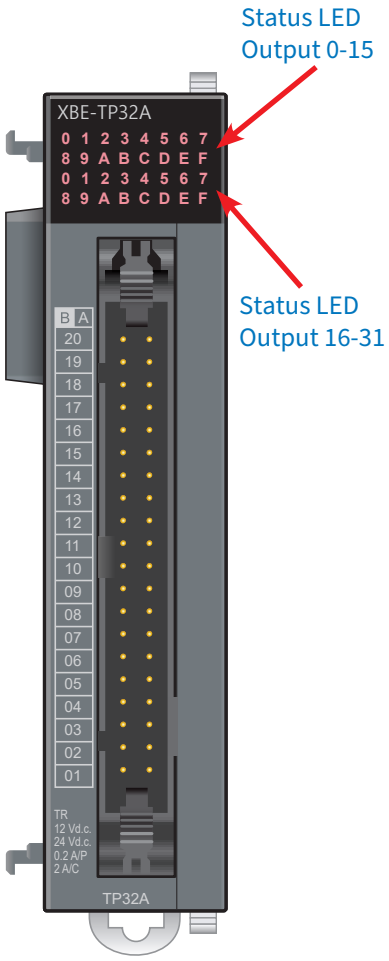
XBE-TP32A Digital Output Module

Part Number	Price	Classification	Description	Drawing
XBE-TP32A	$93.00	Digital Output	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.	PDF

General Specifications		XBE-TP32A
Input Point		32 point
Insulation Method		Photocoupler insulation
Rated Load Voltage		12/24 VDC
Load Voltage Range		10.2 – 26.4 VDC
Maximum Load Current		0.2 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		32 point / COM
Proper Cable Size		0.3 mm^2
Current Consumption		120mA (when all point On)
External Power Supply	Voltage	12/24 VDC ± 10% (ripple voltage 4 Vp-p or less)
	Current	20mA or less (24VDC connection)
Operation Indicator		LED On when output On
External Connection Method		40 pin connector
Weight		60g



XBE-TP32A - 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-TP32A	Input: %IX0.z.0 – %IX0.z.63 Output: %QX0.z.0 – %QX0.z.63	%QX0.z.0 – %QX0.z.31

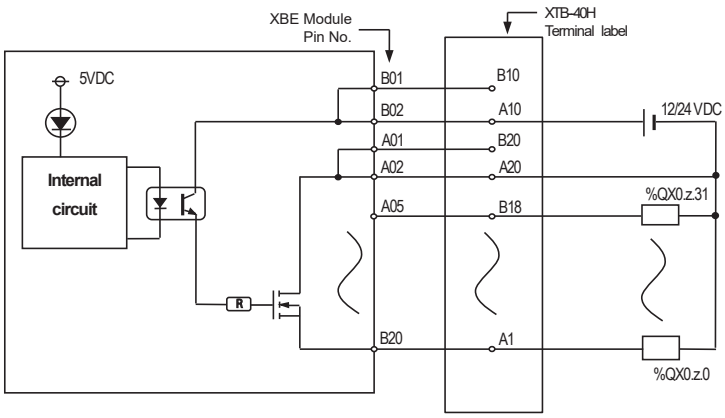
"z" denotes the module slot (2 to 8).

