Installation Instructions

Original Instructions

Kinetix 7000 High Power Servo Drives

Catalog Numbers 2099-BM06-S, 2099-BM07-S, 2099-BM08-S, 2099-BM09-S, 2099-BM10-S, 2099-BM11-S, 2099-BM12-S

About the Kinetix 7000 Drives

The Kinetix® 7000 high-power servo drives provide a Kinetix Integrated Motion solution for applications with output power requirements within the range of 22…149 kW (40…248 A rms).

Refer to the Kinetix 7000 High Power Servo Drives User Manual, publication 2099-UM001, for detailed information on wiring, applying power, troubleshooting, and integration with ControlLogix®, CompactLogix™, or SoftLogix™ controllers.

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 7000 servo drives.

Kinetix 7000 Drive Catalog Numbers

Drive Cat. No.	Input Voltage	Continuous Output Power		Continuous Output Current
		kW	Hp	A 0-pk
2099-BM06-S	342...528V AC rms Three-phase	22	30	56
2099-BM07-S		30	40	73
2099-BM08-S		37	50	92
2099-BM09-S		56	75	135
2099-BM10-S		75	100	176
2099-BM11-S		112	150	254
2099-BM12-S		149	200	351

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 7000 servo drives ship with the following:

- General purpose I/O (GPIO) wiring header, general purpose relay (GPR) header, control power (CP), safe-off (SO) wiring plug header with a motion-allowed jumper
- Ground clamp and strain relief for motor power cable
- These installation instructions, publication 2099-IN003

TIP Connector kits for user I/O, auxiliary feedback, and motor feedback are not provided. Replacement connector sets, as described in the Parts List, are available. Refer to the Kinetix Motion Accessories Technical Data, publication GMC-TD004, for more information on connector kits and replacement connector sets.

Set the Ground Jumper in Select Power Configurations

Setting the ground jumper is necessary when connecting to an ungrounded, corner-grounded, and impedance-grounded power configuration. Also, set the ground jumper when the Bulletin 8720MC regenerative power supply, or any active converter, supplies the DC-bus voltage. Setting the ground jumper involves accessing the power chassis and removing jumper plugs or disconnecting wires on the power terminals.

IMPORTANT If you have grounded power distribution, you do not need to set the ground jumper. Refer to Install the Kinetix 7000 Drive on page 8.

Set the ground jumper with power removed and the drive mounted on a bench or in a panel.

ATTENTION: Kinetix 7000 drives contain protective metal-oxide varistors (MOVs) and common-mode capacitors that are referenced to ground. In a grounded power distribution system, these devices assist in isolating the drive from electromagnetic interference (EMI).

These devices must be disconnected if the drive is installed with an ungrounded, corner-grounded, or impedance-grounded power configuration, or when an active converter supplies the DC-bus voltage.

ATTENTION: To avoid personal injury, the ground jumper access area must be kept closed when power is applied. If power was present and then removed, wait at least 5 minutes for the DC-bus voltage to dissipate and verify that no DC-bus voltage exists before accessing the ground jumper.
Because the unit no longer maintains line-to-neutral voltage protection, risk of equipment damage exists when you remove the ground jumper.

Use this table to determine where to set the ground jumper in DC common-bus configurations.

Ground Jumper to Set

Leader Drive	Follower Drive	Set the jumper in this drive
Kinetix 7000 drive	Kinetix 7000	Leader drive
Kinetix 7000 drive	Non-Kinetix 7000 drive	Leader drive
Non-Kinetix 7000 drive	Kinetix 7000 drive	Follower drive (if no setting exists in the leader drive)

Set the Ground Jumper

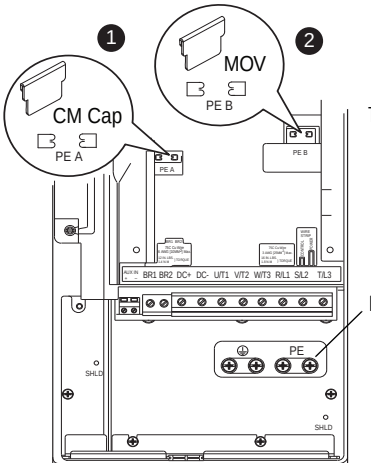
Use the following table and illustrations to set the ground jumpers/wires for ungrounded power.

