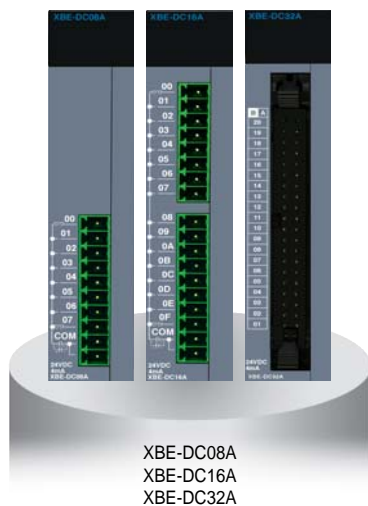


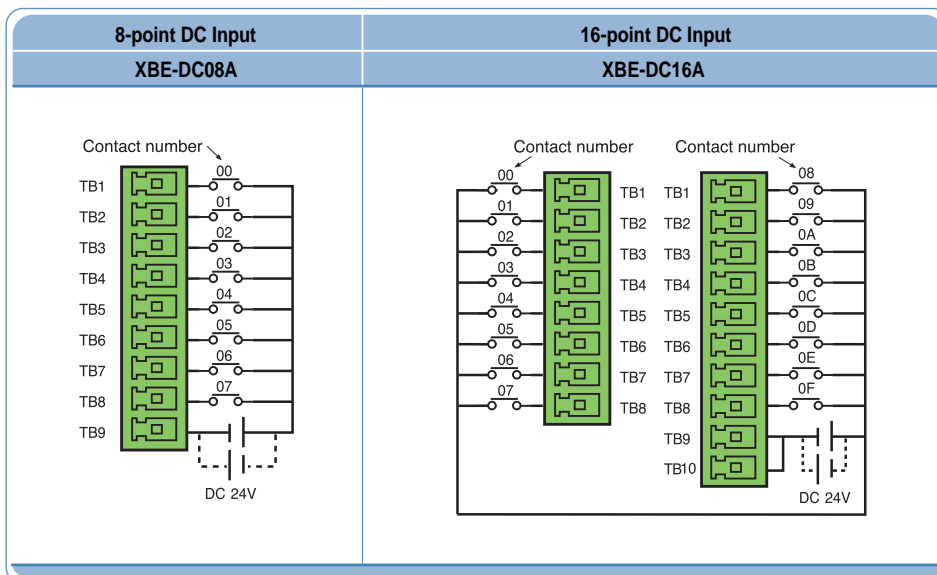
Specification



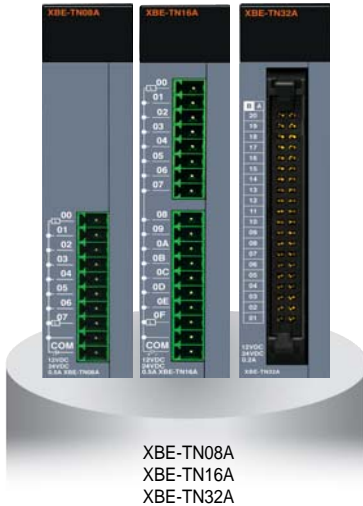
Specification	Model	XBE-DC08A	XBE-DC16A	XBE-DC32A
Input point		8 points	16 points	32 points
Rated input voltage / current		DC 24V / 4mA		
Operation voltage range		DC 20.4 ~ 28.8V (Ripple rate < 5%)		
Input resistance		5.6kΩ		
Response time	Off → On	1 / 3 / 5 / 10 / 20 / 70 / 100ms (setting by CPU parameter) 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)



Specification

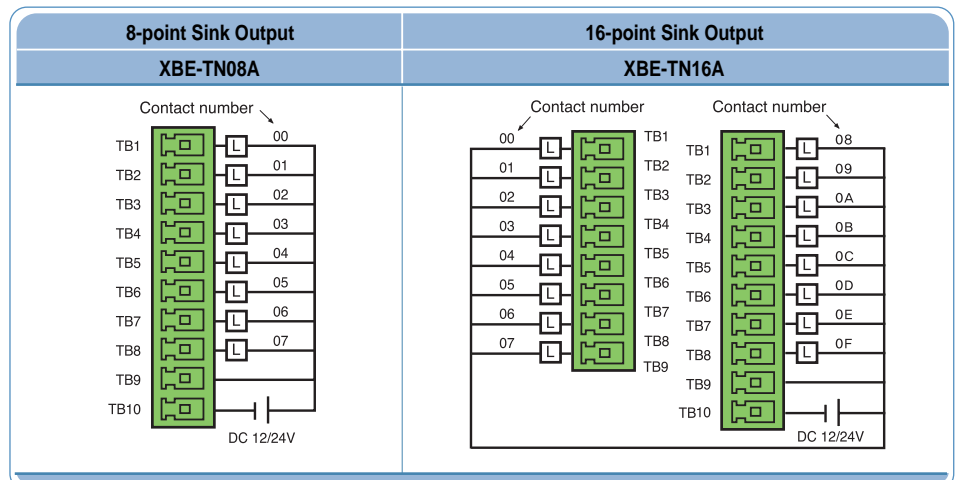


Specification		Model	XBE-TN08A	XBE-TP08A	XBE-TN16A	XBE-TP16A	XBE-TN32A	XBE-TP32A
Type			Sink	Source	Sink	Source	Sink	Source
Output point			8 point		16 point		32 point	
Rated load voltage			DC 12 / 24V					
Load voltage range			DC 10.2 ~ 26.4 V					
Max. load current			0.2A / 1point		0.2A / 1point, 2A / 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)	

Item		XBF-AD04C	
Analog range	Item	Voltage	Current
	Range	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)
Digital Output Range	Type	16bit binary data(Data : 14bit)	
	Unsigned value	0 ~ 16000	
	Signed value	-8000 ~ 8000	
	Precise value	1000 ~ 5000 (1 ~ 5V), 0 ~ 5000 (0 ~ 5V), 0 ~ 10000 (0 ~ 10V)	4000 ~ 20000 (4 ~ 20mA), 0 ~ 20000 (0 ~ 20mA)
Resolution	Percentile value	0 ~ 10000	
		1/16000	
Max. conversion speed		0.250mV(1 ~ 5V) 0.3125mV(0 ~ 5V) 1.0μA(4 ~ 20mA)	
		0.625mV(0 ~ 10V) 1.250mV(±10V) 1.25μA(0 ~ 20mA)	
Max. absolute input		DC ±15V	
Analog Input Channels		DC ±3mA	
Insulation method		4 channel/module	
Connection terminal		Photo-coupler insulation between input terminal and PLC power (no insulation between channels)	
Occupied I/O points		15-point terminal block	
Current consumption		Fixed type : 64points	
Current consumption	DC 5V	110mA	
	DC 24V	100mA	

Wiring

(XBE-TN08A / TN16A)



Specification

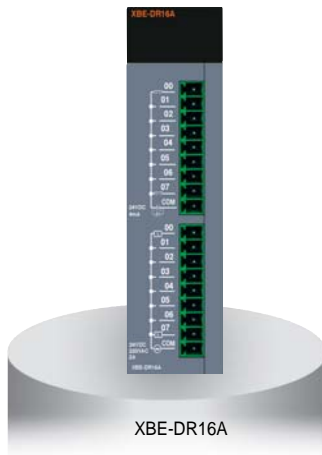


XBE-RY08A
XBE-RY16A

Model		XBE-RY08A	XBE-RY16A
Specification			
Output point		8 points	16 points
Insulation method		Relay insulation	
Rated input voltage / Current		DC 24V 2A (resistive load) / AC 220V 2A (COS ψ = 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 (COS ψ = 0.7) 100,000 times or more	
		AC 200V / 1A, AC 240V / 0.5 (COS ψ = 0.35) 100,000 tiems 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

Item		XBF-DV04C	XBF-DC04C
Analog range	Item	Voltage	Current
	Range	DC 1 ~ 5V, DC 0 ~ 5V, DC 0 ~ 10V, DC -10 ~ 10V (Input resistance 1k Ω or more)	DC 4 ~ 20mA DC 0 ~ 20mA (Input resistance 600M Ω or less)
	Type	16bit binary data(Data : 14bit)	
Digital Output	Unsigned value	0 ~ 16000	
	Signed value	-8000 ~ 8000	
	Precise value	1000 ~ 5000 (1 ~ 5V), 0 ~ 5000 (0 ~ 5V), 0 ~ 10000 (0 ~ 10V)	4000 ~ 20000 (4 ~ 20mA), 0 ~ 20000 (0 ~ 20mA)
	Percentile value	0 ~ 10000	
Resolution		1/16000	
		0.250mV(1 ~ 5V) 0.3125mV(0 ~ 5V) 0.625mV(0 ~ 10V) 1.250mV(\pm 10V)	1.0 μ A(4 ~ 20mA) 1.25 μ A(0 ~ 20mA)
Max. conversion speed		1ms/channel	
Analog Input Channels		4 channel/module	
Insulation method		Photo-coupler insulation between output terminal and PLC power (no insulation between channels)	
Connection terminal		11-point terminal block	
Occupied I/O points		Fixed type : 64points	
Current consumption	DC 5V	75mA	
	DC 24V	170mA	

