drive. Shielded cable is required only if the very dirty cables enter a wireway.
- The sercos fiber-optic cables are immune to electrical noise.

Figure 5 - Establishing Noise Zones (catalog numbers 2094-AL09 or 2094-BL02)



(1) If drive system I/O cable contains (dirty) relay wires, route cable with module I/O cable in dirty wireway.

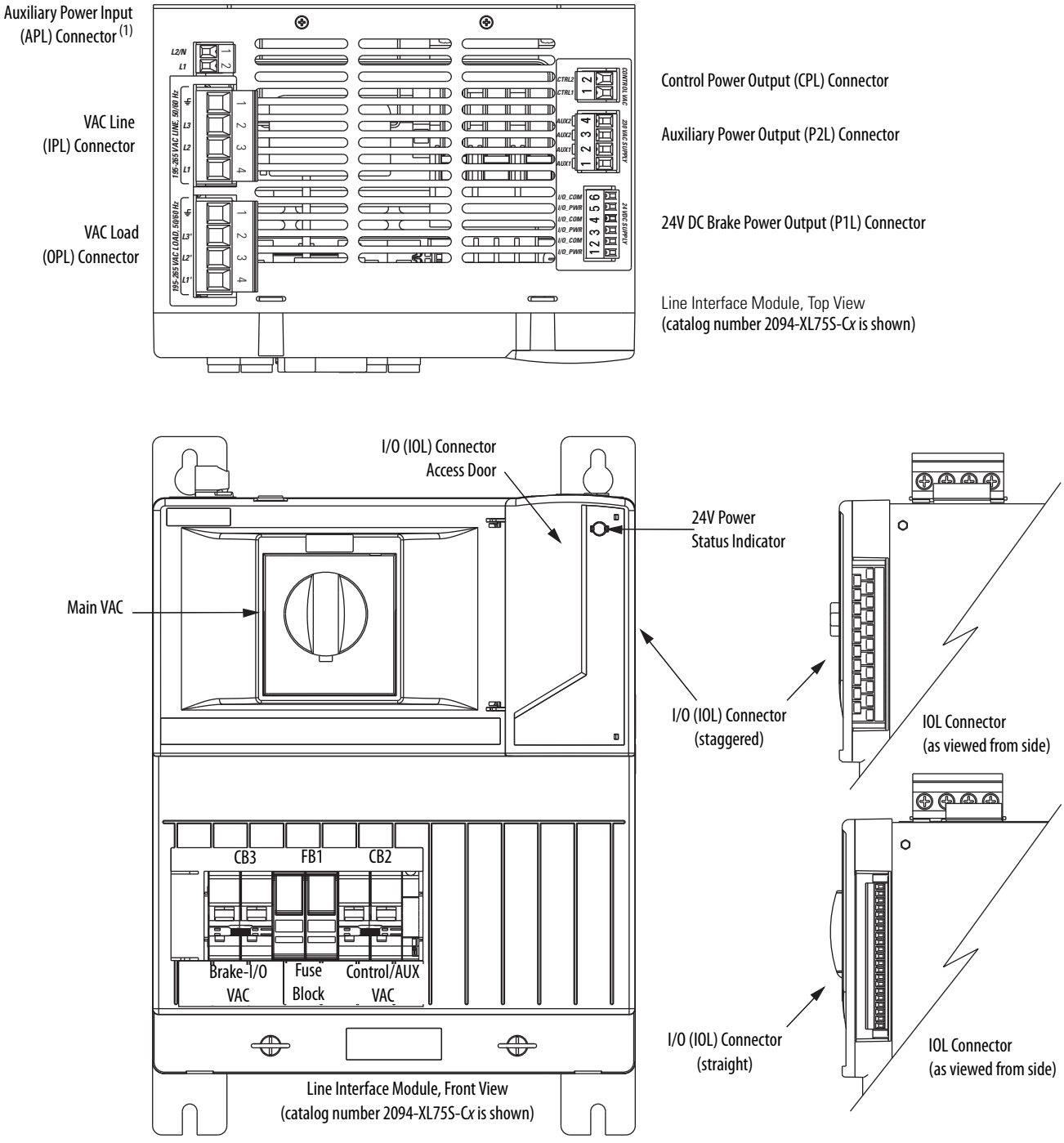
(2) When space does not permit the 150 mm (6.0 in.) segregation, use a grounded steel shield instead. For examples, see the System Design for Control of Electrical Noise Reference Manual, publication GMC-RM001.

