XGB

Programmable Logic Controller

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XGB

All-In-One PLC

With Next Generation Technology

XGB is a micro PLC that offers maximum performance at minimum cost.
With its high functionality, XGB supports from simple control system to complex task.
Strengthening its communication functions, XGB offers user-oriented integrated control.
Based on its strengths, XGB can be used in many application fields.

Contents

XGB Features

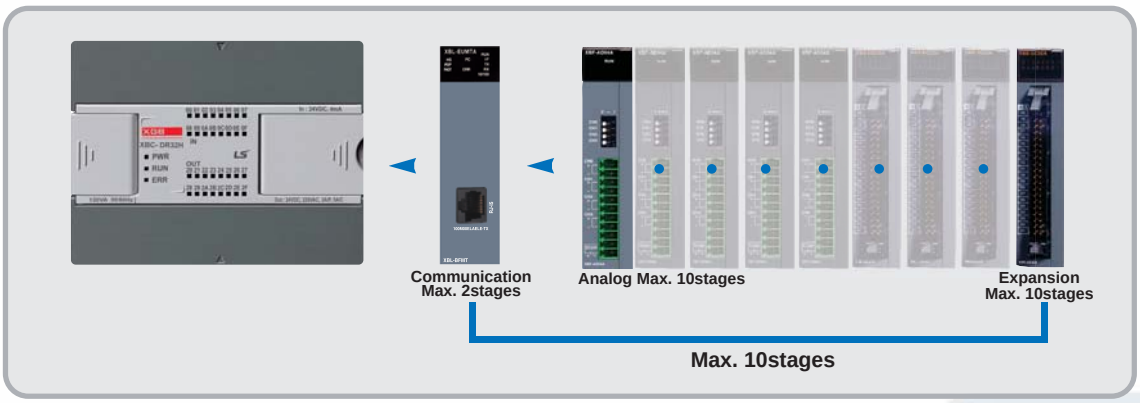
(Unit: mm)

	Item	W	H	D
XBM	DR / DN16S (16pt) DN32S (32pt)	30	90	60
XBC / XEC	DR / DN32H (32pt)	114	90	64
	DR / DN64H (64pt)	180	90	64
Expansion	Relay Output / Ethernet	27	90	60
	Others	20	90	60

Block type unit

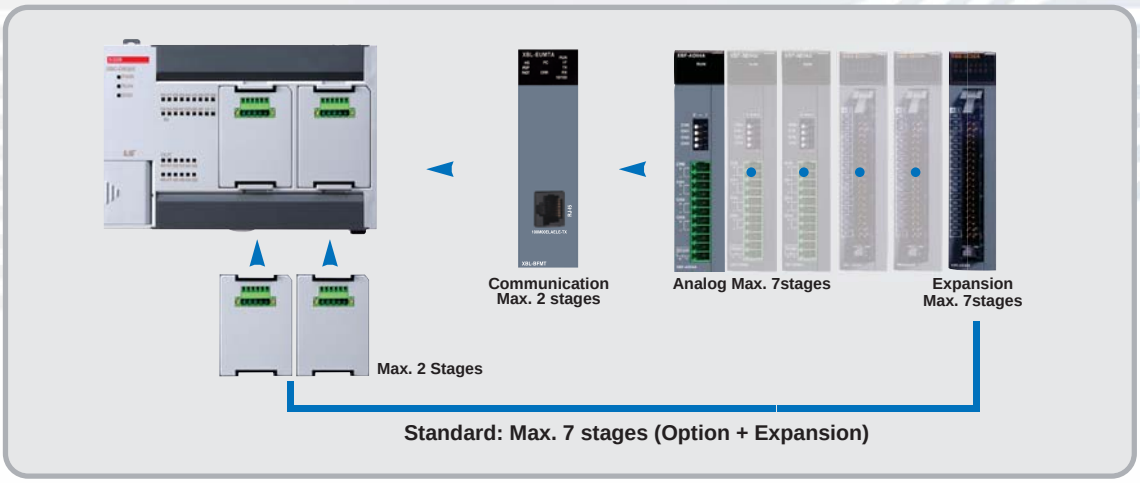
XBC/XEC (High performance type)

- 83ns/ Step processing speed
- Max. 10 expansion modules, Max. 384 I/O points control
- Max. 5-ch communication with built-in functions and expansion modules



XBC/XEC (Standard type)

- 94ns/ Step processing speed
- Max. 7 expansion modules, Max. 2 option modules, Max. 254 I/O points control
- Max. 5-ch communication with built-in functions and expansion modules

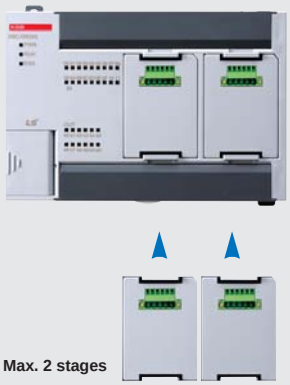


High performance

With its high-speed processing and system capability,
XGB offers utmost efficiency for your applications.

XBC/XEC (Economic type)

- 240ns/ Step processing speed
- Max. 2 option modules, Max. 38 I/O points control
- 2-ch built-in communication functions (RS-232C/ RS485)

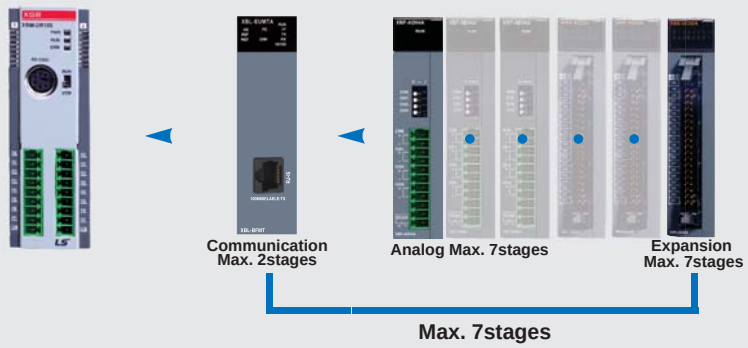


Option modules	
XBO-RTCA	RTC (Real Time Clock), Battery
XBO-DC04A	DC 24V, Input 4 points
XBO-TN04A	Transistor (Sink), Output 4 point
XBO-RD01A	RTD (Resistance Temperature Detect, Input 1 ch)
XBO-AD02A	Voltage/ Current, Input 2 chs
XBO-DA02A	Voltage/ Current, Output 2 chs
XBO-AH02A	Voltage/ Current, Input 1 ch
	Voltage/ Current, Output 1 ch
XBO-TC02A	TC (Thermocouple), Input 2 chs

Modular type unit

XBM (Standard type)

- 160ns/ Step processing speed
- Max. 7 expansion modules, Max. 256 I/O points control
- Max. 5-ch communication with built-in functions and expansion modules



XGB General specifications

Block type unit
(High performance, Standard, Economic)

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.

Modular type unit
(XBM-DR16S, DN16S, DN32S)

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.

Names and functions

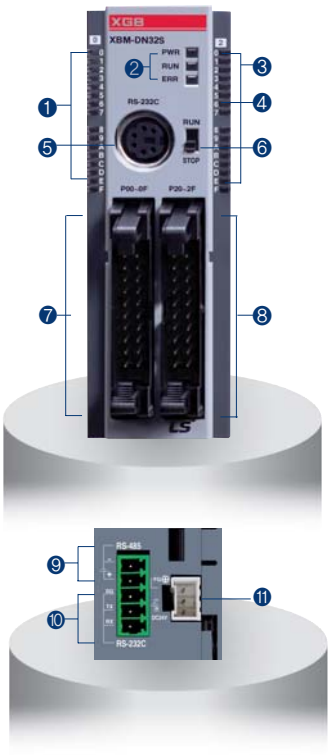
Block type unit

(High performance, Standard, Economic)

No.	Name	Descriptions	Descritpions	Remark
❶	**Input LED**	Input indication	Red On: Input signal On Red Off: Input signal Off	
❷	**Condition LED**	PWR: Power indication	Red On: Power On Red Off: Power Off	
		RUN: RUN indication	Green On: PLC Run Green Off: PLC Stop	
		ERR: Error indication	Red On-and-Off: PLC Error Red Off: PLC Normal condition	
❸	**Output LED**	Output LED	On: Output signal On Off: Output signal Off	
❹	**Expansion module connector**	Expansion module connector	Connection of expansion module (I/O, Special function, Communication)	
❺	**PADT connector**	PADT connection	Connector for XG5000 / XG-PD connection	
❻	**Mode switch**	Mode setting	Setting Run/Stop mode of PLC	
❼	**Input terminal block**	Input wiring connection	–	
❽	**Output terminal block**	Ouput wiring connection	–	
❾	**Built-in RS-485 connector**	Built-in RS-485 connection	RS-485 + / - terminal connection	
❿	**Built-in RS-232C connector**	Built-in RS-232C connection	RS-232C TXD, RXD, SG terminal connection	
⓫	**Power terminal**	Power supply terminal	AC 110-220V power supply	
⓬	**Option module slot**	Slot for option module	–	

Modular type unit

(XBM-DR16S, DN16S, DN32S)



No.	Name	Descriptions	Descritpions	Remark
❶	**Input LED**	Input indication	Red On: Input signal On Red Off: Input signal Off	
❷	**Condition LED**	PWR: Power indication	Red On: Power On Red Off: Power Off	
		RUN: RUN indication	Green On: PLC Run Green Off: PLC Stop	
		ERR: Error indication	Red On-and-Off: PLC Error Red Off: PLC Normal condition	
❸	**Output LED**	Output LED	On: Output signal On Off: Output signal Off	
❹	**Expansion module connector**	Expansion module connector	Connection of expansion module (I/O, Special function, Communication)	
❺	**PADT connector**	PADT connection	Connector for XG5000 / XG-PD connection	
❻	**Mode switch**	Mode setting	Setting Run/Stop mode of PLC	
❼	**Input connector / Terminal block**	Input wiring connection	–	
❽	**Output connector / Terminal block**	Ouput wiring connection	–	
❾	**Built-in RS-485 connector**	Built-in RS-485 connection	RS-485 + / - terminal connection	
❿	**Built-in RS-232C connector**	Built-in RS-232C connection	RS-232C TXD, RXD, SG terminal connection	
⓫	**Power connector**	Power supply connection	DC 24V power supply	

High performance type

Performance specifications

Item	XBC-DR32H XEC-DR32H*1) XBC-DR32H/DC	XBC-DN32H XEC-DN32H*1) XBC-DN32H/DC	XBC-DR64H XEC-DR64H*1) XBC-DR64H/DC	XBC-DN64H XEC-DN64H*1) XBC-DN64H/DC
Control method	Repetitive, cyclic, interrupt, constant scan			
I/O control method	Refresh mode (Batch processing by scan synchronization), Direct mode by instruction			
Programming language	Ladder diagram or IEC standard (LD, SFC, ST)*1)			
Processing speed	83 ns / Step			
Program capacity	15Kstep (IEC type: 200KB)			
Main unit I/O points	32 (Input:16, Output:16)	32 (Input:16, Output:16)	64 (Input: 32, Output: 32)	64 (Input: 32, Output: 32)
Max. I/O points (Main + Expansion 10 stages)	352 points		384 points	
Total program	128			
Operation mode	RUN, STOP, DEBUG			
Self diagnosis	Detects errors of scan time, memory error, I/O error, battery error, power error, etc.			
Program port	USB (Rev 1.1), RS-232C 1 channel (Loader)			
Retain data at power failure	Latch area setting at basic parameter			
Built-in functions	RS-232C / RS-485 (2 ch), Pulse catch, Input filter, External interrupt, PID control, High-speed counter, Positioning, RTC			
Internal current consumption	660mA	260mA	1040mA	330mA
Weight	600g	500g	900g	800g
Rated voltage	AC 100 ~ 240V or DC24V			

Data memory

XBC		XEC (IEC type)		
P	P0000 ~ P1023F (16,384 points)	Symbolic variable	A	32KB (Max. 16KB retain setting available)
M	M0000 ~ M1023F (16,384 points)	Input variable	I	2KB (%IX 15.15.63)
K	K0000 ~ K4095F (65,536 points)	Output variable	Q	2KB (%QX 15.15.63)
L	L0000 ~ L2047F (32,768 points)	Direct variable	M	16KB (Max. 8KB retain setting available)
F	F0000 ~ F1023F (16,384 points)		R	20KB (1 block)
T	100ms, 10ms, 1ms: T0000 ~ T1023 (1,024)(Adjustable by parameter setting)		W	20KB
C	C0000 ~ C1023 (1,024)	Flag variable	F	2KB
S	S00.00 ~ S127.99		K	8KB
D	D0000 ~ D10239 (10,240 word)		L	4KB
U	U00.00 ~ U0A.31 (Analog data refresh area: 352 word)		N	10KB
Z	Z000 ~ Z127 (128 word)		U	1KB
N	N000 ~ N5119 (5,120 word)	Flash area	R	20KB (2 blocks)

*1) XEC is IEC standard language programming.

Standard type

Performance specifications

Item	XBC-DN/DP20SU XBC-DR20SU XEC-DN20SU XEC-DR20SU	XBC-DN/DP30SU XBC-DR30SU XEC-DN30SU XEC-DR30SU	XBC-DN/DP40SU XBC-DR40SU XEC-DN40SU XEC-DR40SU	XBC-DN/DP60SU XBC-DR60SU XEC-DN60SU XEC-DR60SU
Control method	Repetitive, cyclic, interrupt, constant scan			
I/O control method	Refresh mode (Batch processing by scan synchronization), Direct mode by instruction			
Programming language	Ladder diagram, Instruction List			
Processing speed	94 ns / Step			
Program capacity	15Kstep			
Main unit I/O points	20 (Input:12, Output:8)	30 (Input:18, Output:12)	40 (Input:24, Output:16)	60 (Input:36, Output:24)
Max. I/O points (Main + Expansion 7 stages)	244 points	254 points	264 points	284 points
Total program	128			
Operation mode	RUN, STOP, DEBUG			
Self diagnosis	Detects errors of scan time, memory error, I/O error, battery error, power error, etc.			
Program port	RS-232C 1 channel (Loader), USB 1 channel (U-type model)			
Retain data at power failure	Latch area setting at basic parameter			
Built-in functions	RS-232C / RS-485(2 ch), Pulse catch, Input filter, External interrupt, PID control, High-speed counter, Positioning			
Internal current consumption	252mA/305mA	310mA/352mA	288mA/355mA	340mA/394mA
	460mA	612mA	684mA	942mA
	252mA	270mA	288mA	340mA
	478mA	626mA	684mA	942mA
Weight	475g	474g	578g	636g
	514g	528g	594g	804g
	475g	474g	578g	636g
	514g	528g	594g	804g
Rated voltage	AC 100 ~ 240V			

Data memory

XBC			XEC		
Data area	P	P0000 ~ P1023F (16,384 points)	Symbolic variable	A	16KB (Max. 16KB retain setting abailable)
	M	M0000 ~ M1023F (16,384 points)			
	K	K0000 ~ K4095F (65,536 points)	Input variable	I	2KB (%IX 15.15.63)
	L	L0000 ~ L2047F (32,768 points)	Output variable	Q	2KB (%QX 15.15.63)
	F	F0000 ~ F1023F (16,384 points)	Direct variable	M	8KB (Max. retain setting available)
	T	100ms, 10ms, 1ms: T0000 ~ T1023 (1,024) (Adjustable by parameter setting)		R	20KB (1 block)
	C	C0000 ~ C1023 (1,024)		W	20KB
	S	S00.00 ~ S127.99	Flag variable	F	2KB
	D	D0000 ~ D10239 (10,240 word)		K	8KB
	U	U00.00 ~ U0A.31 (Analog data refresh area: 352 word)		L	4KB
				U	1KB
	Z	Z000 ~ Z127 (128 word)	Flash area		20KB (2 block)
	R	N0000 ~ N10236 (10,240 word)			

*Some products are due in market soon.

Economic type

Performance specifications

Item		Specifications ('E' type)			
		XBC/XEC-DR10E XBC/XEC-DN10E XBC/XEC-DP10E	XBC/XEC-DR14E XBC/XEC-DN14E XBC/XEC-DP14E	XBC/XEC-DR20E XBC/XEC-DN20E XBC/XEC-DP20E	XBC/XEC-DR30E XBC/XEC-DN30E XBC/XEC-DP30E
Program control method		Reiterative operation, Fixed cycle operation			
I/O control method		Scan synchronized batch processing method (Refresh method) Direct method by instruction			
Program language		Ladder Diagram (LD), Sequential Function Chart (SFC) Structured Text (ST), Instruction List (IL)			
Processing speed (Basic instruction)		240 ns/step			
Program capacity		4 Kstep (XBC-DⅩⅩⅩE), 50 KB (XEC-DⅩⅩⅩE)			
Max. I/O points (Main+Option X)		14 point (1 option)	18 point (1 option)	28 point (2 option)	38 point (2 option)
Operation Mode		RUN, STOP, DEBUG			
Total number of program block		128			
Task	Initialization	1			
	Fixed period	8			
	External input	4 (%IⅩ0.0.0~%IⅩ0.0.3)			
	Internal device	8			
Program port		RS-232C 1 channel (Loader)			
Self-diagnostic functions		Watchdog Timer, Memory error detection I/O error detection, etc.			
Built-in functions		RS-232C or RS-485(1 ch), Pulse catch, Input filter, External interrupt, High-speed counter			
Data keeping method at power failure		Setting to retain area at basic parameter			
Internal consumption current (mA)		250	315	355	485
		180	190	200	210
		180	190	200	210
Weight (g)		330	340	450	465
		313	315	418	423
		313	315	418	423
Rated voltage		AC 100 ~ 240V			

Standard type

Performance specifications

Item	XBM-DR16S	XBM-DN16S	XBM-DN32S
Control method	Repetitive, cyclic, fixed cycle operation, constant scan		
I/O control method	Refresh mode (Batch processing by scan synchronization), Direct mode by instruction		
Programming language	Ladder diagram, Instruction List		
Processing speed	160 ns/Step		
Program capacity	10Kstep		
Main unit I/O points	16 points (Input:8, Output:8)	16 points (Input:8, Output:8)	32 points (Input:16, Output:16)
Max. I/O points (Main + Expansion 7 stages)	240 points		256 points
Total program	128		
Operation mode	RUN, STOP, DEBUG		
Self diagnosis	Detects errors of scan time, memory error, I/O error, battery error, power error, etc.		
Program port	RS-232C 1 channel (Loader)		
Retain data at power failure	Latch area setting at basic parameter		
Built-in functions	RS-232C/RS-485(2 ch), Pulse catch, Input filter, External interrupt, PID control, High-speed counter, Positioning*1)		
Internal current consumption	400mA	250mA	280mA
Weight	140g	100g	100g
Rated voltage	DC24V		
Data memory			
XBM			
Data area	P	P0000 ~ P127F (2,048 points)	
	M	M0000 ~ M255F (4,096 points)	
	K	K0000 ~ K2559F (Special area: K2600~K2559F) (40,960 points)	
	L	L0000 ~ L1279F (20,480 points)	
	F	F000 ~ F255F (4,096 points)	
	T	100ms, 10ms, 1ms: T000 ~ T255 (256) (Adjustable by parameter setting)	
	C	C000 ~ C255 (256)	
	S	S00.00 ~ S127.99	
	D	D0000 ~ D5119 (5,120 word)	
	U	U00.00 ~ U07.31 (Analog data refresh area: 256 word)	
	Z	Z000 ~ Z127 (128 word)	
	N	N0000 ~ N3935 (3,936 word)	

*1) XBM-DR16S does not have built-in positioning function.

