LS ELECTRIC

XGB Digital Modules

XBE-TP16A Digital Output Module

Part Number	Price	Classification	Description	Drawing
XBE-TP16A	$88.00	Digital Output	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.	PDF

General Specifications		XBE-TP16A
Input Point		16 point
Insulation Method		Photocoupler insulation
Rated Load Voltage		12/24 VDC
Load Voltage Range		10.2 – 26.4 VDC
Maximum Load Current		0.5 A / 1 point, 2A / 1COM
Off Leakage Current		0.1 mA or less
Maximum Inrush Current		4A / 10ms or less
Maximum Voltage Drop (On)		0.4 VDC or less
Over Voltage Protection		Zener diode
Response Time	Off → On	1ms or less
	On → Off	1ms or less (rated load, resistive load)
Common Method		16 point / COM
Proper Cable Size		Standard cable 0.3–0.75 mm^2 (external diameter 2.8 mm or less)
Current Consumption		60mA (when all point On)
External Power Supply	Voltage	12/24 VDC ± 10% (ripple voltage 4 Vp-p or less)
	Current	10mA or less (24VDC connection)
Operation Indicator		LED On when output On
External Connection Method		8 pin terminal block connector + 10 pin terminal block connector
Weight		40g

Display status LEDs

XBE-TP16A - Digital I/O Module Configuration

Direct Variables

The base rack slot number determines the Direct Variable name for the module. Each slot is automatically allocated 64 input points and 64 output points. See the chart below for the actual input Direct Variable assignments used.

FFor Direct Variable nomenclature explanation, see Direct Variable User Programming Memory.

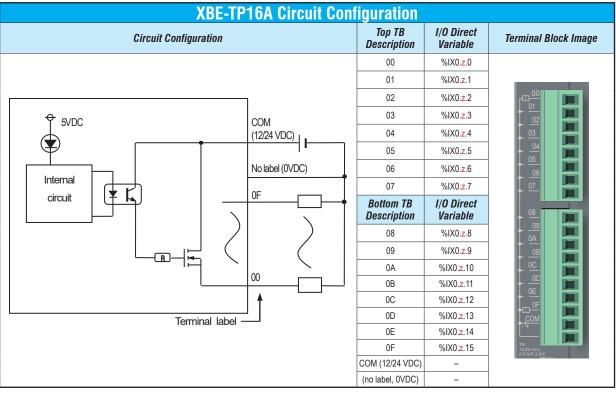| Part Number	PLC Memory Allocation	Actual I/O Direct Variable
XBE-TP16A	Input: %IX0.z.0 – %IX0.z.63 Output: %QX0.z.0 – %QX0.z.63	%QX0.z.0 – %QX0.z.15

"z" denotes the module slot (2 to 8).

Follow the Quick start video to learn how to Register and Configure any Digital I/O Module.

Digital Module Setup

XGB Digital Modules

XBE-TP16A Digital Output Module Wiring

XBE-TP16A Circuit Configuration			
Circuit Configuration	Top TB Description	I/O Direct Variable	Terminal Block Image
	00	%IX0.z.0	
	01	%IX0.z.1	
	02	%IX0.z.2	
	03	%IX0.z.3	
	04	%IX0.z.4	
	05	%IX0.z.5	
	06	%IX0.z.6	
	07	%IX0.z.7	
	Bottom TB Description	I/O Direct Variable	
	08	%IX0.z.8	
	09	%IX0.z.9	
	0A	%IX0.z.10	
	0B	%IX0.z.11	
	0C	%IX0.z.12	
	0D	%IX0.z.13	
	0E	%IX0.z.14	
	0F	%IX0.z.15	
	COM (12/24 VDC)	–	
	(no label, 0VDC)	–	

Note: In the I/O Direct Variable name, z=slot number.

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

LS ELECTRIC

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**	**Bus Coupler Compatible**	**Smart Link Required**	
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	$350.00	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	$395.00	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-125 for the XTB-40H terminal block and cables. See "XGB PLC Replacement Terminals" on page tLSE-124 for replacement removable terminal blocks.