(3) The Kinetix 6000 drive is shown as an example of any drive or other device in configuration with the line interface module; however, noise zones of other products will vary.

Connector Data

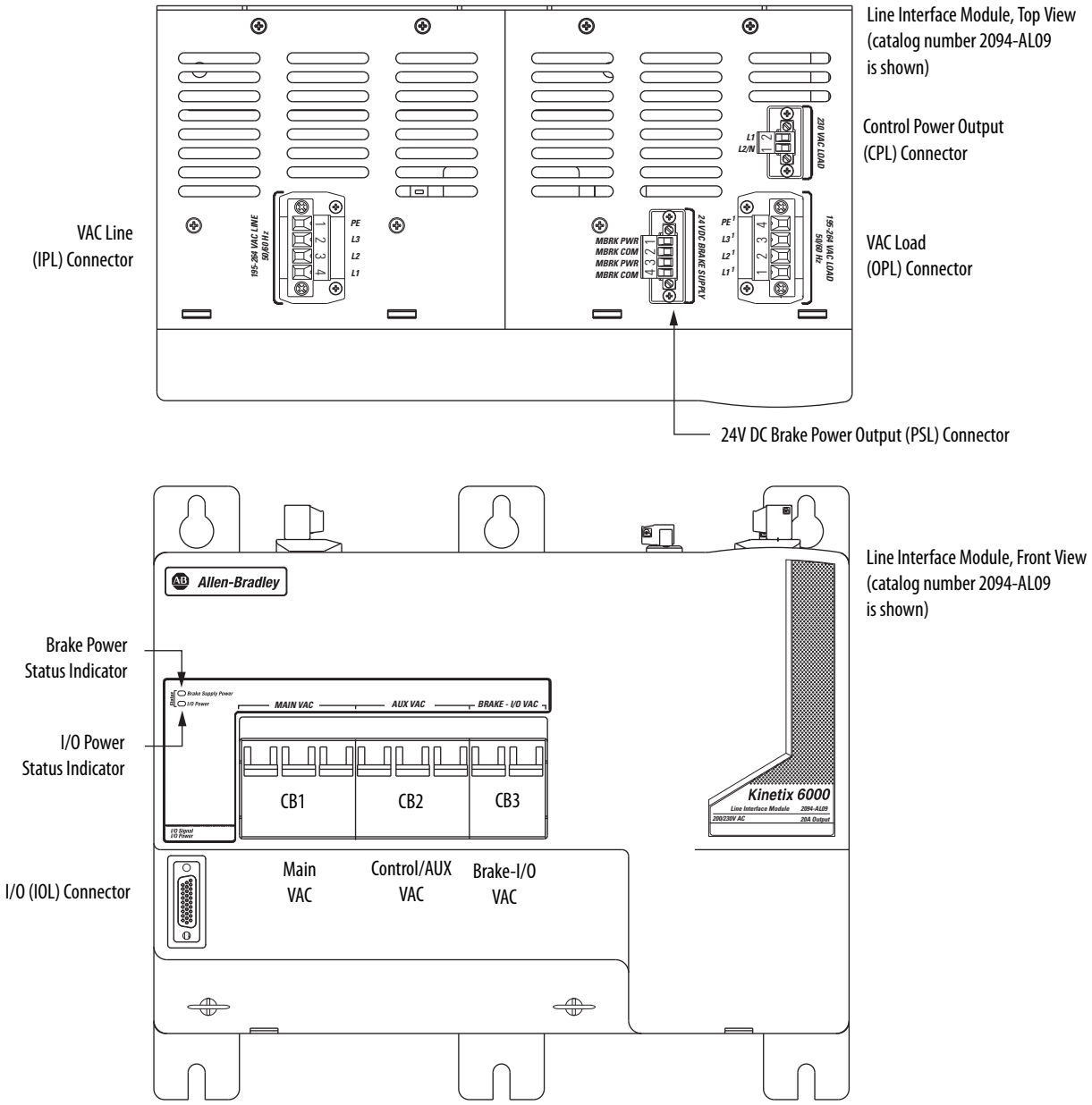
Use the figures below to locate the line interface module connectors and indicators.