High performance type

Input specification

Item		XBC-DR32H XEC-DR32H	XBC-DN32H XEC-DN32H	XBC-DR64H XEC-DR64H	XBC-DN64H XEC-DN64H	XEC-DR32H/D1 XEC-DR64H/D1
Input points		16 points		32 points		16 points
Rated input voltage		DC 24V				DC 12/24V
Rated input current		4mA (Contact 0~7: 9mA)				5/10mA (Contact 0~7 : 7/15mA)
Operation voltage range		DC 20.4 ~ 28.8V (Ripple rate < 5%)				DC 9.5~30V (Ripple rate < 5%)
On voltage / On current		DC 19V or more / 3mA or more				DC 9V or more / 3mA or more
Off voltage / Off current		DC 6V or less / 1mA or less				DC 5V or less / 1mA or less
Input resistance		5.6kΩ (P00 ~ P07: 2.7kΩ)				2.7kΩ (%IX0.0.0~%IX0.0.7:1.8kΩ)
Response time	Off → On	1 / 3 / 5 / 10 / 20 / 70 / 100 ms (Setting by CPU parameter) Initial value: 3ms				
	On → Off					
Weight		600g	500g	900g	800g	600g

Relay output specification

Item		XBC-DR32H/XEC-DR32H	XBC-DR64H/XEC-DR64H
Output point		16 points	32 points
Insulation method		Relay insulation	
Rated load voltage / current		DC 24V 2A (Resistive load) / AC 220V 2A (COSØ = 1), 5A / COM	
Min. load voltage / current		DC 5V / 1mA	
Max. load voltage		AC 250V, DC 125V	
Off leakage current		0.1mA (AC 220V, 60Hz)	
Max. On / Off frequency		3,600 times / hr	
Service life	Mechanical	20millions times or more	
	Electrical	Rated load voltage / current 100,000 times or more	
		AC 200V / 1.5A, AC 240V / 1A (COSØ = 0.7) 100,000 times or more	
		AC 200V / 1A, AC 240V / 0.5A (COSØ = 0.35) 100,000 times or more	
		DC 24V / 1A, DC 100V / 0.1A (L / R = 7ms) 100,000 times or more	
Response time	Off → On	10ms or less	
	On → Off	12ms or less	
Common method		4 points / COM	P20 ~ 2F: 4 points / COM P30 ~ 3F: 8 points / COM

Transistor output specification

Item		XBC-DN32H/XEC-DN32H	XBC-DN64H/XEC-DN64H
Output point		16 points	32 points
Insulation method		Photo coupler insulation	
Rated load voltage		DC 12 / 24V	
Load voltage range		DC 10.2 ~ 26.4 V	
Max. load voltage		0.5A / 1point (P20 ~ 23: 0.1A / point)	
Off leakage current		0.1mA or less	
Max. inrush current		4A / 10ms or less	
Max. voltage drop (On)		DC 0.4V or less	
Surge absorber		Zener Diode	
Response time	Off → On	1ms or less	
	On → Off	1ms or less (Rated load, resistive load)	
Common method		4 points / COM	P20 ~ 2F: 4 points / COM P30 ~ 3F: 8 points / COM
External power supply	Voltage	DC 12 / 24V ± 10% (Ripple voltage 4 Vp-p or less)	
	Current	10mA or less (DC 24V connection)	

Standard type

Input specification

Item		XBC-DN20SU XBC-DR20SU	XBC-DN30SU XBC-DR30SU	XBC-DN40SU XBC-DR40SU	XBC-DN60SU XBC-DR60SU
Input point		12 points	18 points	24 points	36 points
Rated input voltage		DC 24V			
Rated input current		4mA(Contact point 0~1 : 16mA, 2~7 : 10mA), DN20SU(DN30SU) : 4mA(Contact point 0~7: 10mA)			
Operation voltage range		DC 20.4 ~ 28.8V (Ripple rate < 5%)			
On voltage / On current		DC 19V or more / 3mA or more			
Off voltage / Off current		DC 6V or less / 1mA or less			
Input resistance		5.6kΩ (P00 ~ P07 : 2.7kΩ)			
Response time	Off → On	1 / 3 / 5 / 10 / 20 / 70/ 100ms (Setting by CPU parameter) Initial value : 3ms			
	On → Off				

Transistor output specification (Sink/Source type)

Item		XBC-DN20SU XEC-DN20SU XBC-DP20SU	XBC-DN30SU XEC-DN30SU XBC-DP30SU	XBC-DN40SU XEC-DN40SU XBC-DP40SU	XBC-DN60SU XEC-DN60SU XBC-DP60SU
Output point		8 points	12 points	16 points	24 points
Insulation method		Photo coupler insulation			
Rated load voltage		DC 12 / 24V			
Load voltage range		DC 10.2 ~ 26.4V			
Max. load voltage		0.5A / 1 point, 2A / 1COM			
Off leakage current		0.1mA or less			
Max. inrush current		4A / 10ms or less			
Max voltage drop (on)		DC 0.4V or less			
Surge absorbe		Zener Diode			
Response time	Off → On	DC 12 / 24V± 10%(Ripple voltage 4Vp-p or less)			
	On → Off	25mA or less (DC 24V connection)			

Relay output specification

Item		XBC-DR20SU	XBC-DR30SU	XBC-DR40SU	XBC-DR60SU
Output point		8 points	12 points	16 points	24 points
Insulation method		Relay insulation			
Rated load voltage/current		DC 24V 2A / AC 220V 2A (COSØ = 1), 5A / COM			
Min. load voltage/current		DC 5V / 1mA			
Max. load Current		AC 250V, DC 125V			
Off leakage current		0.1mA (AC 220V, 60Hz)			
Surge absorber		-			
Response time	Off → On	10ms or less			
	On → Off	12ms or less			
Common method (/ COM)		4 points / COM (P40, P41 : 1 point / COM), (P42 P43 : 2 points / COM)			
Life-cycle	Mechanical	Rated load voltage / Current 10 million times or more			
	Electrical	AC 220V / 1.5A, AC 240V / 1A (COSØ = 0.7) 10 million times or more			
		AC 200V / 1A, AC 240V / 0.5A (COSØ = 0.35) 10 million times or more			
		DC 24V / 1A, DC 100V / 0.1A (L / R = 7ms) 10 million times or more			

Economic type

Input specification

Specification \ Modal		Main unit			
		XBC/XEC-DR10E XBC/XEC-DN10E XBC/XEC-DP10E	XBC/XEC-DR14E XBC/XEC-DN14E XBC/XEC-DP14E	XBC/XEC-DR20E XBC/XEC-DN20E XBC/XEC-DP20E	XBC/XEC-DR30E XBC/XEC-DN30E XBC/XEC-DP30E
Input point		6 points	8 points	12 points	18 points
Insulation method		Photo coupler insulation			
Rated input voltage		DC 24V			
Rated input current		About 4mA (Contact point 0~3: about 7mA)			
Operation voltage range		DC 20.4~28.8V (Within ripple rate 5%)			
On voltage / On current		DC 19V or higher / 3mA or higher			
Off voltage / Off current		DC 6V or lower / 1mA or lower			
Input resistance		About 5.6kΩ (%I×0.0.0~%I×0.0.3: about 2.7kΩ)			
Response time	Off → On On → Off	1/ 3 / 5 / 10 / 20 / 70 / 100ms (Set by I/O parameter) Default: 3ms			
Insulation pressure		AC 560Vrms / 3 cycle (Altitude 2000m)			
Insulation resistance		10kΩ or more by MegOhmMeter			
Common method		6 points / COM	8 points / COM	12 points / COM	18 points / COM
Proper cable size		0.3㎟			
Operation indicator		LED On when Input On			
External connection method		14 point terminal block connector (M3 ×6 screw)		24 point terminal block connector (M3 ×6 screw)	
Weight		330g	340g	450g	465g
		313g	315g	418g	423g
		313g	315g	418g	423g

Relay output specification

Specification \ Modal		Main unit			
		XBC/XEC-DR10E	XBC/XEC-DR14E	XBC/XEC-DR20E	XBC/XEC-DR30E
Output point		4 points	6 points	8 points	12 points
Insulation method		Relay insulation			
Rated load voltage / Current		DC 24V 2A (resistive load) / AC 220V 2A (COSF = 1), 5A / COM			
Min. load voltage / Current		DC 5V / 1mA			
Max. load voltage		AC 250V, DC 125V			
Off leakage current		0.1mA (AC 220V, 60Hz)			
Max. On / Off frequency		3,600 times / hour			
Surge absorber		None			
Service life	Mechanical	20 million times or more			
	Electrical	Rated load voltage / Current 100,000 times or more			
		AC 200V / 1.5A, AC 240V / 1A (COØ = 0.7) 100,000 times or more			
		AC 200V / 1A, AC 240V / 0.5A (COØ = 0.35) 100,000 times or more			
		DC 24V / 1A, DC 100V / 0.1A (L / R = 7ms) 100,000 times or more			
Response time	Off → On	10ms or less			
	On → Off	12ms or less			
Common method		2 points / COM	4 points / COM	4 points / COM	4 points / COM
Proper cable size		Stranded cable 0.3~0.75㎟ (External diameter 2.8㎜ or less)			
Operation indicator		LED On when Output On			
External connection method		14 point terminal block connector (M3 ×6 screw)		24 point terminal block connector (M3 ×6 screw)	

Transistor output specification (Sink / Source type)

Specification \ Modal		Main unit			
		XBC/XEC-DN10E XBC/XEC-DP10E	XBC/XEC-DN14E XBC/XEC-DP14E	XBC/XEC-DN20E XBC/XEC-DP20E	XBC/XEC-DN30E XBC/XEC-DP30E
Output point		4 points	6 points	8 points	12 points
Insulation method		Photo coupler insulation			
Rated load voltage		DC 12/24V			
Operation load voltage range		DC 10.2~26.4V			
Max. load current		0.5A/1 point, 2A/1COM			
Off leakage current		0.1mA or less			
Max. inrush current		4A/10ms or less			
Max. voltage drop when On		DC 0.4V or less			
Surge absorber		Zener diode			
Response time	Off → On	1ms less			
	On → Off	1ms less (Rated load, resistive load)			
Common method		4 point / COM			
Proper wire size		Stranded wire 0.3~0.75㎟ (External diameter 2.8㎜ or less)			
External power	Voltage	DC 12/24V±10% (Ripple voltage 4 Vp-p or less)			
	Current	25mA or less (When connecting DC 24V)			
Operation indicator		LED On when Output On			
External connection method		14 point terminal block connector (M3 ×6 screw)		24 point terminal block connector (M3 ×6 screw)	

Standard type

Input specification

Item		XBM-DR16S	XBM-DN16S	XBM-DN32S
Input point		8 points	8 points	16 points
Rated input voltage		DC 24V		
Rated input current		4mA (00 ~ 03: 7mA)		
Operation voltage range		DC 20.4 ~ 28.8V (Ripple rate < 5%)		
Response time	Off → On	1 / 3 / 5 / 10 / 20 / 70 / 100ms (Set by CPU parameter) Default: 3ms		
	On → Off			
Common method		8 points / COM		16 points / COM

Standard type

Relay output specification

Item		XBM-DR16S
Output point		8 points
Insulation method		Relay insulation
Rated load voltage / current		DC 24V 2A (Resistive load) / AC 220V 2A (COSØ = 1), 5A / COM
Min. load voltage / current		DC 5V / 1mA
Max. load voltage		AC 250V, DC 125V
Off leakage current		0.1mA (AC 220V, 60Hz)
Max. On / Off frequency		3,600 times / hr
Service life	Mechanical	20 millions times or more
	Electrical	Rated load voltage / Current 100,000 times or more
		AC 200V / 1.5A, AC 240V / 1A (COSØ = 0.7) 100,000 times or more
		AC 200V / 1A, AC 240V / 0.5A (COSØ = 0.35) 100,000 times or more
		DC 24V / 1A, DC 100V / 0.1A (L / R = 7ms) 100,000 times or more
Response time	Off → On	10ms or less
	On → Off	12ms or less
Common method		8 points / COM

Transistor output specification

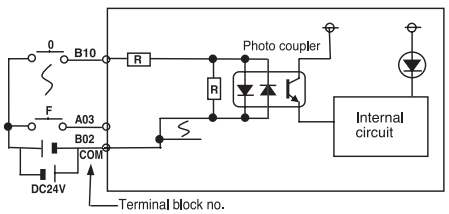
Item		XBM-DN16S	XBM-DN32S
Output point		8 point	16 point
Insulation method		Photo coupler insulation	
Rated load voltage		DC 12/24V	
Load voltage range		DC 10.2 ~ 26.4V	
Max. load voltage		0.2A / 1 point (P20 ~ 23: 0.1A / Point)	
Max. inrush current		4A / 10ms or less	
Max. voltage drop (On)		DC 0.4V or less	
Response time	Off → On	1ms or less	
	On → Off	1ms or less (Rated load, Resistive load)	
Common method		8 point / COM	16 point / COM
Extenal power supply	Voltage	DC 12 / 24V ±10% (Ripple voltage 4 Vp-p or less)	
	Current	25mA or less (DC 24V connection)	
External connection method		20pin connector	

Wiring | Block type unit

High performance type (H-Type 32 points unit)

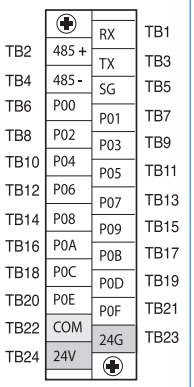
Input wiring
(XBC-DR32H / XBC-DN32H
XEC-DR32H / XEC-DN32H)

Circuit configuration



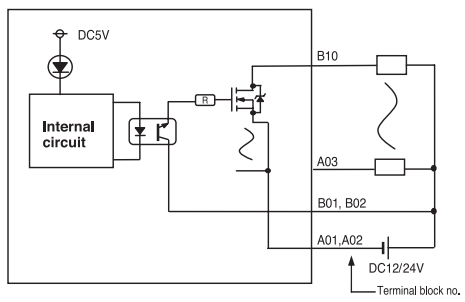
No.	Contact	No.	Contact
TB2	485+	TB1	RX
TB4	485−	TB3	TX
TB6	00	TB5	SG
TB8	02	TB7	01
TB10	04	TB9	03
TB12	06	TB11	05
TB14	08	TB13	07
TB16	0A	TB15	09
TB18	0C	TB17	0B
TB20	0E	TB19	0D
TB22	COM	TB21	0F
TB24	24V	TB23	24G

Type



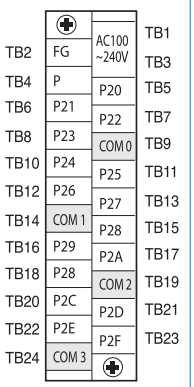
Transistor output wiring
(XBC-DN32H / XEC-DN32H)

Circuit configuration



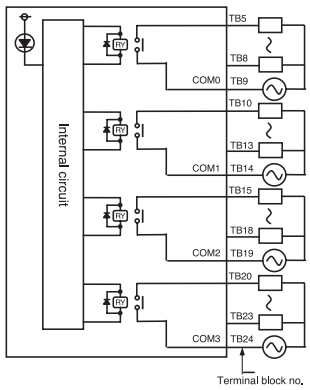
No.	Contact	No.	Contact
TB2	FG	TB1	AC100 ~240V
TB4	DC12/24V	TB3	
TB6	21	TB5	20
TB8	23	TB7	22
TB10	24	TB9	COM0
TB12	26	TB11	25
TB14	COM1	TB13	27
TB16	29	TB15	28
TB18	2B	TB17	2A
TB20	2C	TB19	COM2
TB22	2E	TB21	2D
TB24	COM3	TB23	2F

Type



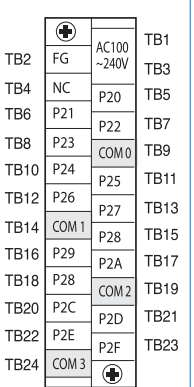
Relay output wiring
(XBC-DR32H / XEC-DR32H)

Circuit configuration



No.	Contact	No.	Contact
TB2	FG	TB1	AC100 ~240V
TB4	NC	TB3	
TB6	21	TB5	20
TB8	23	TB7	22
TB10	24	TB9	COM0
TB12	26	TB11	25
TB14	COM1	TB13	27
TB16	29	TB15	28
TB18	2B	TB17	2A
TB20	2C	TB19	COM2
TB22	2E	TB21	2D
TB24	COM3	TB23	2F

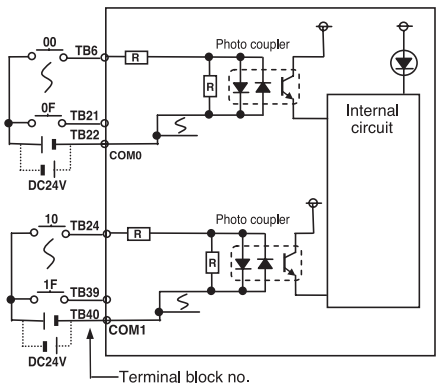
Type



High performance type (H-Type 64 points unit)

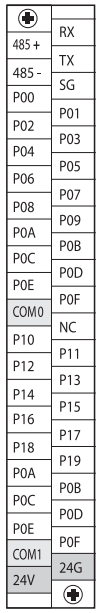
Input wiring
(XBC-DR64H / XBC-DN64H
XEC-DR64H / XEC-DN64H)

Circuit configuration



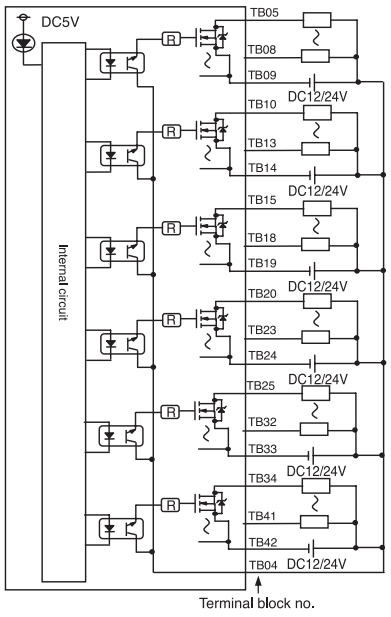
No.	Contact	No.	Contact
TB2	485+	TB1	RX
TB4	485−	TB3	TX
TB6	00	TB5	SG
TB8	02	TB7	01
TB10	04	TB9	03
TB12	06	TB11	05
TB14	08	TB13	07
TB16	0A	TB15	09
TB18	0C	TB17	0B
TB20	0E	TB19	0D
TB22	COM0	TB21	0F
TB24	10	TB23	NC
TB26	12	TB25	11
TB28	14	TB27	13
TB30	16	TB29	15
TB32	18	TB31	17
TB34	1A	TB33	19
TB36	1C	TB35	1B
TB38	1E	TB37	1D
TB40	COM1	TB39	1F
TB42	24V	TB41	24G

Type



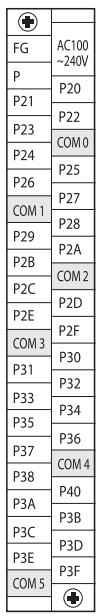
Transistor output wiring
(XBC-DN64H / XEC-DN64H)

Circuit configuration



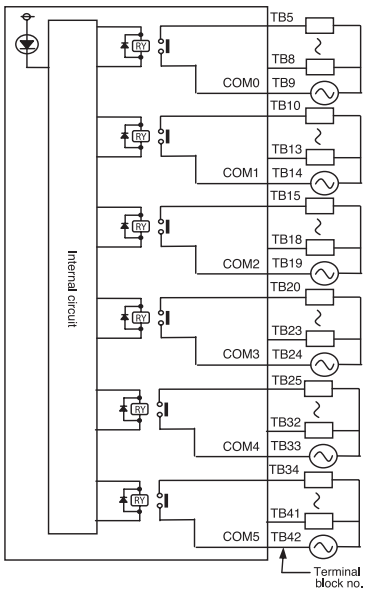
No.	Contact	No.	Contact
TB2	FG	TB1	AC100
TB4	DC12/24V	TB3	~240V
TB6	21	TB5	20
TB8	23	TB7	22
TB10	24	TB9	COM0
TB12	26	TB11	25
TB14	COM1	TB13	27
TB16	29	TB15	28
TB18	2B	TB17	2A
TB20	2C	TB19	COM2
TB22	2E	TB21	2D
TB24	COM3	TB23	2F
TB26	31	TB25	30
TB28	33	TB27	32
TB30	35	TB29	34
TB32	37	TB31	36
TB34	38	TB33	COM4
TB36	3A	TB35	39
TB38	3C	TB37	3B
TB40	3E	TB39	3D
TB42	COM5	TB41	3F

Type



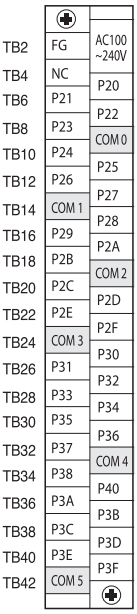
Relay output wiring
(XBC-DR64H/XEC-DR64H)

Circuit configuration



No.	Contact	No.	Contact
TB2	FG	TB1	AC100
TB4	NC	TB3	~240V
TB6	21	TB5	20
TB8	23	TB7	22
TB10	24	TB9	COM0
TB12	26	TB11	25
TB14	COM1	TB13	27
TB16	29	TB15	28
TB18	2B	TB17	2A
TB20	2C	TB19	COM2
TB22	2E	TB21	2D
TB24	COM3	TB23	2F
TB26	31	TB25	30
TB28	33	TB27	32
TB30	35	TB29	34
TB32	37	TB31	36
TB34	38	TB33	COM4
TB36	3A	TB35	39
TB38	3C	TB37	3B
TB40	3E	TB39	3D
TB42	COM5	TB41	3F

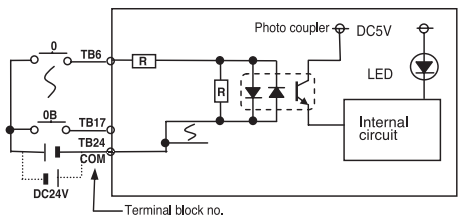
Type



Standard type

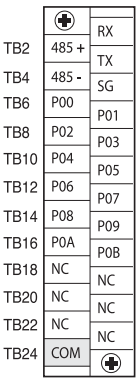
Input wiring
(XBC-DN20SU/XBC-DR20SU/
XEC-DN20S/XEC-DR20SU)

