

Kinetix 350 Single-axis EtherNet/IP Servo Drives

Catalog Numbers 2097-V31PR0-LM, 2097-V31PR2-LM, 2097-V32PR0-LM, 2097-V32PR2-LM, 2097-V32PR4-LM, 2097-V33PR1-LM, 2097-V33PR3-LM, 2097-V33PR5-LM, 2097-V33PR6-LM, 2097-V34PR3-LM, 2097-V34PR5-LM, 2097-V34PR6-LM

Topic	Page
About the Kinetix 350 Drives	1
Important User Information	2
Catalog Number Explanation	3
Before You Begin	4
Safety Information	4
Install the Kinetix 350 Drive	5
Connector Data	7
Power Wiring Requirements	11
Motor Overload Protection	14
Circuit Breaker/Fuse Selection	15
Additional Resources	18

About the Kinetix 350 Drives

Kinetix® 350 single-axis EtherNet/IP servo drives provide an Ethernet-enabled solution for applications with output power requirements in the range of 0.4...3.0 kW (2...12 A rms).

See the Kinetix 350 Single-axis EtherNet/IP Servo Drives User Manual, publication [2097-UM002](#), for detailed information on wire, apply power, troubleshoot, and integrate with ControlLogix® or CompactLogix™ controller platforms.

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.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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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

This publication applies to the following Kinetix 350 drives.

Kinetix 350 Drives (single-phase)

Cat. No.	Input Voltage	Continuous Output Current A (0-pk)	Features
2097-V31PR0-LM	120/240V, 1 \emptyset	2.8	<ul style="list-style-type: none"> 120V Doubler mode Safe torque-off
2097-V31PR2-LM		5.7	
2097-V32PR0-LM	240V, 1 \emptyset	2.8	<ul style="list-style-type: none"> Integrated AC line filter Safe torque-off
2097-V32PR2-LM		5.7	
2097-V32PR4-LM		11.3	

Kinetix 350 Drives (single- or three-phase)

Cat. No.	Input Voltage	Continuous Output Current A (0-pk)	Features
2097-V33PR1-LM	120V, 1 \emptyset 240V, 1 \emptyset 240V, 3 \emptyset	2.8	Safe torque-off
2097-V33PR3-LM		5.7	
2097-V33PR5-LM		11.3	
2097-V33PR6-LM		17.0	

Kinetix 350 Drives (three-phase)

Cat. No.	Input Voltage	Continuous Output Current A (0-pk)	Features
2097-V34PR3-LM	480V, 3 \emptyset	2.8	Safe torque-off
2097-V34PR5-LM		5.7	
2097-V34PR6-LM		8.5	

Before You Begin

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.

Parts List

The Kinetix 350 drive ships with the following:

- General-purpose power input (IPD) header, back-up power (BP) header, shunt resistor and DC bus (BC) header, motor power (MP) header, and safe-torque-off (STO) header
- A ground clamp that also provides strain relief for motor power cable
- These installation instructions, publication 2097-IN008

TIP

The connector kit for motor feedback (catalog number 2090-K2CK-D15M) is not provided. Replacement connector sets (catalog number 2097-CONN1) are also available.

See the Kinetix Motion Accessories Specifications Technical Data, publication [GMC-TD004](#), for more information.

Safety Information



SHOCK HAZARD: Capacitors retain charge for approximately 300 s after power is removed. Disconnect incoming power and wait at least 5 minutes before touching the drive. Failure to observe this precaution could result in severe bodily injury or loss of life.



RISQUE DE CHOC: Les condensateurs restent sous charge pendant environ 300 secondes après une coupure de courant. Couper l'alimentation et patienter pendant au moins 5 minutes avant de toucher l'entraînement. Le non-respect de cette précaution peut entraîner des blessures corporelles graves ou la mort.



WARNING: The opening of branch-circuit protective device can be an indication that a fault has been interrupted. To reduce the risk of fire or electric shock, parts that carry current and other components of the controller must be examined and replaced if damaged.