Figure 6 - Connectors and Indicators
(catalog numbers 2094-AL*xx*S, 2094-BL7*xx*S, and 2094-XL75S-C*x*)



(1) Auxiliary Power Input (APL) connector is present only on the 2094-XL75S-C*x* line interface module.

Figure 7 - Connectors and Indicators (catalog numbers 2094-AL09 and 2094-BL02)



Line Interface Module Connectors

Table 1 - Connectors (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)

Designator	Description	Connector
IOL	Status I/O	21-pin (plugable) terminal block
IPL	VAC LINE input power	4-position plug/header
OPL	VAC LOAD output power	4-position plug/header
P1L	Brake and I/O power output (24V DC)	6-position plug/header
P2L	Auxiliary power output (230V AC)	4-position plug/header
CPL	Control power output	2-position plug/header
APL(1)	Auxiliary power input	2-position plug/header

(1) Auxiliary power input (APL) connector is present only on the 2094-XL75S-C*x* module.

Table 2 - Connectors (catalog numbers 2094-AL09 and 2094-BL02)

Designator	Description	Connector
IOL	Status I/O	26-pin high-density D-shell
IPL	VAC LINE input power	4-position terminals
OPL	VAC LOAD output power	4-position terminals
PSL	Brake and I/O power output (24V DC)	4-position plug/header
CPL	Control power output	2-position plug/header

I/O Connector

These tables provide signal descriptions and pinouts for the I/O (IOL) connector.

Table 3 - IOL (21-pin) Connector Pinouts (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)

IOL Pin	Description	Signal
1	IO 24V supply	IO_PWR1
2	IO 24V common	IO_COM1
3	IO 24V supply	IO_PWR1
4	IO 24V common	IO_COM1
5	IO 24V supply	IO_PWR1
6	IO 24V common	IO_COM1
7	24V contactor coil positive	COIL_E1
8	24V contactor coil negative	COIL_E2
9	Alarm make contact (CB1)	ALRM_M
10	SHIELD	SHIELD
11	Alarm break contact (CB1)	ALRM_B

IOL Pin	Description	Signal
12	Alarm common (CB1)	ALRM_COM
13	Contactor auxiliary contact (NC) #1 IN	CONSTAT_11
14	Contactor auxiliary contact (NC) #1 OUT	CONSTAT_12
15	Contactor auxiliary contact (NC) #2 IN	CONSTAT_21
16	Contactor auxiliary contact (NC) #2 OUT	CONSTAT_22
17	Contactor auxiliary contact (NC) #3 IN	CONSTAT_31
18	Contactor auxiliary contact (NC) #3 OUT	CONSTAT_32
19	Contactor auxiliary contact (NO) #5 IN	CONSTAT_53
20	Contactor auxiliary contact (NO) #5 OUT	CONSTAT_54
21	SHIELD	SHIELD

Your IOL connector terminals may be staggered, as in Figure 8, or straight, as in Figure 9.