DC Input specification

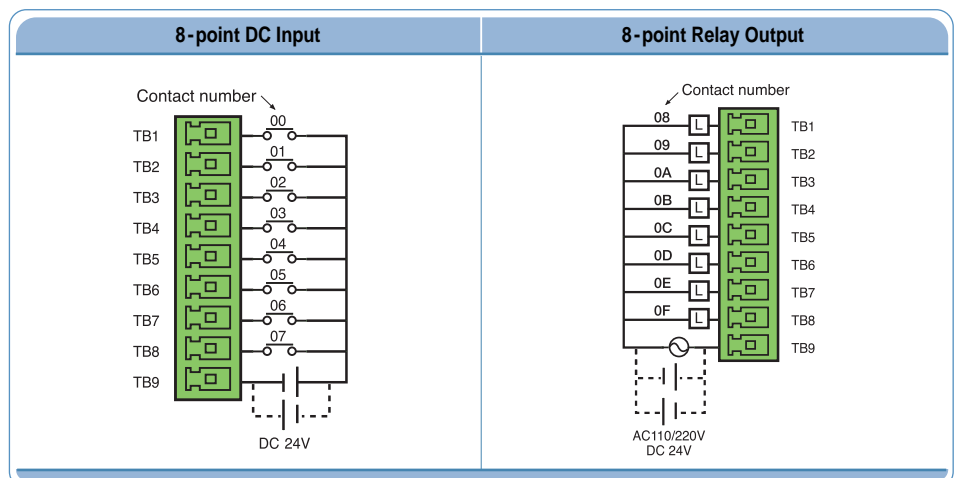


Relay output specification

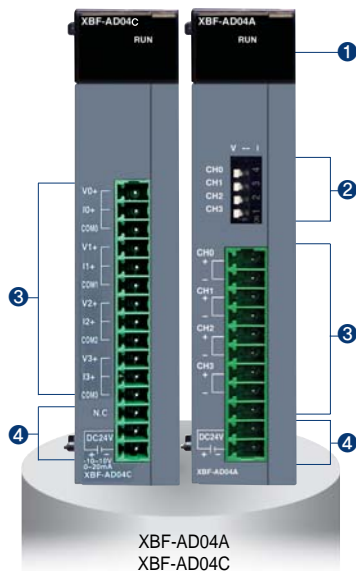
Specification	Model	DC Input (XBE-DR16A)
Input point		8 points
Insulation method		Photocoupler
Rated input voltage		DC 24V
Rated input current		4mA
Operation voltage range		DC 20.4 ~ 28.8V (Ripple rate < 5%)
On voltage / On current		DC 19V or more / 3mA or more
Off voltage / Off current		DC 6V or less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

Specification	Model	Relay Output (XBE-DR16A)
Output point		8 points
Insulation method		Relay insulation
Rated input voltage / Current		DC 24V 2A (resistive load) / AC 220V 2A (COS ψ = 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 (COS ψ = 0.7) 100,000 times or more
		AC 200V / 1A, AC 240V / 0.5 (COS ψ = 0.35) 100,000 tiems 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)



Specification

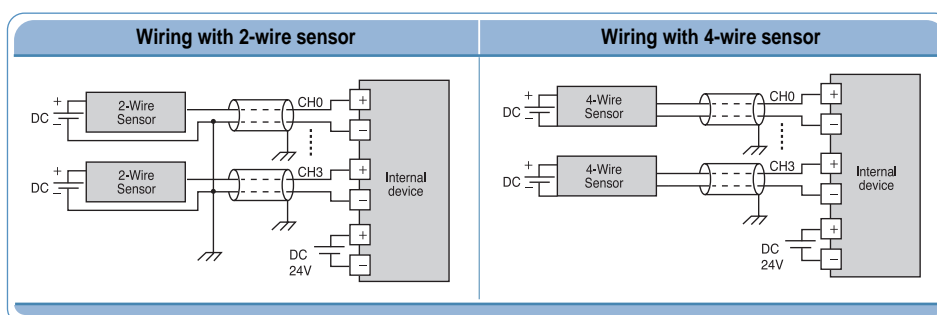


Item		XBF-AD04A		XBF-AD04C		XBF-AD08A		
Analog range	Item	Voltage	Current	Voltage	Current	Voltage	Current	
	Range	DC 0~10V (input resistance : 1MΩ min.)	DC 4~20mA, DC 0~20mA (input resistance: 250Ω)	DC 1 ~ 5V DC 0 ~ 5V DC 0 ~ 10V DC -10 ~ 10V (Input resistance : 1MΩ min)	DC 4 ~ 20mA DC 0 ~ 20mA (Input resistance : 250MΩ)	DC 1~5V DC 0~5V DC 0~10V (Input resistance : 250MΩ)	DC 4~20mA, DC 0~20mA (input resistance: 250Ω)	
	Type	12bit binary data		16bit binary data (Data : 14bit)		12bit binary data		
Digital output	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 (DC1~5V) 0~500 (DC0~5V) 0~1000 (DC0~10V)	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		1.25mV (DC 1~5V, 0~5V) 2.5mV (DC 0~10V)	5μA (DC 4~20mA, 0~20mA)	
				0.250mV(1~5V) 0.3125mV(0~5V) 0.625mV(0~10V) 1.250mV(±10V)				
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

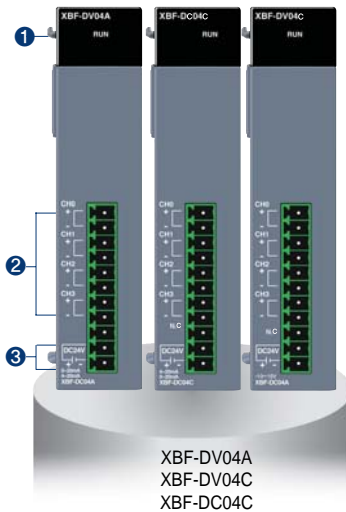
No.	Name	Descriptions
①	RUN LED	<ul style="list-style-type: none"> Indicates condition of module LED On: Normal condition LED On and Off: Flickering LED Off: Power Off or module malfunction
②	Input selection S/W	<ul style="list-style-type: none"> Voltage/Current selection switch V: Voltage input selection I: Current input selection
③	Terminal block	External device connection
④	External power supply terminal	External DC 24V input

Wiring



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

Specification

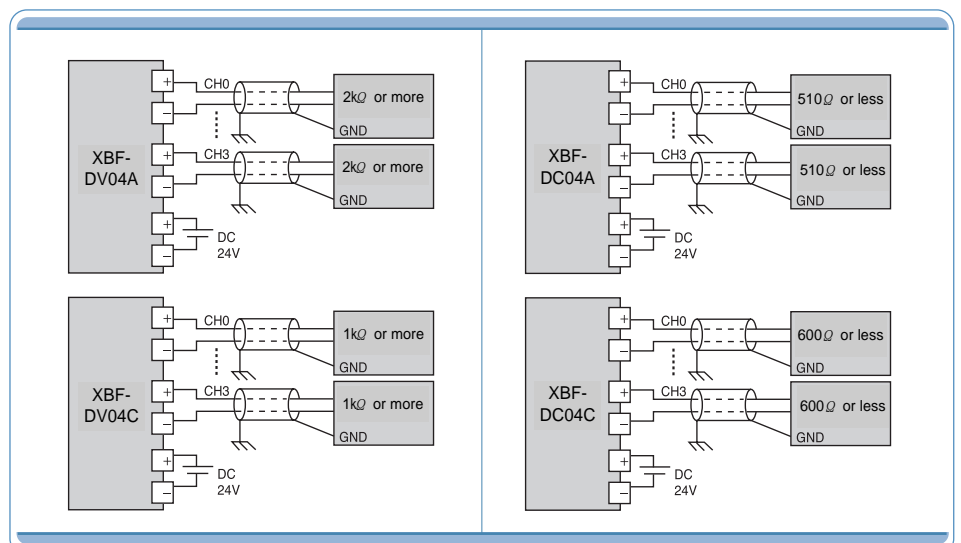


Item	XBF-DV04A	XBF-DV04C	XBF-DC04C	XBF-DC04A
Analog range	DC 0 ~ 10 V (Load resistance $\geq 2k\Omega$)	DC 1 ~ 5V DC 0 ~ 5V DC 0 ~ 10V DC -10 ~ 10V (Input resistance : $1k\Omega$ or more)	DC 4 ~ 20mA DC 0 ~ 20mA (Input resistance : $600M\Omega$ or less)	4 ~ 20mA / 0 ~ 20mA (Load resistance $\leq 510\Omega$)
Analog range Selection	-	-	-	XG 5000 I/O parameter
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($\pm 10V$)	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) 2.5mV	1/1600 0.250m(1~5V) 0.3125m(0~5V) 0.625m(0~10V) 1.250m($\pm 10V$)	1.0 μ A(4~20mA) 1.25 μ A(0~20mA)	Resolution (1/4000) 5 μ A
Max. conversion speed	1ms / channel	1ms / channel	-	1ms / channel
Max. absolute output	$\pm 15V$	-	-	$\pm 25mA$
Accuracy	$\pm 0.5\%$ or less	-	-	$\pm 0.5\%$ 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 DC 24V	110mA 70mA	75mA 170mA	110mA 120mA