AVERTISSEMENT: Le déclenchement du dispositif de protection du circuit de dérivation peut être dû à une coupure qui résulte d'un courant de défaut. Pour limiter le risque d'incendie ou de choc électrique, examiner les pièces porteuses de courant et les autres éléments du contrôleur et les remplacer s'ils sont endommagés. En cas de grillage de l'élément traverse par le courant dans un relais de surcharge, le relais tout entier doit être remplacé.

Install the Kinetix 350 Drive

These procedures assume that you have prepared your panel, and understand how to bond your system. For installation instructions regarding equipment and accessories that are not included here, refer to the instructions that came with those products.



SHOCK HAZARD: To avoid hazard of electrical shock, mount and wire of the Kinetix 350 drive before you apply power. Once power is applied, connector terminals can have voltage present even when not in use.



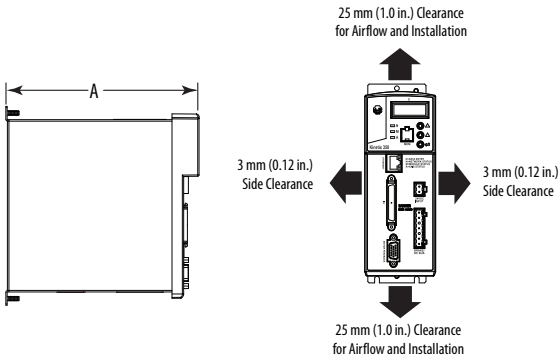
ATTENTION: Plan the installation of your system so that you can cut, drill, tap, and weld with the system removed from the enclosure. Because the system is open-type construction, be careful to keep any metal debris from falling into it. Metal debris or other foreign matter can become lodged in the circuitry and result in damage to components.

Mount the Kinetix 350 Drive

Follow these steps to mount the drive.

1. Observe these clearance requirements when mounting the drive to the panel.

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



- More clearance and different hole patterns are required for side mount and rear mount AC line filters. See the table and [step 2](#) for more details.
- More clearance is required depending on the other accessory items installed.
- More clearance is required for the cable and wires that are connected to the top, front, and bottom of the drive.
- An extra 150 mm (6.0 in.) is required when the drive is mounted near noise sensitive equipment or clean wire ways.

See [page 6](#) for Kinetix 350 drive dimensions.

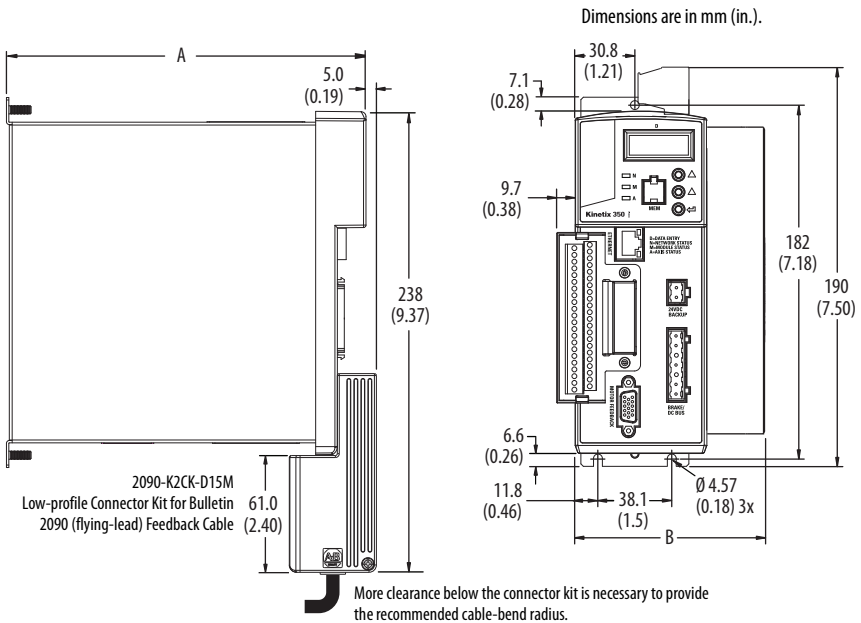
Drive Cat. No.	Dimensions A mm (in.)
2097-V31PR0-LM	185 (7.29)
2097-V31PR2-LM	
2097-V32PR0-LM	230 (9.04)
2097-V32PR2-LM	
2097-V32PR4-LM	
2097-V33PR1-LM	185 (7.29) ⁽¹⁾
2097-V33PR3-LM	
2097-V33PR5-LM	230 (9.04)
2097-V33PR6-LM	
2097-V34PR3-LM	185 (7.29) ⁽¹⁾
2097-V34PR5-LM	
2097-V34PR6-LM	230 (9.04)

(1) If you are using an AC line filter, add 50 mm (2 in.).

