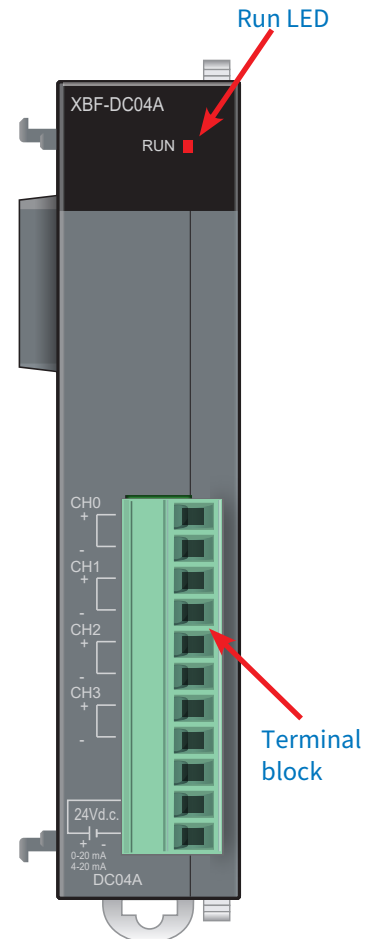


XBF-DC04A Analog Output Module

Part Number	Price	Classification	Description	# of Channels	Drawing
XBF-DC04A	\$162.00	Current Output	LS Electric XGB analog output module, 4-channel, current, 12-bit, output current signal range(s) of 0-20 mA and 4-20 mA, external 24 VDC required.	4	PDF

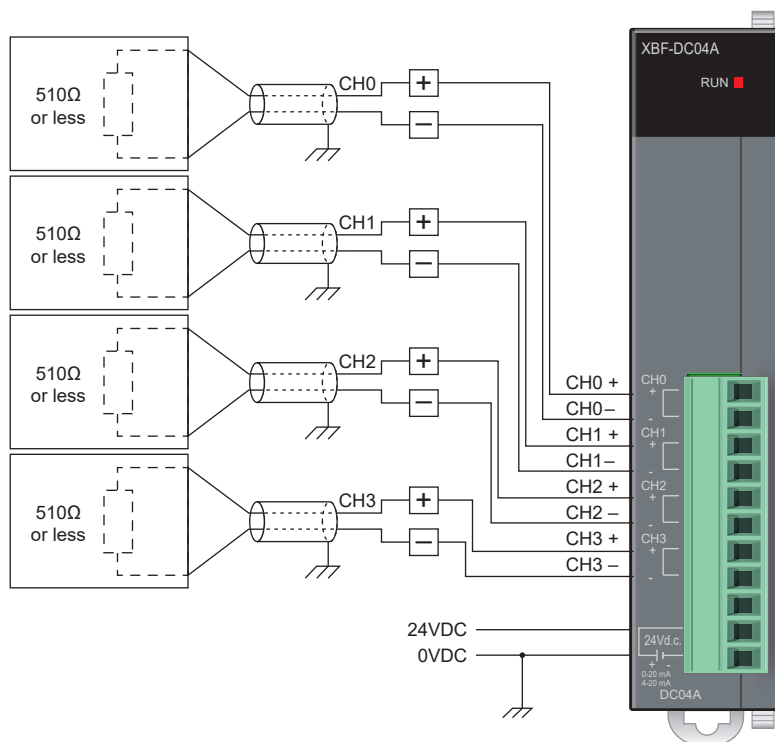
General Specifications		XBF-DC04A	
		Current	
Analog Output Range		4-20 mA DC 0-20 mA DC (Load resistance: 510Ω or less)	
Digital Input	Type	12-bit binary data	
	Range	Unsigned Value	0-4000
		Signed Value	±2000
		Precise Value	400-2000 / 0-2000
		Percentile Value	0-1000
Maximum Resolution		5μA (1/4000)	
Accuracy		±0.5% or less	
Maximum Conversion Speed		1ms/channel	
Absolute Maximum Output		DC +25mA	
Number of Output Channels		4 channels	
Insulation Method		Photocoupler insulation between input terminal and PLC power (no insulation between channels)	
Connection Terminal		11-point terminal block	
I/O Points Occupied		Fixed type: 512 points	
Current Consumption	Internal (5VDC)	110mA	
	External (24VDC)	120mA	
Weight		70g	
Power Supply		20.4-28.8 VDC	



XBF-DC04A Analog Output Module Wiring

When connecting cable to your XBF-DC04A:

- Keep the AC power line away from the analog input module's external input signal line to prevent surge or inductive noise.
- Use cable rated to meet your application's ambient temperature and current needs. AWG22 (0.3mm²) or greater recommended.
- Keep cable clear of high heat and oil.
- Check polarity when wiring the terminal.
- Using high-voltage line or power line may cause abnormal operations or defects due to inductive hindrance.
- Make sure the desired channel is enabled.



