XGB U

Ultimate Performance

Universal IoT

User Oriented

Contents

Block type unit
(U, H, SU, E)

Item	Descriptions				Standard
Ambient temperature	0 ~ 55 ˚C				
Storage temperature	- 25 ~ +70 ˚C				
Ambient humidity	5 ~ 95%RH (Non-condensing)				
Storage humidity	5 ~ 95%RH (Non-condensing)				
Vibration resistance	Occasional vibration			10 times each direction (X, Y and Z)	IEC61131-2
	Frequency	**Acceleration**	**Pulse width**		
	10 ≤ f < 57Hz	–	0.075mm		
	57 ≤ f ≤ 150Hz	9.8m/s² (1G)	–		
	Continuous vibration				
	Frequency	**Acceleration**	**Pulse width**		
	10 ≤ f < 57Hz	–	0.035mm		
	57 ≤ f ≤ 150Hz	4.9m/s² (0.5G)	–		
Shock resistance	• Peak acceleration: 147m/s² (15g) • Duration: 11ms • Pulse waveform: Half-sine, 3times each direction per each axis				IEC61131-2
Noise resistance	Square wave impulse noise	±500 V			LSIS Standard
	Electrostatic discharge	4kV			IEC61131-2 IEC61000-4-2
	Radiated electromagnetic field noise	80 ~ 1000MHz, 10V/m			IEC61131-2 IEC61000-4-3
	Fast transient/ Burst noise	Main unit	Expansion module		IEC61131-2 IEC61000-4-4
		2kV	1kV		
Operating ambience	Free from corrosive gases and excessive dust				
Altitude	Up to 2,000m				
Pollution level [*1]	Less than 2				
Cooling	Air-cooling				

[*1] Pollution level indicates the degree to which conductive material is generated in the environment where the equipment is used. Pollution level 2 is the condition that only non-conductive pollution occurred but temporary conductivity may be produced due to condensing.

XEC U

Performance specifications

Item		Specifications						Remark
		XEC-DN(P)32U	XEC-DR28U	XEC-DN(P)32UA	XEC-DR28UA	XEC-DN(P)32UP	XEC-DR28UP	
Program control method		Cyclic execution of stored program, Time-driven interrupt, Process-driven interrupt						
I/O control method		Batch processing by simultaneous scan (Refresh method), Directed by program instruction						
Program language		Ladder Diagram, Instruction List, SFC, ST						
Number of instructions	Operator	18						
	Basic function	136 + Floating-point Arithmetic Functions						
	Basic function block	43						
	Special function block	Each special module has own special function blocks						
Processing speed (Basic instruction)		60ns/step						
Program memory		384Kbyte						
Max. I/O points		352points	348points	352points	348points	352points	348points	Main + 10 expansioons
Data area	Symbolic variable(A)	64KB (Retain setting available)						
	Input variable(I)	2KB						
	Output variable(Q)	2KB						
	Direct variable	M	32KB (Retain setting available)					
		R	32KB * 2blocks					
		W	64KB					Same area with R
	Flag variable	F	4KB					System flag
		K	16KB					Keep relay
		L	8KB					Link relay
		U	768 Byte					Analog data refresh area
		N	20KB					P2P parameter
Flash area		4blocks (128Kbyte)						Using R device
Timer		No limit in points (Time range: 0.001~ 4,294,967.295)						
Counter		No limit in points (Counter range: 64 bit range)						
Total program		256						
Initial task	Initial task	1						
	Cyclic task	Max 16						
	Initial task	1						
	Cyclic task	Max 16						
	I/O task	Max 8						
	Internal device task	Max 16						
	High Speed Counter task	Max 8						
Operation mode		RUN, STOP, DEBUG						
Self-diagnosis function		Detects errors of scan time, memory, I/O and power supply						
Program port		USB 1 channel						
Retain data at power failure		Latch area setting in basic parameter						
Internal consumption current		700mA	990mA	780mA	1,040mA	1,250mA	1,550mA	
Weight		571g	630g	683g	732g	673g	722g	