- Mount the Kinetix 350 drive to the cabinet subpanel with M4 (#6-32) steel machine screws torqued to 1.1 N•m (9.8 lb•in).

For catalog numbers 2097-V33PR1-LM, 2097-V33PR3-LM, 2097-V33PR5-LM, 2097-V34PR3-LM, and 2097-V34PR5-LM that use an AC line filter, refer to the AC Line Filter Installation Instructions, publication [2097-IN003](#), for the subpanel mounting hole pattern.

Kinetix 350 Drive Mounting Dimensions



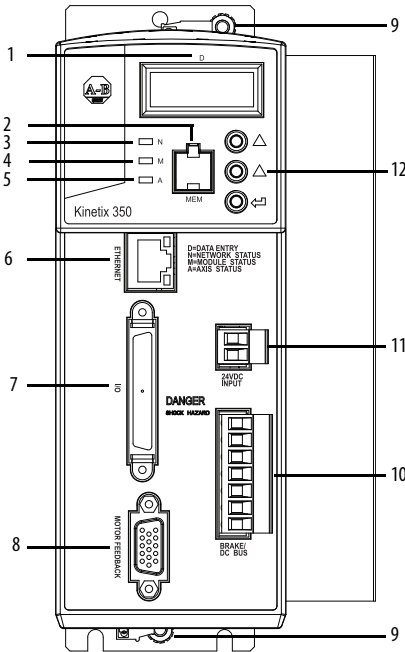
Cat. No.	Dimensions mm (in.)	
	A	B
2097-V31PRO-LM	185.1 (7.29)	68.0 (2.68)
2097-V31PR2-LM	185.1 (7.29)	68.5 (2.70)
2097-V32PRO-LM	229.6 (9.04)	68.0 (2.68)
2097-V32PR2-LM	229.6 (9.04)	68.5 (2.70)
2097-V32PR4-LM	229.6 (9.04)	86.8 (3.42)
2097-V33PR1-LM	185.1 (7.29)	68.0 (2.68)

Cat. No.	Dimensions mm (in.)	
	A	B
2097-V33PR3-LM	185.1 (7.29)	68.5 (2.70)
2097-V33PR5-LM	185.1 (7.29)	94.4 (3.72)
2097-V33PR6-LM	229.6 (9.04)	68.0 (2.68)
2097-V34PR3-LM	185.1 (7.29)	68.5 (2.70)
2097-V34PR5-LM	185.1 (7.29)	94.4 (3.72)
2097-V34PR6-LM	229.6 (9.04)	68.0 (2.68)

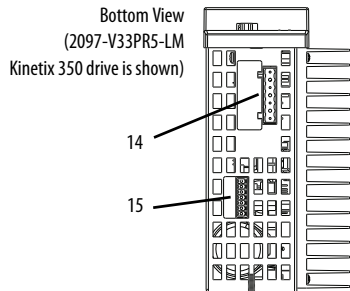
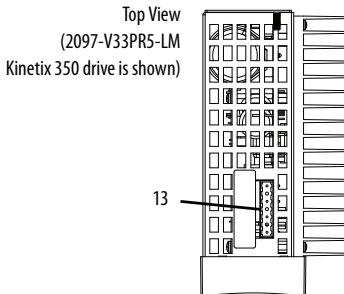
Connector Data

To identify the Kinetix 350 drive features and indicators, use this illustration.