Circuit configuration



No.	Contact	No.	Contact
TB2	485+	TB1	RX
TB4	485−	TB3	TX
TB6	00	TB5	SG
TB8	02	TB7	01
TB10	04	TB9	03
TB12	06	TB11	05
TB14	08	TB13	07
TB16	0A	TB15	09
TB18	NC	TB17	0B
TB20	NC	TB19	NC
TB22	NC	TB21	NC
TB24	COM	TB23	NC

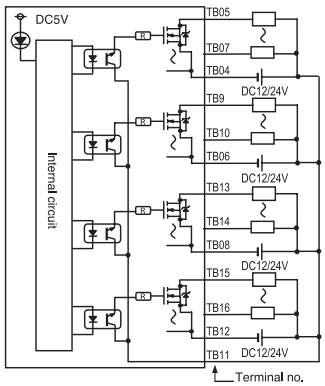
Type



High performance type (H-Type 64 points unit)

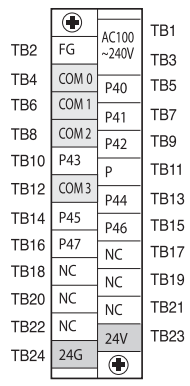
Transistor output wiring
(XBC-DN20SU/XEC-DN20SU)

Circuit configuration



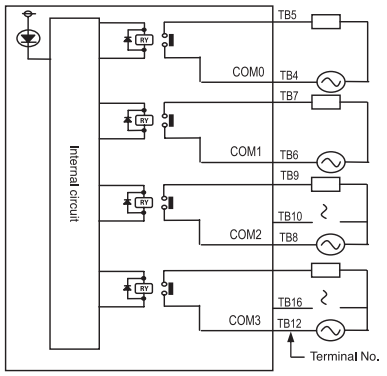
No.	Contact	No.	Contact
TB2	FG	TB1	AC100 ~240V
TB4	COM0	TB3	
TB6	COM1	TB5	40
TB8	COM2	TB7	41
TB10	43	TB9	42
TB12	COM3	TB11	P
TB14	45	TB13	44
TB16	47	TB15	46
TB18	NC	TB17	NC
TB20	NC	TB19	NC
TB22	NC	TB21	NC
TB24	24G	TB23	24V

Type



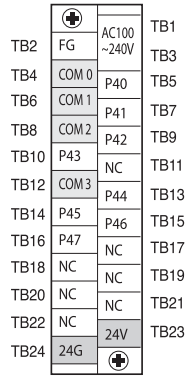
Relay output wiring
(XBC-DR20SU/XEC-DR20SU)

Circuit configuration



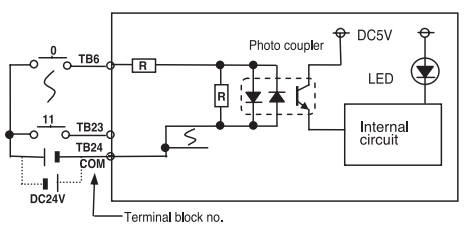
No.	Contact	No.	Contact
TB2	FG	TB1	AC100 ~240V
TB4	COM0	TB3	
TB6	COM1	TB5	40
TB8	COM2	TB7	41
TB10	43	TB9	42
TB12	COM3	TB11	NC
TB14	45	TB13	44
TB16	47	TB15	46
TB18	NC	TB17	NC
TB20	NC	TB19	NC
TB22	NC	TB21	NC
TB24	24G	TB23	24V

Type



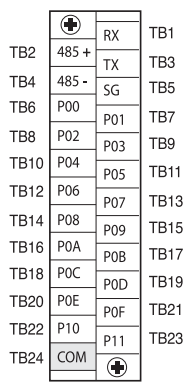
Input wiring
(XBC-DN30SU/XBC-DR30SU/
XEC-DN30SU/XEC-DR30SU)

Circuit configuration



No.	Contact	No.	Contact
TB2	485+	TB1	RX
TB4	485-	TB3	TX
TB6	00	TB5	SG
TB8	02	TB7	01
TB10	04	TB9	03
TB12	06	TB11	05
TB14	08	TB13	07
TB16	0A	TB15	09
TB18	0C	TB17	0B
TB20	0E	TB19	0D
TB22	10	TB21	0F
TB24	COM	TB23	11

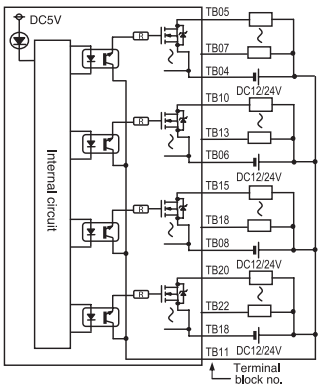
Type



Standard type

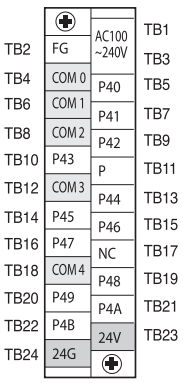
Transistor output wiring
(XBC-DN30SU/ XEC-DN30SU)

Circuit configuration



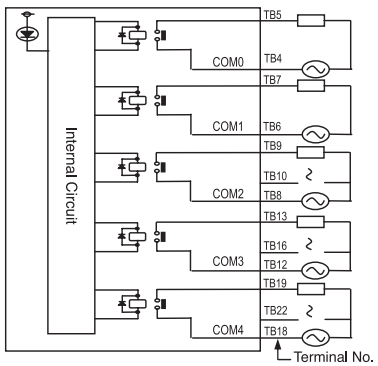
No.	Contact	No.	Contact
		TB1	AC100
TB2	FG	TB3	~240V
TB4	COM0	TB5	40
TB6	COM1	TB7	41
TB8	COM2	TB9	42
TB10	43	TB11	P
TB12	COM3	TB13	44
TB14	45	TB15	46
TB16	47	TB17	NC
TB18	COM4	TB19	48
TB20	49	TB21	4A
TB22	4B	TB23	24V
TB24	24G		

Type



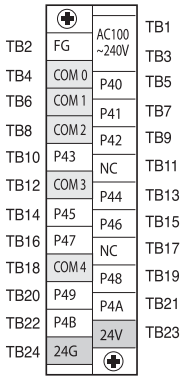
Relay output wiring
(XBC-DR30SU/ XEC-DR30SU)

Circuit configuration



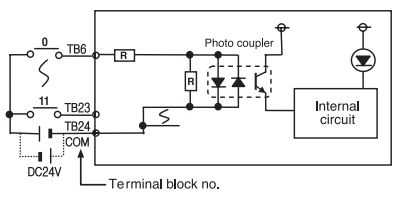
No.	Contact	No.	Contact
		TB1	AC100
TB2	FG	TB3	~240V
TB4	COM0	TB5	40
TB6	COM1	TB7	41
TB8	COM2	TB9	42
TB10	43	TB11	NC
TB12	COM3	TB13	44
TB14	45	TB15	46
TB16	47	TB17	NC
TB18	COM4	TB19	48
TB20	49	TB21	4A
TB22	4B	TB23	24V
TB24	24G		

Type



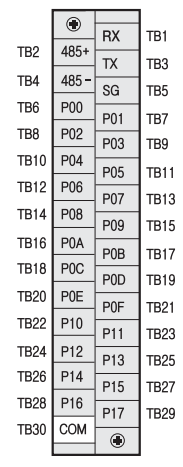
Input wiring
(XBC-DN40SU/ XEC-DN40SU)

Circuit configuration



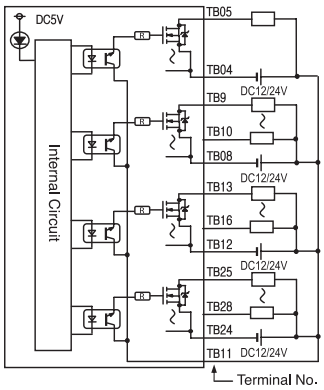
No.	Contact	No.	Contact
		TB1	RX
TB2	485+	TB3	TX
TB4	485-	TB5	SG
TB6	00	TB7	01
TB8	02	TB9	03
TB10	04	TB11	05
TB12	06	TB13	07
TB14	08	TB15	09
TB16	0A	TB17	0B
TB18	0C	TB19	0D
TB20	0E	TB21	0F
TB22	10	TB23	11
TB24	12	TB25	13
TB26	14	TB27	15
TB28	16	TB29	17
TB30	COM		

Type



Standard type

Transistor output wiring
(XBC-DN40SU/ XEC-DN40SU)

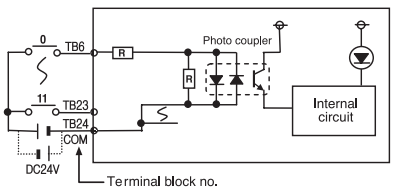


No.	Contact	No.	Contact
		TB1	AG100
TB2	FG	TB3	~240V
TB4	COM0	TB5	40
TB6	COM1	TB7	41
TB8	COM2	TB9	42
TB10	43	TB11	P
TB12	COM3	TB13	44
TB14	45	TB15	46
TB16	47	TB17	NC
TB18	COM4	TB19	48
TB20	49	TB21	4A
TB22	4B	TB23	NC
TB24	COM5	TB25	4C
TB26	4D	TB27	4E
TB28	4F	TB29	24V
TB30	24G		

Type

		AG100 ~240V	TB1
TB2	FG		TB3
TB4	COM0	P40	TB5
TB6	COM1	P41	TB7
TB8	COM2	P42	TB9
TB10	P43	P	TB11
TB12	COM3	P44	TB13
TB14	P45	P46	TB15
TB16	P47	NC	TB17
TB18	COM4	P48	TB19
TB20	P49	P4A	TB21
TB22	P4B	NC	TB23
TB24	COM5	P4C	TB25
TB26	P4D	P4E	TB27
TB28	P4F	24V	TB29
TB30	24G		

Input wiring
(XBC-DR40SU/ XEC-DR40SU)

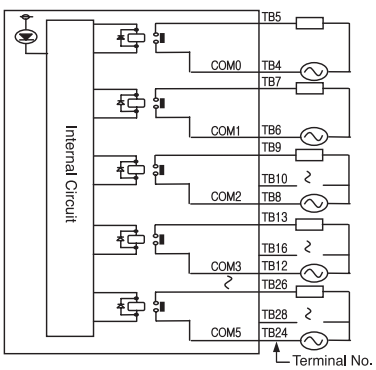


No.	Contact	No.	Contact
		TB1	RX
TB2	485+	TB3	TX
TB4	485-	TB5	SG
TB6	00	TB7	01
TB8	02	TB9	03
TB10	04	TB11	05
TB12	06	TB13	07
TB14	08	TB15	09
TB16	0A	TB17	0B
TB18	0C	TB19	0D
TB20	0E	TB21	0F
TB22	10	TB23	11
TB24	12	TB25	13
TB26	14	TB27	15
TB28	16	TB29	17
TB30	COM		

Type

		RX	TB1
TB2	485+	TX	TB3
TB4	485-	SG	TB5
TB6	P00	P01	TB7
TB8	P02	P03	TB9
TB10	P04	P05	TB11
TB12	P06	P07	TB13
TB14	P08	P09	TB15
TB16	P0A	P0B	TB17
TB18	P0C	P0D	TB19
TB20	P0E	P0F	TB21
TB22	P10	P11	TB23
TB24	P12	P13	TB25
TB26	P14	P15	TB27
TB28	P16	P17	TB29
TB30	COM		

Relay output wiring
(XBC-DR40SU/ XEC-DR40SU)

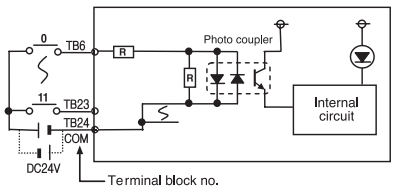


No.	Contact	No.	Contact
		TB1	RX
TB2	FG	TB3	TX
TB4	COM0	TB5	SG
TB6	COM1	TB7	01
TB8	COM2	TB9	03
TB10	43	TB11	05
TB12	COM3	TB13	07
TB14	45	TB15	09
TB16	47	TB17	0B
TB18	COM4	TB19	0O
TB20	49	TB21	0F
TB22	4B	TB23	11
TB24	COM5	TB25	13
TB26	4D	TB27	15
TB28	4F	TB29	17
TB30	24G		

Type

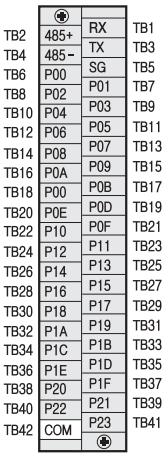
		AG100 ~240V	TB1
TB2	FG		TB3
TB4	COM0	P40	TB5
TB6	COM1	P41	TB7
TB8	COM2	P42	TB9
TB10	P43	P	TB11
TB12	COM3	P44	TB13
TB14	P45	P46	TB15
TB16	P47	NC	TB17
TB18	COM4	P48	TB19
TB20	P49	P4A	TB21
TB22	P4B	NC	TB23
TB24	COM5	P4C	TB25
TB26	P4D	P4E	TB27
TB28	P4F	24V	TB29
TB30	24G		

Input wiring
(XBC-DN60SU/ XEC-DN60SU)

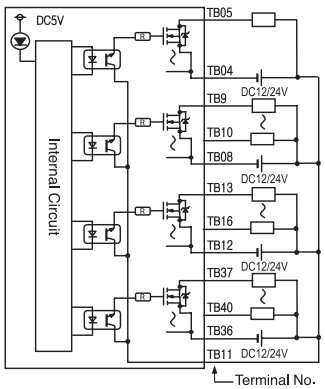


No.	Contact	No.	Contact
		TB1	RX
TB2	485+	TB3	TX
TB4	485-	TB5	SG
TB6	00	TB7	01
TB8	02	TB9	03
TB10	04	TB11	05
TB12	06	TB13	07
TB14	08	TB15	09
TB16	0A	TB17	0B
TB18	0C	TB19	0D
TB20	0E	TB21	0F
TB22	10	TB23	11
TB24	12	TB25	13
TB26	14	TB27	15
TB28	16	TB29	17
TB30	18	TB31	19
TB32	1A	TB33	1B
TB34	1C	TB35	1D
TB36	1E	TB37	1F
TB38	20	TB39	21
TB40	22	TB41	23
TB42	COM		

Type

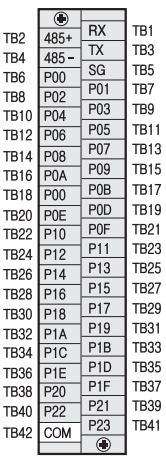


Transistor output wiring
(XBC-DN60SU/ XEC-DN60SU)



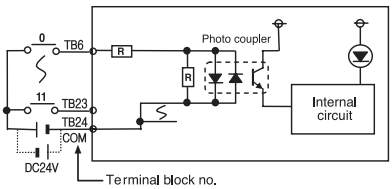
No.	Contact	No.	Contact
		TB1	AG100
TB2	FG	TB3	~240V
TB4	COM0	TB5	40
TB6	COM1	TB7	41
TB8	COM2	TB9	42
TB10	43	TB11	P
TB12	COM3	TB13	44
TB14	45	TB15	46
TB16	47	TB17	NC
TB18	COM4	TB19	48
TB20	49	TB21	4A
TB22	4B	TB23	NC
TB24	COM5	TB25	4C
TB26	4D	TB27	4E
TB28	4F	TB29	NC
TB30	COM6	TB31	50
TB32	51	TB33	52
TB34	53	TB35	NC
TB36	COM7	TB37	54
TB38	55	TB39	56
TB40	57	TB41	24V
TB42	24G		

Type



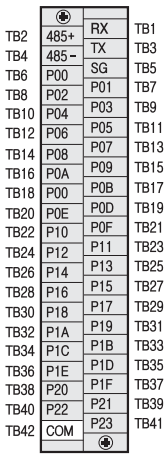
Standard type

Input wiring
(XBC-DR60SU/ XEC-DR60SU)

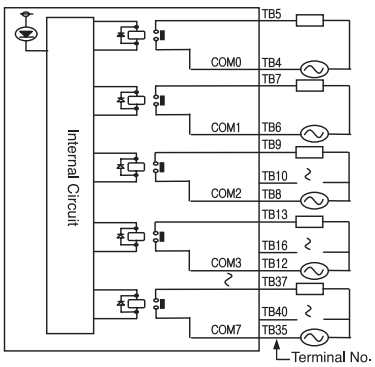


No.	Contact	No.	Contact
		TB1	RX
TB2	485+	TB3	TX
TB4	485-	TB5	SG
TB6	00	TB7	01
TB8	02	TB9	03
TB10	04	TB11	05
TB12	06	TB13	07
TB14	08	TB15	09
TB16	0A	TB17	0B
TB18	0C	TB19	0D
TB20	0E	TB21	0F
TB22	10	TB23	11
TB24	12	TB25	13
TB26	14	TB27	15
TB28	16	TB29	17
TB30	18	TB31	19
TB32	1A	TB33	1B
TB34	1C	TB35	1D
TB36	1E	TB37	1F
TB38	20	TB39	21
TB40	22	TB41	23
TB42	COM		

Type

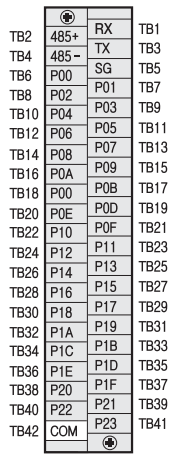


Relay output wiring
(XBC-DR60SU/ XEC-DR60SU)



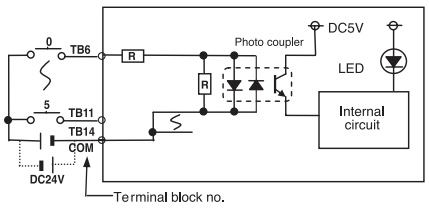
No.	Contact	No.	Contact
		TB1	AG100
TB2	FG	TB3	~240V
TB4	COM0	TB5	40
TB6	COM1	TB7	41
TB8	COM2	TB9	42
TB10	43	TB11	P
TB12	COM3	TB13	44
TB14	45	TB15	46
TB16	47	TB17	NC
TB18	COM4	TB19	48
TB20	49	TB21	4A
TB22	4B	TB23	NC
TB24	COM5	TB25	4C
TB26	4D	TB27	4E
TB28	4F	TB29	NC
TB30	COM6	TB31	50
TB32	51	TB33	52
TB34	53	TB35	NC
TB36	COM7	TB37	54
TB38	55	TB39	56
TB40	57	TB41	24V
TB42	24G		

Type



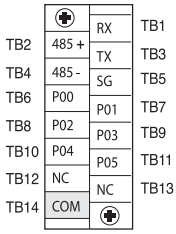
Economic type

Input wiring
(XBC-DR10E)

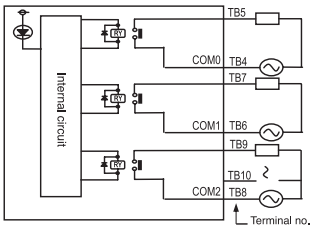


No.	Contact	No.	Contact
TB2	485+	TB1	RX
TB4	485−	TB3	TX
TB6	00	TB5	SG
TB8	02	TB7	01
TB10	04	TB9	03
TB12	NC	TB11	05
TB14	COM	TB13	NC

Type

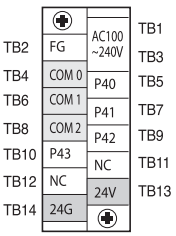


Relay output wiring
(XBC-DR10E)

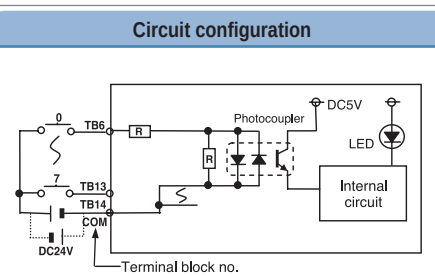


No.	Contact	No.	Contact
TB2	FG	TB1	AC100 ~240V
TB4	COM0	TB3	
TB6	COM1	TB5	40
TB8	COM2	TB7	41
TB10	43	TB9	42
TB12	NC	TB11	NC
TB14	24G	TB13	24V

Type

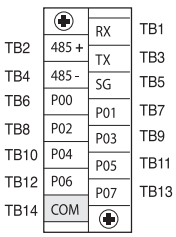


Input wiring
(XBC-DR14E)

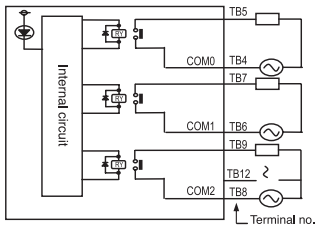


No.	Contact	No.	Contact
TB2	485+	TB1	RX
TB4	485−	TB3	TX
TB6	00	TB5	SG
TB8	02	TB7	01
TB10	04	TB9	03
TB12	06	TB11	05
TB14	08	TB13	07

Type

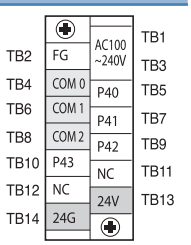


Relay output wiring
(XBC-DR14E)

