DC Input specification

XBE-DN32A

Model Specification	DC input module XBE-DN32A	
Input point	16 point	
Insulation method	Photo coupler insulation	
Rated input voltage	DC24V	
Rated input current	About 4mA	
Input Derating	DC20.4~28.8V (ripple rate < 5%)	
Operation voltage range	Refer to Derating diagram	
On voltage / On current	DC 19V or higher / 3 mA or higher	
Off voltage / Off current	DC 6V or less / 1mA or less	
Input resistance	About 5.6 $k\Omega$	
Response time	Off → On	1/3/5/10/20/70/100 ms (set by CPU parameter) Default:3 ms
	On → Off	
Insulation pressure	AC 560Vrms / 3 Cycle (altitude 2000m)	
Insulation resistance	10 $M\Omega$ or more by Megohmmeter	
Common method	16 point / COM	
Proper cable size	0.3 mm^2	
Current consumption	60 mA (When all inputs and outputs are on)	
Operation indicator	Input On, LED On	
External connection method	40 pin connector	
Weight	60g	

Transistor specification

Model Specification	Main unit XBE-DN32A	
Output point	8 point	
Insulation method	Photo coupler insulation	
Rated voltage	DC12/24V	
Rated current	About 4mA	
Operation voltage range	DC10.2~26.4V	
Max. load voltage	0.2A / 1 point, 2A / 1COM	
Off leakage current	0.1mA or less	
Max. load voltage	0.7A / 10ms or less	
Max. voltage drop (On)	DC 0.4V or less	
Surge absorber	TVS Diode	
Response time	Off → On	1 ms or less
	On → Off	1 ms or less (Rated load, resistive load)
Common method	32 point / COM	
Proper cable size	0.3 mm^2	
Current consumption	60mA (when all point On)	
External power	Voltage	DC12/24V 10% (ripple voltage 4 Vp-p or less)
	Current	20mA or less (connecting DC24V)
Operation indicator	LED On when output On	
External connection method	40 pin terminal block connector	
Weight	60g	

Wiring
(XBE-DN32A)

16-points DC Input	16-points Transistor Output
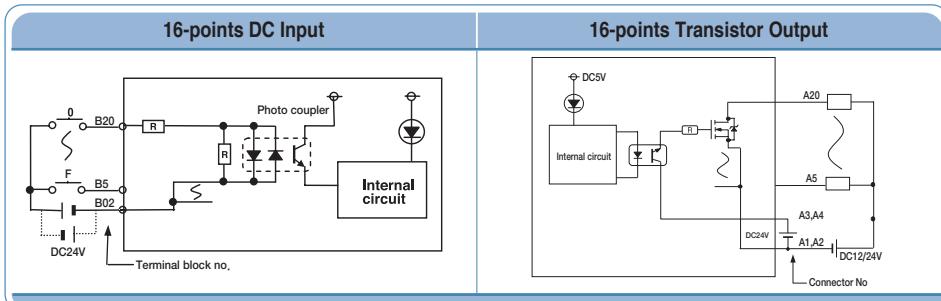
Specification
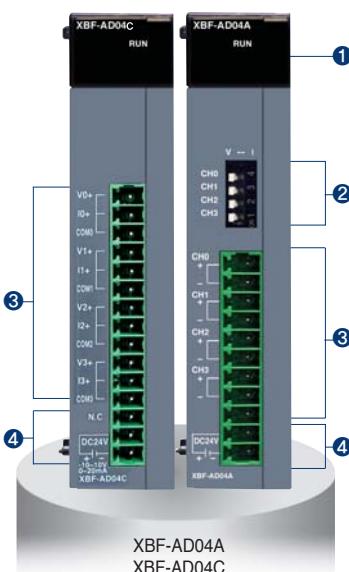
XBF-AD04A
XBF-AD04C

Item		XBF-AD04A		XBF-AD04C		XBF-AD08A	
	Item	Voltage	Current	Voltage	Current	Voltage	Current
Analog range	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	
	Range — Signed value	-2000~2000		-8000~8000		-2000~2000	
	Range — 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)
	Range — 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
❶	RUN LED	▶ Indicates condition of module • LED On: Normal condition • LED On and Off: Flickering • LED Off: Power Off or module malfunction
❷	Input selection S/W	▶ Voltage /Current selection switch • V: Voltage input selection • I: Current input selection
❸	Terminal block	▶ External device connection
❹	External power supply terminal	▶ External DC 24V input

Wiring

Wiring with 2-wire sensor	Wiring with 4-wire sensor
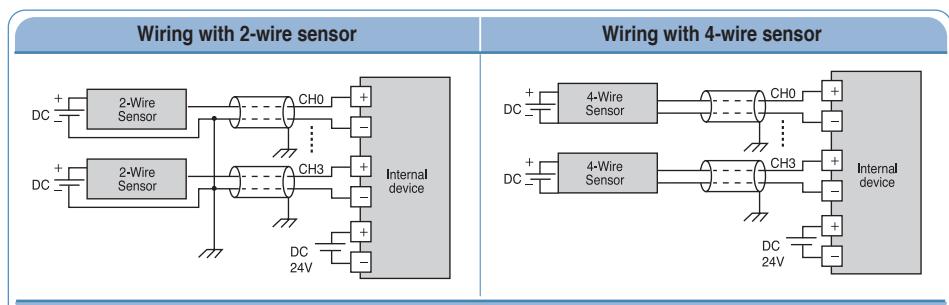
※Use 22AWG, 2 conductor, twist shielded cable when wiring between analog module and external device.

Specification

XBF-DV04A
XBF-DV04C
XBF-DC04C
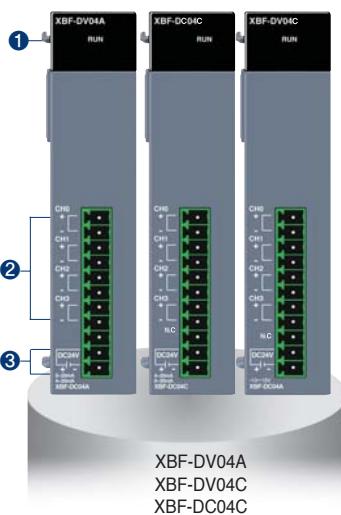
Item		XBF-DV04A	XBF-DV04C	XBF-DC04C	XBF-DC04A
Analog range		DC 0 ~ 10 V (Load resistance ≥ 2kΩ)	DC 1 ~ 5V DC 0 ~ 5V DC 0 ~ 10V DC -10 ~ 10V (Input resistance : 1kΩ or more)	DC 4 ~ 20mA DC 0 ~ 20mA (Input resistance : 600MΩ or less)	4 ~ 20mA / 0 ~ 20mA (Load resistance ≤510Ω)
Analog range Selection		–	–		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

| Analog Input/Analog Output

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 1 ~ 5V, DC 0 ~ 5V, DC 0 ~ 10V (Load resistance ≥ 2kΩ)
	DC 4 ~ 20mA, DC 0 ~ 20mA (Input resistance 250Ω)	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	
Digital data — Signed value	-2000 ~ 2000	
Digital data — 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)	
Digital data — Percentile value	0 ~ 1000	
Resolution (1/4000)	1.25mV (DC 1~5V, 0~5V), 2.5mV (DC 0~10V) 5μA (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	
Current consumption — DC 24V	130mA	