Figure 8 - Pin Orientation for the IOL (21-pin) Connector, Staggered

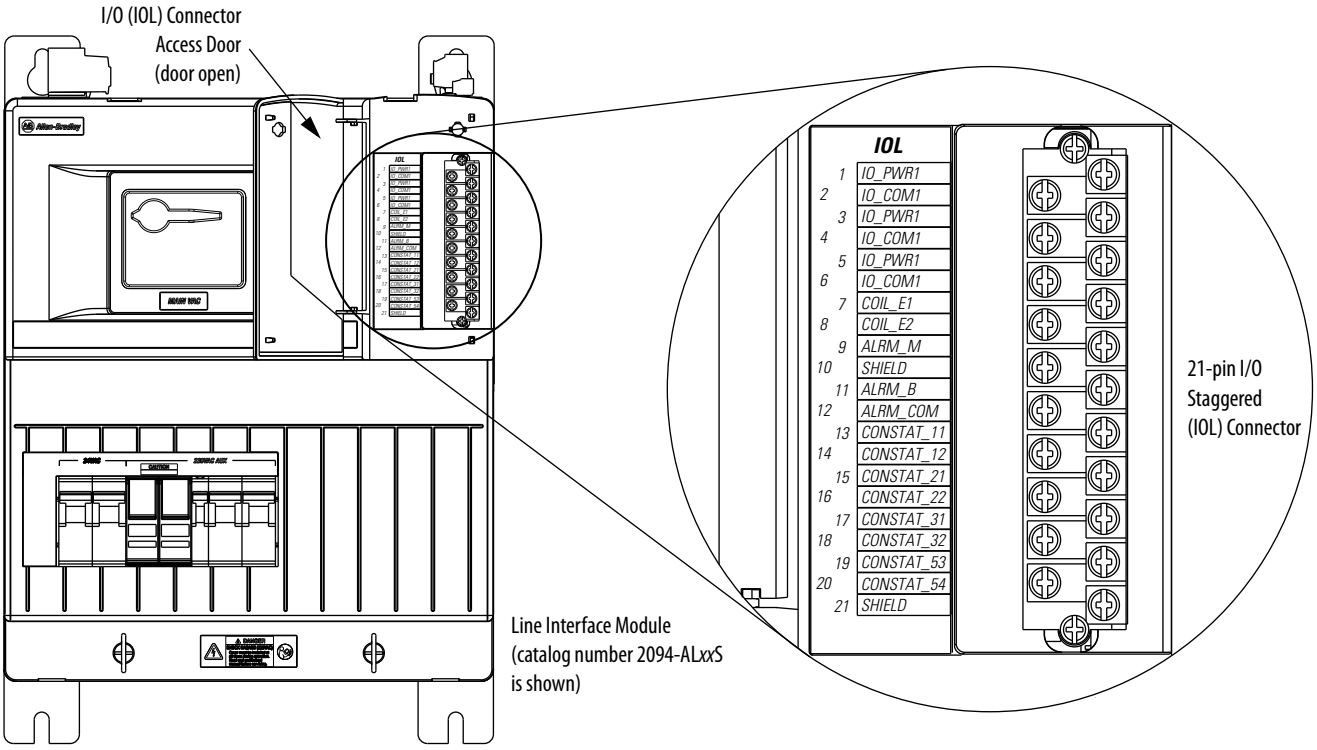


Figure 9 - Pin Orientation for the IOL (21-pin) Connector, Straight

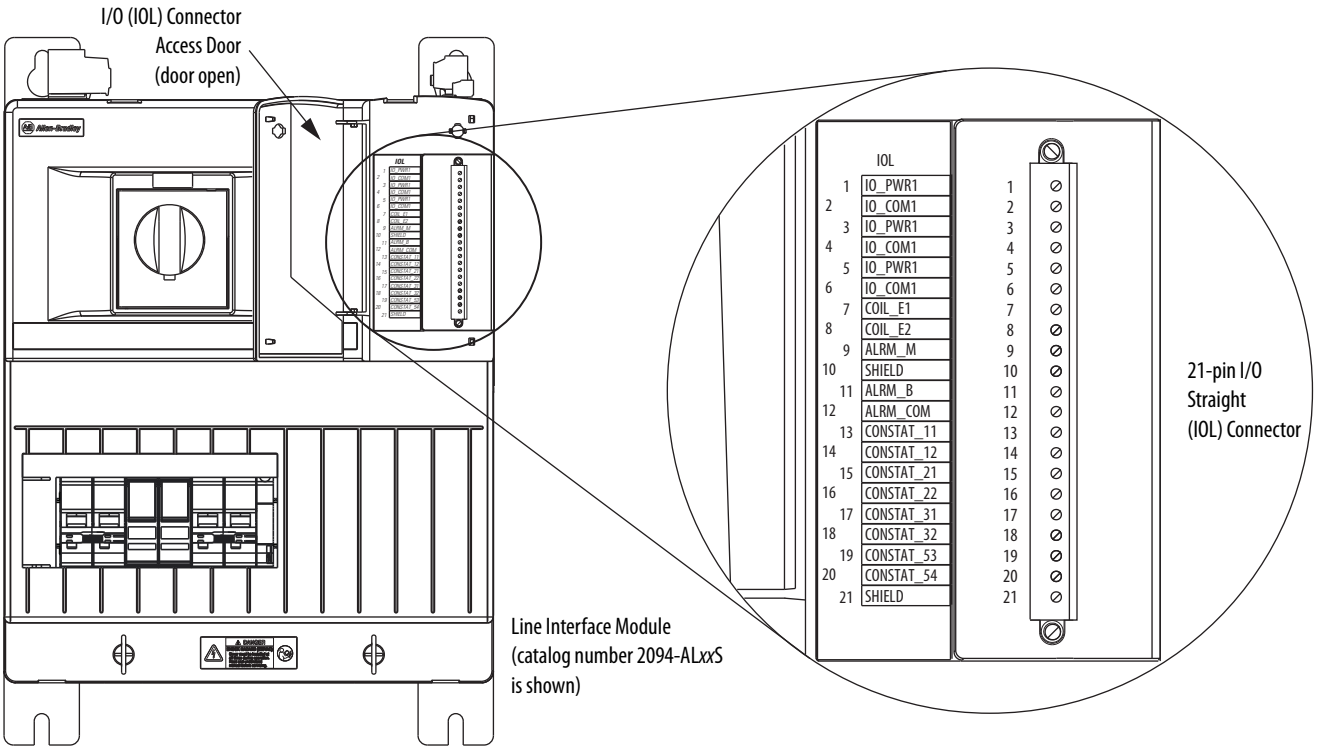
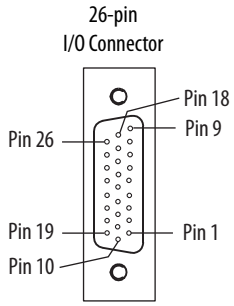