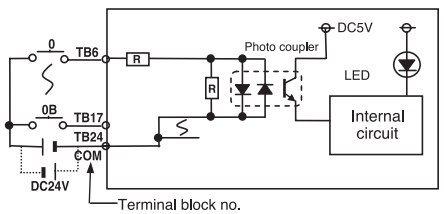


No.	Contact	No.	Contact
TB2	FG	TB1	AC100 ~240V
TB4	COM0	TB3	
TB6	COM1	TB5	40
TB8	COM2	TB7	41
TB10	43	TB9	42
TB12	NC	TB11	NC
TB14	24G	TB13	24V

Type

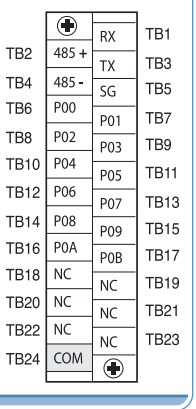


Input wiring
(XBC-DR20E)



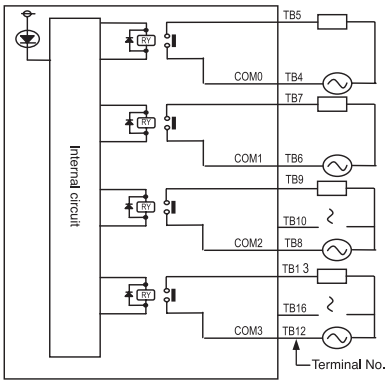
No.	Contact	No.	Contact
TB2	485+	TB1	RX
TB4	485−	TB3	TX
TB6	00	TB5	SG
TB8	02	TB7	01
TB10	04	TB9	03
TB12	06	TB11	05
TB14	08	TB13	07
TB16	0A	TB15	09
TB18	NC	TB17	0B
TB20	NC	TB19	NC
TB22	NC	TB21	NC
TB24	COM	TB23	NC

Type



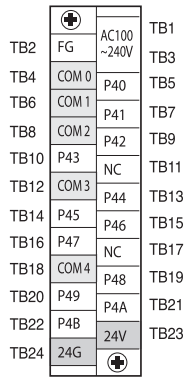
Economic type

Relay output wiring
(XBC-DR20E)

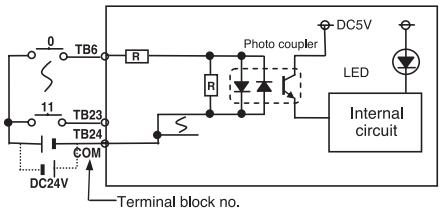


No.	Contact	No.	Contact
		TB1	AC100 ~240V
TB2	FG	TB3	
TB4	COM0	TB5	40
TB6	COM1	TB7	41
TB8	COM2	TB9	42
TB10	43	TB11	NC
TB12	COM3	TB13	44
TB14	45	TB15	46
TB16	47	TB17	NC
TB18	COM4	TB19	48
TB20	49	TB21	4A
TB22	4B	TB23	24V
TB24	24G		

Type

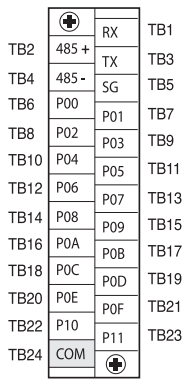


Input wiring
(XBC-DR30E)

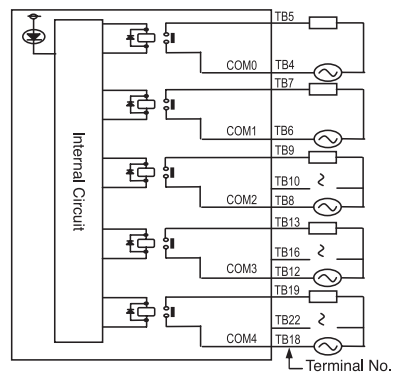


No.	Contact	No.	Contact
		TB1	RX
TB2	485+	TB3	TX
TB4	485-	TB5	SG
TB6	00	TB7	01
TB8	02	TB9	03
TB10	04	TB11	05
TB12	06	TB13	07
TB14	08	TB15	09
TB16	0A	TB17	0B
TB18	0C	TB19	0D
TB20	0E	TB21	0F
TB22	10	TB23	11
TB24	COM		

Type

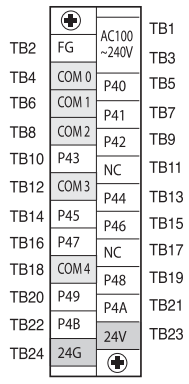


Relay output wiring
(XBC-DR30E)



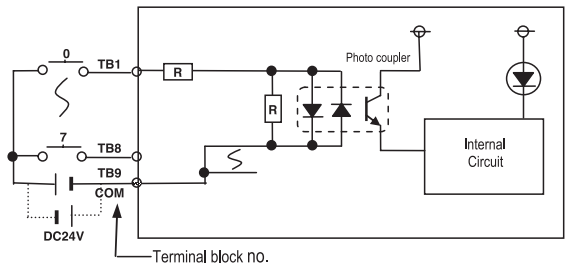
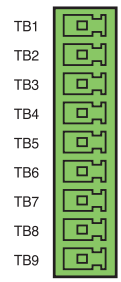
No.	Contact	No.	Contact
		TB1	AC100 ~240V
TB2	FG	TB3	
TB4	COM0	TB5	40
TB6	COM1	TB7	41
TB8	COM2	TB9	42
TB10	43	TB11	NC
TB12	COM3	TB13	44
TB14	45	TB15	46
TB16	47	TB17	NC
TB18	COM4	TB19	48
TB20	49	TB21	4A
TB22	4B	TB23	24V
TB24	24G		

Type

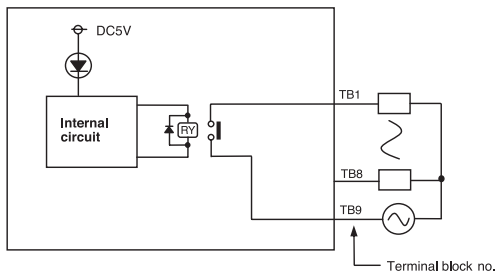
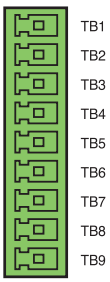


Standard type

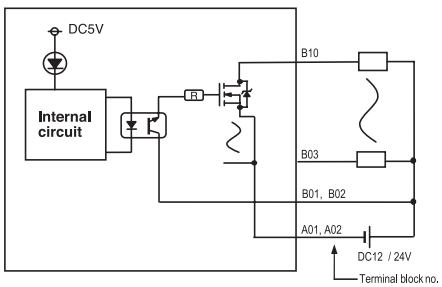
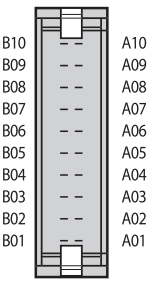
Input wiring
(XBM-DR16S)

Circuit configuration	No.	Contact	Type
	TB1	00	
	TB2	01	
	TB3	02	
	TB4	03	
	TB5	04	
	TB6	05	
	TB7	06	
	TB8	07	
	TB9	COM	

Relay output wiring
(XBM-DR16S)

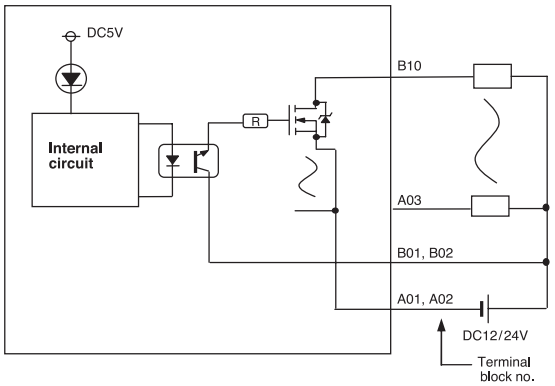
Circuit configuration	No.	Contact	Type
	TB1	20	
	TB2	21	
	TB3	22	
	TB4	23	
	TB5	24	
	TB6	25	
	TB7	26	
	TB8	27	
	TB9	COM	

Input wiring
(XBM-DN16S)

Circuit configuration	No.	Contact	No.	Contact	Type
	B10	00	A10	NC	
	B09	01	A09	NC	
	B08	02	A08	NC	
	B07	03	A07	NC	
	B06	04	A06	NC	
	B05	05	A05	NC	
	B04	06	A04	NC	
	B03	07	A03	NC	
	B02	COM	A02	NC	
	B01	COM	A01	NC	

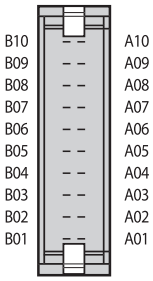
Standard type

Transistor output wiring
(XBM-DN16S)

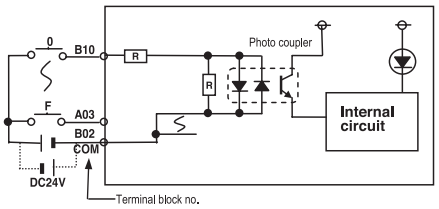


No.	Contact
B10	20
B09	21
B08	22
B07	23
B06	24
B05	25
B04	26
B03	27
B02	DC12/
B01	24V
A10	NC
A09	NC
A08	NC
A07	NC
A06	NC
A05	NC
A04	NC
A03	NC
A02	COM
A01	

Type

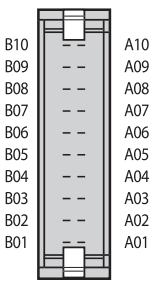


Input wiring
(XBM-DN32S)

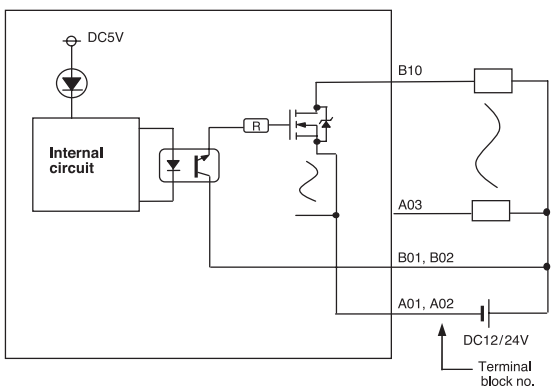


No.	Contact	No.	Contact
B10	00	A10	08
B09	01	A09	09
B08	02	A08	0A
B07	03	A07	0B
B06	04	A06	0C
B05	05	A05	0D
B04	06	A04	0E
B03	07	A03	0F
B02	COM	A02	COM
B01	COM	A01	COM

Type

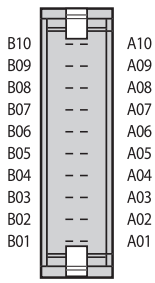


Transistor output wiring
(XBM-DN32S)



No.	Contact
B10	20
B09	21
B08	22
B07	23
B06	24
B05	25
B04	26
B03	27
B02	DC12/
B01	24V
A10	28
A09	29
A08	2A
A07	2B
A06	2C
A05	2D
A04	2E
A03	2F
A02	COM
A01	

Type



Built-in functions | High-speed counter

Standard type

Performance specifications

Classification		Description			
		Block type unit			Modular type
		H-type	SU-type	E-type	S-type
Count input Signal	Signal	A-phase, B-phase			
	Input type	Voltage input (Open collector)			
	Signal level	DC 24V			
Max. count speed		100kpps	100kpps	4kpps	20kpps
Number of channels	1 phase	100kpps 4ch / 20kpps 4ch	100kpps 2ch / 20kpps 6ch	4kpps 4ch	20kpps 4ch
	2 phase	50kpps 2ch / 10kpps 2ch	50kpps 1ch 8kpps 3ch	2kpps 2ch	2 multiplication: 10kpps
		50kpps 2ch / 8kpps 2ch			4 multiplication: 8kpps
Count range		Signed 32bit (-2,147,483,648 ~ 2,147,483,647)			
Count mode (Program setting)		Linear count (If 32bit range exceeded, Carry / Borrow occurs)			
		Ring count (Repeated count within setting range)			
Input mode (Program setting)		1-phase input			
		2-phase input			
		CW/CCW input			
Signal type		Voltage			
Up/Down setting	1 phase input	Increasing / Decreasing operation setting by B-phase input			
		Increasing / Decreasing operation setting by program			
	2 phase input	Automatic setting by difference in phase			
	CW/CCW	A-phase input: increasing operation			
		B-phase input: decreasing operation			
Multiplication function	1 phase input	1 multiplication			
	2 phase input	4 multiplication			
	CW/CCW	1 multiplication			
Control input	Signal	Preset instruction input			
	Signal level	DC 24V input type			
	Signal type	Voltage			
External output	Output points	2 point / channel (for each channel): output contact point of basic unit available		1 point / channel (for each channel): output contact point of basic unit available	
	Type	Select program setting, signal-compared (>, >=, =, <=, <) or section compared output (Included or excluded)			
	Output type	Relay, Open-collector output (Sink)			
Count enable		To be set through program			
Preset function		To be set through terminal (contact) or program			
Auxiliary mode		Count latch			

Input specification

Item	Description
Input voltage	24V DC (20.4V ~ 28.8V)
Input current	4mA
On voltage (min.)	20.4V
Off voltage (max.)	6V

Parts designation | Block type unit

High performance type (XBC-H)

Terminal No.	Name		Usage	
	1-phase	2-Phase	1-phase	2-Phase
P000	Ch0 counter input	Ch0 A-phase input	Counter input terminal	A-phase input
P001	Ch1 counter input	Ch0 B-phase input	Counter input terminal	B-phase input
P002	Ch2 counter input	Ch2 A-phase input	Counter input terminal	A-phase input
P003	Ch3 counter input	Ch2 B-phase input	Counter input terminal	B-phase input
P004	Ch4 counter input	Ch4 A-phase input	Counter input terminal	A-phase input
P005	Ch5 counter input	Ch4 B-phase input	Counter input terminal	B-phase input
P006	Ch6 counter input	Ch6 A-phase input	Counter input terminal	A-phase input
P007	Ch7 counter input	Ch6 B-phase input	Counter input terminal	B-phase input
P008	Ch0 preset 24V	Ch0 preset 24V	Preset input terminal	Preset input terminal
P009	Ch1 preset 24V	-	Preset input terminal	No use
P00A	Ch2 preset 24V	Ch2 preset 24V	Preset input terminal	Preset input terminal
P00B	Ch4 preset 24V	-	Preset input terminal	No use
P00C	Ch5 preset 24V	Ch4 preset 24V	Preset input terminal	Preset input terminal
P00D	Ch6 preset 24V	-	Preset input terminal	No use
P00E	Ch7 preset 24V	Ch6 preset 24V	Preset input terminal	Preset input terminal
P00F	Ch8 preset 24V	-	Preset input terminal	No use
COM0	Input common	Input common	Input common	Input common

High performance type (XEC-H)

Terminal No.	Name		Usage	
	1-phase	2-Phase	1-phase	2-Phase
IX0.0.0	Ch0 counter input	Ch0 A-phase input	Counter input terminal	A-phase input
IX0.0.1	Ch1 counter input	Ch0 B-phase input	Counter input terminal	B-phase input
IX0.0.2	Ch2 counter input	Ch2 A-phase input	Counter input terminal	A-phase input
IX0.0.3	Ch3 counter input	Ch2 B-phase input	Counter input terminal	B-phase input
IX0.0.4	Ch4 counter input	Ch4 A-phase input	Counter input terminal	A-phase input
IX0.0.5	Ch5 counter input	Ch4 B-phase input	Counter input terminal	B-phase input
IX0.0.6	Ch6 counter input	Ch6 A-phase input	Counter input terminal	A-phase input
IX0.0.7	Ch7 counter input	Ch6 B-phase input	Counter input terminal	B-phase input
IX0.0.8	Ch0 preset 24V	Ch0 preset 24V	Preset input terminal	Preset input terminal
IX0.0.9	Ch1 preset 24V	-	Preset input terminal	No use
IX0.0.10	Ch2 preset 24V	Ch2 preset 24V	Preset input terminal	Preset input terminal
IX0.0.11	Ch4 preset 24V	-	Preset input terminal	No use
IX0.0.12	Ch5 preset 24V	Ch4 preset 24V	Preset input terminal	Preset input terminal
IX0.0.13	Ch6 preset 24V	-	Preset input terminal	No use
IX0.0.14	Ch7 preset 24V	Ch6 preset 24V	Preset input terminal	Preset input terminal
IX0.0.15	Ch8 preset 24V	-	Preset input terminal	No use
COM0	Input common	Input common	Input common	Input common

Standard type

Terminal No.	Name		Usage	
	1-phase	2-Phase	1-phase	2-Phase
P000	Ch0 counter input	Ch0 A-phase input	Counter input terminal	A-phase input
P001	Ch1 counter input	Ch0 B-phase input	Counter input terminal	B-phase input
P002	Ch2 counter input	Ch2 A-phase input	Counter input terminal	A-phase input
P003	Ch3 counter input	Ch2 B-phase input	Counter input terminal	B-phase input
P004	Ch4 counter input	Ch4 A-phase input	Counter input terminal	A-phase input
P005	Ch5 counter input	Ch4 B-phase input	Counter input terminal	B-phase input
P006	Ch6 counter input	Ch6 A-phase input	Counter input terminal	A-phase input
P007	Ch7 counter input	Ch6 B-phase input	Counter input terminal	B-phase input
P008	Ch0 preset 24V	Ch0 preset 24V	Preset input terminal	Preset input terminal
P009	Ch1 preset 24V	-	Preset input terminal	No use
P00A	Ch2 preset 24V	Ch2 preset 24V	Preset input terminal	Preset input terminal
P00B	Ch4 preset 24V	-	Preset input terminal	No use
P00C	Ch5 preset 24V	Ch4 preset 24V	Preset input terminal	Preset input terminal
P00D	Ch6 preset 24V	-	Preset input terminal	No use
P00E	Ch7 preset 24V	Ch6 preset 24V	Preset input terminal	Preset input terminal
P00F	Ch8 preset 24V	-	Preset input terminal	No use
COM0	Input common	Input common	Input common	Input common

Economic type

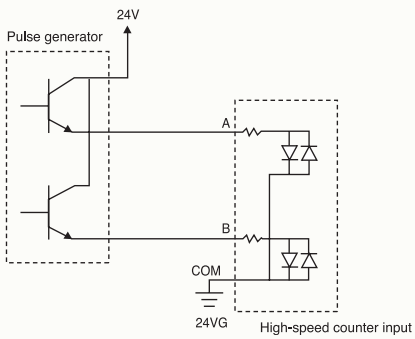
Terminal No.	Name		Usage	
	1-phase	2-Phase	1-phase	2-Phase
P000	Ch0 counter input	Ch0 A-phase input	Counter input terminal	A-phase input
P001	Ch1 counter input	Ch0 B-phase input	Counter input terminal	B-phase input
P002	Ch2 counter input	Ch2 A-phase input	Counter input terminal	A-phase input
P003	Ch3 counter input	Ch2 B-phase input	Counter input terminal	B-phase input
P004	Ch0 preset 24V	Ch0 preset 24V	Preset input terminal	Preset input terminal
P005	Ch1 preset 24V	-	Preset input terminal	No use
P006	Ch2 preset 24V	Ch2 preset 24V	Preset input terminal	Preset input terminal
P007	Ch4 preset 24V	-	Preset input terminal	No use
COM0	Input common	Input common	Common terminal	Common terminal

Parts designation | Modular type unit

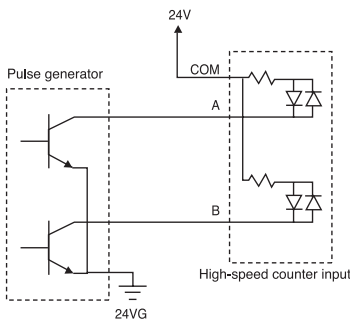
Standard type

Terminal No.	Name		Usage	
	1-phase	2-Phase	1-phase	2-Phase
P000	Ch0 counter input	Ch0 A-phase input	Counter input terminal	A-phase input
P001	Ch1 counter input	Ch0 B-phase input	Counter input terminal	B-phase input
P002	Ch2 counter input	Ch2 A-phase input	Counter input terminal	A-phase input
P003	Ch3 counter input	Ch2 B-phase input	Counter input terminal	B-phase input
P004	Ch0 preset 24V	Ch0 preset 24V	Preset input terminal	Preset input terminal
P005	Ch1 preset 24V	-	Preset input terminal	No use
P006	Ch2 preset 24V	Ch2 preset 24V	Preset input terminal	Preset input terminal
P007	Ch3 preset 24V	-	Preset input terminal	No use
COM0	Input common	Input common	Common terminal	Common terminal