Kinetix 350 Drive Features and Indicators



Item	Description
1	Data status indicator and diagnostic display
2	Memory module socket
3	Network status indicator
4	Module status indicator
5	Axis status indicator
6	Ethernet communication port (Port 1)
7	I/O (IOD) connector
8	Motor feedback (MF) connector
9	Ground Lug
10	Shunt resistor and DC bus (BC) connector
11	Back-up power (BP) connector
12	Display control push buttons (3)
13	Mains (IPD) connector
14	Motor power (MP) connector
15	Safe torque-off (STO) connector



Kinetix 350 Drive Connectors

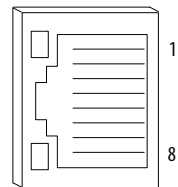
Designator	Description	Connector
IPD	AC mains input power	4-position plug/header
PORT1	Ethernet communication port	RJ45 Ethernet
I/O	I/O	SCSI 50-pin high-density connector
MF	Motor feedback	15-pin high-density D-shell (male)
BP	Back-up power	2-pin quick-connect terminal block
BC	Shunt resistor and DC bus	7-pin quick-connect terminal block
MP	Motor power	6-pin quick-connect terminal block
STO	Safe torque-off (STO) terminal	6-pin quick-connect terminal block

Mains (IPD) Connector Pinout

IPD Designator	Description	Signal
L3	AC power in (3-phase models)	L3
L2	AC power in	L2
L1	AC power in	L1
PE	Protective earth (ground)	PE

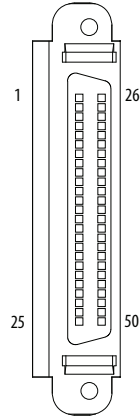
Pin Orientation for 8-pin Ethernet Communication Port (port 1)

Port 1 Pin	Description	Signal
1	Transmit port (+) data terminal	+ TX
2	Transmit port (-) data terminal	- TX
3	Receive port (+) data terminal	+ RX
4	–	–
5	–	–
6	Receive port (-) data terminal	- RX
7	–	–
8	–	–



I/O (IOD) Connector Pinout

IOD Pin	Description	Signal
1...4	Reserved	–
5	Reserved	–
6	Reserved	–
7...25	Reserved (not used by Kinetix 350 drives)	–
26	± Overtravel, enable and home common	COM
27	Negative hardware overtravel	NEG_OT
28	Positive hardware overtravel	POS_OT
29	Drive enable	ENABLE
30	Home switch	HOME_SW
31...35	Reserved	–
36	Registration common	REG_COM
37...38	Reserved	–
39	Registration input	REG
40...42	Reserved	–
43	Brake release positive	BRAKE+
44	Brake release negative	BRAKE-
45...50	Reserved	–

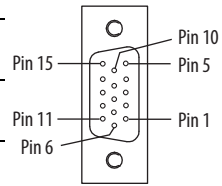




ATTENTION: To avoid damage to components, determine which power supply your encoder requires and connect encoder power to either the 5V or 9V supply, but not both.

Motor Feedback (MF) Connector Pinout

MF Pin	Description ⁽¹⁾	Signal
1	Sine differential input+ AM+ differential input+	SIN+ AM+
2	Sine differential input- AM- differential input-	SIN- AM-
3	Cosine differential input+ BM+ differential input+	COS+ BM+
4	Cosine differential input- BM- differential input-	COS- BM-
5	Data differential input + Index pulse+	DATA+ IM+
6	Common	ECOM
7	Encoder power (+9V)	EPWR_9V ⁽¹⁾
8	Single-ended 5V Hall effect commutation	S3
9	Reserved	—
10	Data differential input - Index pulse-	DATA- IM-
11	Motor thermal switch (normally closed) ⁽²⁾	TS
12	Single-ended 5V Hall effect commutation	S1
13	Single-ended 5V Hall effect commutation	S2
14	Encoder power (+5V)	EPWR_5V ⁽¹⁾
15	Reserved	—



(1) Determine which power supply your encoder requires and connect to only the specified supply. Do not make connections to both.

(2) Not applicable unless motor has integrated thermal protection.