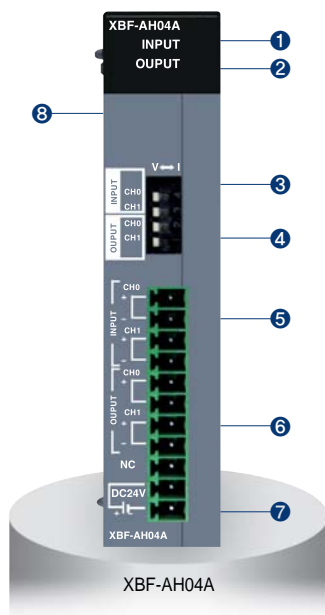
Names and Functions

No.	Name	Descriptions
①	RUN LED	<ul style="list-style-type: none"> Indicates condition of module LED On: Normal condition LED On and Off: Flickering LED Off: Power Off or module malfunction
②	Terminal block	External device connection
③	External power supply terminal	External DC 24V input

Wiring



Specification

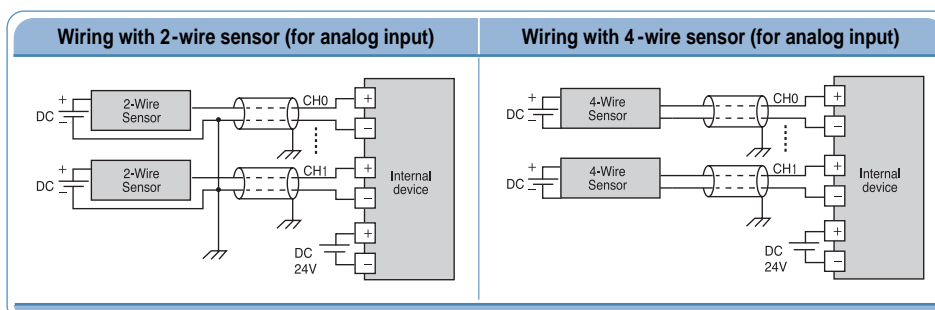


Item	XBF-AH04A	
	Input	Output
Analog channel	2 channels	2 channels
Analog range	DC 1 ~ 5V, DC 0 ~ 5V, DC 0 ~ 10V (Input resistance: 1 M Ω min.) DC 4 ~ 20mA, DC 0 ~ 20mA (Input resistance 250 Ω)	DC 1 ~ 5V, DC 0 ~ 5V, DC 0 ~ 10V (Load resistance \geq 2k Ω) DC 4 ~ 20mA, DC 0 ~ 20mA (Load resistance \leq 510 Ω)
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 μ A (DC 4~20mA, 0~20mA)	
Max. conversion speed	\pm 15V, 25mA	
Max. absolute output	1ms / Channel	
Accuracy	\pm 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

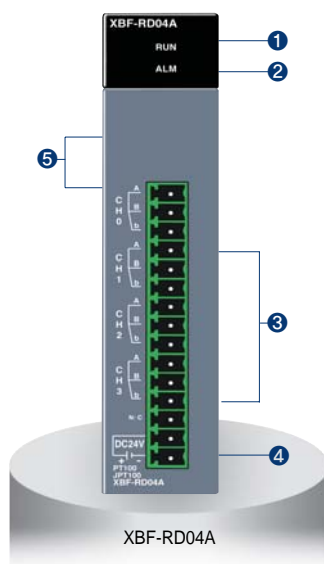
No.	Name	Descriptions
1	INPUT LED	<ul style="list-style-type: none"> Indicates input condition of module LED On: Normal condition LED On and Off: Flickering LED Off: Power Off or module malfunction
2	OUTPUT LED	<ul style="list-style-type: none"> Indicates output condition of module LED On: Normal condition 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



※ 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

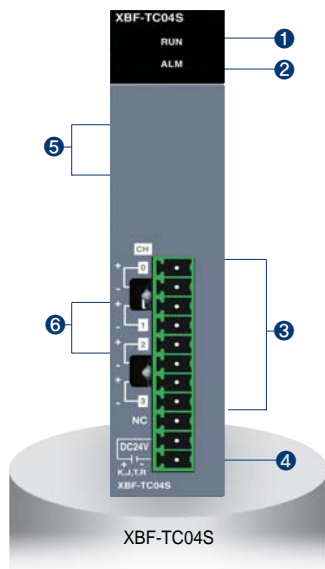
Names and Functions

No.	Name	Descriptions
1	RUN LED	<ul style="list-style-type: none"> ▶ Displays the hardware operation status (Fatal fault) <ul style="list-style-type: none"> • On: Normal status • Flickering: Error (0.2s flickering) • Off: hardware error or power off
2	ALM LED	<ul style="list-style-type: none"> ▶ Displays the status of the channels (Light fault) <ul style="list-style-type: none"> • 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

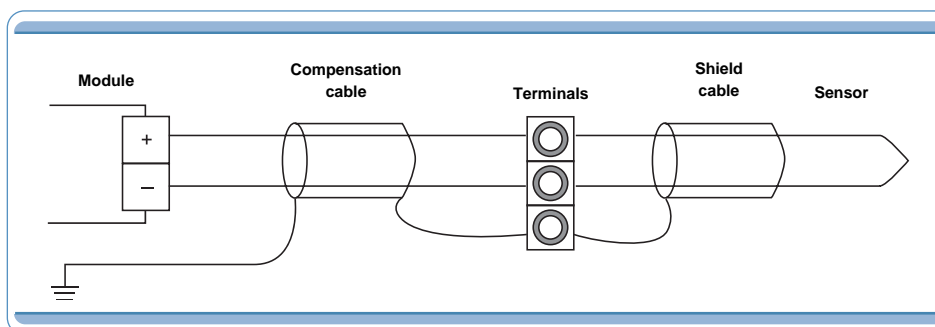


Item		XBF-TC04S
Number of channels		4
Input sensor type		Thermocouple K / J / T / R JIS C1602 - 1995
Temperature input range	K	- 200.0℃ ~ 1300.0℃ (- 328.0°F ~ 2372.0°F)
	J	- 200.0℃ ~ 1200.0℃ (- 328.0°F ~ 2192.0°F)
	T	- 200.0℃ ~ 400.0℃ (- 328.0°F ~ 752.0°F)
	R	0.0℃ ~ 1700.0℃ (32.0°F ~ 3092.0°F)
Digital 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 coefficient (0 ~ 55℃)	±100 ppm / °C
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

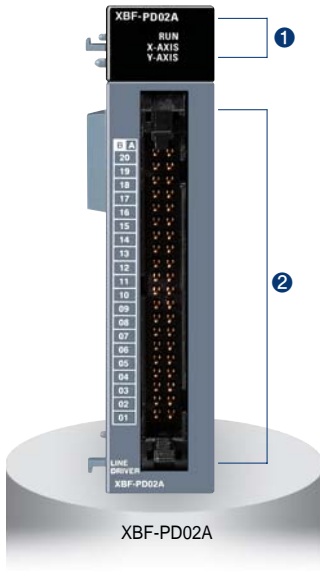
Names and Functions

No.	Name	Descriptions
1	RUN LED	<ul style="list-style-type: none"> ▶ Displays the hardware operation status (Fatal fault) • On: Normal status • Flickering: Error (0.2s flickering) • Off: hardware error or power off
2	ALM LED	<ul style="list-style-type: none"> ▶ 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

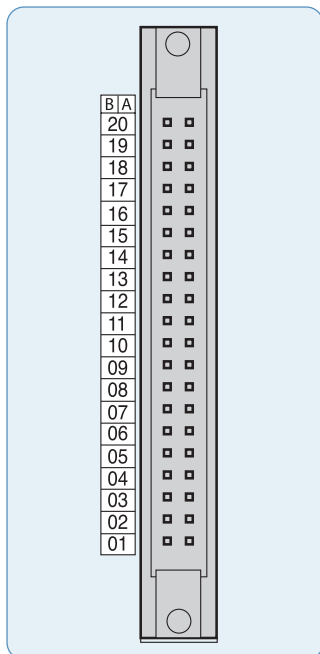


Item		XBF-PD02A
N0. of control axis		2 axis
Pulse output type		Line drive
Max. pulse output		2Mpps
Max. connection length		10m
Control mode		Position control, Speed control, Speed / Position switching control, Position / Speed switching control
Interpolation		Linear interpolation, Circular interpolation
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	<div>1. RUN</div> <div>2. X_AXIS, Y_AXIS</div> <div>► Displays the hardware operation status</div> <ul style="list-style-type: none"> On: Normal status Off: Abnormal status 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