Wiring



Voltage output encoder



Open collector encoder

Parts designation | Block type unit

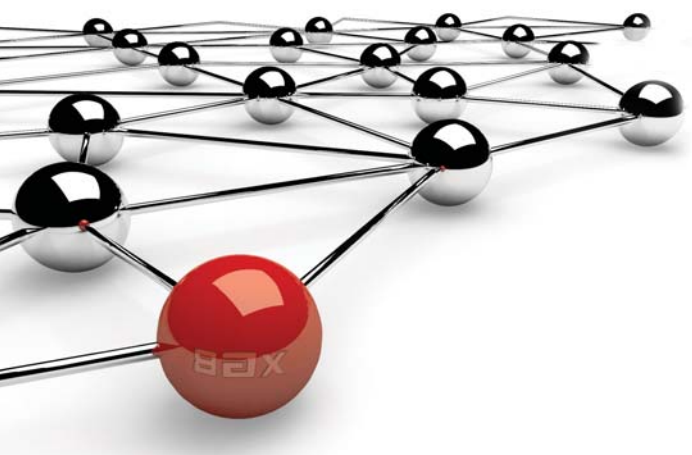
Performance specification

Classification		Description		
		Block type unit		Modular type
		H-type	SU-type	S-type
No. of control axis		2 axis		
Interpolation		2-axis linear interpolation		
Control mode		Position control, Speed control, Speed / Position switching control, Position / Speed switching control		
Control unit		Pulse		
Positioning data		30-step pattern for each axis (XBC: 80step) (operation step number : 1~ 30, XBC : 1~ 80)		
Positioning monitor		Dedicated monitoring function for positioning in XG5000		
Back-up		Permanent backup of downloaded parameter (FLASH memory)		
		2-month Super Cap.backup of parameter / Data modified during operation(XBM) battery back-up (XBC)		
		Permanent backup of parameter / Data in RAM by instruction (FLASH memory)		
Positioning	Positioning method	Absolute / incremental method		
	Positioning range	-2,147,483,648 ~ 2,147,483,647		
	Speed range	1 ~ 100,000 (pulse/sec)		
	Acceleration / Deceleration type	Trapezoidal acceleration / Deceleration		
	Acceleration / Deceleration time	1 ~ 10,000㎳ (4 patterns each can be set)		
Max. output pulse		100 Kpps		
Max. distance of connection		2m		

※ Economic block type unit (E-type) dose not support built-in positioning functions

Electrical specification

	Signal	Rated input voltage	Load voltage range	Max. load current / Inrush current	Max. voltage drop (On)	Leakage current (Off)	Response time
Output	Output pulse	DC 5~24V	DC 4.75~26.4V	100mA(1 point) 1A/10ms or less	DC 0.3V or less	0.1mA or less	100㎲ or less
Input	Signal	Rated input voltage / Current	Load voltage range	On voltage / Current	Off voltage / Current	Input resistance	Response time
	External high limit	DC 24V/7mA	DC 20.4 ~ 28.8V	DC 19V/5.7mA or more	DC 6V/1.8mA or less	3.3Ω	0.5ms or less
	External low limit						
	Approximate zero	DC 24V/4mA		DC 19V/3.4mA or more	DC 6V/1.1mA or less	5.6Ω	
	zero						



I/O specifications | Block type unit

High performance type
(XBC-H/XEC-H)

Item	XBC pin number (XEC pin number)		Signal name		Direction of positioning signal to external	Operating condition
	X axis	Y axis				
Input	P00008 (%IX0.0.8)	P0000A (%IX0.0.10)	Limit L	Low limit	←	4mA / 24V
	P00009 (%IX0.0.9)	P0000B (%IX0.0.11)	Limit H	High limit	←	
	P0000C (%IX0.0.12)	P0000E (%IX0.0.14)	DOG	Near point	←	
	P0000D (%IX0.0.13)	P0000F (%IX0.0.15)	Origin	Zero signal (+24V)	←	
	COM		Input COM	Common	←	
Output	P00020 (%QX0.0.0)	P00021 (%QX0.0.1)	Pulse	Pulse/CW (Open collector)	→	DC 12~24V
	P00022 (%QX0.0.2)	P00023 (%QX0.0.3)	Direction	Direction/CCW (Open collector)	→	
	P		DC 12V~24V	External power supply	→	
	COM 0 ~ 3		Output COM	External 24V GND	→	

Standard type
(XBC-S(U))

Item	XBC pin number		Signal name		Direction of positioning signal to external	Operating condition
	X axis	Y axis				
Input	P00008 (%IX0.0.8)	P0000A (%IX0.0.10)	Limit L	Low limit	←	4mA / 24V
	P00009 (%IX0.0.9)	P0000B (%IX0.0.11)	Limit H	High limit	←	
	P0000C (%IX0.0.12)	P0000E (%IX0.0.14)	DOG	Near point	←	
	P0000D (%IX0.0.13)	P0000F (%IX0.0.15)	Origin	Zero signal (+24V)	←	
	COM		Input COM	Common	←	
Output	P00040 (%QX0.0.0)	P00041 (%QX0.0.1)	Pulse	Pulse/CW (Open collector)	→	DC 12~24V
	P00042 (%QX0.0.2)	P00043 (%QX0.0.3)	Direction	Direction/CCW (Open collector)	→	
	P		DC 12V~24V	External power supply	→	
	COM 0~3		Output COM	External 24V GND	→	

I/O specifications | Modular type unit

Standard type

Item	XBM pin number		Signal name		Direction of positioning signal to external	Operating condition
	X axis	Y axis				
Input	P00000	P00002	Limit L	Low limit	←	Edge
	P00001	P00003	Limit H	High limit	←	Edge
	P00004	P00006	DOG	Near point	←	Edge
	P00005	P00007	Origin	Zero signal (+24V)	←	Edge
	COM		Input COM	Common	←	-
Output	P00020	P00021	Pulse	Pulse/CW (Open collector)	→	-
	P00022	P00023	Direction	Direction/CCW (Open collector)	→	-
	12/24V		DC 12/24V	External power supply	→	-
	COM		Output COM	External 24V GND	→	-

I/O specifications | Block type unit

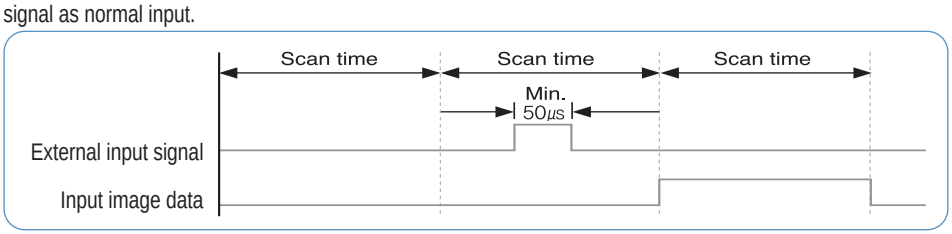
Performance specification (PID)

Classification		Description		
		Block type unit		Modular type
		H-type	SU-type	S-type
No. of control loop		16-loop independent control		
Control mode		P control, PI control, PD control, PID control		
Control period		10ms ~ 6,553.5ms (Setting unit: 0.1ms)		
Function	Forward / Reverse Mixed control	Switching control direction automatically when exceeding dead band		
	Cascade	Improved control precision by serial connection between master loop and slave loop		
	SV Ramp	Preventing overload caused by excessive SV change by setting variation slope		
	Alarm	Improved control stability with various alarm function such as MV high limit / Low limit, PV high limit/low limit, PV variation width		
	Auto tuning	Auto tuning with improved auto-tuning algorithm		
	Additional function	PWM output, PV Tracking, ΔMV, ΔPV, etc		

※ Economic block type unit (E-type) dose not support built-in PID functions

Pulse catch

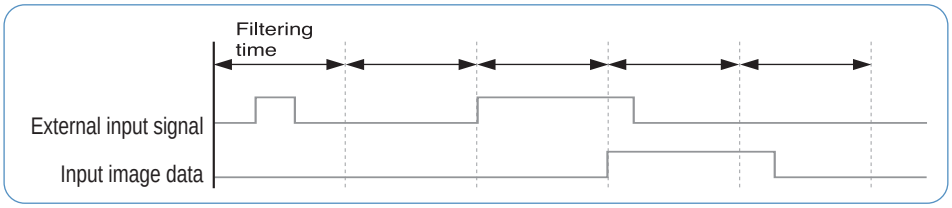
When On-condition time of input signal is shorter than 1 scan time (Min. 50㎲), Pulse catch processes the input signal as normal input.



Item	Description			
	Block type unit			Modular type
	H-type	SU-type	E-type	S-type
Pulse catch	10㎲: 4 points (P00000~P00003) 50㎲: 4 points (P00004~P00007)	10㎲: 2 points (P00000~P00001) 50㎲: 6 points (P00002~P00007)	50㎲: 4 points (P00000~P00003)	50㎲: 8 points (P00000~P00007)

Input filter

Input filter prevents processing of the input signal that is shorter than the filtering time. (Filtering time is set by parameter) In the application site where noise is frequently generated, input filter prevents wrong input caused by noise.



Classification	Description			
	Block type unit			Modular type
	H-type	SU-type	E-type	S-type
No. of setting points	Every input contact			
Input filtering time setting	Assigning for each module			
Setting range	1 ~ 100㎳ (1, 3, 5, 10, 20, 70, 100)			

Task

Task function is the processing method of internal/external signal generated periodically or aperiodically. It stops operation of scan program for the moment and then execute the assigned task.

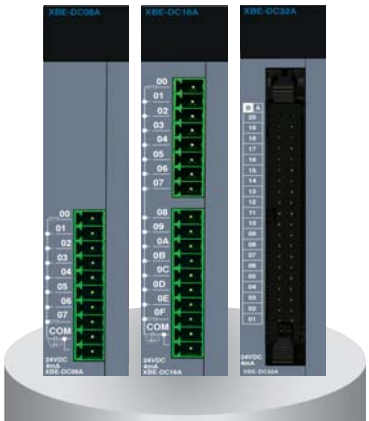
Classification	Description			
	Block type unit			Modular type
	H-type	SU-type	E-type	S-type
Initial task	1(_INT)			
Cyclic task	8			
I/O task	8	8	4	8
Internal device task	8			
External interrupt	10㎲: 4 points (P00000~P00003) 50㎲: 4 points (P00004~P00007)	10㎲: 2 points (P00000~P00001) 50㎲: 6 points (P00002~P00007)	50㎲: 4 points (P00000~P00003)	50㎲: 8 points (P00000~P00007)

RTC

RTC function is for time management of system and error log. RTC function is executed steadily when power is off or instantaneous power cut status. Current time of RTC is renewed every scan by system operation status information flag.

Classification	Description			
	Block type unit			Modular type
	H-type	SU-type	E-type	S-type
RTC	Built-in	Option module	Option module	Not available

Specification

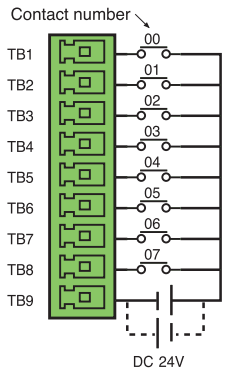


XBE-DC08A
XBE-DC16A
XBE-DC32A

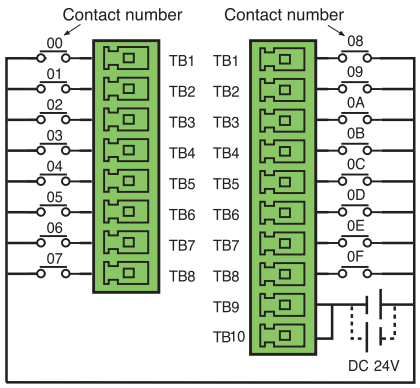
Specification \ Model		XBE-DC08A	XBE-DC16A	XBE-DC32A
Input point		8 points	16 points	32 points
Rated input voltage / current		DC 24V / 4mA		
Operation voltage range		DC 20.4 ~ 28.8V (Ripple rate < 5%)		
Input resistance		5.6kΩ		
Response time	Off → On	1 / 3 / 5 / 10 / 20 / 70 / 100ms (setting by CPU parameter) Initial value: 3ms		
	On → Off			
Insulation pressure		AC 560Vrms / 3 Cycle (altitude 2000m)		
Insulation resistance		10MΩ or more by megger		
COMMON method		8 points / COM	16 points / COM	32 points / COM
Internal current consumption		30mA	40mA	50mA

Wiring
(XBE-DC08A / DC16A)

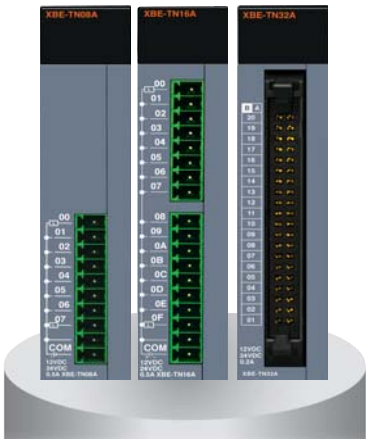
8-point DC Input — XBE-DC08A



16-point DC Input — XBE-DC16A



Specification

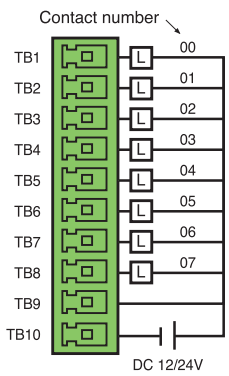


XBE-TN08A
XBE-TN16A
XBE-TN32A

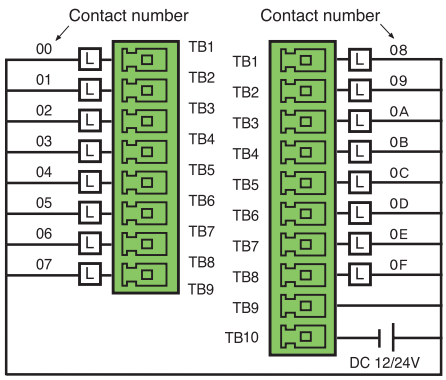
Specification \ Model		XBE-TN08A	XBE-TP08A	XBE-TN16A	XBE-TP16A	XBE-TN32A	XBE-TP32A
Type		Sink	Source	Sink	Source	Sink	Source
Output point		8 point		16 point		32 point	
Rated load voltage		DC 12 / 24V					
Load voltage range		DC 10.2 ~ 26.4 V					
Max. load current		0.2A / 1point		0.2A / 1point, 2A / COM			
Off leakage current		0.1mA or less					
Max. voltage drop (On)		DC 0.4V					
Response time	Off → On	1mA or less					
	On → Off	1mA or less (Rated load, resistive load)					
Common method		8 points / COM		16 points / COM		32 points / COM	
Internal current consumption		40mA		60mA		120mA	
External power supply	Voltage	DC 12 / 24V ± 10% (Ripple voltage ≤ 4 Vp-p)					
	Current	10mA or less (DC 24V connection)				20mA or less (DC 24V connection)	

Wiring
(XBE-TN08A / TN16A)

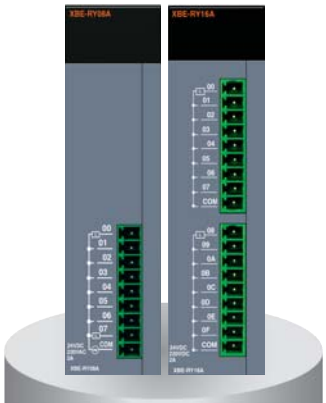
8-point Sink Output
XBE-TN08A



16-point Sink Output
XBE-TN16A



Specification

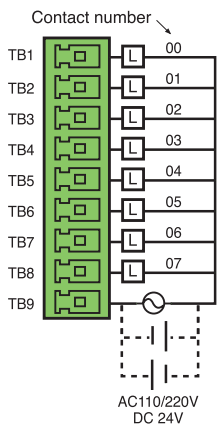


XBE-RY08A
XBE-RY16A

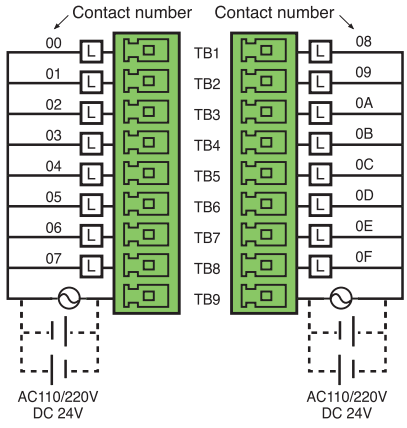
Specification \ Model		XBE-RY08A	XBE-RY16A
Output point		8 points	16 points
Insulation method		Relay insulation	
Rated input voltage / Current		DC 24V 2A (resisitive load) / AC 220V 2A (COSΨ = 1), 5A /COM	
Min. load voltage / Current		DC 5V 1mA	
Max. load voltage		AC 250V, DC 125V	
Off leakage current		0.1mA (AC 220V, 60Hz)	
Max. on / Off frequency		3,600 times / hr	
Surge absorber		None	
Service life	Mechanical	20million times or more	
	Electrical	Rated load voltage / Current 100,000 times or more	
		AC 200V / 1.5A, AC 240V / 1A (COSΨ = 0.7) 100,000 times or more	
		AC 200V / 1A, AC 240V / 0.5 (COSΨ = 0.35) 100,000 tiems or more	
		DC 24V / 1A, DC 100V / 0.1A (L / R = 7ms) 100,000 times or more	
Response time	Off → On	10ms or less	
	On → Off	12ms or less	
COMMON method		8 points / 1COM	
Internal current consumption		230mA	420mA
Operation indicator		Output On, LED On	
External connection method		9-pin terminal block connector	9-pin terminal block connector X 2

Wiring
(XBE-RY08A / RY16A)

8-point Relay Output — XBE-RY08A

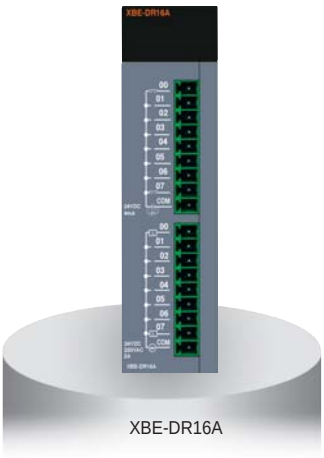


16-point Relay Output — XBE-RY16A



DC Input / Relay Output

DC Input specification



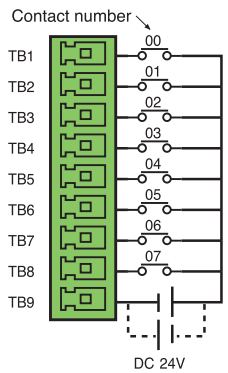
Specification \ Model		DC Input (XBE-DR16A)
Input point		8 points
Insulation method		Photocoupler
Rated input voltage		DC 24V
Rated input current		4mA
Operation voltage range		DC 20.4 ~ 28.8V (Ripple rate < 5%)
On voltage / On current		DC 19V or more / 3mA or more
Off voltage / Off current		DC 6V or less / 1mA or less
Input resistance		5.6kΩ
Response time	Off → On	1 / 3 / 5 / 10 / 20 / 70 / 100ms (setting by CPU parameter) init value: 3ms
	On → Off	
COMMON method		8 points / COM
Weight		81g

Relay output specification

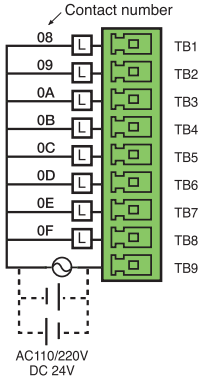
Specification \ Model		Relay Output (XBE-DR16A)
Output point		8 points
Insulation method		Relay insulation
Rated input voltage / Current		DC 24V 2A (resisitive load) / AC 220V 2A (COSΨ = 1), 5A /COM
Min. load voltage / Current		DC 5V 1mA
Max. load volfage		AC 250V, DC 125V
Off leakage current		0.1mA (AC 220V, 60Hz)
Max. on / Off frequency		3,600 times / hr
Surge absorber		None
Service life	Mechanlcal	20million times or more
	Electrical	Rated load voltage / Current 100,000 times or more
		AC 200V / 1.5A, AC 240V / 1A (COSΨ = 0.7) 100,000 times or more
		AC 200V / 1A, AC 240V / 0.5 (COSΨ = 0.35) 100,000 tiems or more
		DC 24V / 1A, DC 100V / 0.1A (L / R = 7ms) 100,000 times or more
Response time	Off → On	10ms or less
	On → Off	12ms or less
COMMON method		8 points / 1COM
Internal current consumption		250mA
Operation indicator		Output On, LED On
External connection method		9-pin terminal block connector

Wiring
(XBE-DR16A)