Notes:

- Use 2-core twisted shield cable
- Use AWG22 (0.3mm²) or greater cable
- Load resistance is 510Ω or less
- Terminal screwdriver: slotted 2.5 mm



XGB Analog Modules

XBF-DC04A Analog Output Module Configuration

Follow the Quick start video to learn how to Register and Configure any Analog Module:

[Analog Module Setup](#)

Direct Variables

All XGB series analog modules are assigned 32 words in the “U” memory area based on the slot number assignment. (%UW0.z.0 - %UW0.z.31 , z= slot number). The actual memory address used within the 32 word block are specific to each module. See the table below for Direct Variable assignments.

For Direct Variable nomenclature explanation, see [Direct Variable User Programming Memory](#).

Symbolic Variables

Symbolic variables for the analog module can be automatically created in XG5000 software by using the top MENU bar: Edit > Register Module Variable Comments.

Symbolic variables and direct variables for XBF-DC04A are as follows (z refers to module slot number (2 to 8)).

Type	Scope	Variable (Symbolic)	Address (Direct Variable Alias)	Data Type	Comment
Tag	GlobalVariable	._0z_CH0_ACT	%UX0.z.16	BOOL	Analog Output Module: CH0 Activation Status
Tag	GlobalVariable	._0z_CH0_DATA	%UW0.z.3	WORD	Analog Output Module: CH0 Input
Tag	GlobalVariable	._0z_CH0_ERR	%UX0.z.0	BOOL	Analog Output Module: CH0 Error
Tag	GlobalVariable	._0z_CH0_OUTEN	%UX0.z.32	BOOL	Analog Output Module: CH0 Output Enable
Tag	GlobalVariable	._0z_CH1_ACT	%UX0.z.17	BOOL	Analog Output Module: CH1 Activation Status
Tag	GlobalVariable	._0z_CH1_DATA	%UW0.z.4	WORD	Analog Output Module: CH1 Input
Tag	GlobalVariable	._0z_CH1_ERR	%UX0.z.1	BOOL	Analog Output Module: CH1 Error
Tag	GlobalVariable	._0z_CH1_OUTEN	%UX0.z.33	BOOL	Analog Output Module: CH1 Output Enable
Tag	GlobalVariable	._0z_CH2_ACT	%UX0.z.18	BOOL	Analog Output Module: CH2 Activation Status
Tag	GlobalVariable	._0z_CH2_DATA	%UW0.z.5	WORD	Analog Output Module: CH2 Input
Tag	GlobalVariable	._0z_CH2_ERR	%UX0.z.2	BOOL	Analog Output Module: CH2 Error
Tag	GlobalVariable	._0z_CH2_OUTEN	%UX0.z.34	BOOL	Analog Output Module: CH2 Output Enable
Tag	GlobalVariable	._0z_CH3_ACT	%UX0.z.19	BOOL	Analog Output Module: CH3 Activation Status
Tag	GlobalVariable	._0z_CH3_DATA	%UW0.z.6	WORD	Analog Output Module: CH3 Input
Tag	GlobalVariable	._0z_CH3_ERR	%UX0.z.3	BOOL	Analog Output Module: CH3 Error
Tag	GlobalVariable	._0z_CH3_OUTEN	%UX0.z.35	BOOL	Analog Output Module: CH3 Output Enable
Tag	GlobalVariable	._0z_CH_ACT_ARY	%UX0.z.16	ARRAY[0..3] OF BOOL	Analog Output Module: Each CH Active
Tag	GlobalVariable	._0z_CH_DATA_ARY	%UW0.z.3	ARRAY[0..3] OF WORD	Analog Output Module: Each CH Input
Tag	GlobalVariable	._0z_CH_ERR_ARY	%UX0.z.0	ARRAY[0..3] OF BOOL	Analog Output Module: Each CH Error
Tag	GlobalVariable	._0z_CH_OUTEN_ARY	%UX0.z.32	ARRAY[0..3] OF BOOL	Analog Output Module: Each CH Output Enable
Tag	GlobalVariable	._0z_OUTEN	%UW0.z.2	WORD	Analog Output Module: Output Enable
Tag	GlobalVariable	._0z_RDY	%UX0.z.15	BOOL	Analog Output Module: Ready Flag