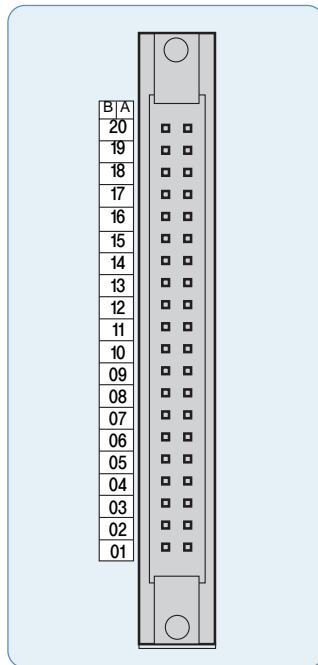


Item		Specification	
		XBF-H002A	XGF-HD02A
Count input signal	Signal	A-phase, B-phase	
	Input type	Voltage input (Open Collector)	Differential input (Line Drive):
	Signal level	DC 5/12/24V	RS-422A Line Drive/HTL LEVEL Line Drive
Maximum coefficient speed		200kpps	500kpps (HTL input : 250kpps)
Number 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	
	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: 0~60000ms),	
		Measurement of input frequency(for respective input phase), Measurement of counts per hour(time setting value: 0~60000ms)	
Terminal		40 pin connector	
I/O occupied points		Fixed point: 64	
Current consumption(mA)		200	260
Weight		90g	

Names and Functions

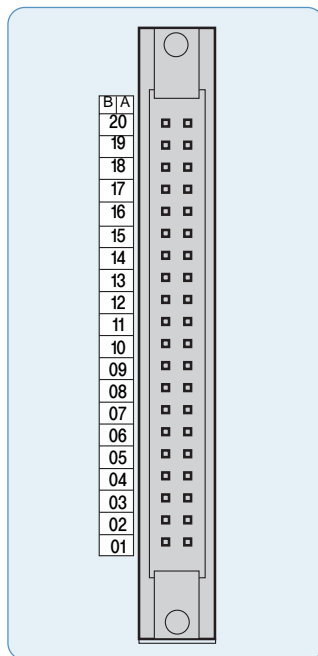
No.	Name	Descriptions
①	Run LED (ØA, ØB, P, G, 00, 01)	<ul style="list-style-type: none"> ▶ On: Relevant channel pulse inputting, Preset/Auxiliary function signal inputting, Outputting ▶ Off: No input of relevant channel pulse, No input of preset/ Auxiliary function signal, No output of comparison
	Ready signal (RDY)	<ul style="list-style-type: none"> ▶ On: HSC module normal ▶ Off: Power off or CPU module reset, HSC module error • Flicker: HSC module error
②	External wiring connector	Connector to connect with external I/O

Terminal (XBF-H002A)



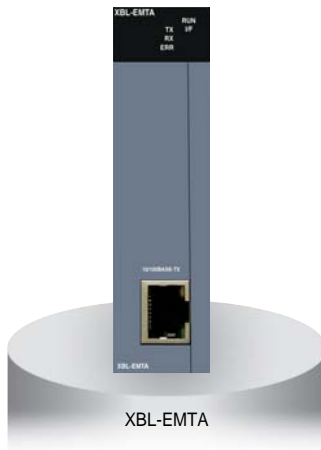
Pin arrangement		Signal name	
B ch1	A ch0		
20	20	A 24V	A phase pulse input 24V
19	19	A 12V	A phase pulse input 12V
18	18	A 5V	A phase pulse input 5V
17	17	A COM	A phase pulse input COM
16	16	B 24V	B phase pulse input 24V
15	15	B 12V	B phase pulse input 12V
14	14	B 5V	B phase pulse input 5V
13	13	B COM	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	OUT 0	Comparison output 0
03	03	OUT 1	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	OUT 0	Comparison output 0
03	03	OUT 1	Comparison output 1
02	02	24V	External power input 24V
01	01	24G	External power input GND

Ethernet (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	XGT Dedicated protocol Server/Client, Modbus/TCP Server/Client
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



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	Dedicated mode	1:1 or 1:N via the dedicated protocol			
	XG5000 mode	Program download, Upload and control via the remote control			
	P2P mode	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	$CRC\ 32 = X^{32} + X^{26} + X^{23} + \dots + X^2 + X + 1$
	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 distance between nodes	100m
	Access method to service zone	CSMA / CD
	Frame error check	$CRC\ 32 = X^{32} + X^{26} + X^{23} + \dots + X^2 + X + 1$
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

Profibus-DP Module (XBL-PMEC)



Item	XBL-PMEC	
Module Type	Master	
Network Type	Profibus-DP	
Standard	EN50170/DIN19245	
Interface	RS-485	
Transmission Route	Bus	
Modulation Type	NRZ(Non Return to Zero)	
MAC	Token Passing	
Max. Distance & Transmission Speed	Distance(m)	Transmission Speed(bps)
	1,200	9.6k/19.2k/93.75k/187.5k
	400	500k
	200	1.5M
	100	3M/6M/12M
Max. number of stations per network	64	
Max. number of stations per segment	32(including master & repeater)	
Cable used	Electric-twist shielded pair cable	
Max. input size per slave	244byte	
Max. output size per slave	244byte	
Max. input size of master	15,616 bytes(64 station x 244bytes/station)	
Max. output size of master	15,616 bytes(64 station x 244bytes/station)	
Communication Transmission cycle	10/20/50/100/200/500ms, 1/5/10s	
Communication Reception cycle	Main unit scan x 2 + Data reception time ² + Communication module scan	
Max. number of stations installations	2	
Communication Parameters to set	XG-PD, PROFICON	
Internal-consumed current(mA)	300	
Weight(g)	86 (including connector: 122)	

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	

Expansion | Option modules / Smart link

Programmable Logic Controller

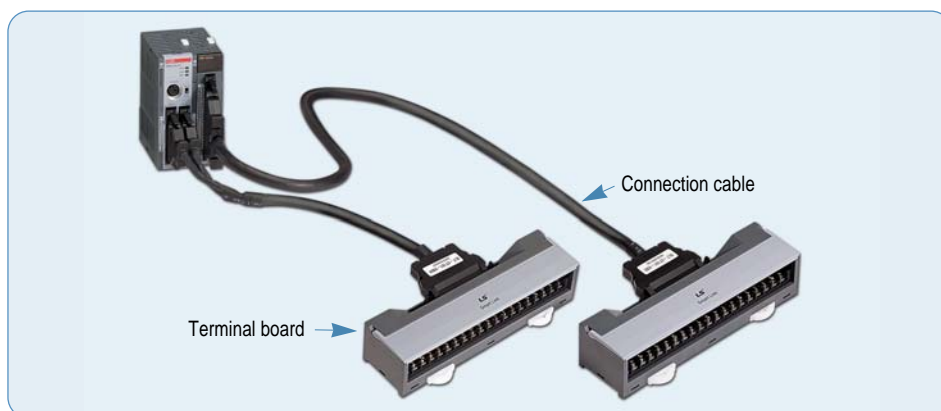
Option modules



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

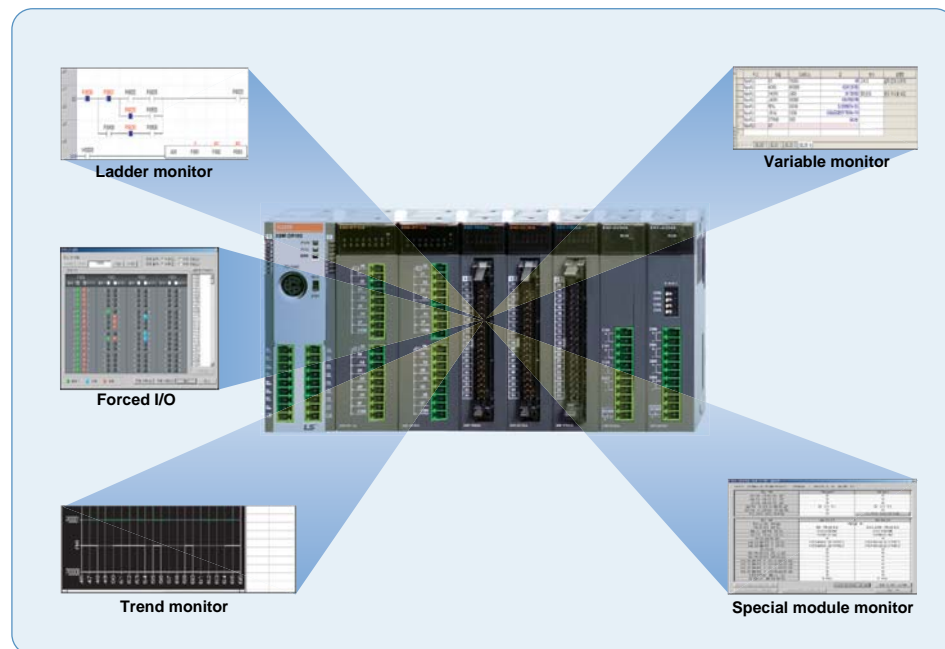


Terminal board	Connection cable	XBM-DN16S XBM-DN32S	XBE-DC32A	XBE-TN32A	XBE-TP32A	Cable length
TG7-1H40S (Terminal board)	R40H/20HH-05S-XBM3	●	—	—	—	0.5m
	R40H/20HH-10S-XBM3	●	—	—	—	1.0m
TG7-1H40CA (Terminal board, Common)	C40HH-05SB-XBI	—	●	●	●	0.5m
	C40HH-10SB-XBI	—	●	●	●	1.0m
	C40HH-15SB-XBI	—	●	●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