Jumper/Wire Location and Removal Instructions

Drive Cat. No.	Jumper/ Wire	Callout No.	Component Protected	Description
2099-BM06-S 2099-BM07-S 2099-BM08-S	PE A	1	Common mode capacitor	Remove the two jumpers above the power terminal block. Refer to Remove the Ground Wires on 2099-BM06-S, 2099-BM07-S, and 2099-BM08-S Drives on page 6.
	PE B	2	MOVs	
2099-BM09-S 2099-BM10-S	Green/yellow wire	3	Common mode capacitor	Remove DC-DC converter and drive top cover, and disconnect the green/yellow wire from the drive chassis. Insulate and secure the wire to prevent unintentional contact with the chassis or components. Refer to Remove the Ground Wires on 2099-BM09-S and 2099-BM10-S Drives on page 7.
		4	MOVs/ input filter cap	Disconnect the green/yellow wire next to the power terminal block. Insulate and secure the wire to prevent unintentional contact with the chassis or components. Refer to Remove the Ground Wires on 2099-BM09-S and 2099-BM10-S Drives on page 7.
2099-BM11-S 2099-BM12-S	Green/yellow wire	5	Common mode capacitor	Disconnect the two green/yellow wires from the PE terminals on the power terminal block. Insulate and secure each of these wires to prevent unintentional contact with the chassis or components. Refer to Remove the Ground Wires on 2099-BM11-S and 2099-BM12-S Drives on page 7.
		6	MOVs	

Remove the Ground Wires on 2099-BM06-S, 2099-BM07-S, and 2099-BM08-S Drives

The common-mode capacitor jumper is indicated by callout 1 (PE A) and the MOV jumper is indicated by callout 2 (PE B).

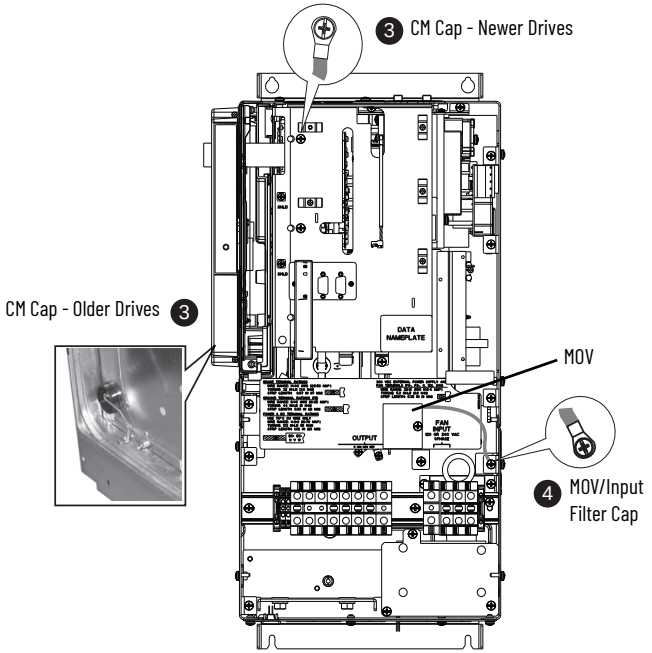


Two Jumpers
PE A and PE B

Important: Do not discard or replace the grounding

Remove the Ground Wires on 2099-BM09-S and 2099-BM10-S Drives

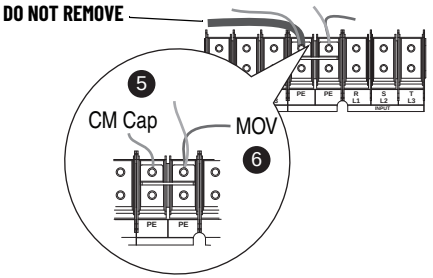
The common-mode capacitor ground wire is indicated by callout 3 and the MOV/input filter cap ground wire is indicated by callout 4.



IMPORTANT You must remove the DC-DC converter and drive top cover to access and remove the common-mode capacitor ground wire. Refer to the Kinetix 7000 DC-DC Converter and Control Board Kits Installation instructions, publication 2099-IN002.

Remove the Ground Wires on 2099-BM11-S and 2099-BM12-S Drives

The common-mode capacitor ground wire is indicated by callout 5 and the MOV ground wire is indicated by callout 6.



