# LS ELECTRIC

XGB Communication Modules

XBL-EIPT Communication Module

This module is used for EtherNet/IP communications. Built in switch functionality and tag based communication configuration make setup easy. The module supports:

- Symbolic Addressing (ANSI Extended Symbol Segment)
- Class 1 Connected Implicit(IO)Messaging(Cyclic I/O Service Only)
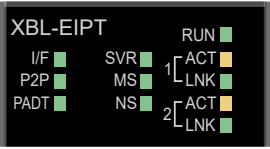- Class 3 Connected Explicit Messaging(Server Only)
- UCMM Explicit Messaging,

Part Number	Price	Classification	Description	Drawing
XBL-EIPT	$99.00	Ethernet Communications	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.	PDF

General Specifications		XBL-EIPT
Transmission Standard	**Speed**	100Mbps
	Method	Base band
	Maximum Extension Distance between Nodes	100m
	Communication Zone Excess Method	CSMA/CD
	Frame Error-Checking Method	CRC 32 = $X^{32}+X^{26}+X^{23}+...+X^2+X+1$
Topology		Line, Star
Diagnosis Function		Module information, service state, media information, auto scan, ping test
Service	**Periodic Client**	Implicit I/O Client
	Aperiodic Client	UCMM Client
	Periodic Server	Implicit I/O Server
Number of Connections (Client/ Server)	**TCP**	16/32
	CIP (I/O Communication)	32/64
Maximum Number of Services		2
Maximum Units per CPU		2
Maximum Setting Data Size Per Block	**Periodic Client**	500 byte
	Aperiodic Client	512 byte
Media		UTP/STP Category 5
Current Consumption		290mA
Weight		102g
Requirements		XG5000 version 4.76_2024-02-22 or later XEM Dx32Hx series PLC with firmware v2.4 or later

XBL-EIPT — LED Display, IP Setup Switch, Connector 1, LOG Switch, Connector 2
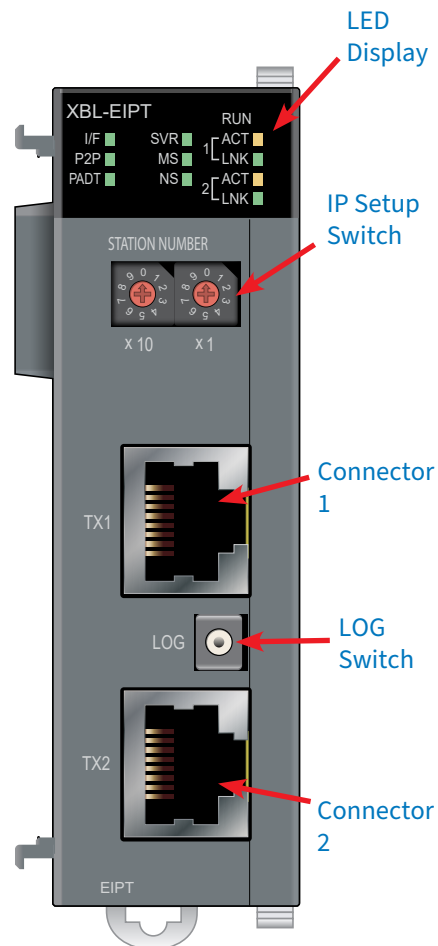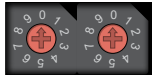
XBL-EIPT Communication Module Interface

Device LED Functionality

Faceplate View	LED	Status	Meaning
XBL-EIPT RUN I/F SVR ACT P2P MS LNK PADT NS ACT LNK	RUN	ON	Power ON and process normally operating.
		OFF	Power OFF and process abnormally operating.
	I/F	Blink	I/F operating normally with CPU.
		Flicker/OFF	I/F operating abnormally with CPU.
	P2P	ON	P2P service is enabled
		OFF	P2P service is disabled
	PADT	ON	XG5000 connected via remote control.
		OFF	XG5000 remote connection is disabled
	SVR	ON	Exterior client connected.
		OFF	No external client connected.
	MS	Green Light ON	Normal operation.
		Green Light flickers	Device configuration in progress.
		Red Light flickers	Incorrect setup or restorable errors.
		Red Light ON	Unrestorable errors.
		Red/Green Light flickers	Self-diagnosis in progress.
	NS	Green Light flickers	No connection to device.
		Green Light ON	Connection with at least 1 device.
		Red Light flickers	Device timeout occured.
		Red Light ON	Identical IP addresses detected.
		Red/Green Light flickers	Self-diagnosis in progress.
	nACT	Flicker	In case of frame - transmitted and received (n=1,2)
	nLNK	ON	Network link established (n=1,2)
		OFF	No network link (n=1,2)