XG5000

(Programming software)

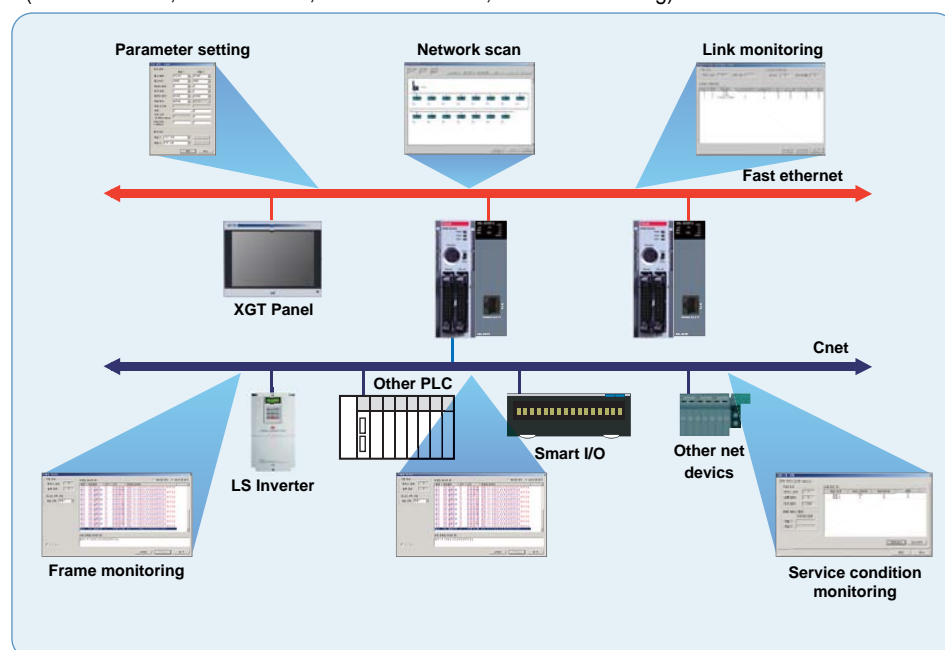
- Program editing & Engineering software
- Windows-based easy operation
- Multi-PLC, Multi-programming support
- Various monitoring and diagnosis functions
- Vista 2000, XP (Limited use in Windows 98, ME)



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 condition, Service condition, Frame monitoring)



Product list

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 (High performance type)	XBC/XEC-DR32H	AC 100 - 240V, DC24 input 16 points, relay output 16 points
	XBC/XEC-DR64H	AC 100 - 240V, DC24 input 32 points, relay output 32 points
	XBC/XEC-DN32H	AC 100 - 240V, DC24 input 16 points, transistor output 16 points (Sink)
	XBC/XEC-DN64H	AC 100 - 240V, DC24 input 32 points, transistor output 32 points (Sink)
	XEC-DP32H	AC 100 - 240V, DC24 input 16 points, transistor output 16 points (Source)
	XEC-DP64H	AC 100 - 240V, DC24 input 32 points, transistor output 32 points (Source)
	XBC-DR32H/DC	DC 24V, DC24 input 16 points, relay output 16 points
	XBC-DR64H/DC	DC 24V, DC24 input 32 points, relay output 32 points
	XBC-DN32H/DC	DC 24V, DC24 input 16 points, transistor output 16 points (Sink)
	XBC-DN64H/DC	DC 24V, DC24 input 32 points, transistor output 32 points (Sink)
	XEC-DR32H/D1	DC 12/24V, DC12/24 input 16 points, relay output 16 points
	XEC-DR64H/D1	DC 12/24V, DC12/24 input 32 points, relay output 32 points
Block type unit (Standard type)	XBC/XEC-DR20SU	AC 100 - 240, DC24V input 12 points, relay output 8 points
	XBC/XEC-DR30SU	AC 100 - 240, DC24V input 18 points, relay output 12 points
	XBC/XEC-DR40SU	AC 100 - 240, DC24V input 24 points, relay output 16 points
	XBC/XEC-DR60SU	AC 100 - 240, DC24V input 36 points, relay output 24 points
	XBC/XEC-DN20SU	AC 100 - 240, DC24V input 12 points, transistor output 8 points (Sink)
	XBC/XEC-DN30SU	AC 100 - 240, DC24V input 18 points, transistor output 12 points (Sink)
	XBC/XEC-DN40SU	AC 100 - 240, DC24V input 24 points, transistor output 16 points (Sink)
	XBC/XEC-DN60SU	AC 100 - 240, DC24V input 36 points, transistor output 24 points (Sink)
	XBC/XEC-DP20SU	AC 100 - 240, DC24V input 12 points, transistor output 8 points (Source)
	XBC/XEC-DP30SU	AC 100 - 240, DC24V input 18 points, transistor output 12 points (Source)
	XBC/XEC-DP40SU	AC 100 - 240, DC24V input 24 points, transistor output 16 points (Source)
	XBC/XEC-DP60SU	AC 100 - 240, DC24V input 36 points, transistor output 24 points (Source)
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

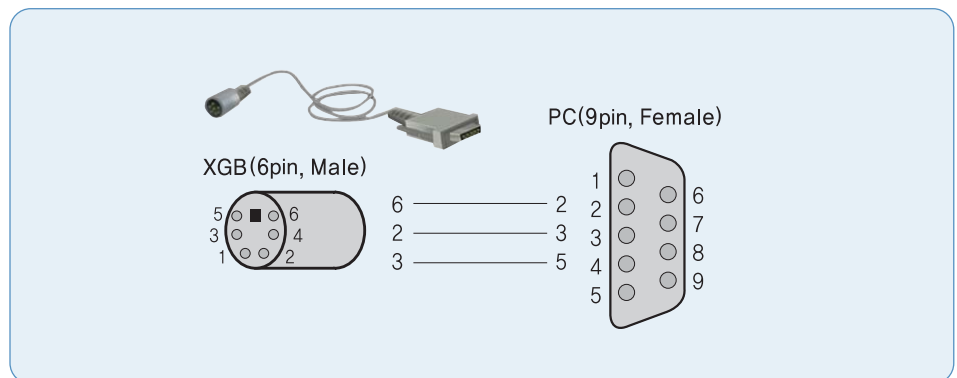
Product list

Item	Model	Specifications
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)
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	RAPIDnet, 2 ch
	XBL-EIPT	Ethernet/IP, 2 ch
	XBL-EIMF	RAPIDnet I/F, Max. 2km(Fiber 2ch.), 100Mbps
	XBL-EIMH	RAPIDnet I/F(Twisted pair 1ch, Fiber 2 ch.), 100Mbps
	XBL-PMEC	Profibus-DP, Master, RS-485
	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

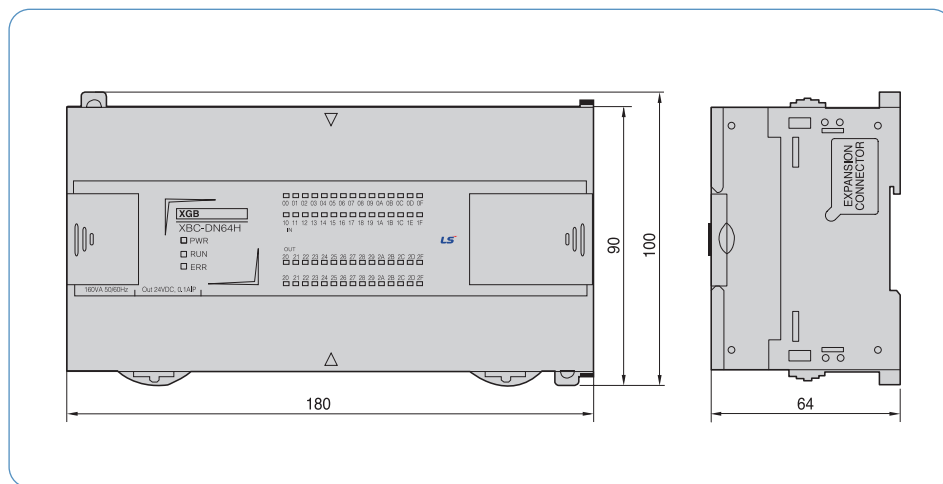
Terminal board	Connection cable	XBM-DN16S XBM-DN32S	XBE-DC32A	XBE-TN32A	XBE-TP32A	Cable length
TG7-1H40S (Terminal board)	R40H/20HH-05S-XBM3	●	—	—	—	0.5m
	R40H/20HH-10S-XBM3	●	—	—	—	1.0m
TG7-1H40CA (Terminal board, Common)	C40HH-05SB-XBI	—	●	●	●	0.5m
	C40HH-10SB-XBI	—	●	●	●	1.0m
	C40HH-15SB-XBI	—	●	●	●	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