Install the Kinetix 7000 Drive

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

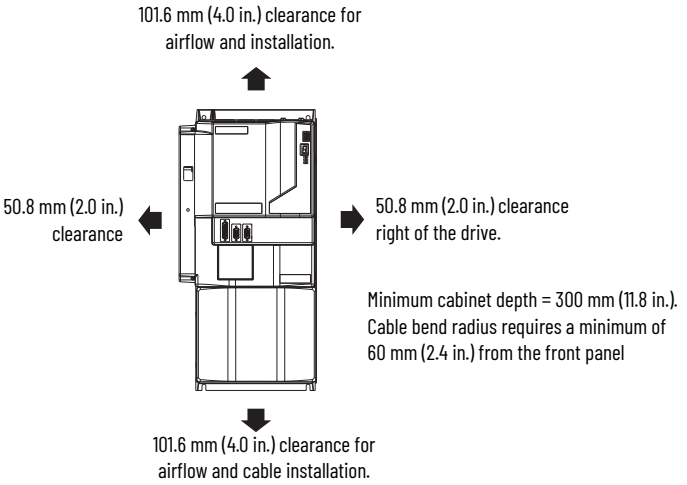
SHOCK HAZARD: To avoid hazard of electrical shock, perform all mounting and wiring of the Kinetix 7000 drive prior to applying power. Once power is applied, connector terminals can have voltage present even when not in use.

ATTENTION: Plan the installation of your system so that you can 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 and result in damage to components.
A sticker is affixed over the top vents on the drive. Remove this sticker after installing the drive, but before applying power.

Mount the Kinetix 7000 Drive

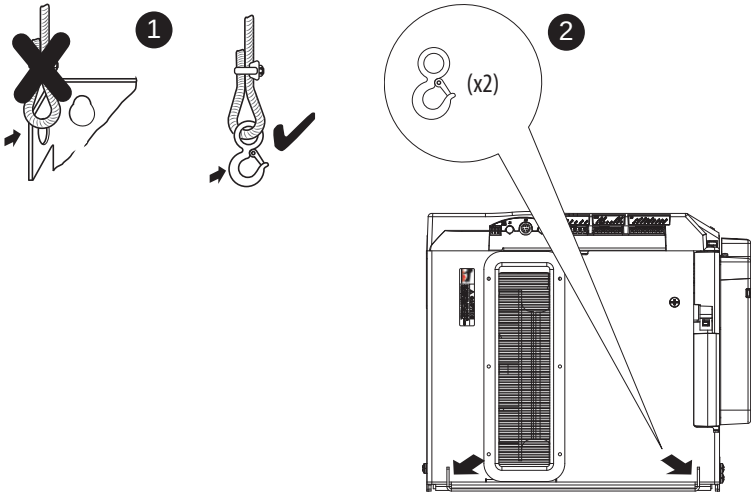
Follow these steps to mount the drive.

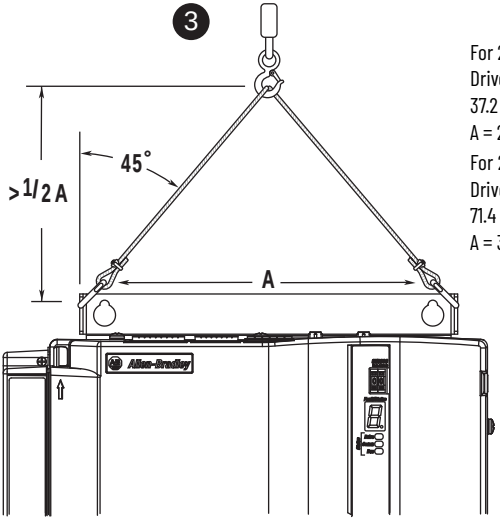
1. Observe these clearance requirements when mounting the drive to the panel.



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

2. Follow these lifting instructions when mounting the drive to the panel.





For 2099-BM09-S and 2099-BM10-S Drives
37.2 kg (82.0 lb)
A = 259.1 mm (10.2 in.)

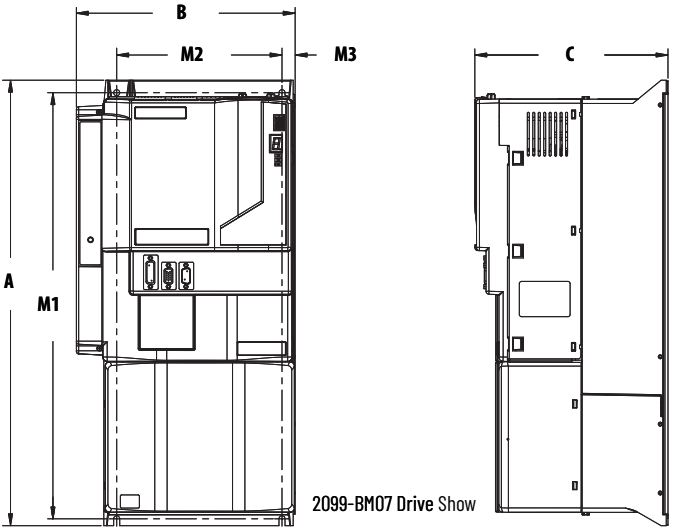
For 2099-BM11-S and 2099-BM12-S Drives
71.4 kg (157.5 lb)
A = 360.6 mm (14.2 in.)

