

Kinetix 6200 and Kinetix 6500 Axis Modules

This section contains power specifications, mounting dimensions, and catalog numbers for the modular Bulletin 2094 (460V) axis modules (AM). Choose your AM power module based on the inverter power requirements of your application.

Axis Module (inverter) Power Specifications

These specifications apply to the axis module specified in the column heading by catalog number and the same axis module (inverter section) that resides within an IAM power module.

AM Module (inverter) 460V Power Specifications

Attribute	2094-BMP5-M (2094-BC01-MP5-M)	2094-BM01-M (2094-BC01-M01-M)	2094-BM02-M (2094-BC02-M02-M)	2094-BM03-M (2094-BC04-M03-M)	2094-BM05-M (2094-BC07-M05-M)
Bandwidth ⁽¹⁾ Velocity loop Current loop	500 Hz 1300 Hz			Contact your Rockwell Automation sales representative for the availability of this AM power module.	Contact your Rockwell Automation sales representative for the availability of this AM power module.
PWM frequency	8 kHz		4 kHz		
Nominal input voltage	650V DC				
Continuous current (rms)	2.8 A	6.1 A	10.3 A		
Continuous current (sine) 0-pk	4.0 A	8.6 A	14.6 A		
Peak current (rms) ⁽²⁾	7.0 A	15.3 A	25.8 A		
Peak current (0-pk) ⁽²⁾	9.9 A	21.6 A	36.4 A		
Continuous power out (nom)	1.8 kW	3.9 kW	6.6 kW		
Internal shunt Continuous power Peak power	50 W 5.6 kW				
Internal shunt resistor	115 Ω				
Shunt on	805V DC				
Shunt off	765V DC				
Efficiency	98%				
Capacitance	75 μF	150 μF	270 μF		
Capacitive energy absorption	10 J	19 J	35 J		
Short circuit current rating	200,000 A (rms) symmetrical				

(1) Bandwidth values vary based on tuning parameters and mechanical components.

(2) Refer to the Kinetix 6200 and Kinetix 6500 Modular Multi-axis Servo Drives User Manual, publication [2094-UM002](#), for duty cycle capability information.

Allen-Bradley 2094-BMP5-M

Peak Enhancement Specifications

Drives that support the Peak Enhanced mode have the capability of increasing the maximum inverter peak current to achieve greater overload performance.

IMPORTANT

The Peak Enhancement feature requires use of RSLogix 5000 software version 16 and drive firmware revision 1.111 or later.

Kinetix 6000 Peak Overload Support

IAM/AM Module Cat. No.	Module	Safe-off Drive	Series A	Series B
2094-BCxx-Mxx	IAM	Non safe-off	Standard	Standard
2094-BMxx	AM			
2094-BCxx-Mxx-S	IAM	Safe-off	Standard	Standard or Peak enhanced ⁽¹⁾
2094-BMxx-S	AM			

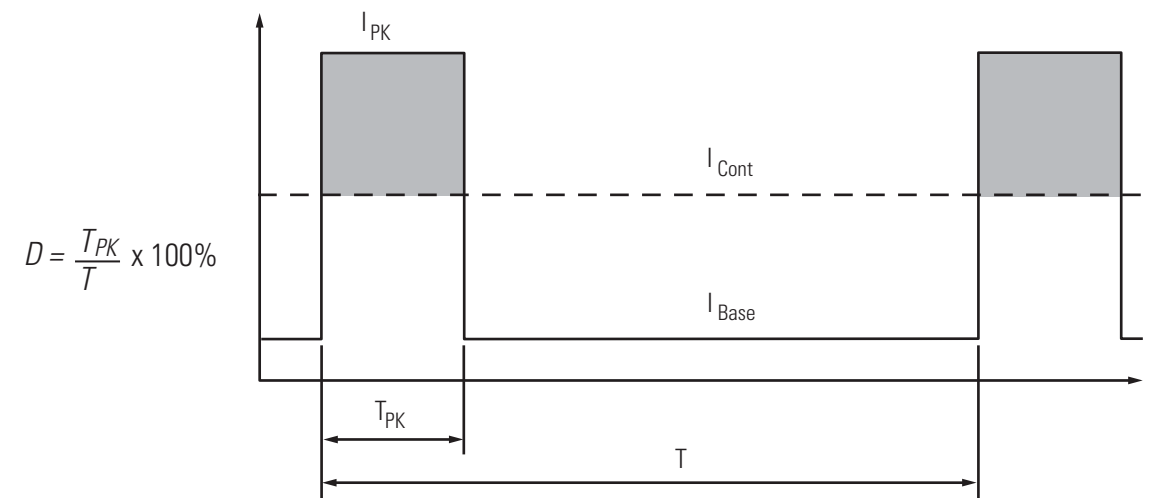
(1) Standard mode is enabled by default to preserve backward compatibility, but you can enable the Peak Enhanced mode to achieve increased peak current performance. Refer to Kinetix 6000 IAM/AM Module Series Change on [page 268](#) for information on enabling the Peak Enhanced mode.