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

Digital Module Setup

XBE-TP32A Digital Output Module Wiring

XBE-TP32A Circuit Configuration

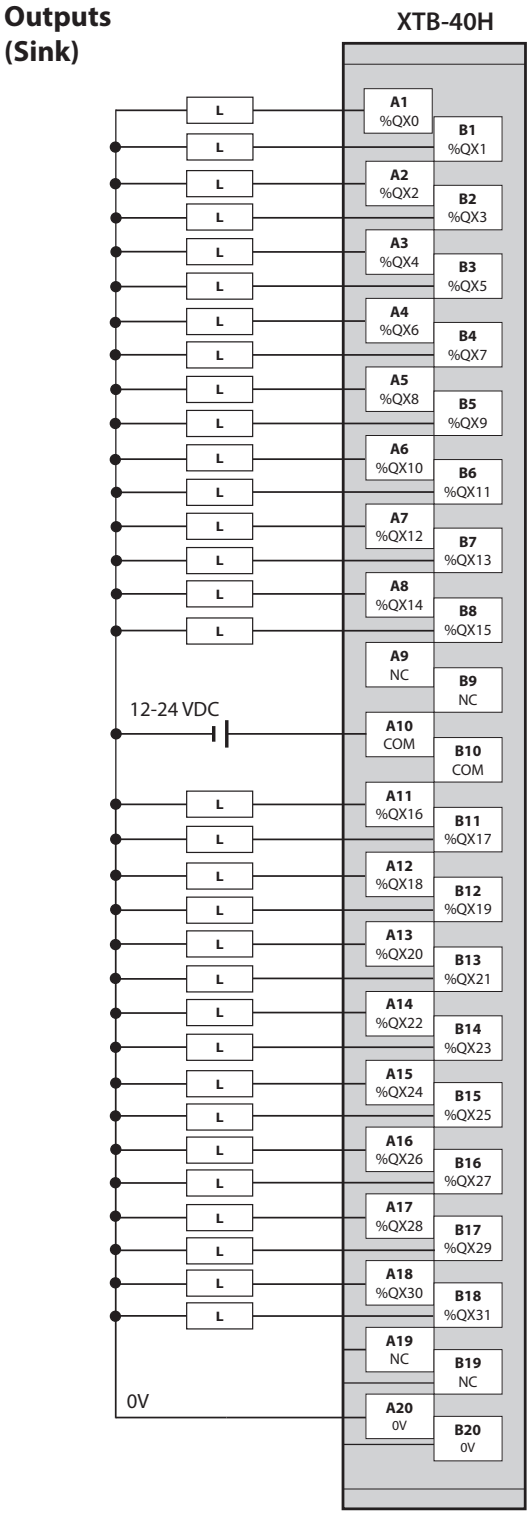
Circuit Configuration	Module Pins	XTB-40H Terminal	Direct Variable	Description
	B20	A1	%QX0.z.0	Output 0
	B19	B1	%QX0.z.1	Output 1
	B18	A2	%QX0.z.2	Output 2
	B17	B2	%QX0.z.3	Output 3
	B16	A3	%QX0.z.4	Output 4
	B15	B3	%QX0.z.5	Output 5
	B14	A4	%QX0.z.6	Output 6
	B13	B4	%QX0.z.7	Output 7
	B12	A5	%QX0.z.8	Output 8
	B11	B5	%QX0.z.9	Output 9
	B10	A6	%QX0.z.10	Output 10
	B09	B6	%QX0.z.11	Output 11
	B08	A7	%QX0.z.12	Output 12
	B07	B7	%QX0.z.13	Output 13
	B06	A8	%QX0.z.14	Output 14
	B05	B8	%QX0.z.15	Output 15
	B04	A9	–	NC
	B03	B9	–	NC
	B02	A10	–	External Power Common
	B01	B10	–	External Power Common
	A20	A11	%QX0.z.16	Output 16
	A19	B11	%QX0.z.17	Output 17
	A18	A12	%QX0.z.18	Output 18
	A17	B12	%QX0.z.19	Output 19
	A16	A13	%QX0.z.20	Output 20
	A15	B13	%QX0.z.21	Output 21
	A14	A14	%QX0.z.22	Output 22
	A13	B14	%QX0.z.23	Output 23
	A12	A15	%QX0.z.24	Output 24
	A11	B15	%QX0.z.25	Output 25
	A10	A16	%QX0.z.26	Output 26
	A09	B16	%QX0.z.27	Output 27
	A08	A17	%QX0.z.28	Output 28
	A07	B17	%QX0.z.29	Output 29
	A06	A18	%QX0.z.30	Output 30
	A05	B18	%QX0.z.31	Output 31
	A04	A19	–	NC
	A03	B19	–	NC
	A02	A20	–	0V GND
	A01	B20	–	0V GND