Control Power Back-up (BP) Pinout

BP Designator	Description	Signal
+24V	Positive 24V DC	+24V DC
-24V	24V DC power supply return	Return

Shunt Resistor and DC Bus (BC) Pinout

BC Designator	Description	Signal
+	Positive DC bus and shunt resistor	+
+		+
SH	Shunt resistor	SH
-	Negative DC bus	-
-		-

Motor Power (MP) Pinout

MP Designator	Description	Signal
PE	Protective earth (ground)	PE
W	Motor power out	W
V	Motor power out	V
U	Motor power out	U

Safe Torque-off (STO) Pinout

STO Pin	Description	Signal
1	+24V DC output from the drive	+24V DC control
2	+24V DC output common	Control COM
3	Safety status	Safety Status
4	Safety input 1 (+24V DC to enable)	Safety Input 1
5	Safety common	Safety COM
6	Safety input 2 (+24V DC to enable)	Safety Input 2

The Kinetix 350 drive ships with safe torque-off enabled. To obtain motion, connect safe torque-off inputs to a safety circuit, or install motion-allowed jumpers. See the Kinetix 350 Single-axis EtherNet/IP Servo Drive User Manual, publication [2097-UM002](#), for details.

Power Wiring Requirements

Wire must be copper with 75 °C (167 °F) minimum rating. The phase connections of main AC power are arbitrary and earth-ground connection is required for safe and proper operation.

IMPORTANT The National Electrical Code and local electrical codes take precedence over the values and methods provided.

Kinetix 350 Drive Power-wiring Requirements

Cat. No.	Description	Terminals		Recommended Wire Size mm ² (AWG)	Strip Length mm (in.)	Torque Value N·m (lb·in)
		Pin	Signal			
2097-V31PR0-LM 2097-V32PR0-LM 2097-V32PR2-LM 2097-V33PR1-LM 2097-V33PR3-LM 2097-V34PR3-LM 2097-V34PR5-LM 2097-V34PR6-LM	Mains input power		L3 L2 L1 PE	2.5 (14)	7 (0.28)	0.5 (4.5)
2097-V32PR4-LM 2097-V33PR5-LM				4.0 (12)	7 (0.28)	0.5 (4.5)
2097-V31PR2-LM 2097-V33PR6-LM				6.0 (10)	7 (0.28)	0.56...0.79 (5.0...7.0)
2097-V31PR0-LM 2097-V32PR0-LM 2097-V32PR2-LM 2097-V32PR4-LM 2097-V33PR1-LM 2097-V33PR3-LM 2097-V33PR5-LM 2097-V34PR3-LM 2097-V34PR5-LM 2097-V34PR6-LM 2097-V31PR2-LM	Motor power		PE W V U	2.5 (14)	7 (0.28)	0.5 (4.5)
2097-V33PR6-LM				4.0 (12)	7 (0.28)	0.5 (4.5)
2097-V31PR0-LM 2097-V32PR0-LM 2097-V32PR2-LM 2097-V32PR4-LM 2097-V33PR1-LM 2097-V33PR3-LM 2097-V33PR5-LM 2097-V34PR3-LM 2097-V34PR5-LM 2097-V34PR6-LM 2097-V31PR2-LM	Shunt resistor and DC bus ⁽¹⁾		+ +SH - -	2.5 (14)	7 (0.28)	0.5 (4.5)
2097-V33PR6-LM				4.0 (12)	7 (0.28)	0.5 (4.5)
2097-V3xPRx-LM	Control back-up power		+24V DC Return			
2097-V3xPRx-LM	Safe torque-off	STO-1 ⁽²⁾ STO-2 ⁽²⁾ STO-3 STO-4 STO-5 STO-6	+24V DC Control Control COM Safety Status Safety Input 1 Safety COM Safety Input 2	1.5 (16)	6 (0.25)	0.5 (4.5)

(1) Use only for shunt resistor connection.

(2) Use only for bypassing the STO circuit.