Table 4 - IOL (26-pin) Connector Pinouts (catalog numbers 2094-AL09 and 2094-BL02)

IOL Pin	Description	Signal
1	Reserved	–
2	Reserved	–
3	Reserved	–
4	24V contactor coil negative	COIL_A2
5	Reserved	–
6	Contactor auxiliary contact (NC) #1 OUT	CONSTAT_12
7	Contactor auxiliary contact (NC) #2 OUT	CONSTAT_22
8	Contactor auxiliary contact (NC) #3 OUT	CONSTAT_32
9	Contactor auxiliary contact (NC) #4 OUT	CONSTAT_42
10	Reserved	–
11	Reserved	–
12	Reserved	–
13	24V contactor coil positive	COIL_A1

IOL Pin	Description	Signal
14	Reserved	–
15	Contactor auxiliary contact (NC) #1 IN	CONSTAT_11
16	Contactor auxiliary contact (NC) #2 IN	CONSTAT_21
17	Contactor auxiliary contact (NC) #3 IN	CONSTAT_31
18	Contactor auxiliary contact (NC) #4 IN	CONSTAT_41
19	Reserved	–
20	IO 24V common	IO_COM
21	IO 24V common	IO_COM
22	IO 24V common	IO_COM
23	Reserved	–
24	IO 24V supply	IO_PWR
25	IO 24V supply	IO_PWR
26	IO 24V supply	IO_PWR

Figure 10 - Pin Orientation for the IOL (26-pin) Connector



Auxiliary Power Input Connector

This table provides the signal descriptions and pinouts for the auxiliary power input (2-pin) APL connector. This connector applies only to 2094-XL75S-C1 and 2094-XL75S-C2 line interface modules.

APL Pin	Description	Signal
1	Auxiliary power input	L2/N
2		L1

Control Power Output Connector

These tables provide signal descriptions and pinouts for the control power (2-pin) CPL connector.

Table 5 - CPL (2-pin) Connector Pinouts (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)

CPL Pin	Description	Signal
2	Control power output	CTRL 2
1		CTRL 1

Table 6 - CPL (2-pin) Connector Pinouts (catalog numbers 2094-AL09 and 2094-BL02)

CPL Pin	Description	Signal
2	Control power LOAD output	L1
1		L2/N

24V DC Brake Supply Connector

These tables provide signal descriptions and pinouts for the 24V brake supply connector, intended for use with mechanical motor brake or Bulletin 2090 resistive-brake module (RBM) applications.

Table 7 - P1L (6-pin) Connector Pinouts (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)

P1L Pin	Description	Signal
1	+24V DC supply	IO_PWR2
2	+24V DC common	IO_COM2
3	+24V DC supply	IO_PWR2
4	+24V DC common	IO_COM2
5	+24V DC supply	IO_PWR2
6	+24V DC common	IO_COM2

Table 8 - PSL (4-pin) Connector Pinouts (catalog numbers 2094-AL09 and 2094-BL02)

PSL Pin	Description	Signal
1	+24V DC supply	MBRK PWR
2	+24V DC common	MBRK COM
3	+24V DC supply	MBRK PWR
4	+24V DC common	MBRK COM

VAC LINE Connector

These tables provide signal descriptions and pinouts for the 3-phase input power (4-pin) IPL connector.

