KV-X500

CPU unit

*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

Specifications

Model				KV-X500
General specifications	Power voltage			System configuration using a KV-5000/3000 Series expansion unit: 24 VDC (±10%) System configuration using only a KV-8000/7000 Series expansion unit: 24 VDC (-15%/+20%)
	Operating ambient temperature			System configuration using a KV-5000/3000 Series expansion unit: 0 to +50°C 32°F to +122°F (No freezing) System configuration using only a KV-8000/7000 Series expansion unit: 0 to +55°C 32°F to +131°F (No freezing)
	Operating ambient humidity			System configuration using a KV-5000/3000 Series expansion unit: Up to 95% RH (No condensation) System configuration using only a KV-8000/7000 Series expansion unit: Up to 95% RH (No condensation)
	Storage ambient temperature			System configuration using a KV-5000/3000 Series expansion unit: −20 to +70°C −4°F to +158°F System configuration using only a KV-8000/7000 Series expansion unit: −25 to +75°C −13°F to +167°F
	Storage relative humidity			System configuration using a KV-5000/3000 Series expansion unit: Up to 95% RH (No condensation) System configuration using only a KV-8000/7000 Series expansion unit: Up to 95% RH (No condensation)
	Operating environment			No dust or corrosive gas
	Operating altitude			2000 m 6561.7' or less
	Noise immunity			IEC standard-compliant (IEC 61000-4-2/3/4/6)
	Withstand voltage			1500 VAC, 1 minute (between the power supply terminal and the I/O terminals and between the external terminals and the case)
	Insulation resistance			50 MΩ or more (between the power terminals and the I/O terminals and between the external terminals and the case, with 500 VDC megohmmeter)
	Vibration resistance	Intermittent vibration	Frequency 5 to 9 Hz	Half amplitude: 3.5 mm 0.14" *1
			Frequency 9 to 150 Hz	Acceleration: 9.8 m/s² 32.2 ft/s² *1
		Continuous vibration	Frequency 5 to 9 Hz	Half amplitude: 1.75 mm 0.07" *1
			Frequency 9 to 150 Hz	Acceleration: 4.9 m/s² 16.1 ft/s² *1
	Internal current consumption			No more than 600 mA *2
	Shock resistance			Acceleration: 150 m/s² 492.1 ft/s², Application time: 11 ms, 2 times in each of the X, Y, and Z directions
	Pollution degree			2
	Weight			Approx. 410 g 14.47 oz
Performance specifications	Processing speed	Contact I/O		Min. 0.50 ns

		Double-precision floating point calculation		Min. 1.0 ns
	Program	Size		128 MB
		Max. count		4000
		Material quantity		100000
		Supported languages		Ladder, structured text, mnemonic
	CPU memory capacity (project capacity + user memory capacity)			128 MB
	Variables	Capacity	Overall	124 MB
			Retained	3.5 MB
		Max. count	Overall	200000
			Retained	100000
		Data type		BOOL, UINT, INT, UDINT, DINT, REAL, LREAL, TIME, STRING, ARRAY, structure, union, function block
		Array	Maximum number of elements per dimension	1040187392
			Maximum number of dimensions	8
			Maximum occupiable data size per array	65011712 words
			Specifiable data types	BOOL, UINT, INT, UDINT, DINT, REAL, LREAL, TIME, STRING, structure, union, function block
			Specifiable subscripts	Devices, constants, variables, calculations *3 *4
			Subscript-compatible data types	UINT, INT, UDINT, DINT
		Structure/Union	Maximum number of definitions	8000
			Maximum number of members per definition	2048
			Maximum number of nested steps	8 *5
			Specifiable data types	BOOL, UINT, INT, UDINT, DINT, REAL, LREAL, TIME, STRING, array, structure, union
	Devices	Capacity		1.5 MB
		Types	Input relay R	Total: 32000 points, 1 bit (R00000 to R199915)
			Output relay R	
			Internal auxiliary relay R	
			Link relay B	32768 points, 1 bit (B0000 to B7FFF)
			Internal auxiliary relay MR	64000 points, 1 bit (MR000000 to MR399915)
			Latch relay LR	16000 points, 1 bit (LR00000 to LR99915)
			Timer T	4000 points, 32 bits (T0000 to T3999)
			Counter C	4000 points, 32 bits (C0000 to C3999)

			Data memory DM	65535 points, 16 bits (DM00000 to DM65534)
			Expansion data memory EM	65535 points, 16 bits (EM00000 to EM65534)
			File register FM	32768 points, 16 bits (FM00000 to FM32767)
			File register (dial mode) ZF	524288 points, 16 bits (ZF000000 to ZF524287)
			Link register W	32768 points, 16 bits (W0000 to W7FFF)
			Temporary memory TM	512 points, 16 bits (TM000 to TM511)
			Index register Z	10 points, 32 bits (Z1 to Z10)
			Control memory CM	7600 points, 16 bits (CM0000 to CM7599)
	Scan time setting	Fixed scan time operation		0.10 to 200.00 ms (units of 0.01 ms)
		Fixed-period module		0.05 to 6000.00 ms (units of 0.01 ms), or 0.01 to 60.00 s (units of 0.01 s)
	System	Maximum number of installable units		16 units (KV-8000/7000 Series expansion unit only)/48 units (KV-8000/7000 Series expansion unit, KV-5000/3000 Series expansion unit (when KV-EB1 is used))
		CPU unit I/O points		—
		Maximum number of I/O points		3072 points (64-point unit × 48)
	Power failure hold function	Program memory		Flash ROM can be written 10000 times
		Variables/Devices		Non-volatile RAM
		Calendar timer		Backup capacitor lasts approx. 15 days (at 25°C 77°F) and approx. 5 years with KV-B1 (battery) (at 25°C 77°F)
	Self-diagnosis function			CPU error, RAM error, and other problems

*1 Compliant with JIS B 3502 and IEC 61131-2, No. of sweeps: 10 times in each of the X, Y, and Z directions (for 100 minutes)
*2 The maximum current consumption is 3.4 A when using KV-X500.
*3 Specify 0 or a positive integer for the subscript. A conversion or calculation error will occur if any other number is specified.
*4 Only structured text can use calculation expressions as subscripts. Calculation expressions cannot be used as subscripts in ladder programs.
*5 When writing stAAA.member, the number of nested rows will be 1. When writing stAAA.stBBB.member, the number of nested rows will be 2.

Dimensions

* Download CAD file or product manual for larger image/text and more detail.

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