Names and Functions

No.	Name	Descriptions
❶	INPUT LED	▶ Indicates input condition of module • LED On: Normal condition • LED On and Off: Flickering • LED Off: Power Off or module malfunction
❷	OUTPUT LED	▶ Indicates output condition of module • LED On: Normal condition • LED On and Off: Flickering • LED Off: Power Off or module malfunction
❸	Input selection S/W	▶ Voltage / Current selection switch for input
❹	Output selection S/W	▶ Voltage / Current selection switch for output
❺	Terminal block	▶ Terminal for external input device
❻		▶ Terminal for external output device
❼	External power supply terminal	▶ Terminal for external DC 24V input
❽	Expansion connector	▶ Terminal for expansion

Wiring
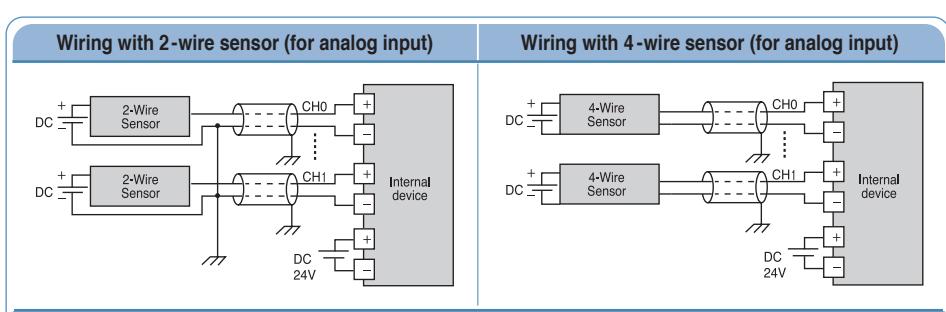
| Wiring with 2-wire sensor (for analog input)	Wiring with 4-wire sensor (for analog input)

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

APPLICSTION

Specification
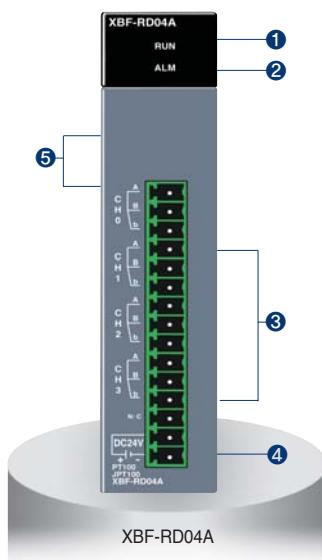
XBF-RD04A

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
❶	RUN LED	▶ Displays the hardware operation status (Fatal fault) • On: Normal status • Flickering: Error (0.2s flickering) • Off: hardware error or power off
❷	ALM LED	▶ Displays the status of the channels (Light fault) • Flickering: Line disconnection (1s flickering) • Off: Normal status
❸	Terminal block	▶ 3-wire RTD sensors can be connected
❹	External power terminal	▶ Supplies the external DC 24V
❺	Expansion connector	▶ Connects the module with an expansion module

Wiring

2 - wire	3 - wire	4 - wire

| Thermocouple
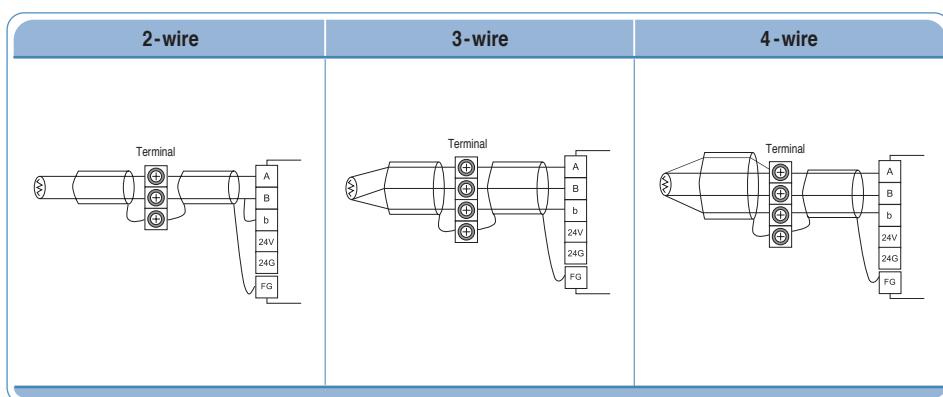
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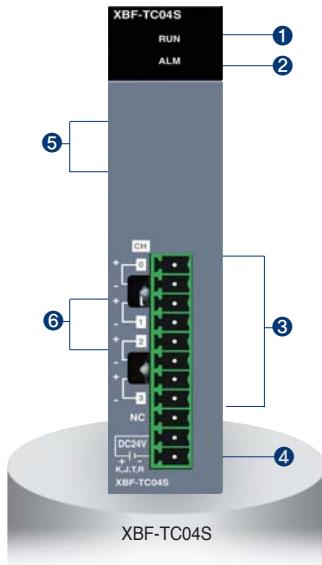
XBF-TC04S

| 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
❶	RUN LED	▶ Displays the hardware operation status (Fatal fault) 　• On: Normal status 　• Flickering: Error (0.2s flickering) 　• Off: hardware error or power off
❷	ALM LED	▶ Displays the status of the channels (Light fault) 　• Flickering: Line disconnection (1s flickering) 　• Off: Normal status
❸	Terminal block	▶ Terminals to connect the thermo-couple sensor
❹	External power terminal	▶ Terminals to supply the external DC 24V
❻	RJC	▶ Device for Reference Junction Compensation

Wiring
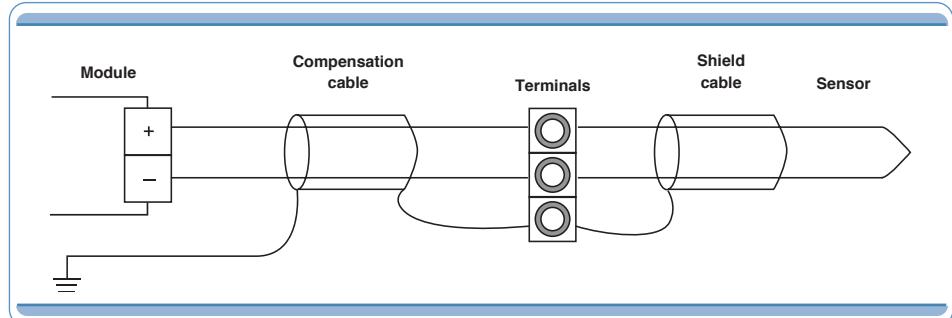
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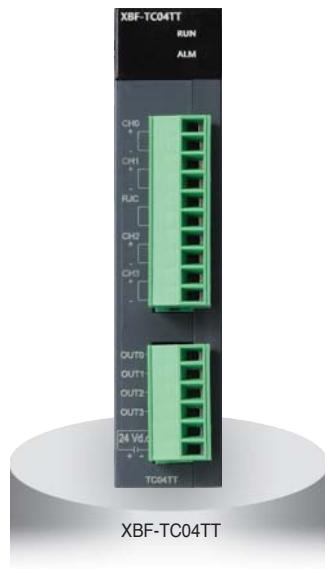
XBF-TC04TT