Kinetix 6000 Peak Current Ratings

IAM/AM Module ⁽¹⁾ Cat. No.	Peak Inverter Current Rating		Peak Enhanced Converter Current Rating
	Standard	Peak Enhanced	
2094-BC01-MP5-S	150%	250%	250%
2094-BC01-M01-S	150%	250%	250%
2094-BC02-M02-S	150%	250%	250%
2094-BMP5-S	150%	250%	N/A
2094-BM01-S	150%	250%	N/A
2094-BM02-S	150%	250%	N/A

(1) Contact your Rockwell Automation sales representative for availability of 2094-BC04-M03-S, 2094-BM03-S, 2094-BC07-M05-S, and 2094-BM05-S series-B drive modules.

Load Duty-cycle Profile Example



IMPORTANT

The peak current ratings of the Kinetix 6000 AM modules (series A and B) are configured at the factory as 150% of continuous current. You can program 2094-BMP5-S, 2094-BM01-S, and 2094-BM02-S series-B drives and their equivalent IAM (inverter) modules, up to 250% of continuous inverter current.

AM Module (inverter) 460V Power Specifications (series A and B)

Attribute	2094-BMP5-S (2094-BC01-MP5-S)	2094-BM01-S (2094-BC01-M01-S)	2094-BM02-S (2094-BC02-M02-S)	2094-BM03-S (2094-BC04-M03-S)	2094-BM05-S (2094-BC07-M05-S)
Bandwidth ⁽¹⁾ Velocity loop Current loop	500 Hz 1300 Hz				
PWM frequency	8 kHz		4 kHz		
Nominal input voltage	650V DC				
Continuous current (rms)	2.8 A	6.1 A	10.3 A	21.2 A	34.6 A
Continuous current (sine) 0-pk	4.0 A	8.6 A	14.6 A	30.0 A	48.9 A
Peak current (rms)	4.2 A ⁽²⁾ 7.0 A ⁽³⁾	9.2 A ⁽²⁾ 15.3 A ⁽³⁾	15.5 A ⁽²⁾ 25.8 A ⁽³⁾	31.8 A ⁽²⁾	51.9 A ⁽²⁾
Peak current (0-pk)	5.9 A ⁽²⁾ 9.9 A ⁽³⁾	12.9 A ⁽²⁾ 21.6 A ⁽³⁾	21.8 A ⁽²⁾ 36.4 A ⁽³⁾	45.0 A ⁽²⁾	73.4 A ⁽²⁾
Continuous power out (nom)	1.8 kW	3.9 kW	6.6 kW	13.5 kW	22.0 kW
Internal shunt Continuous power Peak power	50 W 5.6 kW			200 W 22.5 kW	
Internal shunt resistor	115 Ω			28.75 Ω	
Shunt on	805V DC				
Shunt off	755V DC				
Efficiency	98%				
Capacitance	75 μF	150 μF	270 μF	840 μF	1175 μF
Capacitive energy absorption	10 J	19 J	35 J	108 J	152 J
Short circuit current rating	200,000 A (rms) symmetrical				

(1) Bandwidth values vary based on tuning parameters and mechanical components.

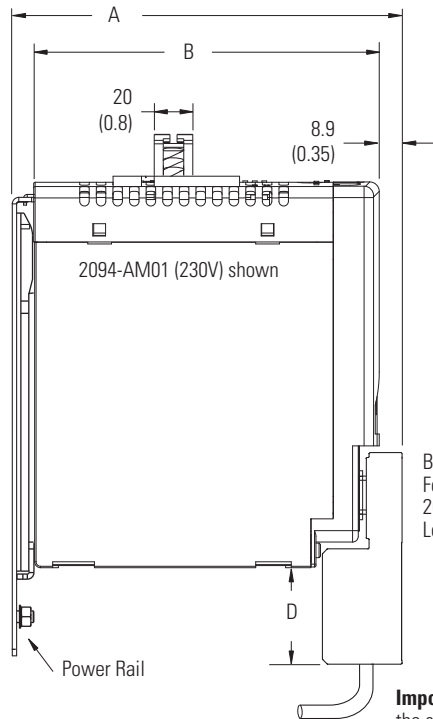
(2) Applies to Series A drives.

(3) Applies to Series B drives when configured for Peak-enhanced mode. For more information on drive performance in the Peak-enhanced mode, refer to [Peak Enhancement Specifications](#) on [page 272](#).