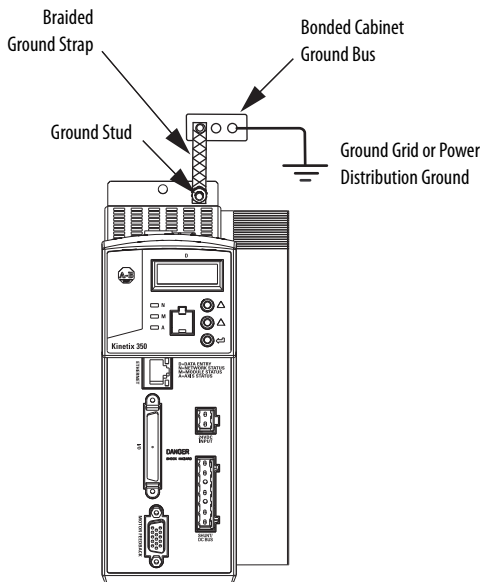
ATTENTION: To avoid personal injury and equipment damage, verify the following:

- Installation complies with specifications regarding wire types, conductor sizes, branch circuit protection, and disconnect devices. The National Electrical Code (NEC) and local codes outline provisions for safely installing electrical equipment.
- Motor power connectors are used only for connection purposes. Do not use motor power connectors to turn the unit on and off.
- Shielded power cables are grounded to prevent potentially high voltages on the shield.

Ground Your Kinetix 350 Drive to the Subpanel

If the Kinetix 350 drive is mounted on a painted subpanel, ground to a bonded cabinet ground bus with a braided ground strap or 4.0 mm² (12 AWG) solid-copper wire, 100 mm (3.9 in.) long.

Connect the Braided Ground Strap

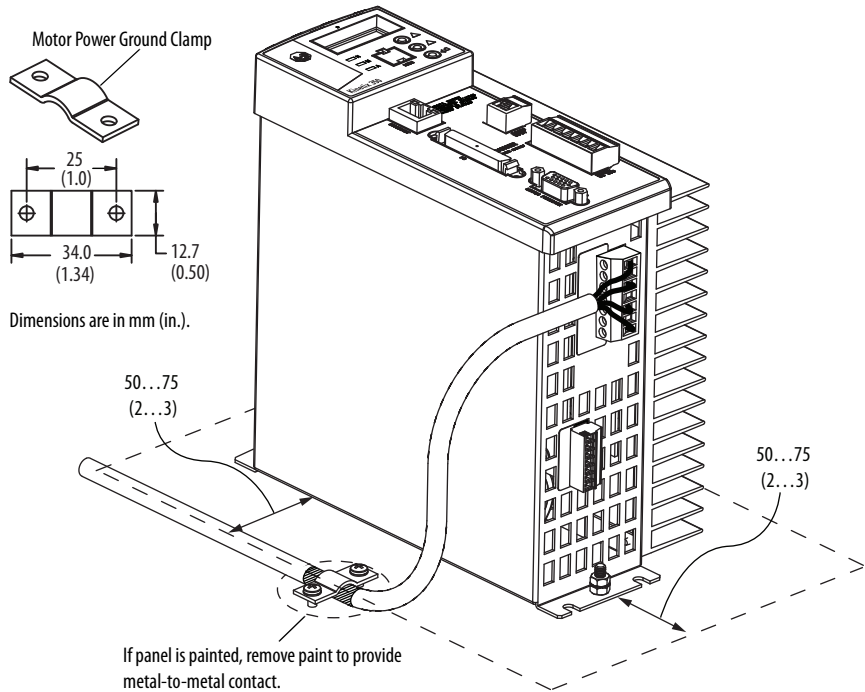


For dimensions, see [Kinetix 350 Drive Mounting Dimensions](#) on [page 6](#).

Kinetix 350 Drive Motor-power Wire Shielding

A motor-power ground clamp and two #6-32 x 1 screws are supplied with the Kinetix 350 drive. Install the supplied motor-power ground clamp within 50...75 mm (2...3 in.) of the drive by using the two #6-32 x 1 screws.

Motor Power Ground Clamp Installation



Motor Overload Protection

This servo drive uses solid-state motor overload protection that operates in accordance with UL 508C. Motor overload protection algorithms (thermal memory) that can predict actual motor temperature are based on operating conditions as long as control power is continuously applied. However, when control power is removed, thermal memory is not retained.

This drive also provides an input for an external temperature sensor or thermistor device, which is embedded in the motor, to support the UL requirement for motor overload protection.

The drive supports some motors that do not contain temperature sensors or thermistors; therefore, motor overload protection against excessive consecutive motor overloads followed by power-up is not supported.

This servo drive meets the following UL 508C requirements for solid-state overload protection.