Item			XBF-TC04TT
Control loop			4 loop
Thermocouple type and input range	K		-200.0 ~ 1300.0 ℃
			0.0 ~ 500.0 ℃
	J		-200.0 ~ 1200.0 ℃
			0.0 ~ 500.0 ℃
	T		-200.0 ~ 800 ℃
Precision	Standard precision		±0.2% or less (25 ℃, normal temperature, except -200~-100 ℃ for the T type)
	Temperature coefficient		±100ppm/ ℃(0.01%/ ℃)
Cold junction compensation	Compensation method		Automatic compensation by RJC sensing
	Compensation degree		±2.0 ℃
Sampling period			500ms/ 4 loop
Control method			PID CONTROL, ON/OFF CONTROL
Control parameter	Target value (SV)		Setting within range according to input type (temperature unit setting)
	Proportional gain		0: ON/OFF CONTROL, REAL
	Integral time		0: Except integral control, REAL
	Derivative time		0: Except derivative control, REAL
Transistor output	Output point		4
	Rated load voltage		DC 24 V
	Max. load current		0.1 A / Output point
	Max. voltage drop when on		DC 1.2 V or less
	Leakage current when off		0.1 mA or less
	Response time	On => Off	1 ms or less
		Off => On	1 ms or less
	Control output cycle		0.5 ~ 120.0 sec (Setting unit: 0.5 sec.)
	Time proportional resolution		Larger one of either 10 ms or 0.05% of the full-scale
Insulation	Between input channels	Photo relay	Withstanding voltage: 400V AC, 50/60Hz 1min, leakage current 10mA or less
	Input terminal- PLC power	Photo relay	Insulation resistor: 500V DC, 10 MΩ or above
	Output terminal- PLC power		Non-insulation
	Between output channels		
Averaging function	Weighted average		0 ~ 99% (setting range)
	Moving average		0 ~ 99 times (setting range)
Warm-up			20 minutes or above
Maximum rate of ambient temperature changing			0.5 ℃/min (30 ℃/hour) or less
Access terminal			16 point terminal (10 point terminal 1ea, 6 point terminal 1ea)
IO occupation point			Fixed: 64 points
Max. no. of installation			XBM-DxxxS type: 7ea, XB(E)C-DxxxH type: 10ea, XB(E)C-DxxxSU: 7ea, XB(E)C-DxxxU: 10ea
Power supply			5 V, DC 24 V
Current consumed			Internal DC 5 V : 120 mA, External DC 24 V : 100 mA

Specification

XBF-TC04RT

| Item		XBF-TC04RT
Control loop		4 loop
RTD type and input range	Pt100	-200.0 ~ 850.0 ℃
	JPt100	-200.0 ~ 600.0 ℃
Precision	Standard precision	±0.2% or less (25 ℃, normal temperature)
	Temperature coefficient	±100ppm/ ℃(0.01%/ ℃)
Sampling period		500ms/ 4 loop
Control method		PID CONTROL, ON/OFF CONTROL
Control parameter	Target value (SV)	Setting within range according to input type (temperature unit setting)
	Proportional gain	0: ON/OFF CONTROL, REAL
	Integral time	0: Except integral control, REAL
	Derivative time	0: Except derivative control, REAL
Transistor output	Output point	4
	Rated load voltage	DC 24 V
	Max. load current	0.1 A/Output point
	Max. voltage drop when on	DC 1.2 V or less
	Leakage current when off	0.1 mA or less
	Response time — On => Off	1 ms or less
	Response time — Off => On	1 ms or less
	Control output cycle	0.5 ~ 120.0 sec (Setting unit: 0.5 sec.)
	Time proportional resolution	Larger one of either 10 ms or 0.05% of the full-scale
Insulation	Between input channels — Photo relay	Withstanding voltage: 1500V AC, 50/60Hz 1min, leakage current 10mA or less
	Input terminal- PLC power — Photo relay	Insulation resistor: 500V DC, 10 M Ω or above
	Output terminal- PLC power / Between output channels	Non-insulation
Averaging function	Weighted average	0 ~ 99% (setting range)
	Moving average	0 ~ 99 times (setting range)
Access terminal		18 point terminal (12 point terminal 1ea, 6 point terminal 1ea)
IO occupation point		Fixed: 64 points
Max. no. of installation		XBM-DxxxS type: 7ea, XB(E)C-DxxxH type: 10ea, XB(E)C-DxxxSU: 7ea, XB(E)C-DxxxU: 10ea
Power supply		5 V, DC 24 V
Current consumed		Internal DC 5 V : 120 mA, External DC 24 V : 100 mA

Specification

XBF-LD02S

Item	Specifications			
Input Channel	2 Channel (Insulation between Channels)			
Load Cell Input Voltage	5VDC $\pm$5%, (8 per 350 Ω load cell channel)			
Load Cell Type	Four-wire or Six-wire			
Resolution	1/40000			
Analog Input Range	0.0~6.0 mV			
Load Cell Output Sensitivity	0.125 μV(when the rated output of the load cell is 0.0 ~ 1.0 mV/ V)			
Input Accuracy	$\pm$0.01% or below (nonlinear accuracy, 25℃) Zero Drift: $\pm$0.25℃), Gain Drift: $\pm$15ppm//℃			
Sampling Cycle (per channel)	5 ms			
Insulation	**Classification**	**Insulation Method**	**Insulation Voltage Resistance (Internal Test Specifications)**	**Insulation Resistance**
	Input terminal-Internal circuits	Isolator	AC 550 V 50/60 Hz 1 minute, Leakage 10 mA or below	DC500 V, 10 M Ω or above
	Between input channels	Transformer		
	External power-Internal circuits	DC/DC Converter		
Warm-up time	30 minutes or above			
Input Connector	8 pins Connector(CH0)/10 pins Connector(CH1)			
IO Occupation Points:	Fixed type:64 points			
Max. no. of installation	XBM-DxxxS type: 7ea, XB(E)C-DxxxH type: 10ea, XB(E)C-DxxxSU: 7ea, XB(E)C-DxxxU: 10ea,			
Power Supply	5V, DC 24			
Consumption	Internal DC5V : 110 mA, External DC24V : 280 mA			

| Positioning module

Specification
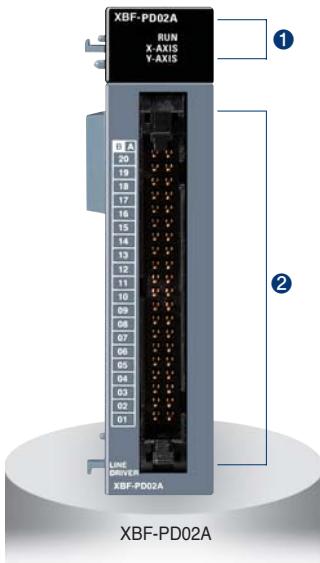
XBF-PD02A

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
❶	RUN LED	1. RUN ▶ Displays the hardware operation status • On: Normal status • Off: Abnormal status 2. X_AXIS, Y_AXIS • On: Operation • Flickering: Error
❷	Terminal block	▶ Terminals to connect the MPG, external device and drive device.

Terminal
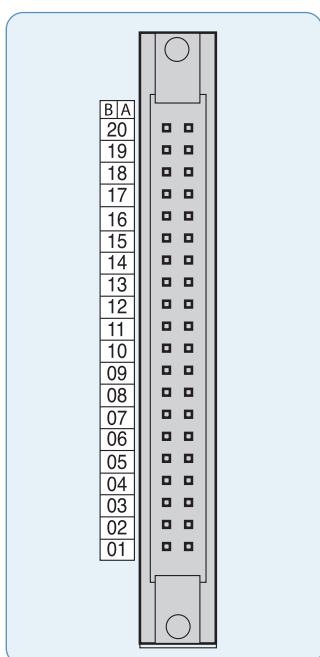
Pin number		Signal name	
X axis	Y axis		
	B20	MPG A+	Manual Pulse Generator/Encoder A+ input
	A20	MPG A−	Manual Pulse Generator/Encoder A− input
	B19	MPG B+	Manual Pulse Generator/Encoder B+ input
	A19	MPG B−	Manual Pulse Generator/Encoder B− input
A18	B18	FP+	Forward pulse+
A17	B17	FP−	Forward pulse−
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
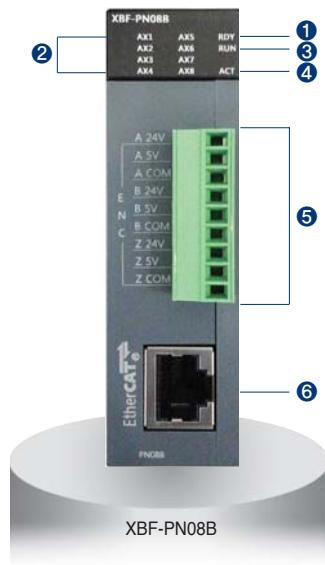
XBF-PN08B