Allen-Bradley 2094-BMP5-M

Axis Module Dimensions

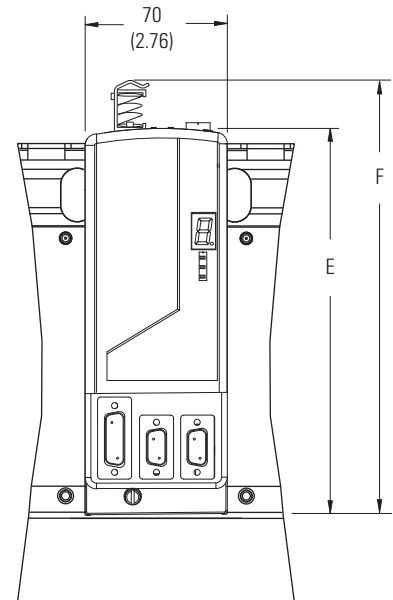
2094-AMP5-S, 2094-AM01-S, and 2094-AM02-S Dimensions (230V) 2094-BMP5-S, 2094-BM01-S, and 2094-BM02-S Dimensions (460V)



Dimensions are in mm (in.)

Bulletin 2090 (flying lead)
Feedback Cable with
2090-K6CK-D15M
Low Profile Connector Kit

Important: Additional clearance below
the connector is necessary to provide
the recommended cable bend radius.



Modules are shown mounted to the power rail and the dimensions reflect that in the depth of the module.

AM Module Cat. No.	A mm (in.)	B mm (in.)	D mm (in.)	E mm (in.)	F mm (in.)
2094-AMP5-S	198 (7.8)	176 (7.0)	51 (2.0)	206 (8.2)	231 (9.1)
2094-AM01-S					
2094-AM02-S					
2094-BMP5-S	272 (10.7)	249 (9.8)	0 (0)	256 (10.1)	281 (11.0)
2094-BM01-S					
2094-BM02-S					

Weight Specifications

Kinetix 6000 Module	Cat. No.	Weight, approx. kg (lb)
IAM (230V)	2094-AC05-MP5-S	2.23 (4.9)
	2094-AC05-M01-S	2.27 (5.0)
	2094-AC09-M02-S	2.31 (5.1)
	2094-AC16-M03-S	4.71 (10.4)
	2094-AC32-M05-S	7.43 (16.4)
AM (230V)	2094-AMP5-S	1.46 (3.2)
	2094-AM01-S	1.50 (3.3)
	2094-AM02-S	1.54 (3.4)
	2094-AM03-S	3.13 (6.9)
	2094-AM05-S	3.18 (7.0)
Power rails (Slim)	2094-PRS1	1.05 (2.3)
	2094-PRS2	1.59 (3.5)
	2094-PRS3	2.14 (4.7)
	2094-PRS4	2.67 (5.9)
	2094-PRS5	3.11 (6.8)
	2094-PRS6	3.55 (7.8)
	2094-PRS7	3.99 (8.8)
	2094-PRS8	4.43 (9.7)

Kinetix 6000 Module	Cat. No.	Weight, approx. kg (lb)
IAM (460V)	2094-BC01-MP5-S	4.98 (11.0)
	2094-BC01-M01-S	5.03 (11.1)
	2094-BC02-M02-S	5.08 (11.2)
	2094-BC04-M03-S	9.60 (21.1)
	2094-BC07-M05-S	10.1 (22.3)
AM (460V)	2094-BMP5-S	2.44 (5.4)
	2094-BM01-S	2.49 (5.5)
	2094-BM02-S	2.54 (5.6)
	2094-BM03-S	4.58 (10.1)
	2094-BM05-S	4.98 (11.0)
Shunt module	2094-BSP2	3.10 (6.8)
Slot-filler module	2094-PRF	0.45 (1.0)

Maximum Feedback Cable Lengths

Although motor feedback cables are available in standard lengths up to 90 m (295.3 ft), the drive/motor/feedback combination may limit the maximum feedback cable length. These tables assume the use of recommended cables as shown in the Motor/Actuator Cable Selection table on [page 380](#).

Cable Lengths for Compatible Rotary Motors

Motor Cat. No.	Absolute High-resolution (5V) Encoder m (ft)	Absolute High-resolution (9V) Encoder m (ft)	Incremental/TTL (5V) Encoder m (ft)	Resolver m (ft)
MPL-A15xxx... MPL-A2xxx-E/V	30 (98.4)			
MPL-A3xxx... MPL-A5xxx-S/M ⁽¹⁾	30 (98.4)			
MPL-B15xxx... MPL-B2xxx-E/V		90 (295.3)		
MPL-B3xxx... MPL-B5xxx-S/M		90 (295.3)		
MPL-A/B15xxx... MPL-A/B45xxx-H			30 (98.4)	
MPL-Bxxx-R				90 (295.3)
MPM-Axxxx-S/M	30 (98.4)			