3. Install the recommended mounting bolts listed in the table on page 10.

IMPORTANT	Each Kinetix 7000 drive requires four mounting bolts.

4. Tighten all mounting fasteners to the value recommended in the table on page 10.

Kinetix 7000 Mounting Dimensions



2099-BM07 Drive Show

Attribute	2099-BM06-S 2099-BM07-S 2099-BM08-S	2099-BM09-S	2099-BM10-S	2099-BM11-S 2099-BM12-S
A - Height mm (in.)	517.5 (20.37)	644.5 (25.37)	690.3 (38.47)	977.1 (38.47)
B - Width mm (in.)	254.12 (10.0)	331.9 (13.07)	331.9 (13.07)	429.2 (16.90)
C - Depth mm (in.)	224.3 (8.83)	286.7 (11.29)	286.7 (11.29)	282.7 (11.13)
M1 - Vertical mm (in.) from mounting hole to mounting slot	495.0 (19.49)	625.0 (24.61)	625.0 (24.61)	824.0 (32.44)
M2 - Horizontal mm (in.) between mounting holes and slots	192.0 (7.56)	225.0 (8.86)	225.0 (8.86)	300.0 (11.81)
M3 - Offset in mm (in.) from right of drive to center line of mounting hole and slot	15.3 (0.60)	37.5 (1.48)	37.5 (1.48)	49.6 (1.95)
Fastener sizing for mounting holes and slots	M6 (0.25 in.)	M6 (0.25 in.)	M6 (0.25 in.)	M8 (0.31 in.)
Torque for low-carbon steel bolts (1)	0.7 N•m (6 lb•in)			2.3 N•m (20 lb•in)

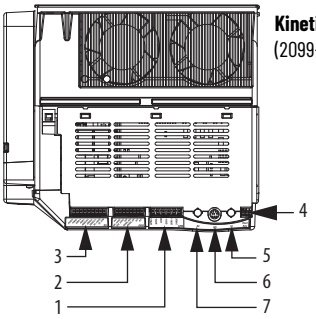
(1) Fasteners constructed from material other than low-carbon steel have different torque requirements.

ATTENTION: A sticker is affixed over the top vents on the drive to prevent metal debris or other foreign matter from becoming lodged in the circuitry during installation. Remove this sticker after completing all installation activities in the cabinet, and before applying power to the drive.

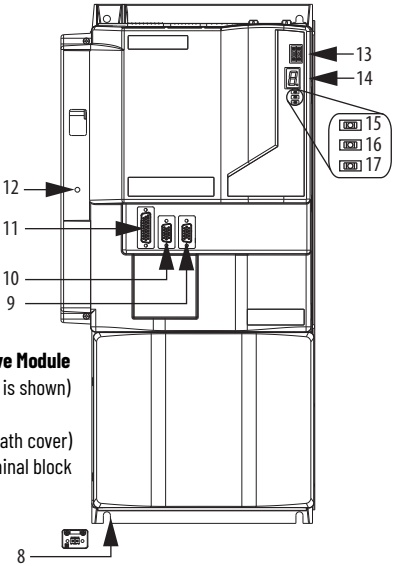
Connector Data

The location of connectors and indicators is identical, regardless of the physical size of the drive.

Kinetix 7000 Drive Features and Indicators



Kinetix 7000 Drive Module
(2099-BM07-S drive, top view is shown)



Kinetix 7000 Drive Module
(2099-BM07-S drive, front view is shown)

Power Terminal Block (beneath cover)
Refer to page 17 for terminal block

Item	Description
1	General purpose (GPR) connector
2	General purpose (GPIO) connector
3	Safe-off (SO) connector
4	SERCOS communication rate and optical power switches
5	SERCOS transmit (Tx) connector
6	DPI connector

Item	Description
7	SERCOS receive (Rx) connector
8	Control power (CP) connector (facing down)
9	Auxiliary feedback (AF) connector
10	Motor feedback (MF) connector
11	I/O (IOD) connector
12	Control power status indicator

Item	Description
13	SERCOS node address switches
14	Seven-segment fault status indicator
15	Drive status indicator
16	COMM status indicator
17	Bus status indicator

Kinetix 7000 Drive Connectors

Designator	Description	Connector
SO	Safe-off	9-position plug/header
IOD	User I/O (drive)	26-pin high-density D-shell
MF	Motor feedback	15-pin high-density D-shell (female)
AF	Auxiliary feedback	15-pin high-density D-shell (male)
CP	Control input power (drive)	2-position terminal
GPIO	General purpose I/O	8-position plug/header
GPR	General purpose relay	6-position plug/header
PTB	Power terminal block	Screw terminals for main power, DC bus, motor power (MP), and fan power (if required)
DPI	Drive peripheral interface	6-position circular connector (factory use only)
Tx and Rx	SERCOS transmit and receive	SERCOS fiber-optic (2)