Table 9 - IPL (4-pin) Connector Pinouts (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)

IPL Pin	Description	Signal
1	Chassis ground	⏚
2	3-phase input power	L3
3		L2
4		L1

Table 10 - IPL (4-pin) Connector Pinouts (catalog numbers 2094-AL09 and 2094-BL02)

IPL Pin		Description	Signal
2094-AL09	2094-BL02		
1	4	Chassis ground	⏚ PE
2	3	3-phase input power	L3
3	2		L2
4	1		L1

IMPORTANT **ATTENTION:** Make the chassis (earth) ground connection from a grounded configuration only.

VAC LOAD Connector

These tables provide signal descriptions and pinouts for the 3-phase output power (4-pin) OPL connector.

Table 11 - OPL (4-pin) Connector Pinouts (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)

OPL Pin	Description	Signal
1	Chassis ground	⏚
2	3-phase output power	L3′
3		L2′
4		L1′

Table 12 - OPL (4-pin) Connector Pinouts (catalog numbers 2094-AL09 and 2094-BL02)

OPL Pin		Description	Signal
2094-AL09	2094-BL02		
4	1	Chassis ground	⏚ PE′
3	2	3-phase output power	L3′
2	3		L2′
1	4		L1′

Auxiliary Power Connector

This table provides signal descriptions and pinouts for the auxiliary power output (4-pin) P2L connector.

Table 13 - P2L (4-pin) Connector Pinouts (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)

Cat. No.	P2L Pin	Description	Signal
2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C2	1	230V AC power supply. Can be used with the Bulletin 2090-XB120 resistive-brake module (RBM) or other as needed.	AUX1_L1
	2		AUX1_L2
	3	230V AC power supply. Can be used with the Bulletin 2090-XB120 resistive-brake module (RBM) or other as needed.	AUX2_L1
	4		AUX2_L2
2094-XL75S-C1	1	110V AC power supply. For use as needed.	AUX1_L1
	2		AUX1_L2
	3	110V AC power supply. For use as needed.	AUX2_L1
	4		AUX2_L2

Understanding Signal Specifications

A description of the I/O (IOL), brake power (P1L/PSL), control power (CPL), and auxiliary power (P2L) signals and circuit specifications is provided on the following pages.

See the Block Diagrams beginning on page 45 for your line interface modules schematic.

I/O Signals

The 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x* line interface module I/O (IOL) signals include the contactor coil, alarm contacts, status contacts, and I/O power supply.

This table provides a description and electrical specifications for the IOL connector signals. See Power Specifications on page 52 for auxiliary contactor specifications.

Table 14 - IOL (21-pin) Signal Specifications (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)

IOL Pin	Signal	Description	Voltage (Volts)			Current (Amps)		
			Min	Nom	Max	Min	Nom	Max
IOL-8 IOL-7	COIL_E2 COIL_E1	Line contactor coil connections with an auxiliary contact from the control power circuit breaker wired in series with the contactor coil. The line contactor is a safety contactor that includes three main contacts with three auxiliary contacts (see the figure on page 19).	18	24	30	0.005	0.011	0.017
IOL-12	ALRM_COM	Non-voltage contact (ALRM_M) to indicate that CB1 is closed (make) when CB1 is tripped. (DC) Non-voltage contact (ALRM_B) to indicate that CB1 is closed (make) when CB1 is not tripped. See the figure on page 18. (DC)	—	—	125	—	—	1
IOL-9 IOL-11	ALRM_M ALRM_B	[AC]	—	—	250	—	—	5
		[AC]	—	—	600	—	—	2
IOL-14 IOL-13	CONSTAT_12 CONSTAT_11	Three safety-rated auxiliary contacts that are normally-closed on the line contactor (see the figure on page 20).	—	24	—	—	—	10
IOL-16 IOL-15	CONSTAT_22 CONSTAT_21							
IOL-18 IOL-17	CONSTAT_32 CONSTAT_31							
IOL-20 IOL-19	CONSTAT_54 CONSTAT_53	One auxiliary contact (normally-open) that is not safety rated and should not be used in a safety string.						
IOL-2 IOL-4 IOL-6	IO_COM1	Power supply capable of supplying 24V @ 20 A for I/O functions and switches. Each set of pins is capable of 8 A. To use the full rating of the supply, all pins must be used to provide the appropriate current rating (see the figure on page 21).	21.6	24	26.4	—	—	8
IOL-1 IOL-3 IOL-5	IO_PWR1							

For more information regarding the Bulletin 100S-C85*x*-14 contactor, see the Safety Products Catalog, website http://www.ab.com.