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

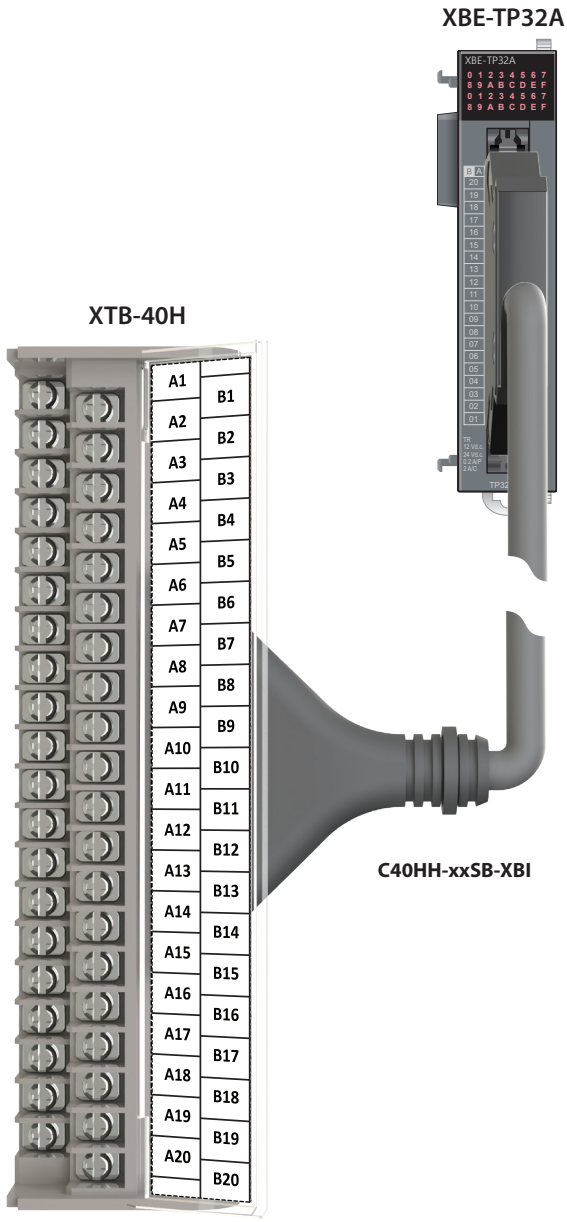
XBE-TP32A Digital Output Module Terminal Block Wiring

Download module specific XTB-40H Terminal Label Printouts here: Download Printouts

Terminal Wiring



PLC Connection



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

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-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

Smart Link I/O System

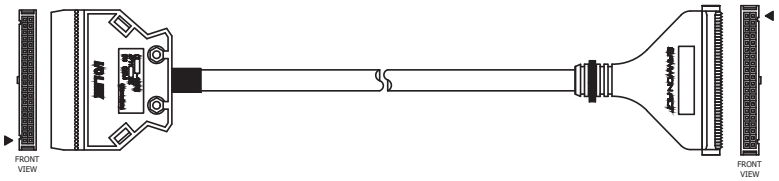
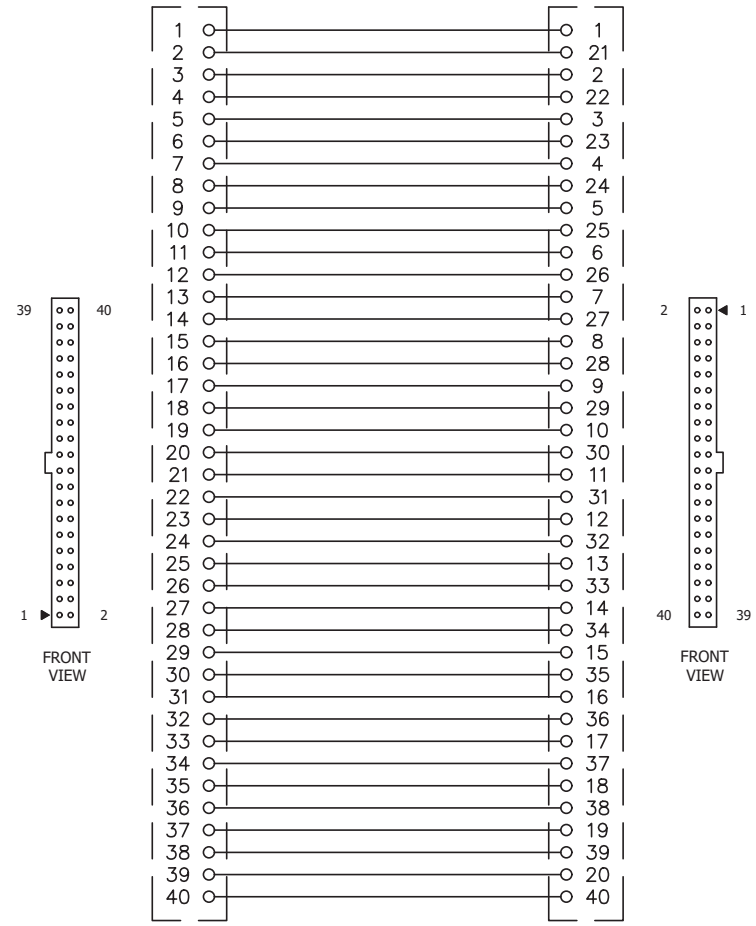
The Smart Link I/O system is a breakout wiring system used for high density I/O modules in the LS Electric XGB PLC series. The system is required for all modules with a 40-pin connection, and consists of a Smart Link cable with an XTB-40H terminal block.