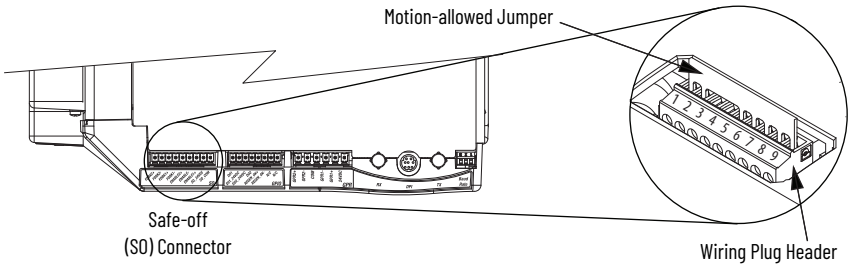
ATTENTION: To avoid damage to the SERCOS Rx and Tx connectors, use only finger-tight torque when attaching the fiber-optic cables to a Kinetix 7000 drive. Do not use a wrench or any other mechanical assistance.

For more information, refer to Fiber-optic Cable Installation and Handling Instructions, publication 2090-IN010.

Safe-off Connector Pinout

The Kinetix 7000 drive ships with a (9-pin) wiring-plug header with a motion-allowed jumper installed in the safe-off (SO) connector. With the motion-allowed jumper installed, the safe-off feature is disabled.

Motion-allowed Jumper



Headers in this table extend the safe-off (SO) connector signals for use in wiring single and multiple safe-off drive configurations, or to jumper around (not use) the safe-off feature.

Safe-off 9-pin (SO) Connector

Safe-off (SO) Pin	Also applies to these SO connector headers	Description	Signal
1	• Wiring plug header • First-drive wiring header (cat. no. 2090-XNSM-W)	One side of the normally-closed monitoring contact of relay 2	FDBK2+
2		Other side of the normally-closed monitoring contact of relay 2	FDBK2-
3		One side of the normally-closed monitoring contact of relay 1	FDBK1+
4		Other side of the normally-closed monitoring contact of relay 1	FDBK1-
5		Coil of safety-relay 2	SAFETY ENABLE2+
6		Return for safety-relay coil power (both relays)	SAFETY ENABLE-
7		Coil of safety relay 1	SAFETY ENABLE1+
8	• Wiring plug header • Motion-allowed jumper	Power for continuous enable of the safety function, 500 mA max	24V+
9		Power return used for continuous enable of safety function	24V_COM

IMPORTANT Pins SO-8 and SO-9 (24V+) are used by only the motion-allowed jumper. When wiring to the wiring-plug header, the 24V supply must come from an external source.

Refer to the Kinetix Safe-off Feature Safety Reference Manual, publication GMC-RM002, for more information on wiring safe-off headers.

IOD Connector Pinout

IOD Pin	Description	Signal
1	Hardware enable 24V DC power supply	HW_Enable_Pwr
2	Hardware enable input	HW_Enable_In
3	Common	HW_Enable_Com
4	Home switch 24V DC power supply	Home_Switch_Pwr
5	Home switch input	Home_Switch_In
6	Common	Home_Switch_Com
7	Positive overtravel 24V DC power supply	Pos_OverTravel_Pwr
8	Positive overtravel limit switch input	Pos_ OverTravel_In
9	Common	Pos_OverTravel_Com
10	Negative overtravel 24V DC power supply	Neg_OverTravel_Pwr
11	Negative overtravel limit switch input	Neg_ OverTravel_In
12	Common	Neg_OverTravel_Com

IOD Pin	Description	Signal
13	24V registration power	Reg_1_Pwr
14	High speed registration 1 input	Reg_1_In
15	Common for registration	Reg_1_Com
16	24V registration power	Reg_2_Pwr
17	High speed registration 2 input	Reg_2_In
18	Common for registration	Reg_2_Com
19	Reserved	Analog_Input_1
20	Reserved	Analog_Input_1_Ret
21	Reserved	Analog_Input_2
22	Reserved	Analog_Input_2_Ret
23	Analog output 0	Analog_Out_1
24	Analog output common	Analog_Out_1_Ret
25	Analog output 1	Analog_Out_2
26	Analog output common	Analog_Out_2_Ret

IMPORTANT Signals +24V_PWR and +24V_COM are a 24V DC source you can use for only the inputs listed above.