The 2094-AL09 and 2094-BL02 line interface module I/O (IOL) signals include the contactor coil, status contacts, and I/O power supply.

Table 15 - IOL (26-pin) Signal Specifications (catalog numbers 2094-AL09 and 2094-BL02)

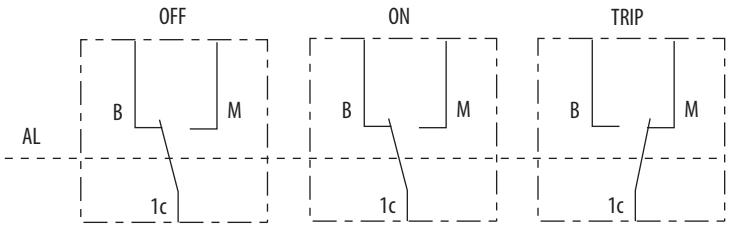
IOL Pin	Signal	Description
IOL-4 IOL-13	COIL_A2 COIL_A1	Line contactor coil connections with an auxiliary contact from the control power circuit breaker wired in series with the contactor coil. The line contactor is a safety contactor that includes three main contacts with four auxiliary contacts (see figure on page 19).
IOL-6 IOL-15	CONSTAT_12 CONSTAT_11	Four pairs of auxiliary contacts that are normally-closed on the line contactor (see figure on page 21).
IOL-7 IOL-16	CONSTAT_22 CONSTAT_21	
IOL-8 IOL-17	CONSTAT_32 CONSTAT_31	
IOL-9 IOL-18	CONSTAT_42 CONSTAT_41	
IOL-20 IOL-21 IOL-22	IO_COM	Power supply capable of supplying 24V @ 6 A for I/O functions and switches. Each set of pins is capable of 2 A. To use the full rating of the supply, all pins must be used to provide the appropriate current rating (see figure on page 23).
IOL-24 IOL-25 IOL-26	IO_PWR	

See Power Specifications beginning on page 52 for auxiliary contactor specifications.

CB1 Alarm Operation

The CB1 alarm circuitry (ALRM_M contact) in the 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x* line interface modules is closed only when CB1 trips (meaning input current exceeds instantaneous current trip setting) and not dependant on the ON/OFF switch. The ALRM_B contact is closed when CB1 is manually set to the ON or OFF position, and open when CB1 is tripped.

Figure 11 - CB1 Alarm Operation (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)



