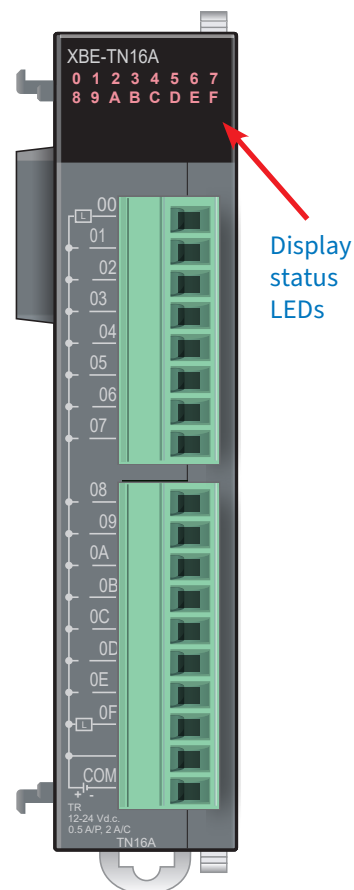


XBE-TN16A Digital Output Module

Part Number	Price	Classification	Description	Drawing
XBE-TN16A	\$78.00	Digital Output	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.	PDF

General Specifications		XBE-TN16A
Input Point		16 point
Insulation Method		Photo coupler 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		Output On, LED On
External Connection Method		8 pin terminal block connector + 10 pin terminal block connector
Weight		54g



XBE-TN16A - 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.

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

Part Number	PLC Memory Allocation	Actual I/O Direct Variable
XBE-TN16A	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](#)

XBE-TN16A Circuit Configuration

Circuit Configuration	Top TB Description	I/O Direct Variable	Terminal Block Image	
The diagram illustrates the internal circuit of the XBE-TN16A. It features a 5VDC supply connected to an internal circuit block. This block is linked to a relay assembly consisting of a coil (R) and a switch. The switch is controlled by the internal circuit and is connected to terminal 00. Terminal 0F is connected to a common terminal (COM) which is also connected to a 12/24 VDC supply. The terminal block is shown with terminals 00, 0F, and COM, and a label 'Terminal label' pointing to the COM terminal.	00	%QX0.z.0	The terminal block image shows a vertical arrangement of 16 terminals. The top 16 terminals are labeled 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D, 0E, 0F. Below these is a common terminal labeled COM. At the bottom, there is a label '12-24 V.d.c.'.	
	01	%QX0.z.1		
	02	%QX0.z.2		
	03	%QX0.z.3		
	04	%QX0.z.4		
	05	%QX0.z.5		
	06	%QX0.z.6		
	07	%QX0.z.7		
	Bottom TB Description			I/O Direct Variable
	08	%QX0.z.8		
	09	%QX0.z.9		
	0A	%QX0.z.10		
	0B	%QX0.z.11		
	0C	%QX0.z.12		
	0D	%QX0.z.13		
	0E	%QX0.z.14		
	0F	%QX0.z.15		
(no label, 12/24V)	—			
COM	—			

tLSE-39



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



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									
<u>XBE-DC08A</u>	\$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.	✓					✓	
<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-RY08A</u>	\$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.		✓				✓	
<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-TN08A</u>	\$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.		✓				✓	
<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-TP08A</u>	\$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.		✓				✓	
<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.	✓	✓				✓	✓
<u>XBE-DR16A</u>	\$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									
<u>XBF-PN04B</u>	\$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.					✓		
<u>XBF-PN08B</u>	\$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.					✓		
<u>XBF-HO02A</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.					✓	✓	✓

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.

Continued on next page