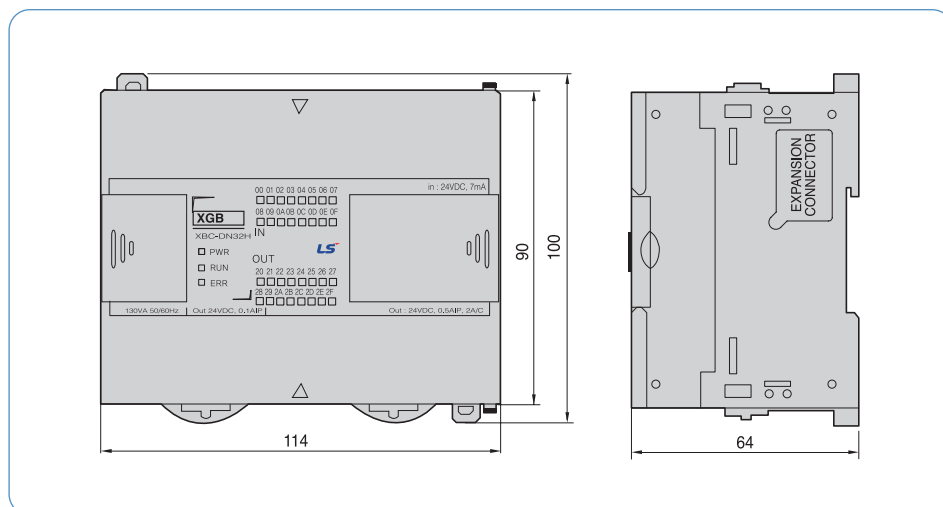


Block type unit

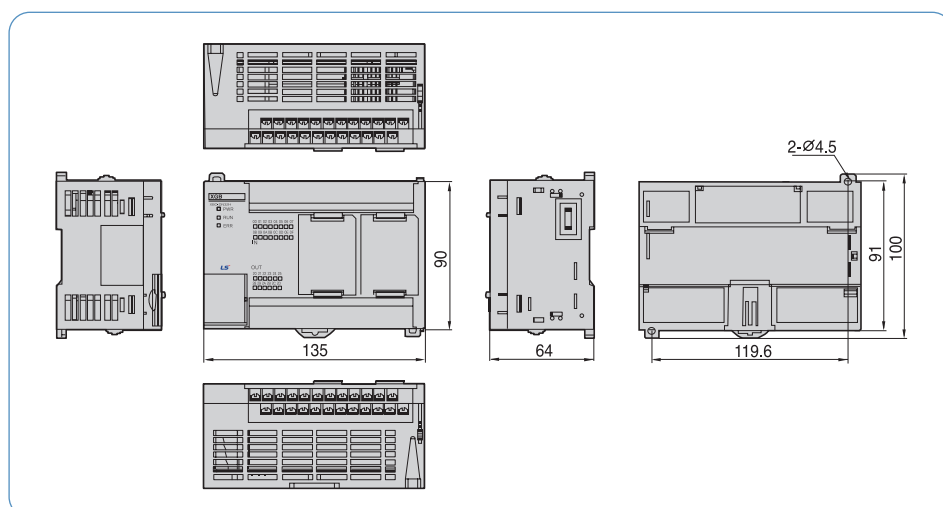
XBC/XEC-H type



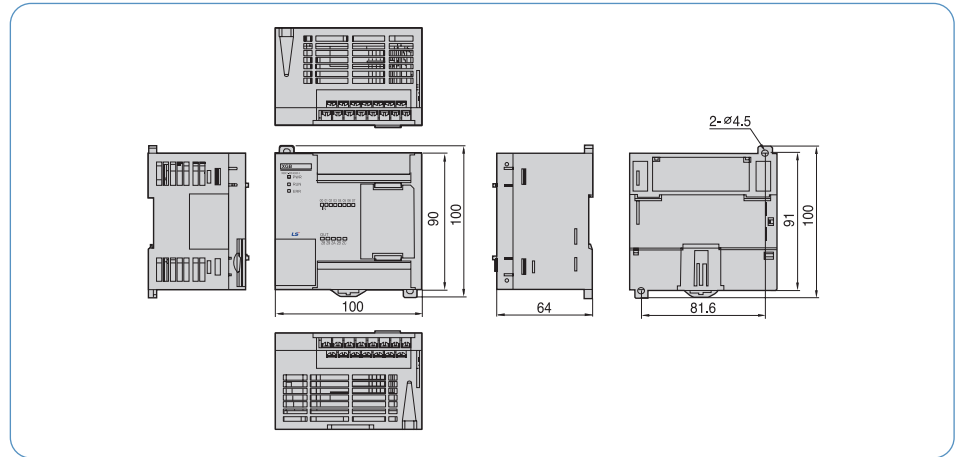
XBC/XEC-H type



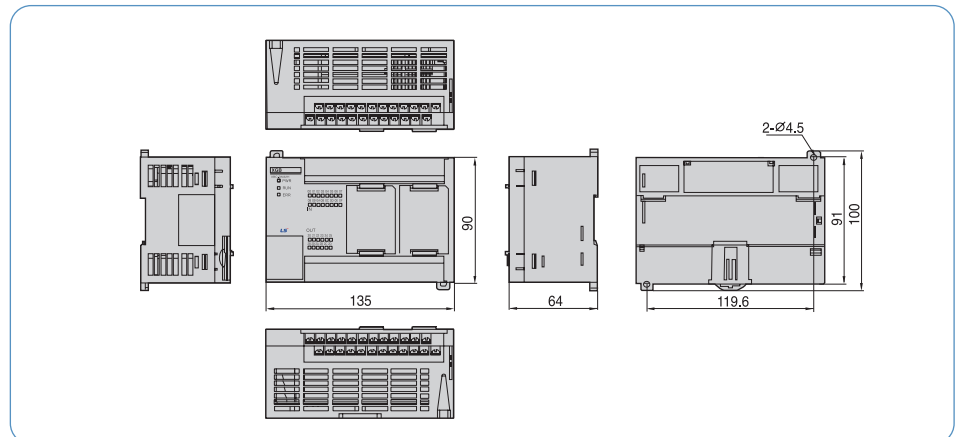
XBC/XEC-SU type



XBC-E type

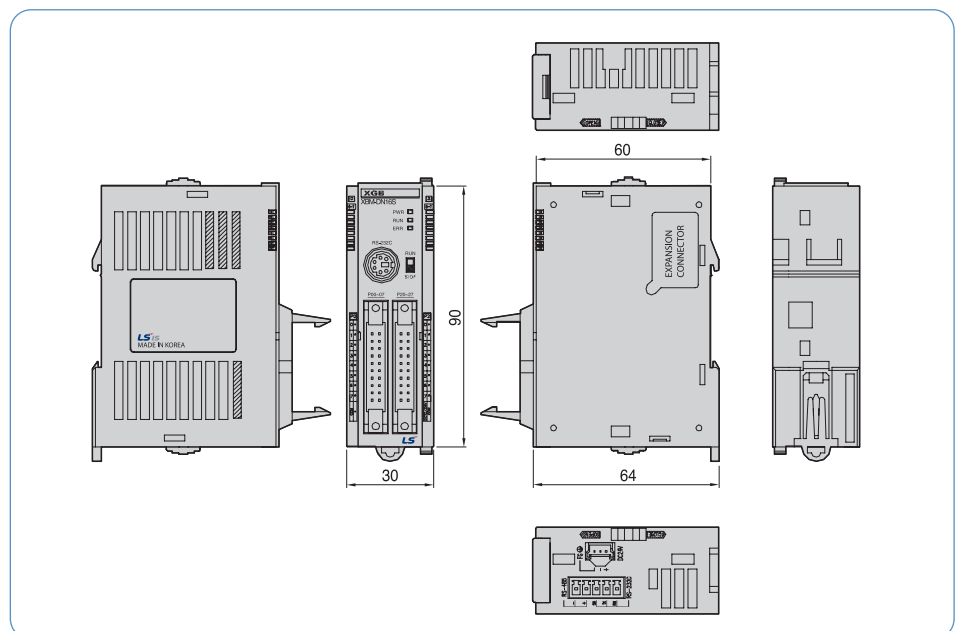


XBC-E type



Modular type unit

XBM-S type



Worldwide Network

Head Office and Domestic Factories (Cheongju, Cheonan, Busan)

Domestic Factories

- **Head Office**
LS Tower, 127, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-Do, 431-848, Korea
Tel : 82-2-2034-4870 Fax : 82-2-2034-3660-7021
- **Cheongju Factory**
1 Songjeong-dong, Cheongju-si, Chungbuk-do, 361-720, Korea
Tel : 82-43-261-6114 Fax : 82-43-261-6602
- **Cheonan Factory**
181 Samseong-ri, Mokcheon-myeon, Cheonan-si Chungnam-do, 330-840 Korea
Tel : 82-41-550-8114 Fax : 82-41-566-8408
- **Busan Factory**
1-19 Block Hwajeon-dong, Gangseo-gu, Busan, 618-280, Korea
Tel : 82-51-795-6114 Fax : 82-51-795-6169