Motor and Auxiliary Feedback Connector Pinout

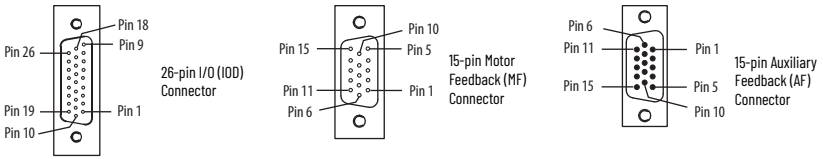
MF Pin	Motor Feedback (MF Connector)		Auxiliary Feedback (1) (AF Connector)	
	Stegmann (SRS/SRM)	TTL or Sine/Cosine (2)	Stegmann	TTL or Sine/Cosine
1	SIN+	A+ / SIN+	SIN+	A+ / SIN+
2	SIN-	A- / SIN-	SIN-	A- / SIN-
3	COS+	B+ / COS+	COS+	B+ / COS+
4	COS-	B- / COS-	COS-	B- / COS-
5	DATA+	IM+	DATA+	I+
6	ECOM	ECOM	ECOM	ECOM
7	EPWR_9V (3)	EPWR_9V (3)	EPWR_9V (3)	EPWR_9V (3)
8	–	S3	–	–
9	–	–	–	–
10	DATA-	IM-	DATA-	I-
11	TS	TS	–	–

MF Pin	Motor Feedback (MF Connector)		Auxiliary Feedback (1) (AF Connector)	
	Stegmann (SRS/SRM)	TTL or Sine/Cosine (2)	Stegmann	TTL or Sine/Cosine
12	–	S1	–	–
13	–	S2	–	–
14	EPWR_5V (3)	EPWR_5V (3)	EPWR_5V (3)	EPWR_5V (3)
15	—	–	–	–

(1) For TTL devices, the position count increases when A leads B. For sinusoidal devices, the position count increases when cosine leads sine.
(2) Encoder is incremental with index pulse and Hall commutation.
(3) Encoder power supply uses either 5V DC or 9V DC based on encoder/motor combination.

IMPORTANT Combined motor power/feedback cable length must not exceed 90 m (295.2 ft). Additional limitations apply. Refer to the Kinetix 7000 Multi-axis Servo Drive User Manual, publication 2099-UM001, for more information.

IOD, MF, and AF Connector Pin Orientation



Input Connector Pinouts

Control Power (CP) Connector

CP Pin	Description	Signal
1	Control power VDC input	AUX 24V DC
2		AUX COM

General Purpose I/O (GPIO) Connector

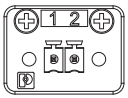
GPIO Pin	Description	Signal
1	Digital output 1	DO1
2	24V DC source for digital output 1 (user-supplied)	DO1_24VDC
3	24V DC source for digital output 2 (user-supplied)	DO2_24VDC
4	Digital output 2	DO2
5	Reserved	N/C

GPIO Pin	Description	Signal
6	Reserved	N/C
7	Regenerative power supply status	Regen_OK+
8	Regenerative power supply status common	Regen_OK-

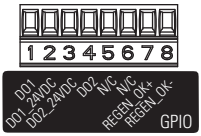
General Purpose Relay (GPR) Connector

GPR pin	Description	Signal
1	24V DC customer-supplied power input for relay 1	24VDC
2	Programmable relay 1 output	GPR1+
3	Programmable relay 1 common	GPR1-
4	24V DC customer-supplied power supply common	COM
5	Programmable relay 2 output	GPR2+
6	Programmable relay 2 common	GPR2-

CP, GPIO, and GPR Connector Pin Orientation



2-pin Control Power (CP) Connector



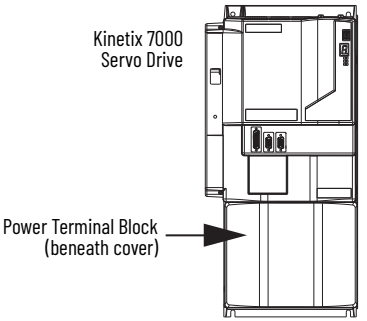
8-pin General Purpose I/O (GPIO) Connector

6-pin General Purpose Relay (GPR) Connector

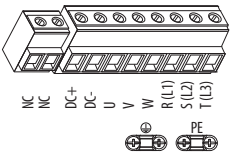
Power Terminal Block and Shielding

This section describes the power connections and their location on respective Kinetix 7000 drives. It also shows the recommended power cable shielding for main power.