Item		XBF-PN08B		
No. of control axis		8		
Interpolation function		2~8 axes linear interpolation, 2 axes circular interpolation, 3 axes helical interpolation		
Control method		Position control, Speed control, Speed/Position control, Position/Speed control, Position/Torque Control, Feed control		
Control unit		Pulse, mm, inch, degree		
Positioning data		Each axis can have up to 400 operation data .(Operation step number : 1~400) Available to set with XG-PM or program		
XG-PM	Connection	RS-232C port of CPU module or USB		
	Setting data	Common, Basic, Extended, Servo parameter, Operation data, Cam data, Command information		
	Monitor	Operation information, Trace, Input terminal information, Error information		
Back-up		Save the parameter, operation data in MRAM ROM (No need of Battery)		
Positioning	Positioning method	Absolute method/Incremental method		
	Position address range		Absolute	Incremental	Speed/Position, Position/Speed Switching control
		mm	-214748364.8~214748364.7(㎛)	-214748364.8~214748364.7(㎛)	-214748364.8~214748364.7(㎛)
		Inch	-21474.83648~21474.83647	-21474.83648~21474.83647	-21474.83648~21474.83647
		degree	-21474.83648~21474.83647	-21474.83648~21474.83647	-21474.83648~21474.83647
		pulse	-2147483648~2147483647	-2147483648~2147483647	-2147483648~2147483647
	Speed range	mm	0.01~20000000.00(ßÆ/min)		
		Inch	0.001~2000000.000(Inch/min)		
		degree	0.001~2000000.000(degree/min)		
		pulse	1~20,000,000(pulse/SEC)		
		rpm	0.1~100000.0(RPM)		
	Acc./Dec. process	Trapezoid type, S-type		
	Acc./Dec. time	1~2,147,483,647ms selection is available from 4 types of acceleration/deceleration pattern		
Manual Operation		Jog Operation, MPG Operation, Inching Operation		
Homing method		Refer to the method supported by the servo driver		
Speed change function		Speed change (Percent/Absolute value)		
Torque unit		Rated torque % designation		
Absolute position system		Available (when using absolute encoder type servo driver)		
External Encoder input	Channel	1 channel		
	Max. Input	200 kpps		
	Input form	Line drive input (RS-422A IEC specification), open collector output type encoder		
	Input type	CW/CCW, PULSE/DIR, Phase A/B		
	Connection connector	9-point connector		
Communication Period		1ms		
Max. transmission distance		100m		
Communication cable		Over CAT.5 STP (Shielded Twisted-pair) cable		
Error indication		Indicated by LED		
Communication status indication		Indicated by LED		
Consumable current		510mA		
Weight		115g		

Names and Functions

No.	Name	Descriptions
❶	Module ready signal	On: Positioning module normal status Off: Power OFF or CPU module reset status Flicker: Positioning module abnormal status
❷	Operation indicator LED (AX1 ~ AX8)	On: applicable axis is running Off: applicable axis is stop status Flicker: applicable axis is error status
❸	Communication status indicator LED	On: communication with servo driver is connected Off: communication with servo driver is disconnected Flicker: Error occurs during communicating with servo driver
❹	TRX status LED	On: Wiring with servo driver is done Off: Wiring with servo driver is not done Flicker: communicating with servo driver
❺	Connector for encoder wiring	Connector to connect with encoder
❻	RJ-45 connector	RJ-45 connector to connect with servo driver

Terminal

Pin arrangement	Pin No.	Signal name		Signal direction
A 24V A 5V A COM B 24V B 5V B COM Z 24V Z 5V Z COM	1	A 24V	Encoder A 24V input	Input
	2	A 5V	Encoder A 5V input	
	3	A COM	Encoder A input COM	
	4	B 24V	Encoder B 24V input	
	5	B 5V	Encoder B 5V input	
	6	B COM	Encoder B input COM	
	7	Z 24V	Encoder Z 24V input	
	8	Z 5V	Encoder Z 5V input	
	9	Z COM	Encoder Z input COM	

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	
Multiplica-tion 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
❶	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
❷	External wiring connector	Connector to conect with external I/O

| Modular type

Terminal (XBF-HO02A)
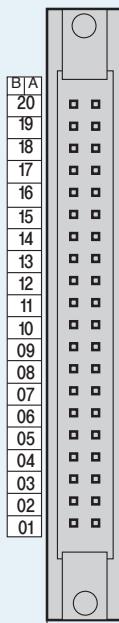
| Pin arrangement		Signal name	
B ch1	A ch0		
20	20	A 24V	A phase pulse input 24V
19	19	A 12V	A phase pulse input 12V
18	18	A 5V	A phase pulse input 5V
17	17	A COM	A phase pulse input COM
16	16	B 24V	B phase pulse input 24V
15	15	B 12V	B phase pulse input 12V
14	14	B 5V	B phase pulse input 5V
13	13	B 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)
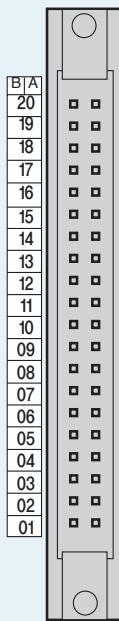
Pin arrangement		Signal name	
B ch1	A ch0		
20	20	A I +	A I phase differentiation input +
19	19	A I -	A I phase differentiation input -
18	18	A II +	A II phase differentiation input +
17	17	A II -	A II phase differentiation input -
16	16	B I +	B I phase differentiation input +
15	15	B I -	B I phase differentiation 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	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)
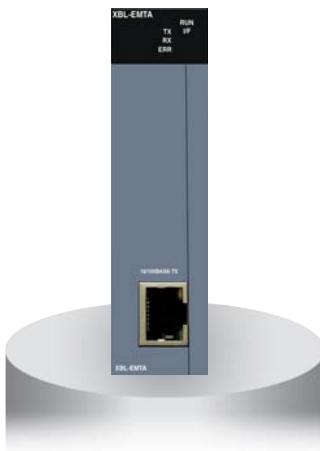
Item		XBL-EMTA
Communication spec.		10/100 Base-TX
Protocol		TCP/IP, UDP/IP
Service	With LS PLCs	High-speed link, P2P service
	With other devices	P2P service
	Application	XGT Dedicated protocol Server/Client, Modbus/TCP Server/Client
HS link sending/Receiving data		200words/block (Max. 64blocks)
No. 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

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	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 = $X^{32} + X^{26} + X^{23} + \cdots + X^2 + X + 1$
	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	$CRC\ 32 = X^{32} + X^{26} + X^{23} + \cdots + X^2 + X + 1$
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, XBL-PSEA)