Download module specific XTB-40H Terminal Label Printouts here: Terminal Printouts

Part Number	Price	Description	Length	Compatible With
XTB-40H	$20.00	LS Electric XGB terminal block, 40-pin screw type. For use with LS Electric XGB series high-density modules.	n/a	All LS XGB series PLCs and modules with 40-pin connectors
XTB-40H-LABEL	$3.00	AutomationDirect terminal label sheet, printed with terminal names for LS Electric XGB series modules. Package of 8. For use with XTB-40H terminal block.	n/a	
C40HH-05SB-XBI	$22.00	LS Electric XGB PLC I/O cable, 1.6ft/0.5m cable length, 40-pin connector to 40-pin connector. For use with LS Electric XGB series high-density modules.	0.5 m	
C40HH-10SB-XBI	$25.00	LS Electric XGB PLC I/O cable, 3.2ft/1m cable length, 40-pin connector to 40-pin connector. For use with LS Electric XGB series high-density modules.	1m	
C40HH-15SB-XBI	$29.00	LS Electric XGB PLC I/O cable, 4.9ft/1.5m cable length, 40-pin connector to 40-pin connector. For use with LS Electric XGB series high-density modules.	1.5 m	
C40HH-20SB-XBI	$36.00	LS Electric XGB PLC I/O cable, 6.5ft/2m cable length, 40-pin connector to 40-pin connector. For use with LS Electric XGB series high-density modules.	2m	
C40HH-30SB-XBI	$42.00	LS Electric XGB PLC I/O cable, 9.8ft/3m cable length, 40-pin connector to 40-pin connector. For use with LS Electric XGB series high-density modules.	3m	

XTB-40H Specifications		
Number of Pins		40 pin
Terminal Pitch		7.0 mm
Connector Type		MIL-C-83503 (50P polarity guide: 2EA)
Applicable Wires		AWG22–16 (1.5mm^2/MAX)
Insulation Resistance		100MΩ (500VDC)
Dielectric Strength		500VAC 1 minute
Screw		M3 x 8L
Screw Torque		1.2N•m (12kgf•cm)
Ambient Temperature		-10ºC to +50ºC (no freezing)
Material	Case	Modified PPO
	Protective Cover	Polycarbonate
	PCB	Epoxy 1.6t

Smart Link I/O System, Terminals and Cable Connections

Module to Cable to Terminal Pinouts		
Module Pins	**C40HH-xxSB-XBI**	**XTB-40H Terminal**
B20		A1
B19		B1
B18		A2
B17		B2
B16		A3
B15		B3
B14	HIROSE HIF3BA-40D-2.54R HIROSE HIF3BA-40D-2.54R	A4
B13		B4
B12		A5
B11		B5
B10		A6
B09		B6
B08		A7
B07		B7
B06		A8
B05		B8
B04		A9
B03		B9
B02		A10
B01		B10
A20		A11
A19		B11
A18		A12
A17		B12
A16		A13
A15		B13
A14		A14
A13		B14
A12		A15
A11		B15
A10		A16
A09		B16
A08		A17
A07		B17
A06		A18
A05		B18
A04		A19
A03		B19
A02		A20
A01		B20