Device Switch Functionality

Faceplate View	Name	Setting	Function
LOG	Log Switch	Push for > 1s	Press the Log Switch for at least 1 second to store the communication module log to the Flash Area Log. Data in the Flash Area Log is mantained during power cycling. Otherwise, the communication module log is stored to the Memory Area Log and will be erased when the power cycles.
STATION NUMBER x 10 x 1	Station Number (IP setup)	1–90, 94–99	If an IP address is not assigned by the XG5000 software, an IP address will be assigned based as "192.168.250.switch value".
		91–93	Internal configuration only. Do not Use.
		99	For Ring configuration. See User Manual for more information.

Device Software Configuration

Visit the quick start tutorial for EtherNET/IP card setup and implicit/explicit connection configuration:

https://cdn.automationdirect.com/static/helpfiles/ls_plc/Content/C_ProcedureTopics/LP200.htm

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	Frequency	5 ≤ f < 8.4 Hz	3.5 mm pulse width	IEC61131-3-2
			8.4 ≤ f < 150Hz	9.8 m/s^2 (1G)	
	Continuous Vibration		5 ≤ f < 8.4 Hz	1.75 mm pulse width	
			8.4 ≤ f < 150Hz	4.9 m/s^2 (0.5G)	
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.

Available I/O Modules

Part Number	Price	Description	Digital Input	Digital Output	Analog Input	Analog Output	Motion	Bus Coupler Compatible	Smart Link Required
XGB Series I/O Modules									
Digital									
XBE-DC08A	$59.00	LS Electric XGB discrete input module, 8-point, 24 VDC, sinking/sourcing, 1 common(s), 8 point(s) per common. Removable terminal block included.	✓					✓	
XBE-DC16A	$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.	✓					✓	
XBE-DC16B	$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.	✓					✓	
XBE-DC32A	$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.	✓					✓	✓
XBE-AC08A	$88.00	LS Electric XGB discrete input module, 8-point, 120 VAC, 2 common(s), 4 point(s) per common. Removable terminal blocks included.	✓					✓	
XBE-RY08A	$80.00	LS Electric XGB relay output module, 8-point, 125 VDC/250 VAC, (8) Form A, 1 common(s), 8 point(s) per common, 2A/point, 5A/common. Removable terminal block included.		✓				✓	
XBE-RY08B	$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.		✓				✓	
XBE-RY16A	$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.		✓				✓	
XBE-TN08A	$60.00	LS Electric XGB discrete output module, 8-point, 12-24 VDC, sinking, 1 common(s), 8 point(s) per common, 0.5A/point, 2A/common. Removable terminal blocks included.		✓				✓	
XBE-TN16A	$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.		✓				✓	
XBE-TN32A	$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.		✓				✓	✓
XBE-TP08A	$62.00	LS Electric XGB discrete output module, 8-point, 12-24 VDC, sourcing, 1 common(s), 8 point(s) per common, 0.5A/point, 2A/common. Removable terminal blocks included.		✓				✓	
XBE-TP16A	$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.		✓				✓	
XBE-TP32A	$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.		✓				✓	✓
XBE-DN32A	$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.	✓	✓				✓	✓
XBE-DR16A	$97.00	LS Electric XGB discrete combo module, Input: 8-point, 24 VDC, sinking/sourcing, Output: 8-point, 125 VDC/250 VAC, relay, (8) Form A (SPST) relays, 2A/point, 5A/common. Removable terminal blocks included.	✓	✓				✓	
Motion									
XBF-PN04B	$199.00	LS Electric XGB 4-axis positioning module, EtherCAT Master, 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-DxxxHx PLCs.					✓		
XBF-PN08B	$229.00	LS Electric XGB 8-axis positioning module, EtherCAT Master, 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-DxxxHx PLCs.					✓		
XBF-HO02A	$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.					✓	✓	✓
XBF-HD02A	$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.					✓	✓	✓

Note: See "Smart Link I/O System" on page tLSE-131 for the XTB-40H terminal block and cables. See "XGB PLC Replacement Terminals" on page tLSE-149 for replacement removable terminal blocks.