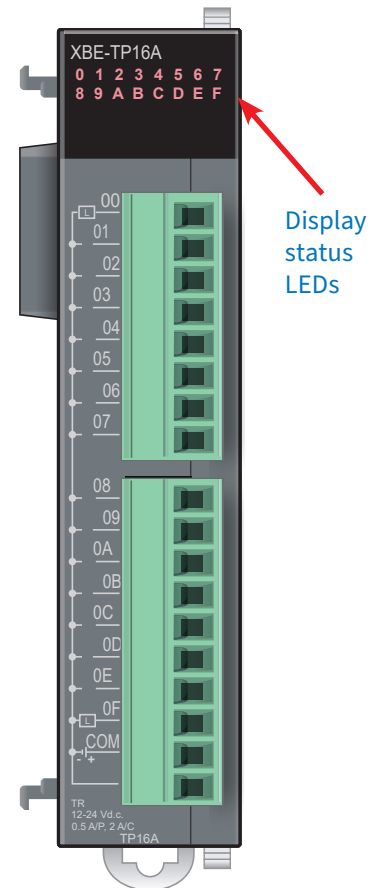


## XBE-TP16A Digital Output Module

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



## 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.

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

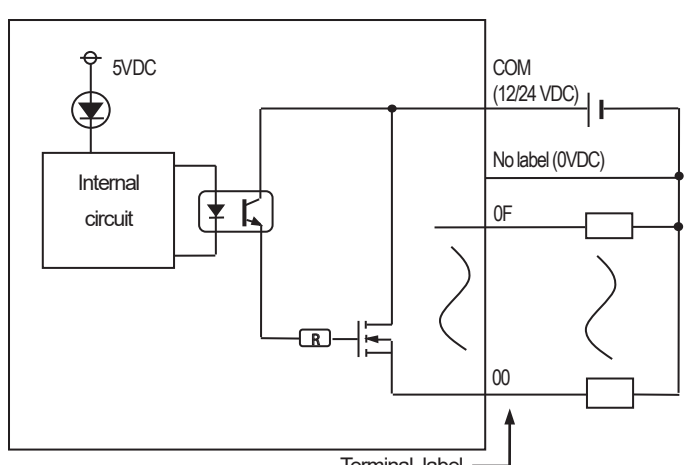
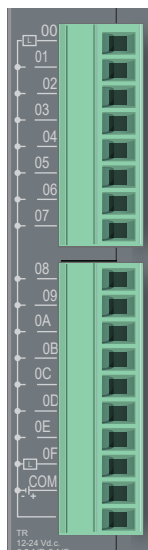
| Part Number      | PLC Memory Allocation                                       | Actual I/O Direct Variable |
|------------------|-------------------------------------------------------------|----------------------------|
| <b>XBE-TP16A</b> | Input: %IX0.z.0 – %IX0.z.63<br>Output: %QX0.z.0 – %QX0.z.63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

## 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 <sup>1</sup>        | 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 <sup>2</sup> (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 <sup>2</sup> (0.5G)                  |              |
| Shocks                        |                                      | Peak Acceleration                                   | 147 m/s <sup>2</sup> (15G)                       |                                              |              |
|                               |                                      | Duration                                            | 11ms                                             |                                              |              |
|                               |                                      | Pulse Wave Type                                     | Half-sine (3 times each direction per each axis) |                                              |              |
| Noise Resistance              | Square Wave Impulse Noise            |                                                     | 1,500VAC<br>900VDC                               | LS Electric standard                         |              |
|                               | Electrostatic Discharge              |                                                     | Voltage: 4kV (contact discharge)                 | IEC61131-3-2<br>IEC61000-4-2                 |              |
|                               | Radiated Electromagnetic Field Noise |                                                     | 80–1,000 MHz, 10 V/m                             | IEC61131-3-2<br>IEC61000-4-3                 |              |
|                               | Fast Transient / Burst Noise         | Classification                                      | Voltage                                          | IEC61131-3-2<br>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 |
| <b>Digital</b>                   |          |                                                                                                                                                                                                                                                                           |               |                |              |               |        |                        |                     |
| <a href="#"><u>XBE-DC08A</u></a> | \$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.                                                                                                                          | ✓             |                |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-DC16A</u></a> | \$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.                                                                                                                       | ✓             |                |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-DC16B</u></a> | \$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.                                                                                                                    | ✓             |                |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-DC32A</u></a> | \$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.                                                                                                 | ✓             |                |              |               |        | ✓                      | ✓                   |
| <a href="#"><u>XBE-AC08A</u></a> | \$88.00  | LS Electric XGB discrete input module, 8-point, 120 VAC, 2 common(s), 4 point(s) per common. Removable terminal blocks included.                                                                                                                                          | ✓             |                |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-RY08A</u></a> | \$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.                                                                                                    |               | ✓              |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-RY08B</u></a> | \$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.                                                                                                     |               | ✓              |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-RY16A</u></a> | \$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.                                                                                        |               | ✓              |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-TN08A</u></a> | \$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.                                                                                                       |               | ✓              |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-TN16A</u></a> | \$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.                                                                                                     |               | ✓              |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-TN32A</u></a> | \$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.                                                                               |               | ✓              |              |               |        | ✓                      | ✓                   |
| <a href="#"><u>XBE-TP08A</u></a> | \$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.                                                                                                      |               | ✓              |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-TP16A</u></a> | \$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.                                                                                                    |               | ✓              |              |               |        | ✓                      |                     |
| <a href="#"><u>XBE-TP32A</u></a> | \$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.                                                                              |               | ✓              |              |               |        | ✓                      | ✓                   |
| <a href="#"><u>XBE-DN32A</u></a> | \$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.                                                                  | ✓             | ✓              |              |               |        | ✓                      | ✓                   |
| <a href="#"><u>XBE-DR16A</u></a> | \$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.                                                              | ✓             | ✓              |              |               |        | ✓                      |                     |
| <b>Motion</b>                    |          |                                                                                                                                                                                                                                                                           |               |                |              |               |        |                        |                     |
| <a href="#"><u>XBF-PN04B</u></a> | \$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. |               |                |              |               | ✓      |                        |                     |
| <a href="#"><u>XBF-PN08B</u></a> | \$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. |               |                |              |               | ✓      |                        |                     |
| <a href="#"><u>XBF-HO02A</u></a> | \$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.                           |               |                |              |               | ✓      | ✓                      | ✓                   |
| <a href="#"><u>XBF-HD02A</u></a> | \$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