XGB Series PLC Family

Environmental Specifications, all XGB Series Modules

Item		Specification	Reference	
Ambient Operating Temperature		0–55°C (32–131°F)	-	
Storage Temperature		-25–70°C (-13–158°F)		
Ambient Operating Humidity		5–95% relative humidity (non-condensing)		
Storage Humidity		5–95% relative humidity (non-condensing)		
Vibration ¹	Occasional Vibration	5 ≤ f < 8.4 Hz	IEC61131-3-2	
		8.4 ≤ f < 150Hz		
	Continuous Vibration	5 ≤ f < 8.4 Hz		
		8.4 ≤ f < 150Hz		
Shocks		Peak Acceleration	147 m/s ² (15G)	
		Duration	11ms	
		Pulse Wave Type	Half-sine (3 times each direction per each axis)	
Noise Resistance	Square Wave Impulse Noise		1,500VAC 900VDC	LS Electric standard
	Electrostatic Discharge		Voltage: 4kV (contact discharge)	IEC61131-3-2 IEC61000-4-2
	Radiated Electromagnetic Field Noise		80–1,000 MHz, 10 V/m	IEC61131-3-2 IEC61000-4-3
	Fast Transient / Burst Noise	Classification	Voltage	IEC61131-3-2 IEC61000-4-4
		Power Supply	2kV	
Digital/Analog Input/Output Communication Interface		1kV		
Environment		Free from corrosive gases and excessive dust	-	
Attitude		Less than 2,000m		
Pollution Degree		Less than 2 (see note 2)		
Cooling Method		Air-cooling		

1 - Vibration of 10 times each direction (X, Y, and Z)

2 - Normally only nonconductive pollution occurs. Temporary conductivity caused by condensation is to be expected.