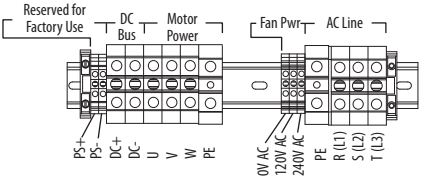
Kinetix 7000 Power Terminal Blocks



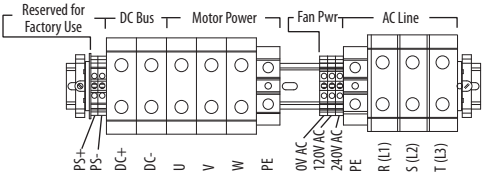
Power Terminal Block
2099-BM06-S, 2099-BM07-S, and 2099-BM08-S



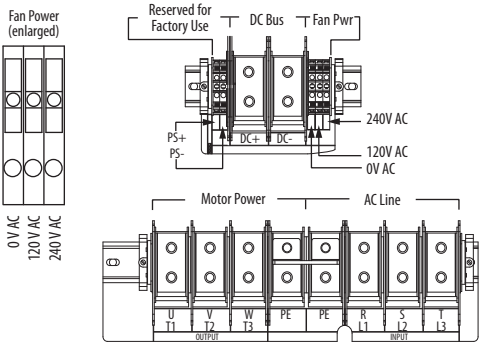
Power Terminal Block
2099-BM09-S



Power Terminal Block
2099-BM10-S



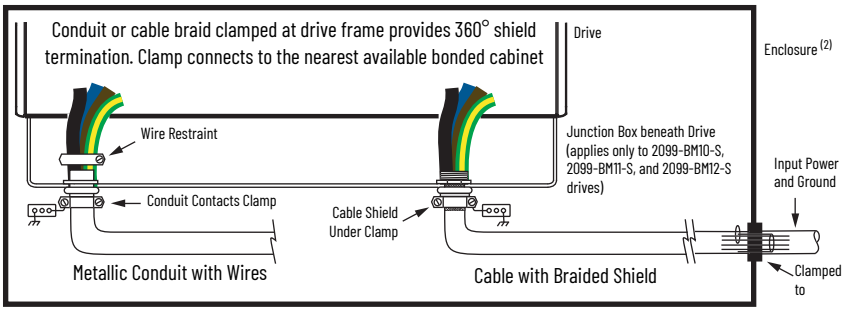
Power Terminal Block
2099-BM11-S and 2099-BM12-S



Power Terminal Block (PTB) Connections

Terminal	Description	Name
DC+ and DC-	Common DC bus for power sharing or external shunting.	DC Bus
Fan	120V or 230V single-phase AC power input for cooling fan. Applies to catalog numbers 2099-BM09-S, 2099-BM10-S, 2099-BM11-S, and 2099-BM12-S.	0V AC, 120V AC, and 230V AC
PE or GND	Chassis ground is physically adjacent to AC line inputs. Motor ground is physically adjacent to motor power. Catalog numbers 2099-BM06-S, 2099-BM07-S, and 2099-BM08-S have cable clamps.	Ground
PS+ and PS-	Reserved only for factory use.	–
R/L1, S/L2, and T/L3	380...480V AC line inputs.	AC Line Input
U/T1, V/T2, and W/T3	Three-phase power to motor.	Motor Power

Kinetix 7000 Power Wire Shielding



(1) For more examples of shield clamp attachment, refer to System Design for Control of Electrical Noise Reference Manual, publication GMC-RM001.

(2) If enclosure is painted, remove paint to provide metal-to-metal contact.

Wiring Requirements

Wire must be copper with 75 °C (167 °F) minimum rating. Phasing of main AC power is 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.

Safe-off, I/O, and Control Power Wiring Requirements

Connector	Connector	Wire Size mm^2 (AWG)	Strip Length mm (in.)	Torque Value N•m (lb•in)
Safe-off Control power General purpose I/O	SO CP GPIO	0.75 (18) (stranded wire with ferrule) 1.5 (16) (solid wire)	7.0 (0.275)	0.235 (2.0)

Connector	Connector	Wire Size mm^2 (AWG)	Strip Length mm (in.)	Torque Value N•m (lb•in)
General purpose relay	GPR	2.5 (14)	10 (0.38)	0.5...0.6 (4.4...5.3)