Item		XBL-PMEC	XBL-PSEA
Module Type		Slave	
Network Type		Profibus-DP	
Standard		EN501170/DIN19245	
Interface		RS-485 (Electric)	
Topology		Bus type	
Modulation Type		NRZ (Non Return to Zero)	
Protocol		Profibus DP-V0	
Max. Distance & Transmission Speed	Distance (m)	Send 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 segment		32 (including master & repeater)	
Cable used		Electric-twist shielded pair cable	
Max. Communication size		Input : 122 Word Outpuut : 122 Word	
Max. Communication size per block		Input : 64 Word Outpuut : 64 Word	
Communication Transmission cycle		10/20/50/100/200/500ms, 1/5/10s	
Communication Receive cycle		Main unit scan × 2 + Data receive time + Communication module scan	
Max. number of units installed		2 units	
Communication Parameters to set		XG5000 (setting station and high-speed link parameter block)	
Internal-consumed current (mA)		300	250
Weight (g)		86 (including connector: 122)	

DeviceNet Module
(XBL-DSEA)

Item		XBL-DSEA
Transmission Specification Transmission Speed (kbps)		125/250/500
Transmission Type		Poll, Bit strobe, COS, Cyclic
Communication distance (m)	Thick Cable	500 (125kbps)/250 (250kbps)/100 (500kbps)
	Thin Cable	100 (125/250/500kbps)
Terminal resistance (Ω)		121 (1%, 1/4W)
Max.drop length (m)	125 kbps	6 (Max. extended length 156)
	250 kbps	6 (Max. extended length 78)
	500 kbps	6 (Max. extended length 39)
Data Packet		0~8 Bytes
Message Access Control		CSMA/NBA
Network Structure		• Trunk/drop line • Power/Signal cable inside the identical network cable
Bus Type		• Poll type
Max. number of nods		Up to 64 (including master) MAC IDs (MAC Identifier)
System Features		Insertion and removal of nod available in voltage On status
Operation Voltage		DC 24V
Diagnosis Function		Module: Checks duplicated station/ Checks CRC error SyCon: Detects defective station/Checks BusOff/Auto-scan function XG5000: Monitors High-speed link
Master/Slave Operation		Available only in slave
Parameter setting		Setting to High-speed link of XG5000 (RS-232C of CPU module or USB port)
XG5000 (High-speed link) Data process unit		Word
Send/Receive period		Select among 10ms, 20ms, 50ms, 100ms, 200ms, 500ms, 1s, 5s and 10s - Default : 20ms
Max. communication point		Send 2048points, Receive 2048 points, 256 bytes respectively
Max. block number		64 (Setting range: 0~63)
Max. point number per block		1024 points (64 Words)
Basic Specification Max. modules installed		Up to 2
Internal-consumed current (mA)		100mA
Weight (g)		110

Rnet
(XBL-RMEA)

Item		XBL-RMEA
Transmission Speed		1Mbps(Rnet I/F modules common)
Max. Tx distance		Max. 750m
Connection Cable		Twisted pair shielded cable
Maximum stations connected	Network	Master station 1[station no:0(fixed)] + Slave stations up to 31[station no:1~63], Note 1) - Only 1 master is available in the network.
Diagnostic function		XG5000 : High Speed Link Monitoring
Terminal resistance (Ω)		110 Ω (±5%), 1/2W
Master/Slave operation		Only available as Master
XG5000(HS Link)	Data Processing unit	Byte
	Tx/Rx cycle	Selection among 20ms, 50ms, 100ms, 200ms(default), 500ms, 1s, 5s, 10s
	Max. Communication points.	3,780 Bytes (slave 31stations * 120Bytes/station)
	Max. Block number	64 (setting range : 0~63)
	Max. points by Block	120 Byte (60words)
	Auto scanning	Supported
Specification	Max. module mounted	2 modules

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)✕27 (W)✕60 (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

Connection cable

Terminal board
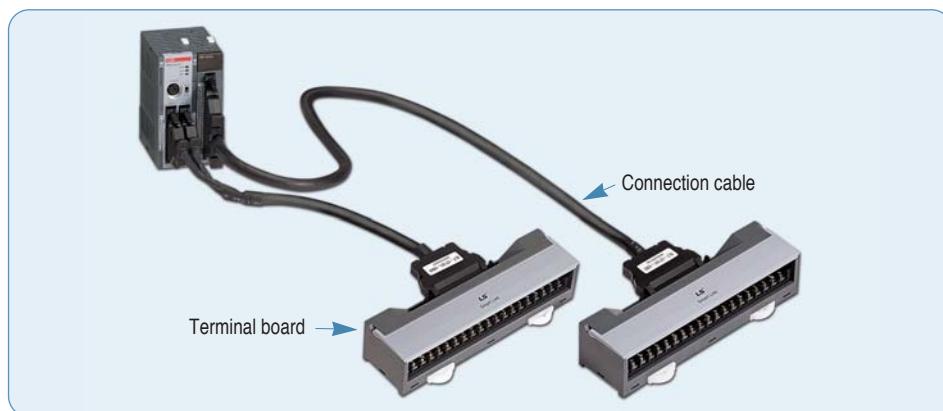
Connection cable	XBF-PD02A	XBF-HO02A	XBF-HD02A	XBE-DC32A	XBE-TN32A	XBE-TP32A	XBM-DN16S	XBM-DN32S	XBM-DN32H	XBM-DN32HP (HP2)	XGB-UP
R40H/20HH-05S-XBM3	–	–	–	–	–	–	●	●	–	–	–
R40H/20HH-10S-XBM3	–	–	–	–	–	–	●	●	–	–	–
C40HH-05SB-XBI	●	●	●	●	●	●	–	–	●	●	●
C40HH-10SB-XBI	●	●	●	●	●	●	–	–	●	●	●
C40HH-15SB-XBI	●	●	●	●	●	●	–	–	●	●	●
C40HH-20SB-XBI	●	●	●	●	●	●	–	–	●	●	●
C40HH-30SB-XBI	●	●	●	●	●	●	–	–	●	●	●
C40HH-05SB-XBE	–	–	–	–	●	●	–	–	–	–	–
C40HH-10SB-XBE	–	–	–	–	●	●	–	–	–	–	–
C40HH-15SB-XBE	–	–	–	–	●	●	–	–	–	–	–
C40HH-20SB-XBE	–	–	–	–	●	●	–	–	–	–	–
C40HH-30SB-XBE	–	–	–	–	●	●	–	–	–	–	–
C40HH-05SB-XBE	–	–	–	–	●	–	–	–	–	–	–
C40HH-10SB-XBE	–	–	–	–	●	–	–	–	–	–	–
C40HH-15SB-XBE	–	–	–	–	●	–	–	–	–	–	–
C40HH-20SB-XBE	–	–	–	–	●	–	–	–	–	–	–
C40HH-30SB-XBE	–	–	–	–	●	–	–	–	–	–	–

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)

Ladder monitor

Variable monitor

Forced I/O

Trend monitor

Special module monitor
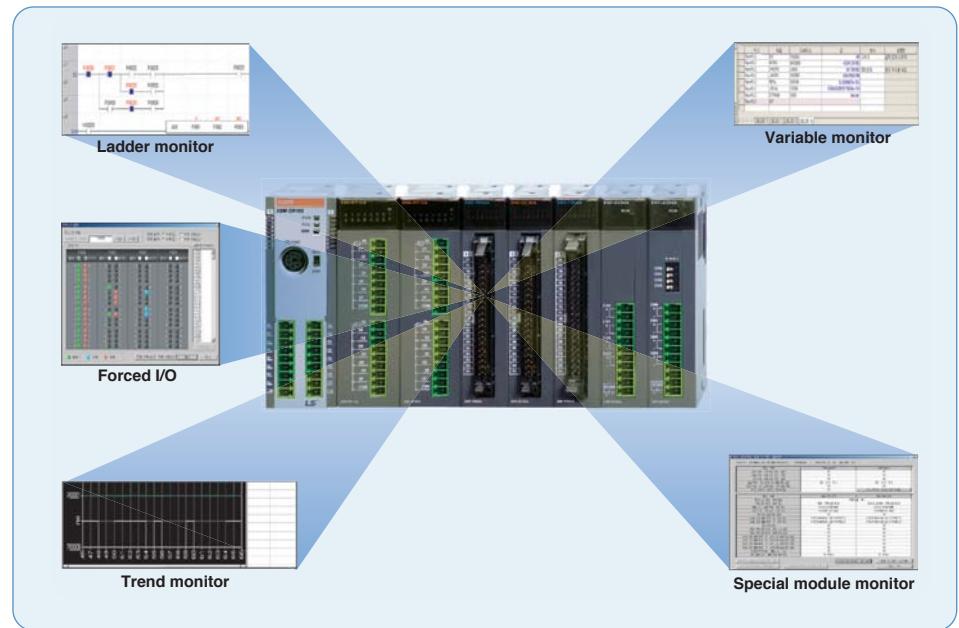
XG-PD
(Network setting software)