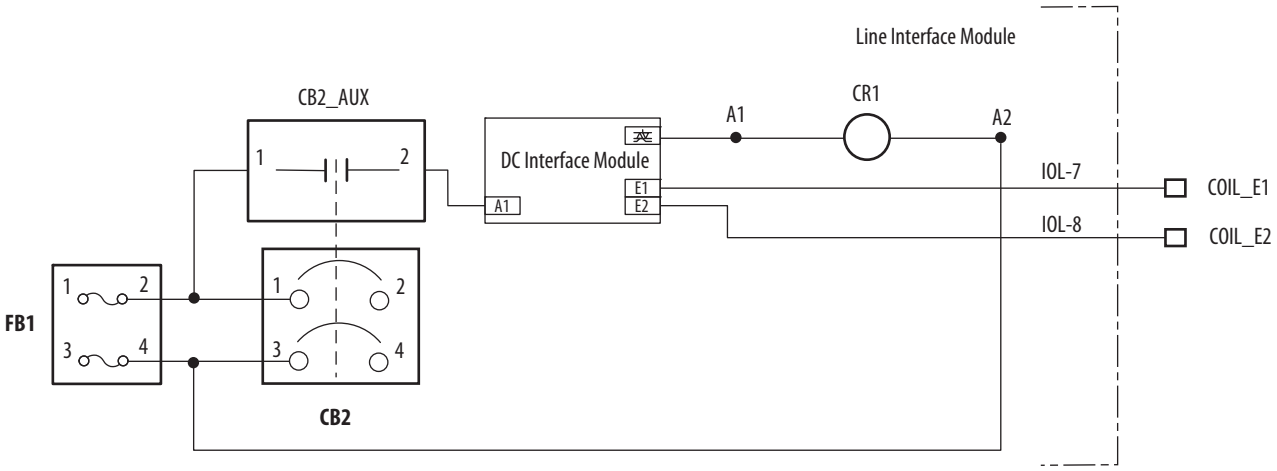
Contactor Coil

For safety reasons, the internal wiring is arranged so that if the control power (CPL) circuit breaker (CB2) trips, the opening contact will interrupt the coil voltage and remove main input power to the drive.

The 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x* line interface modules use an AC coil and a DC interface module allows the contactor coil to be controlled by the 24V DC output of the drive. Additional surge suppression is not required for these contactors.

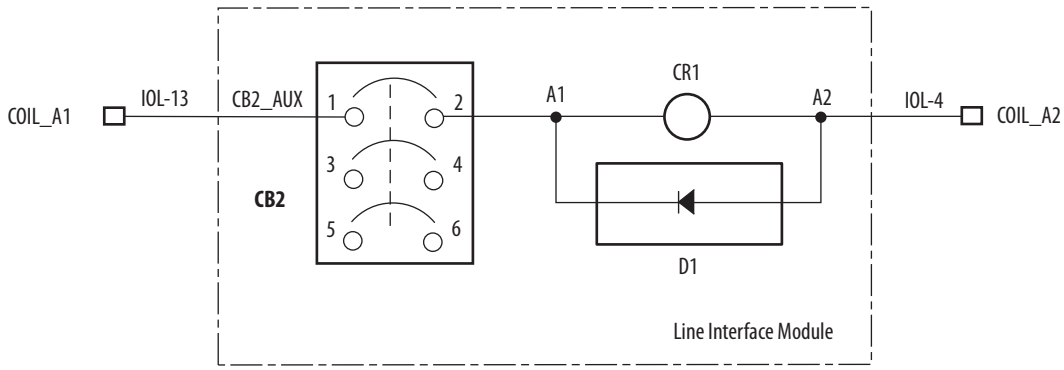
IMPORTANT **ATTENTION:** Do not apply AC voltage to COIL_E1 and COIL_E2.

Figure 12 - IOL Contactor Coil
(catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)



The contactors in the 2094-AL09 and 2094-BL02 line interface modules use a DC coil. The contactor coil voltage is 24V DC with a suitably-rated surge suppressor fitted inside the line interface module.

Figure 13 - IOL Contactor Coil
(catalog numbers 2094-AL09 and 2094-BL02)



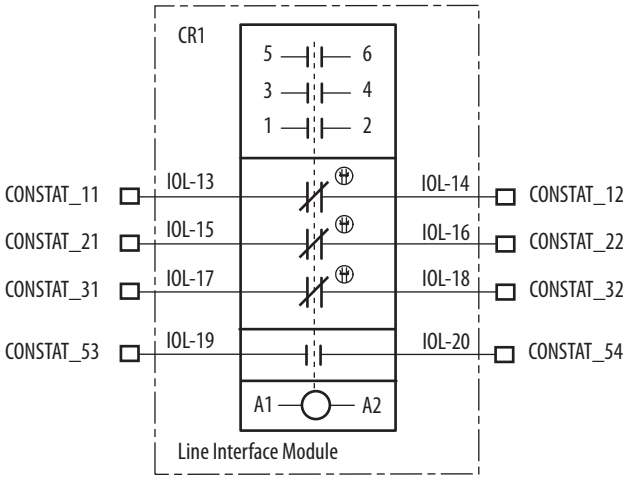
Safety Contactor

The safety contactor includes three main contacts (normally-open) that close when coil power is applied.

The three auxiliary (safety) contacts (used in 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x* line interface modules) are volt-free, positively-guided, and mechanically-latched.

IMPORTANT A fourth volt-free normally-open contact is also available, but is not safety rated and should not be used in a safety string.

Figure 14 - IOL Contactor Status (catalog numbers 2094-AL*xx*S, 2094-BL*xx*S, and 2094-XL75S-C*x*)



See Power Specifications on page 52 for auxiliary contactor specifications.