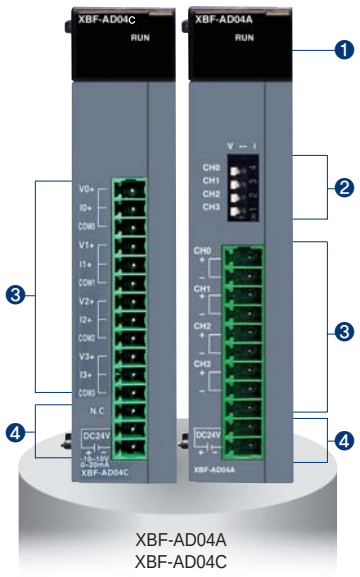
8-point DC Input



8-point Relay Output



Specification



XBF-AD04A
XBF-AD04C

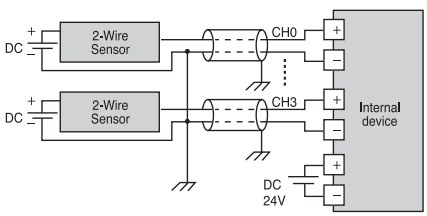
Item			XBF-AD04A		XBF-AD04C		XBF-AD08A	
Analog range	Item		Voltage	Current	Voltage	Current	Voltage	Current
	Range		DC 0~10V (input resistance : 1MΩ min.)	DC 4~20mA, DC 0~20mA (input resistance: 250Ω)	DC 1 ~ 5V DC 0 ~ 5V DC 0 ~ 10V DC -10 ~ 10V (Input resistance : 1MΩ min)	DC 4 ~ 20mA DC 0 ~ 20mA (Input resistance : 250MΩ)	DC 1~5V DC 0~5V DC 0~10V (Input resistance : 250MΩ)	DC 4~20mA, DC 0~20mA (input resistance: 250Ω)
Digital output	Type		12bit binary data		16bit binary data (Data : 14bit)		12bit binary data	
	Range	Unsigned value	0~4000		0 ~ 16000		0~4000	
		Signed value	-2000~2000		-8000~8000		-2000~2000	
		Precise value	0~1000	4000~2000 / 0~2000	100~5000 (1~5V) 0~5000 (0~5V) 0~10000 (0~5V) -10000~10000 (±10V)	4000~20000 (4~20mA) 0~20000 (0~20mA)	100~500 (DC 1~5V) 0~500 (DC 0~5V) 0~1000 (DC 0~10V)	4000~2000 (DC 4~20mA) 0~2000 (DC 0~20mA)
		Percentile value	0~1000		0~10000		0~1000	
Resolution			2.5mV (1/4000)	5μA (1/4000)	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)	1.25mV (DC 1~5V, 0~5v) 2.5mV (DC 0~10V)	5μA (DC 4~20mA, 0~20mA)
Max. conversion speed			1.5ms / channel		1ms / channel		1.5ms / channel	
Max. absolute input			±15V	± 25mA	DC±15V	DC±3mA	±15V	± 25mA
Analog Input channels			4 channel/module		4 channel/module		8 channel/module	
Insulation method			Photocoupler insulation between I/O terminal and power supply		Photo-coupler insulation between input terminal and PLC power (No insulation between channels)		Photocoupler insulation between I/O terminal and power supply	
Connection terminal			11-point terminal block		15-point terminal block		11-point terminal block	
Occupied I/O points			Fixed type : 64 points					
Current consumption		DC 5V	120mA		110mA		105mA	
		DC 24V	62mA		100mA		85mA	

Names and Functions

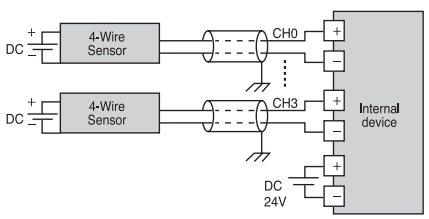
No.	Name	Descriptions
1	RUN LED	▶ Indicates condition of module • LED On: Normal condition • LED On and Off: Flickering • LED Off: Power Off or module malfunction
2	Input selection S/W	▶ Voltage/Current selection switch • V: Voltage input selection • I: Current input selection
3	Terminal block	▶ External device connection
4	External power supply terminal	▶ External DC 24V input

Wiring

Wiring with 2-wire sensor



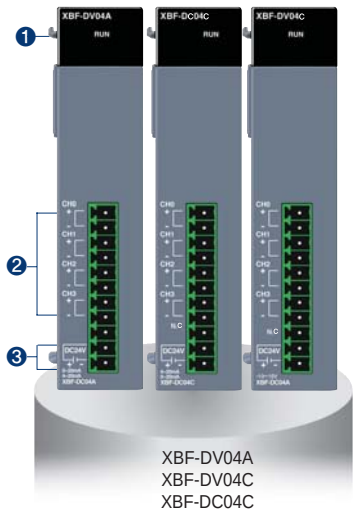
Wiring with 4-wire sensor



※Use 22AWG, 2 conductor, twist shielded cable when wiring between analog module and external device.

Analog Output

Specification

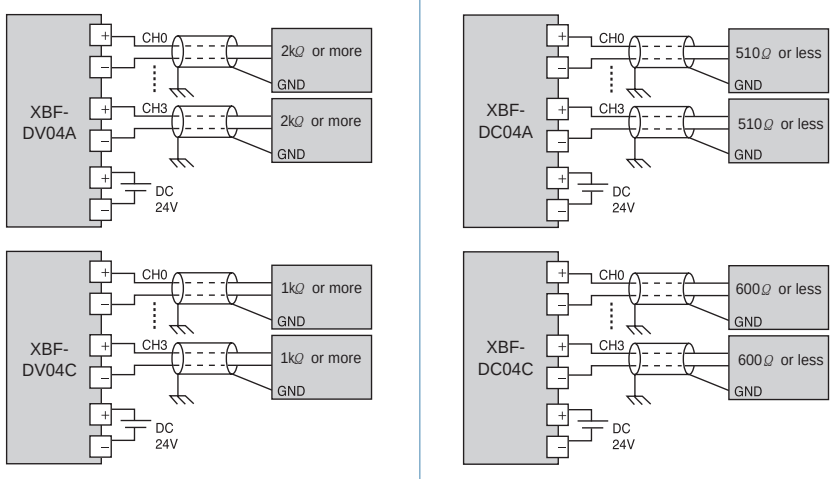


Item		XBF-DV04A	XBF-DV04C	XBF-DC04C	XBF-DC04A
Analog range		DC 0 ~ 10 V (Load resistance ≥ 2kΩ)	DC 1 ~ 5V DC 0 ~ 5V DC 0 ~ 10V DC -10 ~ 10V (Input resistance : 1kΩ or more)	DC 4 ~ 20mA DC 0 ~ 20mA (Input resistance : 600MΩ or less)	4 ~ 20mA / 0 ~ 20mA (Load resistance ≤510Ω)
Analog range Selection		–	–		XG 5000 I/O parameter
Digital data	Output range	0 ~ 10 V	–		4 ~ 20mA / 0 ~ 20mA
	Unsigned value	0 ~ 4000	0 ~16000		0 ~ 4000
	Signed value	– 2000 ~ 2000	– 8000 ~ 8000		– 2000 ~ 2000
	Precise value	0 ~ 1000	1000~5000(1~5V) 0~5000(0~5V) 0~10000(0~10V) -1000~10000(±10V)	4000~20000(4~20mA) 0~20000(0~20mA	400 ~ 2000 / 0 ~ 2000
	Percentile value	0~1000	0~10000		0~1000
	Data format	Data format of digital input is set by user program or I/O parameter (Setting for each channel is available.)			
Resolution		Resolution (1/4000)	1/1600		Resolution (1/4000)
		2.5mV	0.250m (1~5V) 0.3125m (0~5V) 0.625m (0~10V) 1.250m (±10V)	1.0μA (4~20mA) 1.25μA (0~20mA)	5μA
Max. conversion speed		1ms / channel	1ms / channel		1ms / channel
Max. absolute output		±15V	–		±25mA
Accuracy		±0.5% or less	–		±0.5% or less
Analog output channels		4 channel / module	4 channel / module		4 channel / module
Insulation method		Photocoupler insulation between I/O terminal and power supply	Photo-coupler insulation between output terminal and PLC power (no insulation between channels)		Photocoupler insulation between I/O terminal and power supply
Connection terminal		11-point terminal block			
Occupied I/O points		Fixed type: 64 points			
Current consumption	DC 5V	110mA	75mA		110mA
	DC 24V	70mA	170mA		120mA

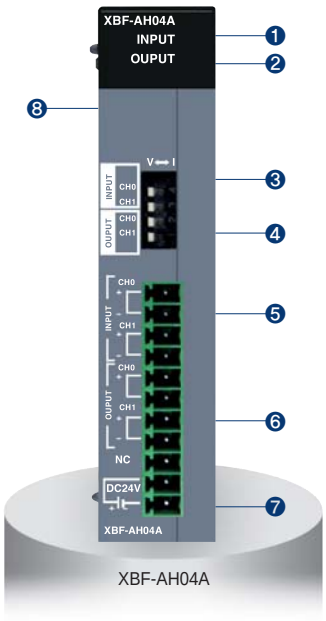
Names and Functions

No.	Name	Descriptions
❶	RUN LED	▶ Indicates condition of module • LED On: Normal condition • LED On and Off: Flickering • LED Off: Power Off or module malfunction
❷	Terminal block	▶ External device connection
❸	External power supply terminal	▶ External DC 24V input

Wiring



Specification



XBF-AH04A

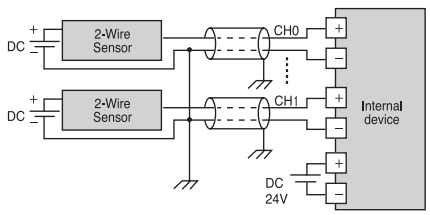
Item		XBF-AH04A	
		Input	Output
Analog channel		2 channels	2 channels
Analog range		DC 1 ~ 5V, DC 0 ~ 5V, DC 0 ~ 10V (Input resistance: 1 MΩ min.) DC 4 ~ 20mA, DC 0 ~ 20mA (Input resistance 250Ω)	DC 1 ~ 5V, DC 0 ~ 5V, DC 0 ~ 10V (Load resistance ≥ 2kΩ) DC 4 ~ 20mA, DC 0 ~ 20mA (Load resistance ≤510Ω)
Analog range selection		XG 5000 I/O parameter and External switch	
Digital data	Unsigned value	0 ~ 4000	
	Signed value	-2000 ~ 2000	
	Precise value	100 ~ 500 (DC 1 ~ 5V), 0 ~ 500 (DC 0 ~ 5V), 0 ~ 1000 (DC 0 ~ 10V) 400 ~ 2000 (DC 4 ~ 20mA), 0 ~ 2000 (DC 0 ~ 20mA)	
	Percentile value	0 ~ 1000	
Resolution(1/4000)		1.25mV (DC 1~5V, 0~5V), 2.5mV (DC 0~10V) 5㎂ (DC 4~20mA, 0~20mA)	
Max. conversion speed		±15V, 25mA	
Max. absolute output		1ms / Channel	
Accuracy		±0.5% or less	
Insulation method		Photocoupler insulation between I/O terminal and power supply	
Connection terminal		11-point terminal block	
Occupied I/O points		Fixed type: 64 points	
Current consumption	DC 5V	120mA	
	DC 24V	130mA	

Names and Functions

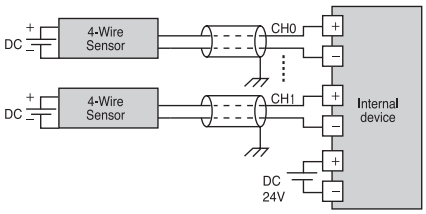
No.	Name	Descriptions
1	INPUT LED	▶ Indicates input condition of module • LED On: Normal condition • LED On and Off: Flickering • LED Off: Power Off or module malfunction
2	OUTPUT LED	▶ Indicates output condition of module • LED On: Normal condition • LED On and Off: Flickering • LED Off: Power Off or module malfunction
3	Input selection S/W	▶ Voltage / Current selection switch for input
4	Output selection S/W	▶ Voltage / Current selection switch for output
5	Terminal block	▶ Terminal for external input device
6		▶ Terminal for external output device
7	External power supply terminal	▶ Terminal for external DC 24V input
8	Expansion connector	▶ Terminal for expansion

Wiring

Wiring with 2-wire sensor (for analog input)

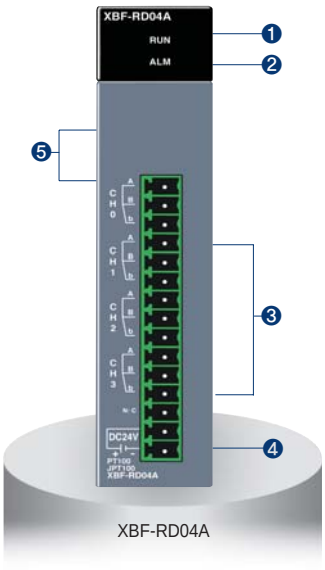


Wiring with 4-wire sensor (for analog input)



※Use 22AWG, 2 conductor, twist shielded cable when wiring between analog module and external device.

Specification

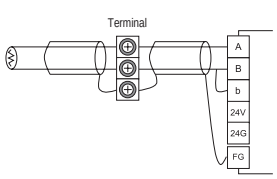
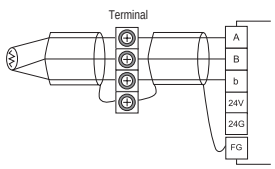
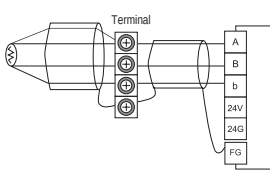


Item		XBF-RD04A
Number of channels		4
Sensor type	PT 100	JIS C1804-1997
	JPT 100	JIS C1604-1981, KS C1603-1991
Temperature range	PT 100	- 200 ~ 600℃
	JPT 100	- 200 ~ 600℃
Digital output	PT 100	- 2000 ~ 6000
	JPT 100	- 2000 ~ 6000
	Scaling	0 ~ 4000
Accuracy	25℃	±0.3% or less
	0 ~ 55℃	±0.5% or less
Conversion speed		40ms / Ch
Wiring method		3-wire
Current consumption	DC 5V	100mA
	DC 24V	100mA

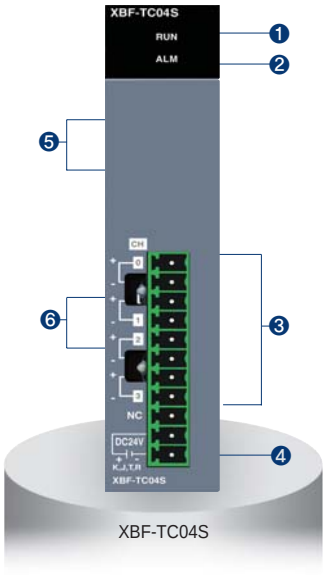
Names and Functions

No.	Name	Descriptions
1	RUN LED	▶ Displays the hardware operation status (Fatal fault) • On: Normal status • Flickering: Error (0.2s flickering) • Off: hardware error or power off
2	ALM LED	▶ Displays the status of the channels (Light fault) • Flickering: Line disconnection (1s flickering) • Off: Normal status
3	Terminal block	▶ 3-wire RTD sensors can be connected
4	External power terminal	▶ Supplies the external DC 24V
5	Expansion connector	▶ Connects the module with an expansion module

Wiring

2-wire	3-wire	4-wire
		

Specification

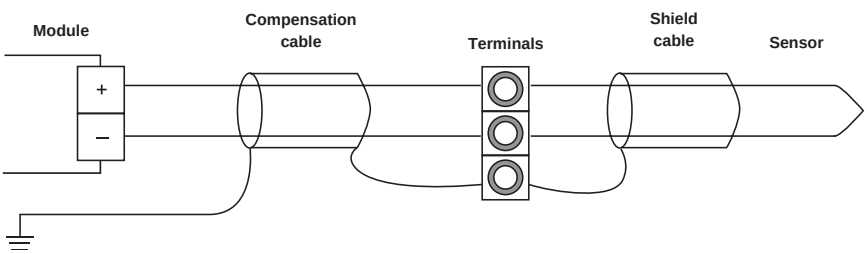


Item		XBF-TC04S
Number of channels		4
Input sensor type		Thermocouple K / J / T / R JIS C1602－1995
Temperature input range	K	－200.0℃ ~ 1300.0℃ (-328.0℉ ~ 2372.0℉)
	J	－200.0℃ ~ 1200.0℃ (-328.0℉ ~ 2192.0℉)
	T	－200.0℃ ~ 400.0℃ (-328.0℉ ~ 752.0℉)
	R	0.0℃ ~ 1700.0℃ (32.0℉ ~ 3092.0℉)
Digital output	Temperature display unit	Display down to one decimal place K, J, T: 0.1℃ R: 0.5℃
	Scaling display (Defined by user)	Unsigned scaling (0 ~ 65535)
		Signed scaling (-32768 ~ 32767)
Accuracy	Normal temperature (25℃)	±0.2%
	Temperature coneffcient (0 ~ 55℃)	±100 ppm / ℃
Max. conversion speed		50ms / Channel
Warming-up time		15 minutes or more
Terminal		11-point terminal
I/O points occupied		64 points
Current consumption	DC 5V	100mA
	DC 24V	100mA

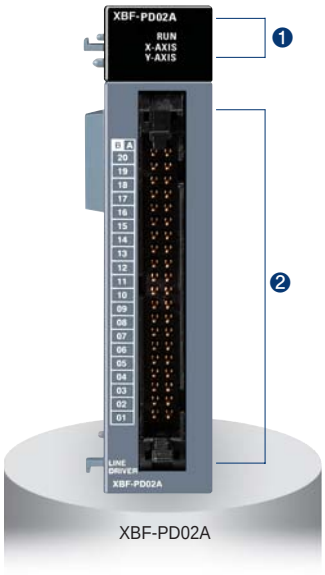
Names and Functions

No.	Name	Descriptions
1	RUN LED	▶ Displays the hardware operation status (Fatal fault) • On: Normal status • Flickering: Error (0.2s flickering) • Off: hardware error or power off
2	ALM LED	▶ Displays the status of the channels (Light fault) • Flickering: Line disconnection (1s flickering) • Off: Normal status
3	Terminal block	▶ Terminals to connect the thermo-couple sensor
4	External power terminal	▶ Terminals to supply the external DC 24V
6	RJC	▶ Device for Reference Junction Compensation

Wiring



Specification

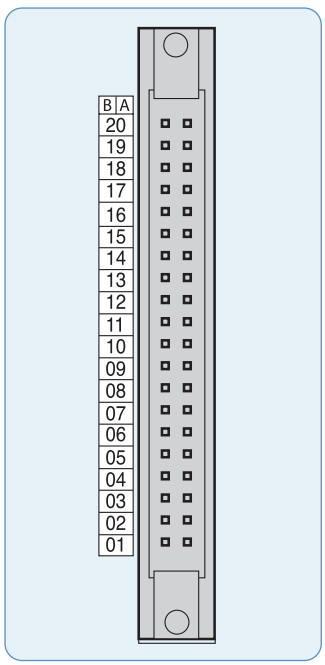


Item		XBF-PDO2A
N0. of control axis		2 axis
Pulse output type		Line drive
Max. pulse output		2Mpps
Max. connection length		10m
Control mode		Position control, Speed control, Speed / Position switching control, Position / Speed switching control
Interpolation		Linear interpolation, Circula interpolation
Positioning data		150 operation data for each axis
Configuration tool		Built-in function parameter of XG5000
Back-up		Flash memory
Positioning	Positioning method	Absolute / Incremental method
	Unit	pulse
	Positioning range	– 2,147,483,648 ~ 2,147,483,648
	Speed range	1~2,000,000 (pulse/sec)
	Acceleration/Deceleration type	Trapezoidal acceleration / deceleration
	Acceleration/Deceleration time	0~65,535ms, Asymmetric acceleration / deceleration
Max. encoder input		200kpps(Line drive)
Error/Operation		LED
I/O occupied points		Fixed type: 64 points
Connection terminal		40pin connector
Current consumption(mA)		500

Names and Functions

No.	Name	Descriptions
1	RUN LED	1. RUN ▶ Displays the hardware operation status • On: Normal status • Off: Abnormal status 2. X_AXIS, Y_AXIS • On: Operation • Flickering: Error
2	Terminal block	▶ Terminals to connect the MPG, external device and drive device.