- 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)

Parameter setting

Network scan

Link monitoring

Fast ethernet

XGT Panel

Cnet

Other PLC

LS Inverter

Smart I/O

Other net devics

Frame monitoring

Service condition monitoring
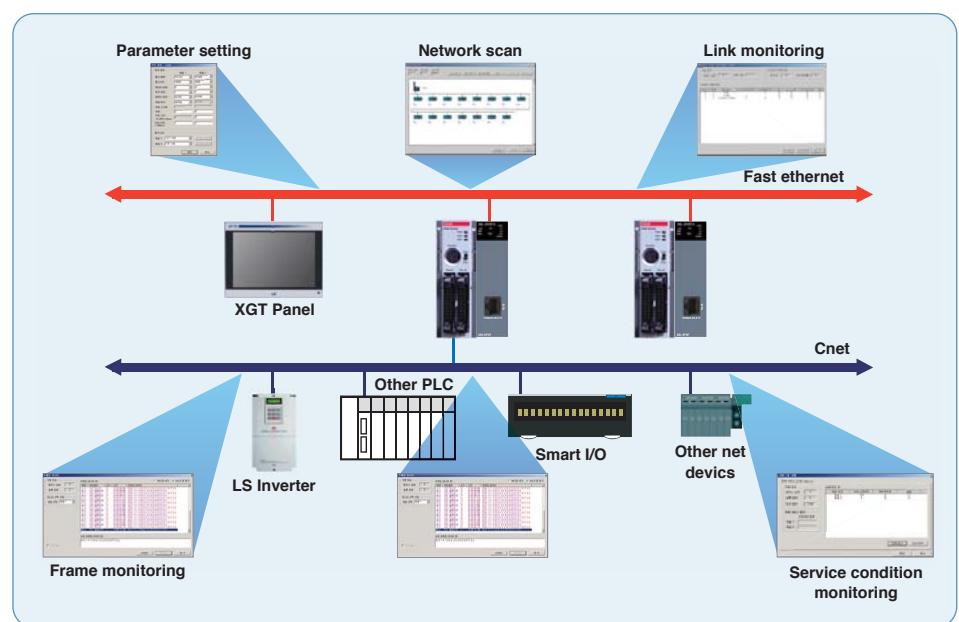
Main Specification

- Aluminum body frame, responsive touch screen.
- Easy-to-use Multi-touch, gesture, dual screen, portrait mode.
- Multi connected with 1Gbits 2ch.
  Ethernet between PC to PLC.
- Various interfaces : USB host /device, SD card, HDMI.
- High resolution : 1024 X 768
- IP66, UL type 4x, NEMA 4x standards

Item		iXP2-0800A/D	iXP2-1000A/D	iXP2-1200A/D	iXP2-1500A/D
Display type		TFT color LCD			
Screen size		8.4″	10.4″	12.1″	15″
		800×600 pixel	-	10240×7680 pixel	-
Color indication		32-bits true color (16.7M)			
Backlight		LED, Auto On/Off			
Backlight duration		50,000 hours			
Touch panel		Capacitive touch 60,000 hours			
Process		700 cd/㎡1GHz, Dual-Core CPU550 cd/㎡			
Memory	Flash	1GByte			
	Operating RAM	1GByte			
	Backup RAM	1MByte			
Backup data		Date/Hour data, Logging/Alarm/Recipe data and nonvolatile device			
Battery duration		Approx. 3 years (Operating ambient temperature of 25℃77 ℉)			
Memory	Video out	1 x HDMI			
	Sound out	1 × Line-Out			
	Ethernet	1 × 10/100Base-TX, 1× 10/100/1000Base-TX			
	USB host	3 × USB 2.0 (Front × 1, Rear x 2)			
	USB device	1 ×USB 2.0 ((Front, for download an upload project data)			
	Serial	1 × RS-232C (D-SUB 9/Male type), 1 × RS-422/485 (Isolated, Terminal block)			
Certifications		CE, UL (cUL), KC			
Protection standard		IP66, Conform to the UL type 4x, NEMA 4x standard			
Dimension (mm)		240.0×180.0×59.7	270.5×212.5×59.7	313.0×239.0×59.7	395.0×294.0×65.5
Panel cut (mm)		228.5×158.5	259.0×201.0	301.5×227.5	383.5×282.5
Power		iXP2-xxxxA : AC100/240V, iXP2-xxxxD : DC24V			
Weight(Kg)		1.87	2.35	3.1	4.6

XGT Panel iXP Series

Main Specification

- 1GHz 32bit RISC Embedded CPU
- 16,777,216 TFT color LCD
- 128MB display data and
  1MB back-up memory

- Ethernet 1ch, RS-232C 2ch, RS-422/485 1ch
- USB host 3ch and device 1ch
- SD memory card interface

Main Functions

- PLC ladder monitoring
  (XGK/XBC PLC only)
- Web Server/Data Server
- Path through

- XP-Remote :
  Remote controlling and monitoring

CE KC c (UL) US LISTED

Item		iXP50-TTA/DC	iXP70-TTA/DC iXP70-TTA/AC	iXP80-TTA/DC iXP80-TTA/AC	iXP90-TTA/DC iXP90-TTA/AC
Display type		TFT color LCD			
Screen size		21.3cm (8.4″)	26.4cm (10.4″)	30.7cm (12.1″)	38.1cm (15″)
Display Resolution		800×600 pixel (SVGA)	800×600 pixel (SVGA)	800×600 pixel (SVGA)	1,024×768 pixel (SVGA)
Color indication		16-bit and 24-bit Color (default: 16-bit Color)			
Indication degree		Left/Right: 80 deg. Up: 80 deg. Down: 60 deg.	Left/Right: 80 deg. Up: 60 deg. Down: 80 deg.		
Backlight		LED Type			
Backlight duration		70,000 hours	60,000 hours		
Brightness		500 cd/㎡	700 cd/㎡	550 cd/㎡	800 cd/㎡
Touch panel		4-Line type, analog			
Sound Output		Magnetic buzzer (85dB)			
Process		ARM Cortex-A8 Core (32bit RISC), 1GHz			
Memory	Flash	512MB(display 128MB)	1GB(display 128MB)		
	Operating RAM	256MB	512MB		
	Backup RAM	1MB			
Backup data		Date/Hour data, Logging/Alarm/Recipe data and nonvolatile device			
Battery duration		Approx. 3 years (Operating ambient temperature of 25℃)			
Ethernet		1 channel, 10/100BASE-TX			
USB Host		3 channels, USB 2.0 host (mouse, keyboard, printer* and USB memory driver is available)			
		1 channel, USB 2.0 slave (for download and upload project file)			
RS-232C		1 channel			
RS-422/485		1 channel, RS-422/485 mode			
SD Card		1 Slot (SDHC)			
Human sensor		-	Detection range: side 1-1.5m, front 40-50cm		
			Angle: high/low 100°, left/right 140° (detecting 5-20 micron infrared light)		
Audio output		LINE-OUT 1 channel			
Expansion module		For communication and I/O option module (available later)			
VM module		-	4 channels video input (available later)		
Multi-language		Up to 12 language simultaneously			
Animation		GIF format is available			
Recipe		available			
Data logging		available			
Script executor		available			
Certifications		CE, UL(cUL), KC			
Protection standard		IP65			
Dimension (mm)		240.5×180.0×54.4	270.5×212.5×60.0	313.0×239.0×56.0	395.0×294.0×60.0
Panel cut (mm)		228.5×158.5	259.0×201.0	301.5×227.5	383.5×282.5
Rated voltage		DC24V	DC12/24V (AC 100-240V)		
Power consumption (W)		30.8	42.3	42.3	42.3
Weight(Kg)		1.9	2.2	2.4	3.9