Overseas Factories

- **Wuxi Factory, CHINA**
102-A. National High & New Tech Industrial Development Area, Wuxi. Jiangsu. 214028. P.R. China
Tel : 86-510-8534-6666 Fax : 86-510-8534-4078
- **Dalian Factory, CHINA**
No. 15. Liaohexi 3-Road. Economic and Technical Development zone. Dalian 116600. China
Tel : 86-411-273-7777 Fax : 86-411-8730-7560
- **Hanoi Factory, VIETNAM**
Room 1311, 13th Floor, M3-M4 Building 91 Nguyen Chi Thanh street, Hanoi, Vietnam.
Tel : 84-4-6275-8055 Fax : 84-4-6275-8056

R&D Center

- **Advanced Technology R&D Center**
533 Hogye-dong, Dongan-gu, Anyang-si, Gyeonggi-do, 431-749, Korea
Tel : 82-31-450-7114
- **Electro Technology R&D Center**
1 Songjeong-dong, Cheongju-si, Chungcheongbuk-do, 361-720, Korea
Tel : 82-43-261-6114
- **Automation R&D Center**
181 Samseong-ri, Mokcheon-myeon, Cheonan-si, Chungcheongnam-do, 330-840, Korea
Tel : 82-41-550-8272
- **Power Testing & Technology Institute**
1 Songjeong-dong, Cheongju-si, Chungcheongbuk-do, 361-720, Korea
Tel : 82-43-261-6114

Cheongju Factory



Wuxi Factory (China)



Cheonan Factory



Dalian Factory (China)

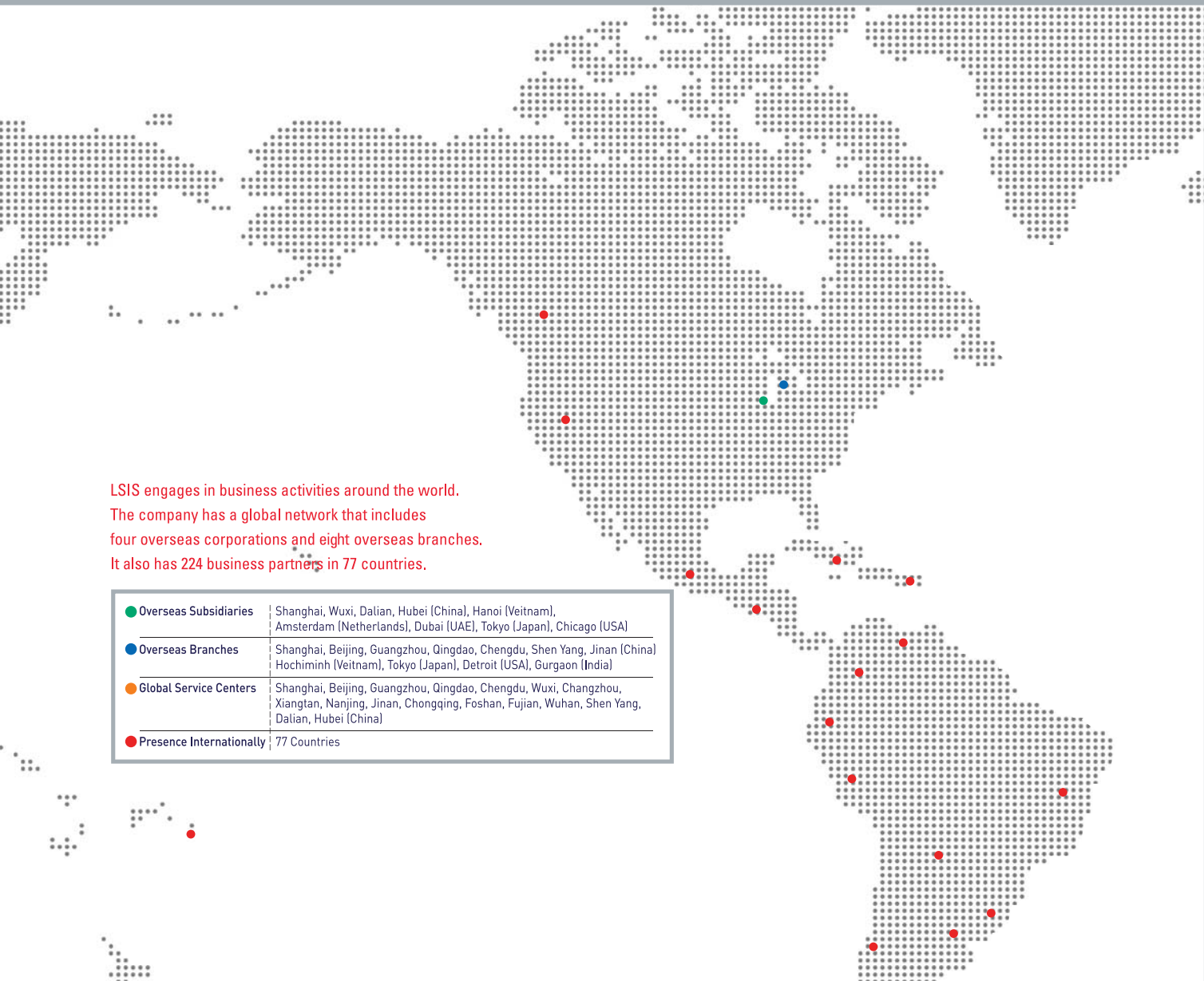


Busan Factory



Hanoi Factory (Vietnam)





LSIS engages in business activities around the world.
The company has a global network that includes
four overseas corporations and eight overseas branches.
It also has 224 business partners in 77 countries.

● Overseas Subsidiaries	Shanghai, Wuxi, Dalian, Hubei (China), Hanoi (Vietnam), Amsterdam (Netherlands), Dubai (UAE), Tokyo (Japan), Chicago (USA)
● Overseas Branches	Shanghai, Beijing, Guangzhou, Qingdao, Chengdu, Shen Yang, Jinan (China) Hochiminh (Vietnam), Tokyo (Japan), Detroit (USA), Gurgaon (India)
● Global Service Centers	Shanghai, Beijing, Guangzhou, Qingdao, Chengdu, Wuxi, Changzhou, Xiangtan, Nanjing, Jinan, Chongqing, Foshan, Fujian, Wuhan, Shen Yang, Dalian, Hubei (China)
● Presence Internationally	77 Countries

Overseas Subsidiaries

- LSIS(Shanghai) Co., Ltd. / CHINA
32nd Room 1-4, 32/F, Great Wall Building, No.3000 North Zhongshan Road, Putuo District, Shanghai, P.R. China
Tel : 86-21-5237-9977(609) Fax : 86-21-5237-7189
- LSIS(Dalian) Co., Ltd. / CHINA
No. 15, Liaohexi 3-Road, Economic and Technical Development zone, Dalian, P.R. China
Tel : 86-411-8731-7542 Fax : 86-411-8730-7560 E-Mail : dskim@lsis.com
- LSIS(Wuxi) Co., Ltd. / CHINA
102-A, National High & New Tech Industrial Development Area, Wuxi, Jiangsu, P.R. China
Tel : 86-510-8534-6666 Fax : 86-510-8534-4078 E-Mail : sojin@lsis.com
- LS Hukai Electric(Hubei) Co., Ltd. / CHINA
No. 100, Tanjahe Road, Dianjun District, Yichang City, Hubei Province, P.R. China
Tel : 86-717-667-7536 Fax : 86-717-667-7222 E-Mail : jaewoongh@lsis.com
- LS-VINA Industrial Systems Co., Ltd. / VIETNAM
Room 1311, 13th, M3-M4 Building 91 Nguyen Chi Thanh street, Hanoi, Vietnam
Tel : 84-4-6275-8055 Fax : 86-21-5237-7189
- LSIS[ME] FZE / U.A.E.
LOB 19-205, JAFZA View Tower, Jebel Ali Free Zone, Dubai, United Arab Emirates
Tel : 971-4-886-5360 Fax : 971-4-886-5361 E-Mail : shunlee@lsis.com
- LSIS Europe B.V. / NETHERLANDS
1st. Floor, Tupolevlaan 48, 1119NZ, Schiphol-Rijk, The Netherlands
Tel : 31-20-654-1420 Fax : 31-20-654-1429 E-Mail : junshickp@lsis.com
- LSIS Japan Co., Ltd. / JAPAN
16th, Higashi-Kan, Akasaka Twin Tower, 2-17-22, Akasaka, Minato-ku, Tokyo, Japan
Tel : 81-3-3582-9128 Fax : 81-3-3582-2667 E-Mail : jschuna@lsis.com
- LSIS USA Inc. / U.S.A.
2000 Millbrook Drive, Lincolnshire, Chicago, IL 60069, United States of America
Tel : 847-941-8240 Fax : 847-941-8259