| Built –in function

Built-in function

Item		Specifications						Remark
		XBC/XEC-DN(P)32U	XBC/XEC-DR28U	XBC/XEC-DN(P)32UA	XBC/XEC-DR28UA	XBC/XEC-DN(P)32UP	XBC/XEC-DR28UP	
PID control		Control by instruction, auto-tunning, PWM output, Forced output, Operation scan time setting, Antiwindup, Delta MV, PV tracking, Hybrid operation, Cascade operation						
Seria	Protocol	Dedicated protocol, Modbus protocol User defined protocol , LS bus(inverter protocol)						Embedded00 P2P:01
	Channel	RS-232C 1 port and RS-485 1 port						
Ethernet	Transfer spec	Cable: 100Base-TX Speed: 100Mbps Auto-MDIX *1 IEEE 802.3						
	Topology	Line, star						
	Diagnosis	Module information, service condition						
	Protocol	XGT dedicated Modbus TCP/IP user define frame						Embedded01 P2P:02 High-speed link:01
	Service	P2P, High Speed link, Remote connection						
Datalog	Group	Max 10 group						
	Data set	32 per group						
	Extension	csv file						
	File size	Max 16Mbyte						
	SD memory type	SD,SDHC type(Recommand: SanDisk,Transcend)						
	Memory size	Max 16GB						
	File system	FAT32						
High Speed Counter	Performance	1-phase : 100KHz 8 channels 2-phase : 50KHz 4 channels						
	Counter mode	4 counter modes are supported based on input pulse and INC/DEC method • 1 pulse operation Mode : INC/DEC count by program • 1 pulse operation Mode : INC/DEC count by phase B pulse input • 2 pulse operation Mode : INC/DEC count by input pulse • 2 pulse operation Mode : INC/DEC count by difference of phase						
	Function	• Internal/external preset • Latch counter • Compare output • No. of rotation per unit time						

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*1) Auto-MDIX(Automatic medium-dependent interface crossover) : It is the function to automatically detect whether the cable connected to the Ethernet port is peer-to-peer(straight) or cross cable

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Positioning

Item	Specifications	Remark
Basic Function	No. of control axi: 4axis Control Method:Position, Speed, Speed/Position,Feed Control Control Unit: Pulse ,mm, inch, degree Positioning Data: Each axis can have up to 400 data(Step number:1~400) Operation pattern: End, Keep, Continuous Operation method: Singular, Repeat	Available On UP type
interpolation	2/3/4 axis linear interpolation 2 axis circular interpolation 3 axis helical interpolation	
Positioning	Method: Absolute/Incremental method Address range: 2,147,483,648~2,147,483,647 Speed: Max 2Mpps(1~2,000,000pps) Acc /Dec process: Trapezoid type, S-type	
Homing method	DOG+HOME(Off), DOG+HOME(On), Upper limit + HOME,DOG, High speed, Upper/Lower limit, HOME	
Manual operation	Jog operation, MPG operation, Inching operation	
Encoder input	Line drive(RS-422A) input 1Channel(Max 200kpps)	

Analog

	Item		Specifications		Remark
Analog input	Channels		4channels (current/voltage)		Available On UP type
	Specification	Input Range	Voltage: 1~5V, 0~5V, 0~10V, -10~10V, Current: 4~20mA,0~20mA		
			Current input or Voltage input can be selected through the external terminal wiring setting.		
		Input resistance	1MΩ or more(voltage input), 250Ω (current iput)		
		Max.Resolution	1/16000		
			0.250mV(1 ~ 5V), 0.3125mV(0 ~ 5V) 0.625mV(0 ~ 10V), 1.250mV(±10V)	1.0μA (4 ~ 20mA) 1.25μA (0 ~ 20mA)	
		Accuracy	±0.2% or less (When ambient temperature is 25℃) ±0.3% or less (When ambient temperature is 0 ~ 55℃)		
Analog output	Channels		Voltage 2 channels ,Current 2 channels		
	Specification	Output Range	Voltage: 1~5V, 0~5V, 0~10V, -10~10V, Current: 4~20mA,0~20mA		
			Output ranges are set in user program or I/O parameter per each channel.		
		Load resistance	1MΩ or more(voltage output), 600Ω or less(current output)		
		Max.Resolution	1/16000		
			0.250mV(1 ~ 5V), 0.3125mV(0 ~ 5V) 0.625mV(0 ~ 10V), 1.250mV(±10V)	1.0μA (4 ~ 20mA) 1.25μA (0 ~ 20mA)	
		Accuracy	±0.2% or less (When ambient temperature is 25℃) ±0.3% or less (When ambient temperature is 0 ~ 55℃)		