＊SEWOO printer only

APPLICSTION

Main Specification

- TFT LCD-applied wide type
- LED Backlight adopted for enhanced contrast ratio and low-power
- PLC Ladder monitoring function: Only XGK/XBC supports*
- Web Server* / Data Server* / Path-Through Function*
- Remote Viewer Function*
- Screen editor : XP-Builder

∗Functions that support only the TTA model

CE KC c(UL)us LISTED

Item		eXP20-TTA/DC,CERTI	eXP20-TTA/DC	eXP30-TTA(B)/DC	eXP30-TTE/DC	eXP40-TTE/DC	eXP40-TTA(B)/DC	eXP60-TTA(B)/DC
Display type		TFT color LCD						
Screen size		10.9cm (4.3inch)		14.2cm(5.6inch)		17.8cm(7inch)		25.9cm(10.2inch)
Display Resolution		480×272 pixel		640 x 480 pixel				
Color indication		24-bit Color(16.7M)		16-bit Color(65,536 Color)		24-bit Color(65,535 Color)		16-bit Color(65,536)
Indication degree		Left/Right:60 deg. Upper:40 deg. Lower:60 deg.						Left/Right:55 deg. Upper:35 deg. Lower:55 deg.
Backlight		LED Type (Supports backlight auto-off function)						
Backlight duration		30,000 hours		20,000 hours				
Touch panel		4-Wire Resistive, analog						
Audio output		Magnetic buzzer (85dB)						
Process		i.MX283(454MHz)						
Memory	Flash	128MB(Screen 64MB)						
	Operation RAM	128MB						
	Backup RAM	128KB						
Backup data		Date/Hour data, Logging/Alarm/Recipe data and nonvolatile device						
Battery duration		Approx. 3 years (Operating ambient temperature of 50℃)						
RTC		Time error Approx. 3 sec/1day(Operating ambient temperature of 25℃)						
Ethernet		1 channel, IEEE802.1a, 10Base-T/100Base-TX			-			1 channel, IEEE802.1a, 10Base-T/100Base-TX
USB Host		1 channel, USB 2.0 Host (mouse, keyboard, printer and USB memory driver is available)						
USB Device		-		1 channel, USB 2.0 Device (for download and upload project)				
RS-485, RS-232C		1channel, RS-232C (DSUB 9/Male Type)				2channels, RS-485, RS-232C (DSUB 9/Male Type)		
RS-422/485		1channel, RS-422/485 (DSUB 9/Male Type)			1channel, RS-422/485 mode (Terminal Type)			
Multi-language		Up to 12 language simultaneously						
Animation		GIF format is available						
Recipe		available						
Data logging		available						
Script executor		available						
Certifications		CE, UL Type4X, KC		CE, UL(cUL), KC				
Protection standard		IP66		IP65				
Dimension (mm)		128×102×32		165.0×132.5×36.1		208.0×154.0×44.4		276.0×218.0×44.4
Panel cut (mm)		165.0×132.5×36.1		156.0×123.5		192.0×138.0		260.0×202.0
Rated voltage		DC24V						
Power consumption (W)		4.6W		7.2W		6.5W		10W
Weight(Kg)		0.3		0.42	0.39	0.62	0.63	1.08

∗SEWOO printer only

XGT Panel XP Series

Graphic type XP30/XP40/XP50/XP70/XP80/XP90

- High and vivid distinction with 65,536 colors
- High quality raster and vector symbols
- Various BMP JPG GIF graphic file support: BMP, JPG, GIF, WMF, etc
- Simple animation effects: animated GIF
- 10/100BASE-T Ethernet interface
- Convenient and easy screen editing
- Strengthened data management: Logging, Recipe, and Alarm
- Read function of a controller's state information: Monitoring and maintenance
- Multi-lingual display: up to 8 languages
- Offline and concurrent simulation with XG5000
- Easy to change the address of the graphic objects: Tag function with XGT Panel
- USB host for peripheral devices: USB Drive, Mouse, keyboard, printer, etc
- Sufficient memory for screen data: 10MB

CE KC c(UL)us LISTED

Model Type		XP30-BTE/DC	XP30-BTA/DC	XP30-TTE/DC	XP30-TTA/DC	XP40-TTE/DC	XP40-TTA/DC	XP50-TTA/DC	XP70-TTA/AC XP70-TTA/DC	XP80-TTA/AC XP80-TTA/DC
		Mono		Color						
Display Element		Mono Blue LCD		TFT Color LCD						
Screen Size		14cm (5.7˝)				17.7cm (7˝)		21cm (8.4˝)	26cm (10.4˝)	31cm (12.1˝)
Resolution		320×240				800×480		640×480		800×600
Color		8-column Gray Scale		256 colors	65,536 colors	65,536 colors				
Backlight		LED mode						CCFL(can be replaced), Auto On/Off		
		50,000 hours		60,000 hours		30,000 hours		50,000 hours		
Contrast		Adjustable		Fixed						
Brightness		230cd/m²		600cd/m²		280cd/m²		480cd/m²	430cd/m²	400cd/m²
Viewing Angle	Up/Down(Degree)	20/40		80/80	70/70	50/60		50/60	45/65	45/75
	Left/Right(Degree)	45/45		80/80		65/65		65/65	65/65	65/65
Touch Panel		4-wire system, analogue				Analog resistive		8-wire system, analogue		
Movement LED		Green: Normal RUN (Monitoring & drawing data download) Red: Error (Communication error & drawing data error)								
Memory	Screen Data	4MB	10MB	4MB	10MB	4MB	10MB	10MB		
	Backup Data	128KB	512KB	128KB	512KB	128KB	512KB			
Ethernet		-	1ch, 10/100Base-T	-	1ch, 10/100Base-T	-	1ch, 10/100Base-T			
USB Interface		USB Host X 1	USB Host X 2	USB Host X 1	USB Host X 2	USB Host X 1		USB Host X 2		
Serial	RS-232C	2ch(1 port for PC communication)								
	RS-422/485	1ch, 422/485 optional mode								
CF Card Interface		-	CF card (TAPE-1)×1	-	CF card (TAPE-1)×1	-	CF card (TAPE-1)×1			
AUX Interface		-	Optional	-	Optional	-	Optional			
Certification		CE, UL, KC								
Protection		IP65 (Front Water Proof Structure)								
Size(W×H×D)mm		181x140x 56.5	181 x 140 x 66.5	181 x 140 x 56.5	181 x 140 x 66.5	203.5 x 153.5 x 41.5		240 x 174 x 73	317 x 243 x 73	
Panel Cut (W×H)mm		155.0 x 123.5				192 x 138		228.5 x 158.5	294.5 x 227.5	
Weight (kg)		0.62	0.75	0.62	0.75	2.2	2.4	1.4	2.2	2.4
Power	Rated Voltage	DC 24V							AC100~220V, DC 24V	
	Permitted Voltage AC	-							MIN 85 VAC, MAX 264 VAC	
	Permitted Voltage DC	MIN 19.2 VDC, MAX 28.8 VDC								
	Power Consumption(W) AC	-							21.8	31.9
	Power Consumption(W) DC	9.7	16.9	9.6	17.4	9.8	9.8	18.7	20.1	25.7