Overseas Branches

- LSIS Shanghai Office / CHINA
Room E-G, 12th, Huamin Empire Plaza, No.726, West Yan'an Road, Shanghai, P.R. China
Tel : 86-21-5237-9977(702) Fax : 86-21-5237-7189
- LSIS Beijing Office / CHINA
Room 2306, Building B Landgent Center, No.24 Middle Road, East 3rd Ring Road, Chaoyang District, Beijing, P.R. China
Tel : 86-10-5761-3127 Fax : 86-10-5761-3128 E-Mail : htroh@lsis.com
- LSIS Guangzhou Office / CHINA
Room 1403, 14th, New Poly Tower, 2 Zhongshan Liu Road, Guangzhou, P.R. China
Tel : 86-20-8326-6784 Fax : 86-20-8326-6287 E-Mail : sojhtroh@lsis.com
- LSIS Qingdao Office / CHINA
Room 2001, Galaxy Building, 29 ShanDong Road, ShiNan District, QingDao, ShanDong, P.R. China
Tel : 86-532-8501-6058 Fax : 86-532-8501-6057 E-Mail : htroh@lsis.com
- LSIS Chengdu Office / CHINA
Room1710, 17/F Huamin Empire Plaza, NO.1 Fuxin Road, Chengdu, P.R. China
Tel : 86-28-8670-3201 Fax : 86-28-8670-3203 E-Mail : yangcf@lsis.com
- LSIS ShenYang Office / CHINA
Room 803, Hongyuan Building, 52 South Nanjing Road, Heping District, Shenyang, P.R. China
Tel : 86-24-2321-9050 Fax : 86-24-8386-7210 E-Mail : yangcf@lsis.com
- LSIS Jinan Office / CHINA
Room 417, Chuangzhan Center, No. 201, Shanda Road, Lixia District, Jinan, Shandong, P. R. China
Tel : 86-531-8263-8026 Fax : 86-531-8263-8027 E-Mail : yangcf@lsis.com
- LSIS Tokyo Office / JAPAN
16th, Higashi-Kan, Akasaka Twin Tower, 2-17-22, Akasaka, Minato-ku, Tokyo, Japan
Tel : 81-3-3582-9128 Fax : 81-3-3582-2667
- LS-VINA Industrial Systems Hochiminh Office / VIETNAM
4th, Yoco Building, 41 Nguyen Thi Minh Khai Street, Hochiminh City, Vietnam
Tel : 84-8-3822-7941 Fax : 81-84-8-3822-7942 E-Mail : sjbaik@lsis.com
- LSIS Detroit Office / U.S.A.
5700 Crooks Rd, Suite 211, Troy, MI 48098, United States of America
Tel : 1-248-792-2637-8 Fax : 1-248-792-2642t E-Mail : syllee@lsis.com
- LSIS Gurgaon Office / INDIA
109 First Floor, Park Central, Sector-30, Gurgaon- 122 002, Haryana, India
Tel : +0091-124-493-0070 Fax : 91-1244-930-066 E-Mail : hwyim@lsis.com

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.

LSIS Co., Ltd.

© 2006. LSIS Co., Ltd. All Rights Reserved.

HEAD OFFICE

LS Tower, 127, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-Do, 431-848, Korea

- **Asia/South America** +82-2-2034-4888 cshwang@lsis.com (Charles Hwang)
- **Western Europe** +82-2-2034-4676 sukyong@lsis.com (Brian Choi)
- **CIS / Turkey / Eastern Europe / Israel** +82-2-2034-4879 dkimc@lsis.com (Daniel Kim)
- **North America** +82-2-2034-4471 pikwon@lsis.com (Paul Inbeom Kwon)
- **Oceania** +82-2-2034-4394 kacho@lsis.com (Kendra Cho)
- **Africa** +82-2-2034-4467 myleed@lsis.com (Henry Lee)
- **Middle East** +971-4-886-5360 khchoi1@lsis.com (Lambert Choi)

Overseas Subsidiaries

- **LSIS(Shanghai) Co., Ltd. /CHINA**
32nd Room 1-4, 32/F, Great Wall Building, No.3000 North Zhongshan Road, Putuo District, Shanghai, P.R. China
Tel : 86-21-5237-9977(609) Fax : 86-21-5237-7189
- **LSIS(Dalian) Co., Ltd. /CHINA**
No. 15, Liaohexi 3-Road, Economic and Technical Development zone, Dalian, P.R. China
Tel : 86-411-8731-7542 Fax : 86-411-8730-7560 E-Mail : dskim@lsis.com
- **LSIS(Wuxi) Co., Ltd. /CHINA**
102-A, National High & New Tech Industrial Development Area, Wuxi, Jiangsu, P.R. China
Tel : 86-510-8534-6666 Fax : 86-510-8534-4078 E-Mail : sojin@lsis.com
- **LS Hukai Electric(Hubei) Co., Ltd./CHINA**
No. 100, Tanjahe Road, Dianjun District, Yichang City, Hubei Province, P.R. China
Tel : 86-717-667-7536 Fax : 86-717-667-7222 E-Mail : jaewoongh@lsis.com
- **LS-VINA Industrial Systems Co., Ltd./VIETNAM**
Room 1311, 13th, M3-M4 Building 91 Nguyen Chi Thanh street, Hanoi, Vietnam
Tel : 84-4-6275-8055 Fax : 86-21-5237-7189
- **LSIS(ME) FZE/U.A.E.**
LOB 19-205, JAFZA View Tower, Jebel Ali Free Zone, Dubai, United Arab Emirates
Tel : 971-4-886-5360 Fax : 971-4-886-5361 E-Mail : shunlee@lsis.com
- **LSIS Europe B.V./NETHERLANDS**
1st. Floor, Tupolevlaan 48, 1119NZ, Schiphol-Rijk, The Netherlands
Tel : 31-20-654-1420 Fax : 31-20-654-1429 E-Mail : junshickp@lsis.com
- **LSIS Japan Co., Ltd./JAPAN**
16th, Higashi-Kan, Akasaka Twin Tower, 2-17-22, Akasaka, Minato-ku, Tokyo, Japan
Tel : 81-3-3582-9128 Fax : 81-3-3582-2667 E-Mail : jschuna@lsis.com
- **LSIS USA Inc./U.S.A.**
2000 Millbrook Drive, Lincolnshire, Chicago, IL 60069, United States of America
Tel : 847-941-8240 Fax : 847-941-8259

Overseas Branches

- **LSIS Shanghai Office/CHINA**
Room E-G, 12th, Huamin Empire Plaza, No.726, West Yan'an Road, Shanghai, P.R. China
Tel : 86-21-5237-9977(702) Fax : 86-21-5237-7189
- **LSIS Beijing Office/CHINA**
Room 2306, Building B Landgent Center, No.24 Middle Road, East 3rd Ring Road, Chaoyang District, Beijing, P.R. China
Tel : 86-10-5761-3127 Fax : 86-10-5761-3128 E-Mail : htroh@lsis.com
- **LSIS Guangzhou Office/CHINA**
Room 1403, 14th, New Poly Tower, 2 Zhongshan Liu Road, Guangzhou, P.R. China
Tel : 86-20-8326-6784 Fax : 86-20-8326-6287 E-Mail : sojhtroh@lsis.com
- **LSIS Qingdao Office/CHINA**
Room 2001, Galaxy Building, 29 ShanDong Road, ShiNan District, QingDao, ShanDong, P.R. China
Tel : 86-532-8501-6058 Fax : 86-532-8501-6057 E-Mail : htroh@lsis.com
- **LSIS Chengdu Office/CHINA**
Room1710, 17/F Huamin Empire Plaza, NO.1 Fuxin Road, Chengdu, P.R. China
Tel : 86-28-8670-3201 Fax : 86-28-8670-3203 E-Mail : yangcf@lsis.com
- **LSIS ShenYang Office/CHINA**
Room 803, Hongyuan Building, 52 South Nanjing Road, Heping District, Shenyang, P.R. China
Tel : 86-24-2321-9050 Fax : 86-24-8386-7210 E-Mail : yangcf@lsis.com
- **LSIS Jinan Office/CHINA**
Room 417, Chuangzhan Center, No. 201, Shanda Road, Lixia District, Jinan, Shandong, P. R. China
Tel : 86-531-8263-8026 Fax : 86-531-8263-8027 E-Mail : yangcf@lsis.com
- **LSIS Tokyo Office/JAPAN**
16th, Higashi-Kan, Akasaka Twin Tower, 2-17-22, Akasaka, Minato-ku, Tokyo, Japan
Tel : 81-3-3582-9128 Fax : 81-3-3582-2667
- **LS-VINA Industrial Systems Hochiminh Office/VIETNAM**
4th, Yoco Building, 41 Nguyen Thi Minh Khai Street, Hochiminh City, Vietnam
Tel : 84-8-3822-7941 Fax : 81-84-8-3822-7942 E-Mail : sjbaik@lsis.com
- **LSIS Detroit Office/U.S.A.**
5700 Crooks Rd, Suite 211, Troy, MI 48098, United States of America
Tel : 1-248-792-2637-8 Fax : 1-248-792-2642 E-Mail : syllee@lsis.com
- **LSIS Gurgaon Office/INDIA**
109 First Floor, Park Central, Sector-30, Gurgaon- 122 002, Haryana, India
Tel : +0091-124-493-0070 Fax : 91-1244-930-066 E-Mail : hwyim@lsis.com

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