Terminal



Pin number		Signal name	
X axis	Y axis		
B20		MPG A+	Manual Pulse Generator / Encoder A+ input
A20		MPG A–	Manual Pulse Generator / Encoder A– input
B19		MPG B+	Manual Pulse Generator / Encoder B+ input
A19		MPG B–	Manual Pulse Generator / Encoder B– input
A18	B18	FP+	Forward pulse+
A17	B17	FP–	Forward pulse–
A16	B16	RP+	Reverse pulse+
A15	B15	RP–	Reverse pulse–
A14	B14	OV+	High limit
A13	B13	OV–	Low limit
A12	B12	DOG	Near point
A11	B11	NC	–
A10	B10		
A09	B09	COM	Common
A08	B08	NC	–
A07	B07	INP	Inposition signal
A06	B06	INP COM	Inposition signal common
A05	B05	CLR	Deviation counter clear signal
A04	B04	CLR COM	Deviation counter clear signal common
A03	B03	HOME +5V	Zero signal(DC 5V)
A02	B02	HOME COM	Zero signal Common
A01	B01	NC	–

Specification

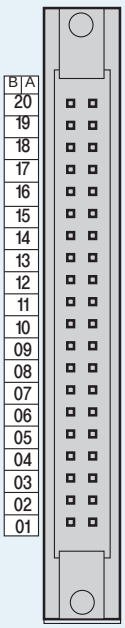
XBF-HO02A
XBF-HD02A

Item		Specification	
		XBF-HO02A	XGF-HD02A
Count input signal	Signal	A-phase, B-phase	
	Input type	Voltage input (Open Collector)	Differential input (Line Drive):
	Signal level	DC 5/12/24V	RS-422A Line Drive/HTL LEVEL Line Drive
Maximum coefficient speed		200kpps	500kpps (HTL input : 250kpps)
Number of channels		2 Channels	
Coefficient range		Signed 32-bit (-2,147,483,648 ~ 2,147,483,647)	
Count mode		Linear Count (When 32-bit range exceeded, Carry /Borrow occurs, The count value stopped)	
		Ring Count (Repeated count within setting range)	
Input pulse mode		1-phase input	
		2-phase input	
		CW/CCW input	
Up/down setting	1-phase input	Increasing / Decreasing operation setting by B-phase input	
		Increasing / Decreasing operation setting by program	
	2-phase input	Automatic setting by difference in phase	
	CW/CCW	A-phase input: Increasing operation	
		B-phase input: Decreasing operation	
Multiplication function	1-phase input	1/2 multiplication	
	2-phase input	1/2/4 multiplication	
	CW/CCW	1- multiplication	
Control input	Signal	Preset instruction input, Auxiliary mode instruction input	
	Signal level	DC 5V/12V/24V (by terminal selection) input type	
	Signal type	Voltage	
External output	Output points	2-point/channel (for each channel): Terminal output available	
	Type	Select single-compared (>, >=, =, =<, <) or section compared output (Included or excluded)	
	Output type	Open collector output (Sink)	
Operation status display	Input signal	A-phase input, B-phase input, Preset instruction input, Auxiliary mode instruction input	
	Output signal	External output 0, External output 1	
	Busy status	Module Ready	
Count enable		To be set through program (Count available only in enable status)	
Preset function		To be set through terminal or program	
Auxiliary mode function		Count clear, Count latch, Section count(time setting value: 0~60000㎳), Measurement of input frequency(for respective input phase), Measurement of counts per hour(time setting value: 0~60000㎳) Count prohibited function	
Terminal		40 pin connector	
I/O occupied points		Fixed point: 64	
Current consumption(mA)		200	260
Weight		90g	

Names and Functions

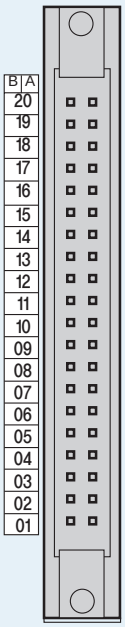
No.	Name	Descriptions
1	Run LED (ØA,ØB, P, G, 00, 01)	▶ On: Relevant channel pulse inputting, Preset/Auxiliary function signal inputting, Outputting ▶ Off: No input of relevant channel pulse, No input of preset/ Auxiliary function signal, No output of comparison
	Ready signal (RDY)	▶ On: HSC module normal ▶ Off: Power off or CPU module reset, HSC module error • Flicker: HSC module error
2	External wiring connector	Connector to conect with external I/O

Terminal (XBF-H002A)



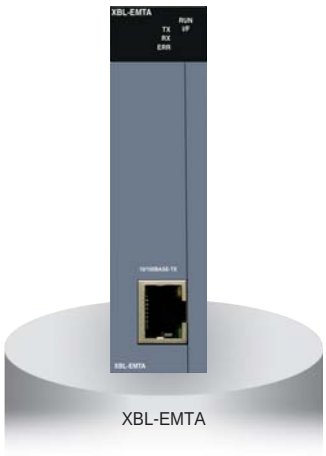
Pin arrangement		Signal name	
B ch1	A ch0		
20	20	A 24V	A phase pulse input 24V
19	19	A 12V	A phase pulse input 12V
18	18	A 5V	A phase pulse input 5V
17	17	A COM	A phase pulse input COM
16	16	B 24V	B phase pulse input 24V
15	15	B 12V	B phase pulse input 12V
14	14	B 5V	B phase pulse input 5V
13	13	B COM	B phase pulse input COM
12	12	P 24V	Preset input 24V
11	11	P 12V	Preset input 12V
10	10	P 5V	Preset input 5V
09	09	P COM	Preset input COM
08	08	G 24V	Auxiliary function input 24V
07	07	G 12V	Auxiliary function input 12V
06	06	G 5V	Auxiliary function input 5V
05	05	G COM	Auxiliary function input COM
04	04	OUT0	Comparison output 0
03	03	OUT1	Comparison output 1
02	02	24V	External power input 24V
01	01	24G	External power input GND

Terminal (XBF-HD02A)



Pin arrangement		Signal name	
B ch1	A ch0		
20	20	A Ⅰ +	A Ⅰ phase differentiation input +
19	19	A Ⅰ -	A Ⅰ phase differentiation input -
18	18	A Ⅱ +	A Ⅱ phase differentiation input +
17	17	A Ⅱ -	A Ⅱ phase differentiation input -
16	16	B Ⅰ +	B Ⅰ phase differentiation input +
15	15	B Ⅰ -	B Ⅰ phase differentiation input -
14	14	B Ⅱ +	B Ⅱ phase differentiation input +
13	13	B Ⅱ -	B Ⅱ phase differentiation input -
12	12	P 24V	Preset input 24V
11	11	P 12V	Preset input 12V
10	10	P 5V	Preset input 5V
09	09	P COM	Preset input COM
08	08	G 24V	Auxiliary function input 24V
07	07	G 12V	Auxiliary function input 12V
06	06	G 5V	Auxiliary function input 5V
05	05	G COM	Auxiliary function input COM
04	04	OUT0	Comparison output 0
03	03	OUT1	Comparison output 1
02	02	24V	External power input 24V
01	01	24G	External power input GND

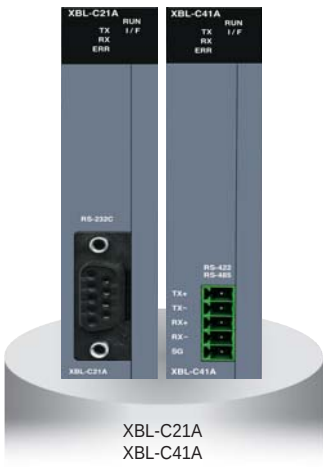
Ethernet (XBL-EMTA)



XBL-EMTA

Item		XBL-EMTA
Communication spec.		10 / 100 Base-TX
Protocol		TCP / IP, UDP / IP
Service	With LS PLCs	High-speed link, P2P service
	With other devices	P2P service
	Application	Dedicated protocol service, XG5000 service
HS link sending / Receiving data		200words / block (Max. 64blocks)
No. of channel Connectable to upper stage		6 channels
Service		Communication with PC (HMI) and external devices, High-speed communication among LSIS PLCs
Media		UTP / STP Category 5
Current consumption (mA)		300

RS-232C, RS-422 / 485



XBL-C21A
XBL-C41A

Item		Built-in RS-232C	XBL-C21A	Built-in RS-485	XBL-C41A
Interface		RS-232C 1ch	RS-232C 1ch	RS-485 1ch	RS-422 / 485 1ch
MODEM function		Remote communication via the external MODEM (XBL-C21A Only)			
Mode	Dedicate	1:1 or 1:N via the dedicated protocol			
	XG5000 mode	Program download, Upload and control via the remote control			
	P2P	Communication defined by the protocol using XG-PD XGT / Modbus master			
Operation mode	Server (slave)	XGT / Modbus server, User-defined communication			
	Client (master)	XGT / Modbus P2P Master, User-defined communication			
Data format	Start Bit	1			
	Data Bit	7 or 8			
	Stop Bit	1 or 2			
	Parity	Even / Odd / None			
	Setting	Setting by XG-PD parameter			
Synchronous		Asynchronous			
Speed (bps)		1,200 / 2,400 / 4,800 / 9,600 / 19,200 / 38,400 / 57,600 / 115,200 bps			
Station number		Setting by XG-PD, Max. 32 stations			
Distance		RS-232C: Max.15m (Expansion by MODEM), RS-422/485: Max 500m			
MODEM communication		–	Support	–	–
Network		1 : 1		1 : N	
Diagnostic		Via LED and XG-PD			
Max. expansion		Built-in	2 stages	Built-in	2 stages

RAPIEnet (XBL-EIMT)

Item		XBL- EIMT
Transmission standard	Transmission speed	100Mbps
	Transmission method	Base band
	Max. extension distance between nodes	100m
	Max. number of nodes	64
	Max. protocol size	1,516 bytes
	Access method to service zone	CSMA / CD
	Frame error check	CRC 32 = $X^{32}+X^{26}+X^{23}+\cdots\cdots+X^{2}+X+1$
	Normal communication guarantee	Max. 1,200 (packet/sec)
Basic standard	Dimension (mm)	90(H) x 27(W) x 60(D)
	Current consumption(mA)	290
	Weight (g)	102

Ethernet/IP (XBL-EIPT)

Item		XBL- EIPT
Transmission standard	Transmission speed	100Mbps
	Transmission method	Base band
	Max. extension distence between nodes	100m
	Access method to service zone	CSMA / CD
	Frame error check	CRC 32 = $X^{32}+X^{26}+X^{23}+\cdots\cdots+X^{2}+X+1$
Topology		Line, Star
The number of connections (Client / Server)	TCP	16 / 32
	CIP (IO communication)	32 / 64
Number of Max. services (P2P)		2
Number of Max. installations		2
Max. setting data size per block	Periodic client	500 bytes
	Aperiodic client	512 bytes
Basic standard	Dimension (mm)	90(H) x 27(W) x 60(D)
	Current consumption(mA)	290
	Weight (g)	102

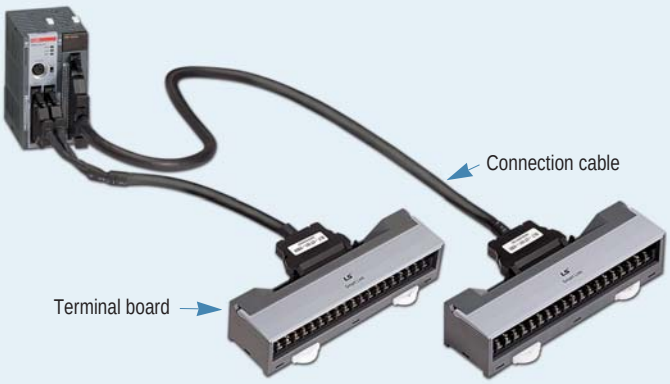
CANopen Module (XBL-CMEA, XBL-CSEA)

Item		XBL-CMEA	XBL-CSEA
Transmission Speed		10, 20, 50, 100, 125, 250, 500, 800, 1000Kbps	
Num. of port		1	
Max. node		32	-
PDO	TPDO	Total 32	64
	RPDO		64
Max. size of data per PDO		8Byte	
PDO transfer type		Synchronous acyclic(0), synchronous cyclic(1~240), RTR(252~253), time-event trigger(254~255)	
Support SDO		Client 127/Server 1	Server 1
SDO transfer type		Expedited, Normal	-
Access method		CSMA/BA(Carrier Sense Multiple Access/Bitwise Arbitration)	
Topology		BUS	
SYNC Service		Producer Cycle : 20~5000ms	Consumer
NMT. eode control		NMT master	NMT slave
Emergency		Save the last five per slave	Save up to last 10
NMT. error control		Heartbeat, Life guarding	Heartbeat
Network scan		O	-
Size(mm)		90(H)X27(W)X60(D)	
Current consumption(mA)		211	202
Weight(g)		78	

Option modules

Option modules	
XBO-AD02A	Voltage/Current, Input 2 chs
XBO-DA02A	Voltage/Current, Output 2 chs
XBO-AH02A	Voltage/Current, Input 1 ch
	Voltage/Current, Output 1 ch
XBO-TC02A	TC (Thermocouple), Input 2 chs
XBO-RTCA	RTC(Real Time Clock)
XBO-DC04A	DC 24V, Input 4 points
XBO-TN04A	Transistor(Sink), Output 4 point
XBO-RD01A	RTD(Resistance Temperature Detect, Input 1 ch)

Smart link

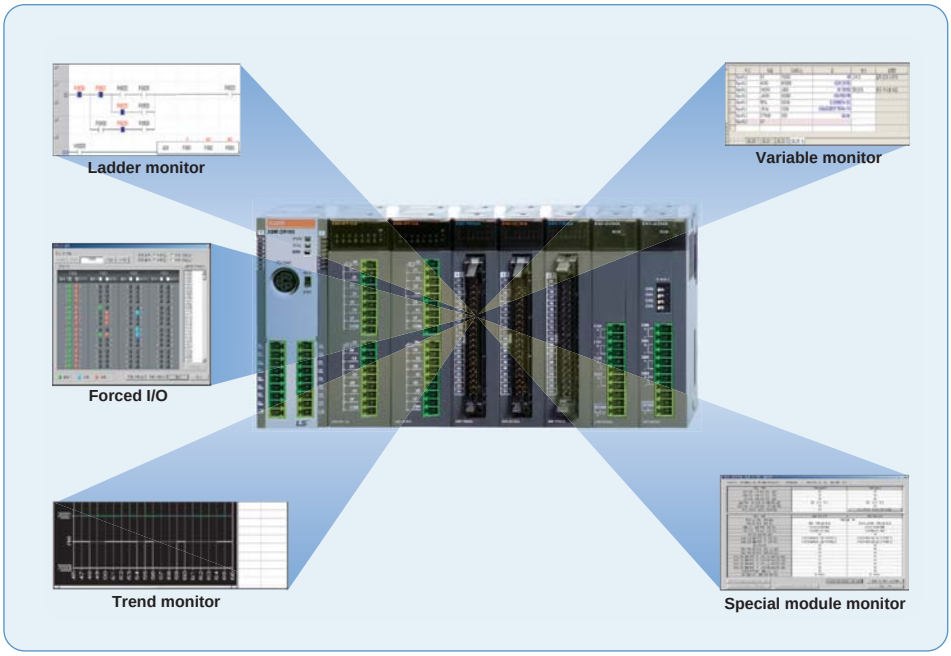


Terminal board	Connection cable	XBM-DN16S XBM-DN32S	XBE-DC32A	XBE-TN32A	XBE-TP32A	Cable length
TG7-1H40S (Terminal board)	R40H/20HH-05S-XBM3	●	–	–	–	0.5m
	R40H/20HH-10S-XBM3	●	–	–	–	1.0m
TG7-1H40CA (Terminal board, Common)	C40HH-05SB-XBI	–	●	●	●	0.5m
	C40HH-10SB-XBI	–	●	●	●	1.0m
	C40HH-15SB-XBI	–	●	●	●	1.5m
	C40HH-20SB-XBI	–	●	●	●	2.0m
	C40HH-30SB-XBI	–	●	●	●	3.0m
R32C-NS5A-40P (Relay board : sink)	C40HH-05SB-XBI	–	–	●	–	0.5m
	C40HH-10SB-XBI	–	–	●	–	1.0m
	C40HH-15SB-XBI	–	–	●	–	1.5m
	C40HH-20SB-XBI	–	–	●	–	2.0m
	C40HH-30SB-XBI	–	–	●	–	3.0m
R32C-PS5A-40P (Relay board : source)	C40HH-05PH-XBP	–	–	–	●	0.5m
	C40HH-15PH-XBP	–	–	–	●	1.5m
	C40HH-20PH-XBP	–	–	–	●	2.0m

Software

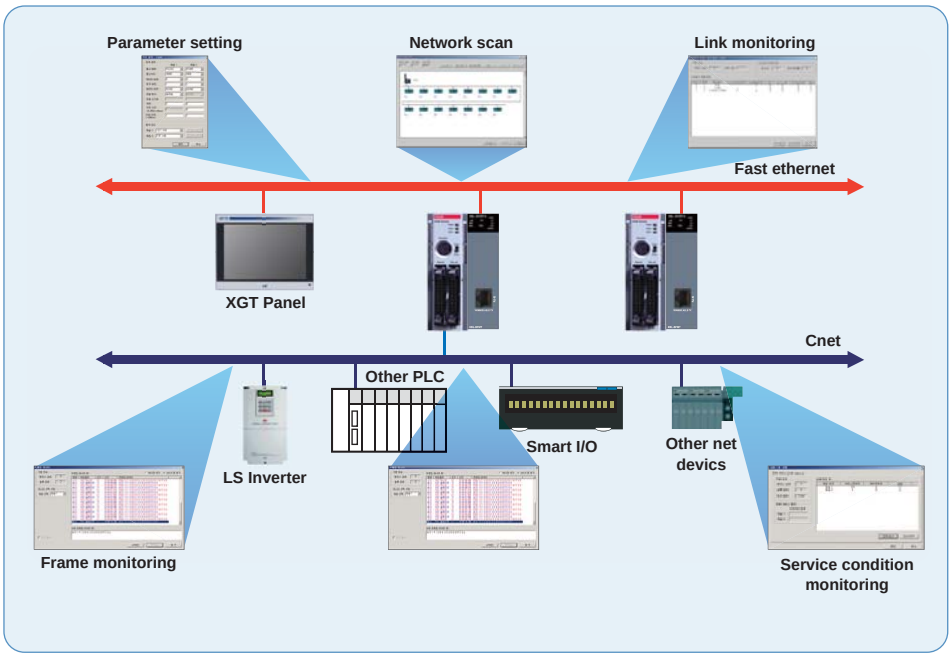
XG5000
(Programming software)

- Program editing & Engineering software
- Windows-based easy operation
- Multi-PLC, Multi-programming support
- Various monitoring and diagnosis functions
- Vista 2000, XP (Limited use in Windows 98, ME)



XG -PD
(Network setting software)

- Convenient network setting
- Extended monitoring function for network system and communication modules
- Fast interface with CPU by effective network management
- Various built-in diagnosis, functions
  (CPU condition, Link conditon, Service condition, Frame monitoring)



Product list

Item	Model	Specifications
Block type unit (Economic type)	XBC/XEC-DR10E	AC 100 ~ 240V, 6 points DC input, 4 point Relay ouput
	XBC/XEC-DR14E	AC 100 ~ 240V, 8 points DC input, 6 point Relay ouput
	XBC/XEC-DR20E	AC 100 ~ 240V, 12 points DC input, 8 point Relay ouput
	XBC/XEC-DR30E	AC 100 ~ 240V, 18 points DC input, 12 point Relay ouput
	XBC/XEC-DN10E	AC 100 ~ 240V, 6 points DC input, 4 point transistor output(Sink)
	XBC/XEC-DN14E	AC 100 ~ 240V, 8 points DC input, 6 point transistor output(Sink)
	XBC/XEC-DN20E	AC 100 ~ 240V, 12 points DC input, 8 point transistor output(Sink)
	XBC/XEC-DN30E	AC 100 ~ 240V, 18 points DC input, 12 point transistor output(Sink)
	XBC/XEC-DP10E	AC 100 ~ 240V, 6 points DC input, 4 point transistor output(Source)
	XBC/XEC-DP14E	AC 100 ~ 240V, 8 points DC input, 6 point transistor output(Source)
	XBC/XEC-DP20E	AC 100 ~ 240V, 12 points DC input, 8 point transistor output(Source)
	XBC/XEC-DP30E	AC 100 ~ 240V, 18 points DC input, 12 point transistor output(Source)
Block type unit (Standard type)	XBC-DR20SU	AC 100~240V, 12-point DC input, 8-point Relay output
	XBC-DN/DP20S(U)	AC 100~240V, 12-point DC input, 8-point TR output(Sink/Source type)
	XBC-DR30SU	AC 100~240V, 18-point DC input, 12-point Relay output
	XBC-DN/DP30S(U)	AC 100~240V, 18-point DC input, 12-point TR output(Sink/Source type)
	XBC-DN/DP40SU	AC 110/240V , 24-point DC input, 16-point TR output(Sink/Source type)
	XBC-DR40SU	AC 110/240V , 24-point DC input, 16-point Relay output
	XBC-DN/DP60SU	AC 110/240V , 36-point DC input, 24-point TR output(Sink/Source type)
	XBC-DR60SU	AC 110/240V , 36-point DC input, 24-point Relay output
	XEC-DN20SU	AC 110/240V , 12-point DC input, 8-point TR output
	XEC-DR20SU	AC 110/240V , 12-point DC input, 8-point Relay output
	XEC-DN30SU	AC 110/240V , 18-point DC input, 12-point TR output
	XEC-DR30SU	AC 110/240V , 18-point DC input, 12-point Relay output
	XEC-DN40SU	AC 110/240V , 24-point DC input, 16-point TR output
	XEC-DR40SU	AC 110/240V , 24-point DC input, 16-point Relay output
	XEC-DN60SU	AC 110/240V , 36-point DC input, 24-point TR output
	XEC-DR60SU	AC110/240V , 36-point DC input, 24-point Relay output
Block type unit (High performance type)	XBC-DR32H	AC 110~220V, 16-point DC input, 16-point Relay output
	XBC-DN32H	AC 110~220V, 16-point DC input, 16-point TR output
	XBC-DR64H	AC 110~220V, 32-point DC input, 32-point Relay output
	XBC-DN64H	AC 110~220V, 32-point DC input, 32-point TR output