APPLICSTION

Text type XP10

- Screen: 192×64 Graphic STN LCD
- System RAM: 1000 words
- Flash memory: Program/Parameter back up
- Communication: Half-duplex comm.
  - Baud rate: 1200~115200 bps
  - Master/slave setting available
  - RS-232C/RS-485 2 CH separate to use
- Power reguirements - 24 V input or 5 V direct input by LS PLC
- Various function key - ESC, ALM, SET, ENT, F1~F4, Arrow keys
- Panel Editor - Easy programming and H/W setting
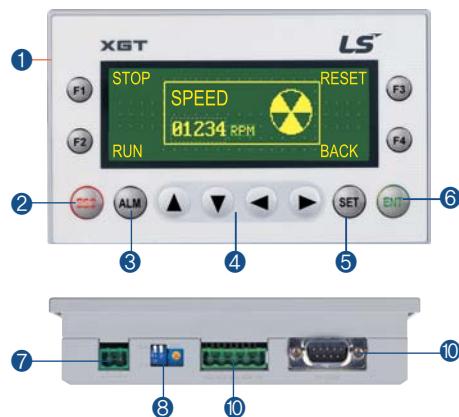
1. Key to control PLC device and screen
2. ESC key
3. Alarm history
4. Data input and Screen change
5. PLC data setting
6. Enter key
7. DC24V input terminal
8. RS-232C port to download a project
9. Brightness adjustment
10. RS-422 port

Item		Specifications	
		XP10BKA/DC	XP10BKB/DC
Input voltage	5VDC	DC 4.9 ~ 5.1 (RS-232C port)	
	24VDC	DC 21.6 ~ 26.4 (DC Input connector)	
	Consumption current	Less than 200mA	
Display		LED back-light (192 x 64 Dots)	
Communication interface		RS-232C, RS-422/485	
Flash memory		256K bytes	
Language		Default: English, Can be switched to Korean/Chinese/Russian	
RTC		None	Supports
Download specification		115,200bps	
Keys		12 Keys (F1~F4, ESC, ALM, ▲, ▼, ◀, ▶, SET, ENT)	

Product list

Product list

Item	Model	Specifications
Block type unit (U)	XBC/XEC-DN(P)32U	AC 110-220V, 16points DC24V input, 16points transistor sink(source) type output
	XBC/XEC-DR28U	AC 110-220V, 16points DC24V input, 12points relay output
	XBC/XEC-DN(P)32UP	AC 110-220V, 16points DC24V input, 16points transistor sink(source) type output, 4 axes built-in positioning
	XBC/XEC-DR28UP	AC 110-220V, 16points DC24V input, 12points relay output, 4 axes built-in positioning
	XBC/XEC-DN(P)32UA	AC 110-220V, DC24V input, 16points transistor sink(source) type output, 8 channel built-in analog
	XBC/XEC-DR28UA	AC 110-220V, DC24V input, 12points relay output, 8 channel built-in analog
	XBC/XEC-DN(P)32U/DC	DC 24V, 16points DC24V input, 16points transistor sink(source) type output
	XBC/XEC-DR28U/DC	DC 24V, 16points DC24V input, 12points relay output
	XBC/XEC-DN(P)32UP/DC	DC 24V, 16points DC24V input, 16points transistor sink(source) type output, 4 axes built-in positioning
	XBC/XEC-DR28UP/DC	DC 24V, 16points DC24V input, 12points relay output, 4 axes built-in positioning
	XBC/XEC-DN(P)32UA/DC	DC 24V, DC24V input, 16points transistor sink(source) type output, 8 channel built-in analog
	XBC/XEC-DR28UA/DC	DC 24V, DC24V input, 12points relay output, 8 channel built-in analog
Block type unit (High performance)	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)	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)
Block type unit (Economic)	XBC / XEC-DR10E	AC 100 - 240V, 6 points DC24V input, 4 point Relay ouput
	XBC / XEC-DR14E	AC 100 - 240V, 8 points DC24V input, 6 point Relay ouput
	XBC / XEC-DR20E	AC 100 - 240V, 12 points DC24V input, 8 point Relay ouput
	XBC / XEC-DR30E	AC 100 - 240V, 18 points DC24V input, 12 point Relay ouput
	XBC / XEC-DN10E	AC 100 - 240V, 6 points DC24V input, 4 point transistor output (Sink)
	XBC / XEC-DN14E	AC 100 - 240V, 8 points DC24V input, 6 point transistor output (Sink)
	XBC / XEC-DN20E	AC 100 - 240V, 12 points DC24V input, 8 point transistor output (Sink)
	XBC / XEC-DN30E	AC 100 - 240V, 18 points DC24V input, 12 point transistor output (Sink)
	XBC / XEC-DP10E	AC 100 - 240V, 6 points DC24V input, 4 point transistor output (Source)
	XBC / XEC-DP14E	AC 100 - 240V, 8 points DC24V input, 6 point transistor output (Source)
	XBC / XEC-DP20E	AC 100 - 240V, 12 points DC24V input, 8 point transistor output (Source)
	XBC / XEC-DP30E	AC 100 - 240V, 18 points DC24V input, 12 point transistor output (Source)

APPLICSTION

Product list

Item	Model	Specifications
Modular type unit	XBM-DN32H	DC24V, 16 pts DC24V input, 16 pts TR output, 2 axes built-in positioning (APM)
	XBM-DN32HP2	DC24V, 16 pts DC24V input, 16 pts TR output, 2 axes built-in positioning (XPM)
	XBM-DN32HP	DC24V, 16 pts DC24V input, 16 pts TR output, 6 axes built-in positioning (XPM)
	XBM-DR16S	DC 24V, 8-point DC24V input, 8-point relay output
	XBM-DN16S	DC 24V, 8-point DC24V input, 8-point TR output
	XBM-DN32S	DC 24V, 16-point DC24V 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
	XBE-DN32A	16-point DC24V input, 16point TR 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)
	XBF-RD04A	4-channel RTD input
	XBF-RD01A	1-channel RTD input
	XBF-TC04S	4-channel Thermocouple input
	XBF-TC04TT	Temperature controller, Thermocouple
	XBF-TC04RT	Temperature controller, RTD
	XBF-LD02S	Load Cell input module
	XBF-PD02A	Line drive 2 axis
	XBF-PN08B	EtherCAT Positioning module, 8axes (XBC/XEC "U" only)
	XBF-PN04B	EtherCAT Positioning module, 4axes (XBC/XEC "U" only)
	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 2ch.), 100Mbps
	XBL-EIMH	RAPIEnet I/F (Twisted pair 1ch, Fiber 2 ch.), 100Mbps
	XBL-PMEC	Profibus-DP, Master, RS-485
	XBL-PSEA	Profibus-DP, Slave, RS-485
	XBL-DSEA	DeviceNet, Slave
	XBL-PSEA	Profibus-DP, Slave, RS-485
	XBL-RMEA	Rnet, Master
	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