Input Power Wiring Requirements

Drive Cat. No.	Input Type	Signals	Terminals	Wire Size mm^2 (AWG)	Torque Value N•m (lb•in)
2099-BM06 2099-BM07 2099-BM08	AC input	L1 L2 L3 Ground	R S T PE	25...2.5 (3...14)	1.8 (16)
	Motor power	U/Brown V/Black W/Blue ⏚ Green/Yellow	U V W ⏚		
	DC bus	DC+, DC-	DC+, DC-		
2099-BM09	AC input	L1 L2 L3	R S T	50...4 (1/0...12)	3.6 (32)
		Ground	PE		5.0 (44)
	Motor power	U/Brown V/Black W/Blue	U V W		3.6 (32)
		⏚ Green/Yellow	⏚		5.0 (44)
	DC bus	DC+, DC-	DC+, DC-		3.6 (32)
2099-BM10	AC input	L1 L2 L3	R S T	70...10 (2/0...8)	15 (133)
		Ground	PE	50...4 (1/0...12)	5.0 (44)
	Motor power	U/Brown V/Black W/Blue	U V W	70...10 (2/0...8)	15 (133)
		⏚ Green/Yellow	⏚	50...4 (1/0...12)	5.0 (44)
	DC bus	DC+, DC-	DC+, DC-	70...10 (2/0...8)	15 (133)

Drive Cat. No.	Input Type	Signals	Terminals	Wire Size mm^2 (AWG)	Torque Value N•m (lb•in)
2099-BM11 2099-BM12	AC input	L1 L2 L3	R S T	100…10 (4/0…8)	12 (104)
		Ground	PE	50…4 (1/0…12)	5.0 (44)
	Motor power	U/Brown V/Black W/Blue	U V W	100…10 (4/0…8)	12 (104)
		⏚ Green/Yellow	⏚	50…4 (1/0…12)	5.0 (44)
	DC bus	DC+, DC-	DC+, DC-	100…10 (4/0…8)	12 (104)

Motor Overload Protection

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

In addition to thermal memory protection, this drive provides an input for an external temperature sensor/thermistor device, embedded in the motor, to support the UL requirement for motor overload protection.

Some motors supported by this drive do not contain temperature sensors/thermistors; therefore, motor overload protection against excessive consecutive motor overloads with power cycling is not supported.

This servo drive meets the following UL 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: To avoid damage to your motor due to overheating caused by excessive, successive motor overload trips, follow the wiring diagram provided in the user manual for your motor and drive combination.

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

Additional Resources

These documents contain additional information on related products from Rockwell Automation.

Resource	Description
Kinetix 7000 High Power Servo Drives User Manual, publication 2099-UM001	Provides information on installing, configuring, starting up, troubleshooting, and applications for your Kinetix 7000 servo drive system.
Kinetix 3, 300, 350, 2000, 6000, 6200, 6500, 7000 Servo Drives Specifications, publication KNX-TD005	Provides product specifications for Kinetix Integrated Motion over the EtherNet/IP network (Kinetix 6500 and Kinetix 350), Integrated Motion over Sercos interface (Kinetix 6200, Kinetix 6000, Kinetix 2000, and Kinetix 7000), and component (Kinetix 3) servo drive families.
Kinetix Servo Drive Performance Specifications per Ecodesign Regulation (EU) 2019/1781 and UK SI 2021 No. 745, publication KNX-TD006	Provides specifications per EU and UK Ecodesign, including efficiency class.
Kinetix Safe-off Feature Safety Reference Manual, publication GMC-RM002	Provides information on wiring and troubleshooting the safe-off function for Kinetix 7000 servo drives.
Kinetix 7000 Drive Systems Design Guide, publication KNX-RM007	Provides system design guide to determine and select the required (drive specific) drive module, power accessory, connector kit, motor cable, and interface cable catalog numbers for your drive and motor/ actuator motion control system. Included are system performance specifications and torque/speed curves (rotary motion) and force/velocity curves (linear motion) for your motion application.
Fiber-optic Cable Installation and Handling Instructions, publication 2090-IN010	Provides information on proper handling, installing, testing, and troubleshooting fiber-optic cables.
System Design for Control of Electrical Noise Reference Manual, publication GMC-RM001	Provides information, examples, and techniques designed to minimize system failures caused by electrical noise.
EMC Noise Management video, GMC-SP004	
Rockwell Automation Configuration and Selection Tools, website http://www.ab.com/e-tools	Online product selection and system configuration tools, including AutoCAD (DXF) drawings.
National Electrical Code, published by the National Fire Protection Association of Boston, MA	An article on wire sizes and types for grounding electrical equipment.
Rockwell Automation Industrial Automation Glossary, publication AG-7.1	A glossary of industrial automation terms and abbreviations.
Rockwell Automation Product Certification, website rok.auto/certifications	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at rok.auto/literature.

Waste Electrical and Electronic Equipment (WEEE)

At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.
For technical support, visit rok.auto/support.

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