Motor Overload Protection Trip Point	Value
Ultimately	100% overload
Within 8 minutes	200% overload
Within 20 seconds	600% overload



ATTENTION: Avoid overheating damage to your motor from excessive and successive motor overload faults by following the motor and drive-combination wiring diagram that is provided in the user manual.

See your servo drive user manual for the interconnect diagram that illustrates the wiring between your motor and drive.

Circuit Breaker/Fuse Selection

The Kinetix 350 drives use internal solid-state motor short-circuit protection. When protected by suitable branch circuit protection, the drives are rated for use on a circuit that can deliver up to 100,000 A.

See Kinetix 350 Drive Power Specifications in Kinetix Servo Drives Specifications Technical Data, publication [GMC-TD003](#) for input current and inrush current specifications for your Kinetix 350 drive.

See [Circuit Breaker/Fuse Specifications](#) on [page 16](#) and [page 17](#) for recommended circuit breakers and fuses.

Circuit Breaker/Fuse Specifications

These fuses and Allen-Bradley circuit breakers are recommended for use with 2097-V_{xx}PR_x-LM drives.

Input Power Circuit-protection Specifications

Cat. No.	Drive Voltage	Phase	Fuses (Bussmann) Cat. No.	Miniature CB ⁽¹⁾ Cat. No.	Motor Protection CB, ⁽¹⁾⁽²⁾ Self-protected CMC Cat. No.
2097-V31PR0-LM	120V	Single-phase (voltage doubler)	KTK-R-20 (20A)	1489-M1C200	140M-D8E-C20
	120/240V	Single-phase	KTK-R-10 (10A)	1489-M1C100	140M-C2E-C10
2097-V31PR2-LM	120V	Single-phase (voltage doubler)	KTK-R-30 (30A)	1489-M1C300	140M-F8E-C32
	120/240V	Single-phase	KTK-R-20 (20A)	1489-M1C200	140M-D8E-C20
2097-V32PR0-LM	240V	Single-phase	KTK-R-20 (20A)	1489-M1C150	140M-D8E-C16
2097-V32PR2-LM			KTK-R-20 (20A)	1489-M1C200	140M-D8E-C20
2097-V32PR4-LM			KTK-R-30 (30A)	1489-M1C300	140M-F8E-C32
2097-V33PR1-LM	120/240V	Single-phase	KTK-R-20 (20A)	1489-M1C200	140M-D8E-C20
	240V	Three-phase	KTK-R-15 (15A)	1489-M3C150	140M-D8E-C16
2097-V33PR3-LM	120/240V	Single-phase	KTK-R-20 (20A)	1489-M1C200	140M-D8E-C20
	240V	Three-phase	KTK-R-15 (15A)	1489-M3C150	140M-D8E-C16
2097-V33PR5-LM	120/240V	Single-phase	KTK-R-30 (30A)	1489-M1C300	140M-F8E-C32
	240V	Three-phase	KTK-R-20 (20A)	1489-M3C200	140M-D8E-C20
2097-V33PR6-LM	120/240V	Single-phase	LPJ-40SP (40A) Class J	N/A	140M-F8E-C32
	240V	Three-phase	KTK-R-30 (30A)	1489-M3C300	
2097-V34PR3-LM	480V	Three-phase	KTK-R-10 (10A)	1489-M3C100	140M-C2E-C10
2097-V34PR5-LM			KTK-R-10 (10A)	1489-M3C100	140M-C2E-C10
2097-V34PR6-LM			KTK-R-20 (20A)	1489-M3C200	140M-D8E-C20

(1) Bulletin 1492 and 1489 circuit protection devices have lower short-circuit current ratings than Bulletin 140M devices.

See <http://ab.rockwellautomation.com/allenbradley/productdirectory.page?> for product literature with specific short-circuit ratings.

(2) For UL applications, Bulletin 140M devices are applied as self-protected combination motor controllers.