XGB Series PLC Family

Available I/O Modules

XGB Series I/O Modules								
Part Number	Price	Description	Digital Input	Digital Output	Analog Input	Analog Output	Motion	Smart Link Cable and Terminal Required
Digital								
<u>XBE-DC16A</u>	\$70.00	LS Electric XGB discrete input module, 16-point, 24 VDC, sinking/sourcing, 1 common(s), 16 point(s) per common. Removable terminal blocks included.	✓					
<u>XBE-DC16B</u>	\$78.00	LS Electric XGB discrete input module, 16-point, 12-24 VDC, sinking/sourcing, 1 common(s), 16 point(s) per common. Removable terminal blocks included.	✓					
<u>XBE-DC32A</u>	\$97.00	LS Electric XGB discrete input module, 32-point, 24 VDC, sinking/sourcing, 1 common(s), 32 point(s) per common. Requires XTB-40H terminal block and C40HH-xxSB-XBI cable.	✓					✓
<u>XBE-AC08A</u>	\$88.00	LS Electric XGB discrete input module, 8-point, 120 VAC, 2 common(s), 4 point(s) per common. Removable terminal blocks included.	✓					
<u>XBE-RY08B</u>	\$95.00	LS Electric XGB relay output module, 8-point, 125 VDC/250 VAC, (8) Form A, 8 isolated common(s), 1 point(s) per common, 2A/point. Removable terminal blocks included.		✓				
<u>XBE-RY16A</u>	\$110.00	LS Electric XGB relay output module, 16-point, 125 VDC/250 VAC, (16) Form A, 2 isolated common(s), 8 point(s) per common, 2A/point, 5A/common. Removable terminal blocks included.		✓				
<u>XBE-TN16A</u>	\$78.00	LS Electric XGB discrete output module, 16-point, 12-24 VDC, sinking, 1 common(s), 16 point(s) per common, 0.5A/point, 2A/common. Removable terminal blocks included.		✓				
<u>XBE-TN32A</u>	\$109.00	LS Electric XGB discrete output module, 32-point, 12-24 VDC, sinking, 1 common(s), 32 point(s) per common, 0.2A/point, 2A/common. Requires XTB-40H terminal block and C40HH-xxSB-XBI cable.		✓				✓
<u>XBE-TP16A</u>	\$88.00	LS Electric XGB discrete output module, 16-point, 12-24 VDC, sourcing, 1 common(s), 16 point(s) per common, 0.5A/point, 2A/common. Removable terminal blocks included.		✓				
<u>XBE-TP32A</u>	\$93.00	LS Electric XGB discrete output module, 32-point, 12-24 VDC, sourcing, 1 common(s), 32 point(s) per common, 0.2A/point, 2A/common. Requires XTB-40H terminal block and C40HH-xxSB-XBI cable.		✓				✓
<u>XBE-DN32A</u>	\$172.00	LS Electric XGB discrete combo module, Input: 16-point, 24 VDC, sinking/sourcing, Output: 16-point, 12-24 VDC, sinking, 0.2A/point, 2A/common. Requires XTB-40H terminal block and C40HH-xxSB-XBI cable.	✓	✓				✓
Analog								
<u>XBF-AD04A</u>	\$160.00	LS Electric XGB analog input module, 4-channel, current/voltage, 12-bit, input current signal range(s) of 0-20 mA, 4-20 mA, input voltage signal range(s) of 0-10 VDC, external 24 VDC required.			✓			
<u>XBF-AD08A</u>	\$242.00	LS Electric XGB analog input module, 8-channel, current/voltage, 12-bit, input current signal range(s) of 0-20 mA, 4-20 mA, input voltage signal range(s) of 0-5 VDC, 1-5 VDC, 0-10 VDC, external 24 VDC required.			✓			
<u>XBF-AD04C</u>	\$231.00	LS Electric XGB analog input module, 4-channel, current/voltage, 14-bit, input current signal range(s) of 0-20 mA, 4-20 mA, input voltage signal range(s) of 0-5 VDC, 1-5 VDC, 0-10 VDC, +/- 10 VDC, external 24 VDC required.			✓			
<u>XBF-DV04A</u>	\$152.00	LS Electric XGB analog output module, 4-channel, voltage, 12-bit, output voltage signal range(s) of 0-10 VDC, external 24 VDC required.				✓		
<u>XBF-DV04C</u>	\$209.00	LS Electric XGB analog output module, 4-channel, voltage, 14-bit, output voltage signal range(s) of 0-5 VDC, 1-5 VDC, 0-10 VDC and +/- 10 VDC, external 24 VDC required.				✓		
<u>XBF-DC04A</u>	\$162.00	LS Electric XGB analog output module, 4-channel, current, 12-bit, output current signal range(s) of 0-20 mA and 4-20 mA, external 24 VDC required.				✓		
<u>XBF-DC04C</u>	\$209.00	LS Electric XGB analog output module, 4-channel, current, 14-bit, output current signal range(s) of 0-20 mA and 4-20 mA, external 24 VDC required.				✓		
<u>XBF-AH04A</u>	\$216.00	LS Electric XGB analog combo module, Input: 2-channel, current/voltage, 0-20 mA and 4-20 mA, 0-5 VDC, 1-5 VDC and 0-10 VDC, Output: 2-channel, current/voltage, 0-20 mA and 4-20 mA, 0-5 VDC, 1-5 VDC and 0-10 VDC.			✓	✓		
Motion								
<u>XBF-PN04B</u>	\$350.00	LS Electric XGB 4-axis positioning module, EtherCAT protocol, 1 high-speed input point(s), sinking/line driver (differential), 1-channel, differential and single-ended encoder input(s), (1) Ethernet 100Base-TX (RJ45) port(s). For use with LS Electric XEM-Dx32Hx PLCs.					✓	
<u>XBF-PN08B</u>	\$395.00	LS Electric XGB 8-axis positioning module, EtherCAT protocol, 1 high-speed input point(s), sinking/line driver (differential), 1-channel, differential and single-ended encoder input(s), (1) Ethernet 100Base-TX (RJ45) port(s). For use with LS Electric XEM-Dx32Hx PLCs.					✓	
<u>XBF-HQ02A</u>	\$176.00	LS Electric XGB counter input module, 200 kHz maximum switching frequency, 2 high-speed input point(s), 5-24 VDC, sinking, 2-channel, single-ended encoder input(s), 2 high-speed output point(s), 5-24 VDC, sinking, external 24 VDC required.					✓	✓
<u>XBF-HD02A</u>	\$253.00	LS Electric XGB counter input module, 500 kHz maximum switching frequency, 2 high-speed input point(s), 5-24 VDC, sinking, 2-channel, differential encoder input(s), 2 high-speed output point(s), 5-24 VDC, sinking, external 24 VDC required.					✓	✓
Communication								
<u>XBL-EIPT</u>	\$199.00	LS Electric XGB communication module, EtherNet/IP, 2 ports, (2) Ethernet 10/100Base-T (RJ45) port(s). For use with LS Electric XGB series PLCs.						

Note: See "Smart Link I/O System" on page tLSE-83 for the XTB-40H terminal block and cables. See "XGB PLC Replacement Terminals" on page tLSE-82 for replacement removable terminal blocks.