Product list

Item	Model	Specifications
Block type unit (High performance type)	XBC-DR32H/DC	DC 24V, 16-point DC input, 16-point Relay output
	XBC-DN32H/DC	DC 24V, 16-point DC input, 16-point TR output
	XBC-DR64H/DC	DC 24V, 32-point DC input, 32-point Relay output
	XBC-DN64H/DC	DC 24V, 32-point DC input, 32-point TR output
	XEC-DR32H	AC 110~220V, 16-point DC input, 16-point Relay output
	XEC-DN32H	AC 110~220V, 16-point DC input, 16-point TR output
	XEC-DR64H	AC 110~220V, 32-point DC input, 32-point Relay output
	XEC-DN64H	AC 110~220V, 32-point DC input, 32-point TR output
	XEC-DR32H/D1	DC 12/24V, 16-point DC input, 16-point Relay output
	XEC-DR64H/D1	DC 12/24V, 32-point DC input, 32-point Relay output
Modular type unit	XBM-DR16S	DC 24V, 8-point DC 24V input, 8-point relay output
	XBM-DN16S	DC 24V, 8-point DC 24V input, 8-point TR output
	XBM-DN32S	DC 24V, 16-point DC 24V input, 16-point TR output
Expansion I/O module	XBE-DC08A	8-point DC 24V input
	XBE-DC16A	16-point DC 24V input
	XBE-DC32A	32-point DC 24V input
	XBE-RY08A	8-point relay output
	XBE-RY16A	16-point relay output
	XBE-TN08A	8-point Transistor (sink) output
	XBE-TN16A	16-point Transistor (sink) output
	XBE-TN32A	32-point Transistor (sink) output
	XBE-TP08A	8-point Transistor (source) output
	XBE-TP16A	16-point Transistor (source) output
	XBE-TP32A	32-point Transistor (source) output
	XBE-DR16A	8-point DC 24V input, 8-point relay output
Special module	XBF-AD04A	4-channel analog input (current/voltage)
	XBF-AD04C	4-channel analog input(current/voltage, resolution : 1/16000)
	XBF-AH04A	2-channel analog input (current/voltage)/2-channel analog output (current/voltage)
	XBF-DV04A	4-channel analog output (voltage)
	XBF-DV04C	4-channel analog input(voltage, resolution : 1/16000)
	XBF-DC04A	4-channel analog output (current)
	XBF-DC04C	4-channel analog input(current, resolution : 1/16000)

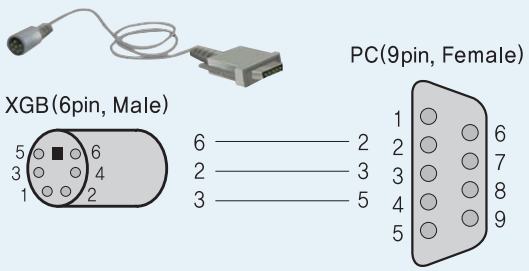
Product list

Item	Model	Specifications
Special module	XBF-RD04A	4-channel RTD input
	XBF-TC04S	4-channel Thermocouple input
	XBF-PD2A	Line drive 2 axis
	XBF-AD08A	8-channel analog input (Current / voltage)
	XBF-HO02A	2-channel High-speed counter input (Open collector)
	XBF-HD02A	2-channel High-speed counter input (Line drive)
Communication module	XBL-C41A	Cnet (RS-422/485), 1ch
	XBL-C21A	Cnet (RS-232C), 1ch
	XBL-EMTA	Fast Ethernet (100Mbps), 1ch
	XBL-EIMT	RAPIEnet, 2 ch
	XBL-EIPT	Ethernet/IP, 2 ch
	XBL-EIMF	RAPIEnet I/F, Max. 2km(Fiber 2 ch.), 100Mbps
	XBL-EIMH	RAPIEnet I/F(Twisted pair 1ch, Fiber 2 ch.), 100Mbps
	XBL-CMEA	CANopen (10, 20, 50, 100, 125, 250, 500, 800, 1000Kbps, Num of PDO : 32)
	XBL-CSEA	CANopen (10, 20, 50, 100, 125, 250, 500, 800, 1000Kbps, Num of PDO : 64)
Loader cable	PMC-310S	Connection cable (PC to PLC), 9pin(PC)-6pin(PLC)
	USB-301A	Connection cable (PC to PLC), USB
Memory module	XBO-M2MB	Memory
Option modules	XBO-AD02A	Voltage/Current, Input 2 ch
	XBO-DA02A	Voltage/Current, Output 2 ch
	XBO-AH02A	Voltage/Current, Input 1ch / Voltage/Current, Output 1ch
	XBO-TC02A	TC (Thermo couple), Input 2 ch
	XBO-RTCA	RTC (Real time clock), Battery
	XBO-DC04A	DC 24V, Input 4 points
	XBO-TN04A	TR (Sink), Output 4 points
	XBO-RD01A	RTD (Resistance temperature detector), Input 1ch

Product list

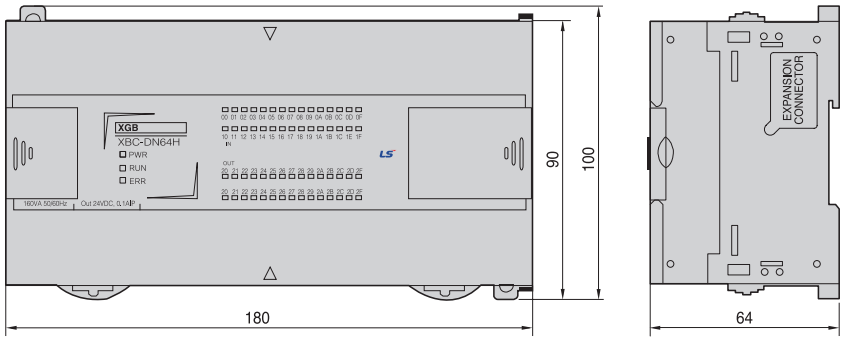
Terminal board	Connection cable	XBM-DN16S XBM-DN32S	XBE-DC32A	XBE-TN32A	XBE-TP32A	Cable length
TG7-1H40S (Terminal board)	R40H/20HH-05S-XBM3	●	–	–	–	0.5m
	R40H/20HH-10S-XBM3	●	–	–	–	1.0m
TG7-1H40CA (Terminal board, Common)	C40HH-05SB-XBI	–	●	●	●	0.5m
	C40HH-10SB-XBI	–	●	●	●	1.0m
	C40HH-15SB-XBI	–	●	●	●	1.5m
	C40HH-20SB-XBI	–	●	●	●	2.0m
	C40HH-30SB-XBI	–	●	●	●	3.0m
R32C-NS5A-40P (Relay board: sink)	C40HH-05SB-XBI	–	–	●	–	0.5m
	C40HH-10SB-XBI	–	–	●	–	1.0m
	C40HH-15SB-XBI	–	–	●	–	1.5m
	C40HH-20SB-XBI	–	–	●	–	2.0m
	C40HH-30SB-XBI	–	–	●	–	3.0m
R32C-PS5A-40P (Relay board:source)	C40HH-05PH-XBP	–	–	–	●	0.5m
	C40HH-15PH-XBP	–	–	–	●	1.5m
	C40HH-20PH-XBP	–	–	–	●	2.0m

Download cable diagram

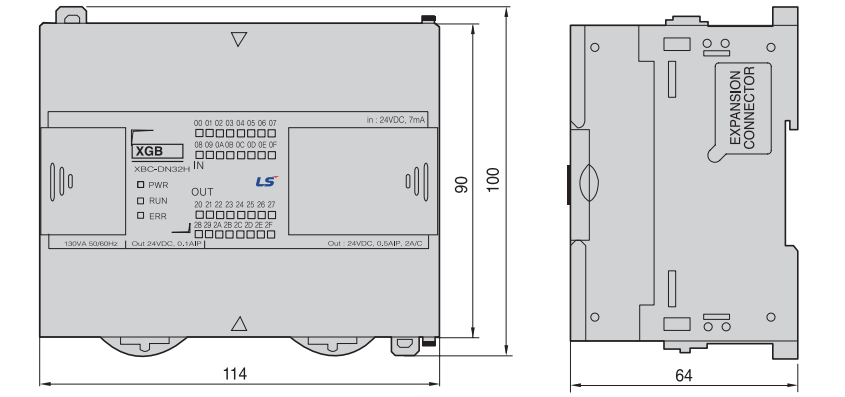


Block type unit

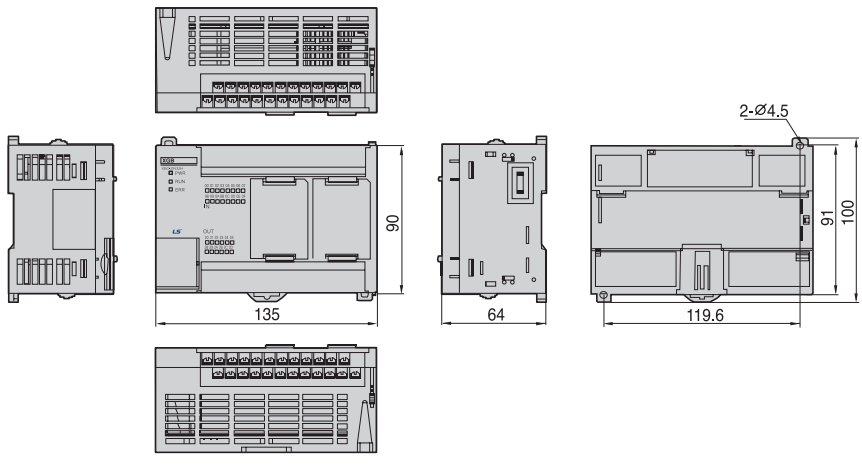
XBC/XEC-H type
(64points)



XBC/XEC-H type
(32points)



XBC-S type



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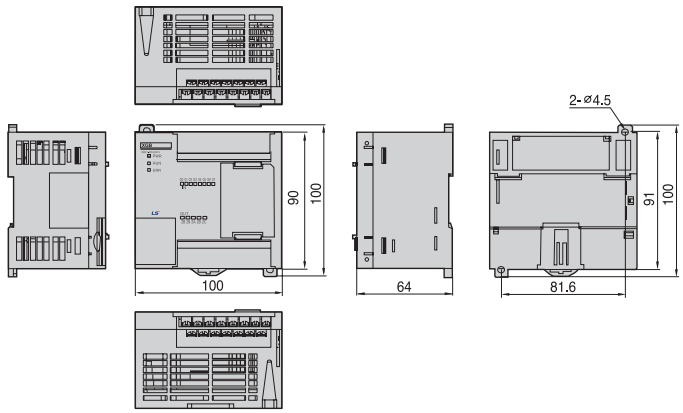

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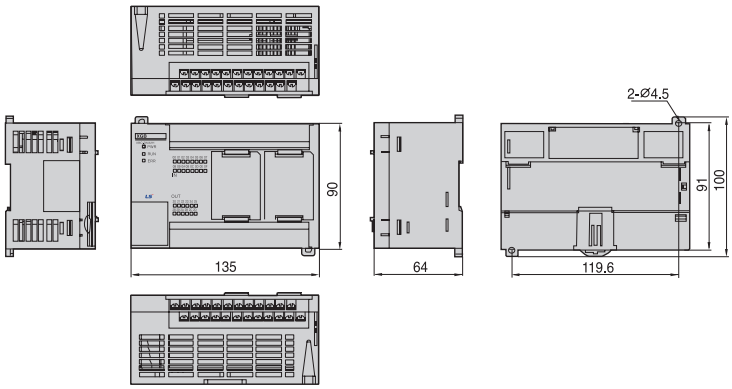
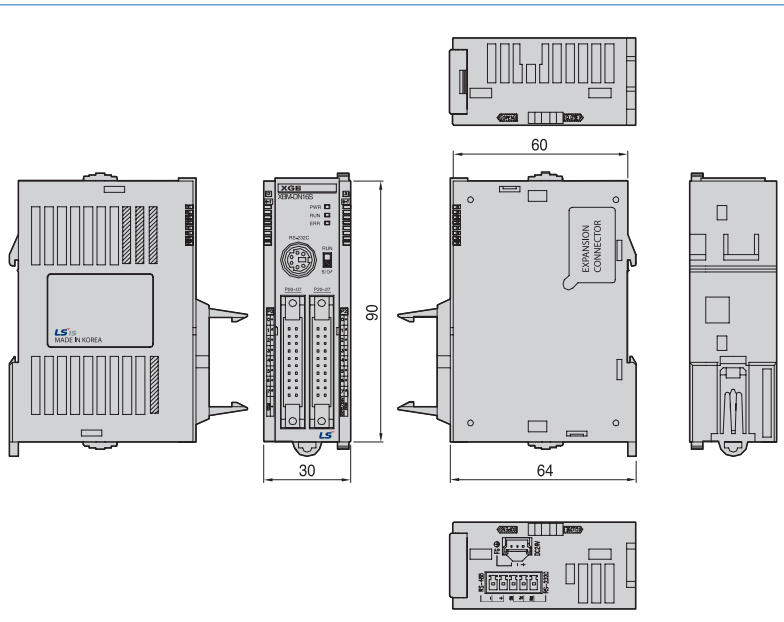
(DR20E, DR30E)

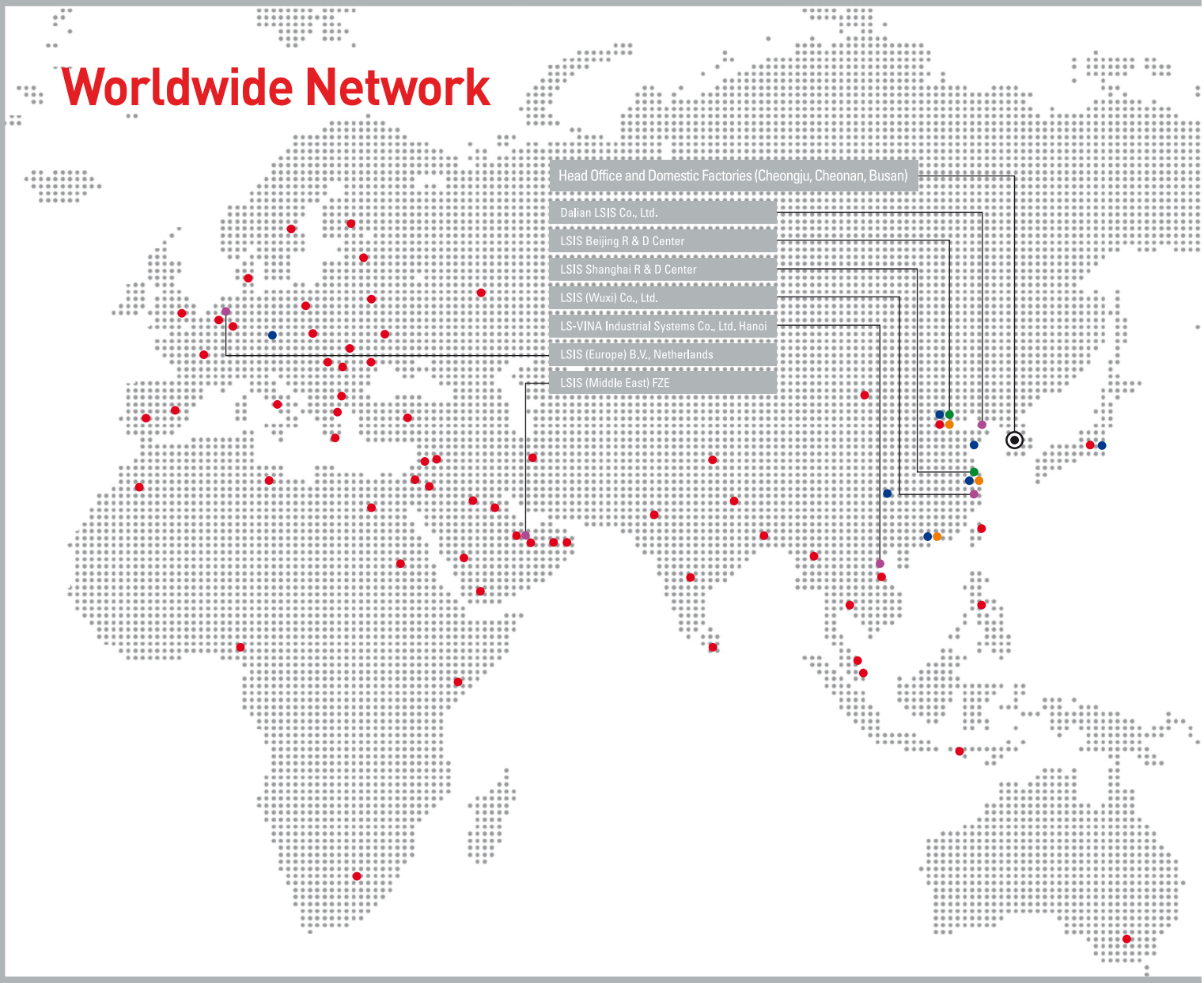


Modular type unit

XBM-S type



Worldwide Network



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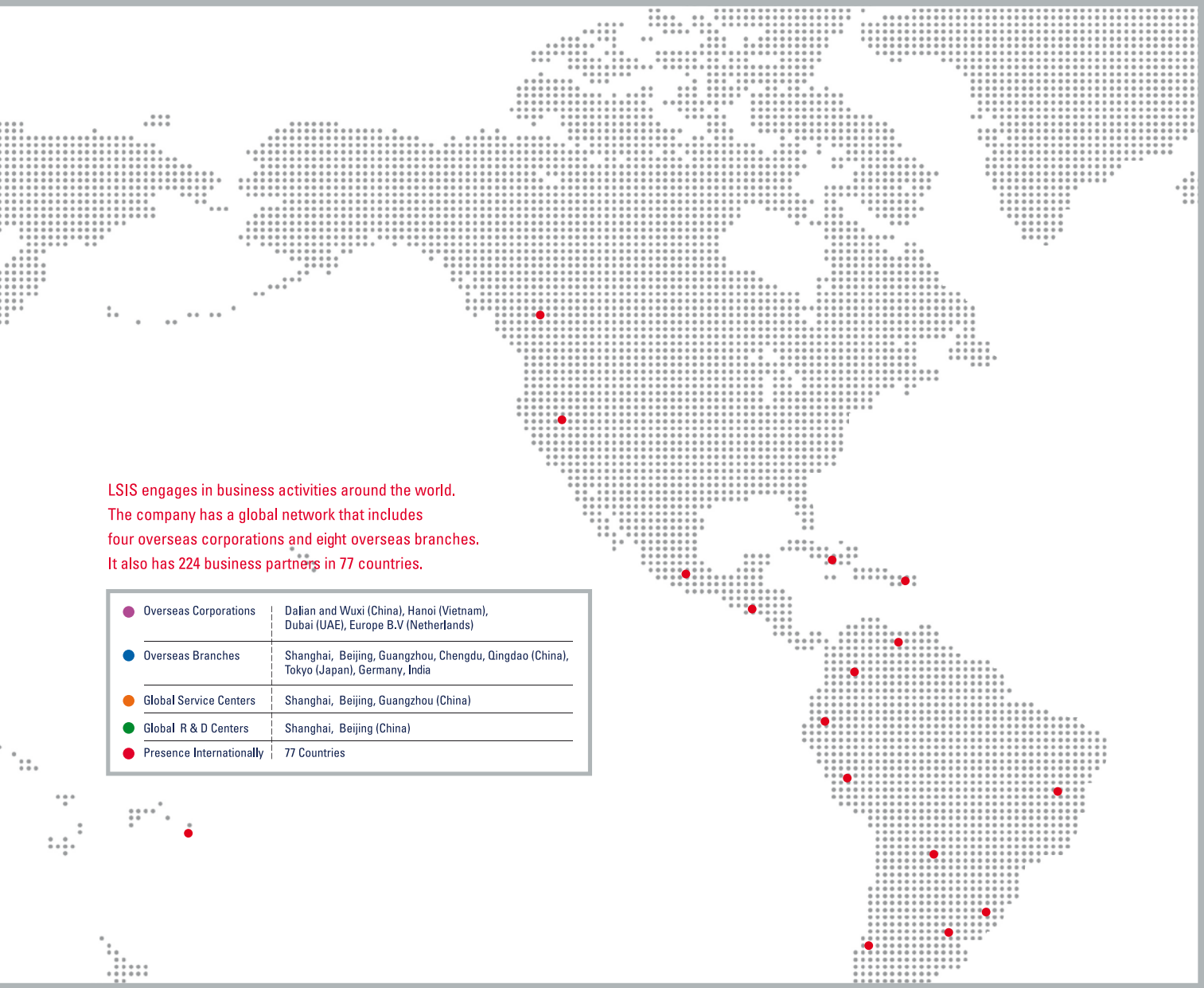

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Global R & D Centers	Shanghai, Beijing (China)
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Green Innovators of Innovation

Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance.
  Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

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Specifications in this catalog are subject to change without notice due to continuous product development and improvement.

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