Fuse and Circuit Breaker Specifications IEC (non-UL) Applications

Drive Cat. No.	Drive Voltage	Phase	Miniature CB ⁽¹⁾ Cat. No.		Motor Protection CB ⁽¹⁾ Cat. No.
2097-V31PR0-LM	120V	Single-phase (voltage doubler)	1489-M1C200	1492-SPM1D200	140M-D8E-C20
	120/240V	Single-phase	1489-M1C100	1492-SPM1D100	140M-C2E-C10
2097-V31PR2-LM	120V	Single-phase (voltage doubler)	1489-M1C300	1492-SPM1D300	140M-F8E-C32
	120/240V	Single-phase	1489-M1C200	1492-SPM1D200	140M-D8E-C20
2097-V32PR0-LM	240V	Single-phase	1489-M1C150	1492-SPM1D150	140M-D8E-C16
2097-V32PR2-LM			1489-M1C200	1492-SPM1D200	140M-D8E-C20
2097-V32PR4-LM			1489-M1C300	1492-SPM1D320	140M-F8E-C32
2097-V33PR1-LM	120/240V	Single-phase	1489-M1C200	1492-SPM1D200	140M-D8E-C20
	240V	Three-phase	1489-M3C150	1492-SPM3D150	140M-D8E-C16
2097-V33PR3-LM	120/240V	Single-phase	1489-M1C200	1492-SPM1D200	140M-D8E-C20
	240V	Three-phase	1489-M3C150	1492-SPM3D150	140M-D8E-C16
2097-V33PR5-LM	120/240V	Single-phase	1489-M1C300	1492-SPM1D300	140M-F8E-C32
	240V	Three-phase	1489-M3C200	1492-SPM3D200	140M-D8E-C20
2097-V33PR6-LM	120/240V	Single-phase	N/A	N/A	140M-F8E-C32
	240V	Three-phase	1489-M3C300	1492-SPM3D300	
2097-V34PR3-LM	480V	Three-phase	1489-M3C100	1492-SPM3D100	140M-C2E-C10
2097-V34PR5-LM			1489-M3C100	1492-SPM3D100	140M-C2E-C10
2097-V34PR6-LM			1489-M3C200	1492-SPM3D200	140M-D8E-C20

- (1) Bulletin 1492 and 1489 circuit protection devices have lower short-circuit current ratings than Bulletin 140M devices. See <http://ab.rockwellautomation.com/allenbradley/productdirectory.page?> for product literature with specific short-circuit ratings.

Additional Resources

These documents contain more information that concerns related products from Rockwell Automation.

Resource	Description
Kinetix 350 Single-axis EtherNet/IP Servo Drives User Manual, publication 2097-UM002	Provides information on how to install, configure, start up, and troubleshoot your Kinetix 350 servo drive system.
Kinetix 300 Shunt Resistor Installation Instructions, publication 2097-IN002	Provides information on how to install and wire Kinetix 300 shunt resistors.
Kinetix 300 AC Line Filter Installation Instructions, publication 2097-IN003	Provides information on how to install and wire the Kinetix 300 AC line filter.
Kinetix 300 I/O Terminal Expansion Block Installation Instructions, publication 2097-IN005	Provides information on how to install and wire the Kinetix 300 I/O terminal expansion block.
Kinetix 300 Memory Module Installation Instructions, publication 2097-IN007	Provides information on how to install the Kinetix 300 memory module.
Kinetix 300 Memory Module Programmer Quick Start, publication 2097-OS001	Provides information on the use of the memory module programmer to duplicate the memory module.
Kinetix Servo Drives Specifications Technical Data, publication GMC-TD003	Provides product specifications for Kinetix Integrated Motion over EtherNet/IP, Integrated Motion over SERCOS interface, EtherNet/IP network, and component servo drive families.
Kinetix Motion Accessories Specifications Technical Data, publication GMC-TD004	Provides product specifications for Bulletin 2090 motor and interface cables, low-profile connector kits, drive power components, and other servo drive accessory items.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.ab.com	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/literature>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Notes:

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products.

At <http://www.rockwellautomation.com/support> you can find technical and application notes, sample code, and links to software service packs. You can also visit our Support Center at <https://rockwellautomation.custhelp.com/> for software updates, support chats and forums, technical information, FAQs, and to sign up for product notification updates.

In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/services/online-phone>.

Installation Assistance

If you experience a problem within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/rockwellautomation/support/overview.page , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to help ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

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