Kinetix 6000 Integrated Axis Modules

This section contains power specifications, mounting dimensions, and catalog numbers for the 2094-AC*xx*-M*xx* (230V) and 2094-BC*xx*-M*xx* (460V) Integrated Axis Modules.

Integrated Axis Module (converter) 230V Power Specifications

The table below lists general power specifications and requirements for the Kinetix 6000 (230V) Integrated Axis Modules.

Specification	Description	
	2094-AC05-M01	**2094-AC09-M02**
AC Input Voltage	195-265V_{rms} Three-Phase (230V nominal)	
AC Input Frequency	47 - 63 Hz	
Main AC Input Current[1] Nominal Maximum inrush	 11A 40A	 20A 40A
Control Power AC Input Voltage	95-264V_{rms} Single-Phase (230V nominal)	
Control Power AC Input Current Nominal (@ 220/230V ac) Maximum inrush	 3A 20A	 3A 20A
Nominal Bus Output Voltage	325V dc	325V dc
Line Loss Ride Through	20 ms	20 ms
Continuous Output Current to Bus (A_{dc})	9A	19A
Intermittent Output Current to Bus (A_{dc})	18A	38A
Bus Overvoltage	425V dc	425V dc
Bus Undervoltage	138V dc	138V dc
Shunt On	N/A	405V dc
Shunt Off	N/A	375V dc
Internal Shunt Resistor	N/A	20 ohms
Internal Shunt Continuous Power Peak Power	 N/A N/A	 50W 8000W
Continuous Power Output to Bus	3 kW	6 kW
Peak Power Output	6 kW	12 kW
Efficiency	95%	95%
Converter Inductance	N/A	N/A

[1] All 2094-*xCxx* Integrated Axis Modules are limited to 2 contactor cycles per minute (with up to 4 axis modules), or 1 contactor cycle per minute (with 5 to 8 axis modules).

Kinetix 6000 Axis Modules

This section contains power specifications, mounting dimensions, and catalog numbers for the 2094-AM*xx* (230V) and 2094-BM*xx* (460V) Axis Modules.

Axis Module (inverter) 230V Power Specifications

The table below lists the power specifications for the Kinetix 6000 (230V) Axis Modules. 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 Integrated Axis Module.

Specification	Description			
	2094-AM01	**2094-AC05-M01**	**2094-AM02**	**2094-AC09-M02**
Speed Regulation	TBD			
PWM Frequency	8 kHz	8 kHz	4 kHz	4 kHz
Nominal Input Voltage	325V dc	325V dc	325V dc	325V dc
Continuous Current (rms)	6A	6A	10.6A	10.6A
Continuous Current (sine) 0-peak	8.5A	8.5A	15A	15A
Peak Current (rms)	12A	12A	21.2A	21.2A
Peak Current (0-peak)	17A	17A	30A	30A
Continuous Power Out (nominal)	1.9 kW	1.9 kW	3.4 kW	3.4 kW
Efficiency	98%	98%	98%	98%
Capacitance	660µF	930µF	780µF	1320µF
Capacitive Energy Absorption	23 Joules	33 Joules	28 Joules	47 Joules

Kinetix 6000 General System Specifications

The following section contains 2094 environmental, weight, power dissipation, circuit breaker/fuse, transformer, and contactor specifications.

Environmental Specifications

Specification	Operational Range	Storage Range (non-operating)
Temperature	0° C to 50° C (32° F to 122° F)	-40° C to 70° C (-40° F to 158° F)
Humidity	5 to 95% non-condensing	5 to 95% non-condensing
Altitude	1000 m (3281 ft)	3000 m (9843 ft) during transport
Vibration	0.152 mm (0.006 in.) peak-to-peak displacement (max), 1.0 g peak (max) acceleration @ 5-2000 Hz	0.381 mm (0.015 in.) peak-to-peak displacement (max), 2.5 g peak (max) acceleration @ 5-2000 Hz
Shock	15 g, 11 ms half-sine pulse (3 pulses in each direction of 3 mutually perpendicular directions)	30 g, 11 ms half-sine pulse (3 pulses in each direction of 3 mutually perpendicular directions)

Weight Specifications

Module	Catalog Number	Description
Integrated Axis Modules	2094-AC05-M01	2.27 kg (5.0 lbs)
	2094-AC09-M02	2.31 kg (5.1 lbs)
	2094-BC01-M01	5.03 kg (11.1 lbs)
	2094-BC02-M02	5.08 kg (11.2 lbs)
Axis Modules	2094-AM01	1.50 kg (3.3 lbs)
	2094-AM02	1.54 kg (3.4 lbs)
	2094-BM01	2.49 kg (5.5 lbs)
	2094-BM02	2.54 kg (5.6 lbs)
Line Interface Modules	2094-AL09	11.33 kg (25 lbs)
	2094-BL02	18.14 kg (40 lbs)
Shunt Modules	2094-BSP2	3.1 kg (6.8 lbs)
Power Rails	2094-PR1	1.04 kg (2.3 lbs)
	2094-PR2	1.41 kg (3.1 lbs)
	2094-PR4	2.18 kg (4.8 lbs)
	2094-PR6	2.90 kg (6.4 lbs)
	2094-PR8	3.63 kg (8.0 lbs)
Slot Filler Module	2094-PRF	0.45 kg (1.0 lbs)

Power Dissipation Specifications

Use the following table to size an enclosure and calculate required ventilation for your Kinetix 6000 system.

Kinetix 6000 Modules	Usage as % of Rated Power Output (watts)				
	20%	40%	60%	80%	100%
Integrated Axis Module [1] (Converter)					
2094-AC05-M01	19	23	27	31	35
2094-AC09-M02	33	51	69	87	105
2094-BC01-M01	15	20	25	30	35
2094-BC02-M02	20	30	40	50	60
Integrated Axis Module [1] (Inverter)					
2094-AC05-M01	62	69	76	83	90
2094-AC09-M02	64	73	82	91	100
2094-BC01-M01	95	120	145	170	195
2094-BC02-M02	98	126	154	182	210
Axis Module [1]					
2094-AM01	62	69	76	83	90
2094-AM02	64	73	82	91	100
2094-BM01	95	120	145	170	195
2094-BM02	98	126	154	182	210
Line Interface Module					
2094-AL09	N/A	N/A	N/A	N/A	72
2094-BL02	N/A	N/A	N/A	N/A	90
Shunt Module					
2094-BSP2	68	121	174	227	280

[1] Internal shunt power is not included in the calculations and must be added based on utilization.

Circuit Breaker/Fuse Specifications

While circuit breakers offer some convenience, there are limitations for their use. Circuit breakers do not handle high current inrush as well as fuses. The Kinetix 6000 needs to be protected by a device having a short circuit interrupt current rating of the service capacity provided or a maximum of 100,000A.

If an upstream circuit protection device is rated for the overload current and short circuit rating, a supplementary circuit protection device (such as the 1492) can be used as the only Kinetix 6000 branch circuit protection device. The upstream fully rated device let-through must be less than or equal to the 10 kA interrupt rating of the 1492.

The wiring interconnection in Figure 3.10 and Figure 3.11 provide examples of the needed protection and follows UL and NEC codes. Full compliance is dependent on final wiring design and installation.