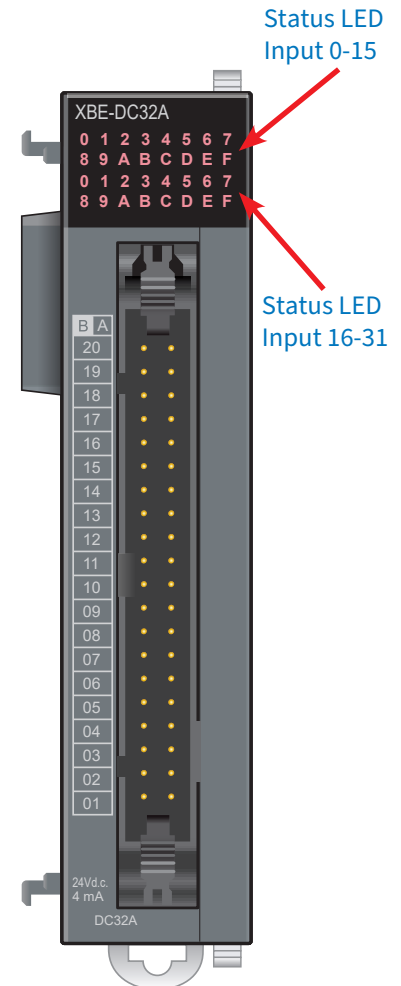


XBE-DC32A Digital Input Module

Part Number	Price	Classification	Description	Drawing
XBE-DC32A	\$97.00	Digital Input	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.	PDF

General Specifications		XBE-DC32A
Input Point		32 point
Insulation Method		Photo coupler insulation
Rated Input Voltage		24VDC
Rated Input Current		4mA
Operation Voltage Range		20.4–28.8 VDC (ripple rate <5%)
On Voltage/Current		19VDC or higher / 3mA or higher
Off Voltage/Current		6VDC or less / 1mA or less
Input Resistance		5.6 kΩ
Response Time	Off → On	1/3/5/10/20/70/100 ms (set by PLC parameter) Default: 3ms
	On → Off	
Insulation Pressure		560VACrms / 3 Cycle (2000m altitude)
Insulation Resistance		10MΩ or more by Megohmmeter
Common Method		32 point / COM
Proper Cable Size		Stranded cable 0.3 mm ²
Current Consumption		50mA (when all point On)
Operation Indicator		Input On, LED On
External Connection Method		40-pin connector
Weight		60g



XBE-DC32A - 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](#).

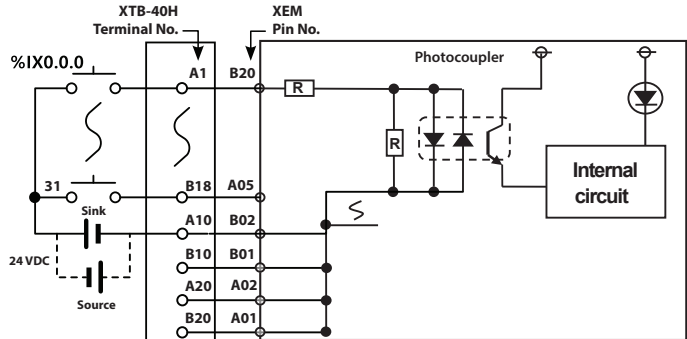
Part Number	PLC Memory Allocation	Actual I/O Direct Variable
XBE-DC32A	Input: %IX0.z.0 – %IX0.z.63 Output: %QX0.z.0 – %QX0.z.63	%IX0.z.0 – %IX0.z.31

“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-DC32A Digital Input Module Wiring

XBE-DC32A Circuit Configuration				
Circuit Configuration	Module Pins	XTB-40H Terminal	Direct Variable	Description
	B20	A1	%IX0.z.0	Input 0
	B19	B1	%IX0.z.1	Input 1
	B18	A2	%IX0.z.2	Input 2
	B17	B2	%IX0.z.3	Input 3
	B16	A3	%IX0.z.4	Input 4
	B15	B3	%IX0.z.5	Input 5
	B14	A4	%IX0.z.6	Input 6
	B13	B4	%IX0.z.7	Input 7
	B12	A5	%IX0.z.8	Input 8
	B11	B5	%IX0.z.9	Input 9
	B10	A6	%IX0.z.10	Input 10
	B09	B6	%IX0.z.11	Input 11
	B08	A7	%IX0.z.12	Input 12
	B07	B7	%IX0.z.13	Input 13
	B06	A8	%IX0.z.14	Input 14
	B05	B8	%IX0.z.15	Input 15
	B04	A9	—	NC
	B03	B9	—	NC
	B02	A10	—	COM
	B01	B10	—	COM
	A20	A11	%IX0.z.16	Input 16
	A19	B11	%IX0.z.17	Input 17
	A18	A12	%IX0.z.18	Input 18
	A17	B12	%IX0.z.19	Input 19
	A16	A13	%IX0.z.20	Input 20
	A15	B13	%IX0.z.21	Input 21
	A14	A14	%IX0.z.22	Input 22
	A13	B14	%IX0.z.23	Input 23
	A12	A15	%IX0.z.24	Input 24
	A11	B15	%IX0.z.25	Input 25
	A10	A16	%IX0.z.26	Input 26
	A09	B16	%IX0.z.27	Input 27
	A08	A17	%IX0.z.28	Input 28
	A07	B17	%IX0.z.29	Input 29
	A06	A18	%IX0.z.30	Input 30
	A05	B18	%IX0.z.31	Input 31
	A04	A19	—	NC
	A03	B19	—	NC
	A02	A20	—	COM
	A01	B20	—	COM

Note: Can be wired sinking or sourcing. In the I/O Direct Variable name, **z**=slot number.

Note 2: Input Ambient Temp Derating: Derate 5% for each degree above 50°C. Max 55°C (25% derating at 55°C).

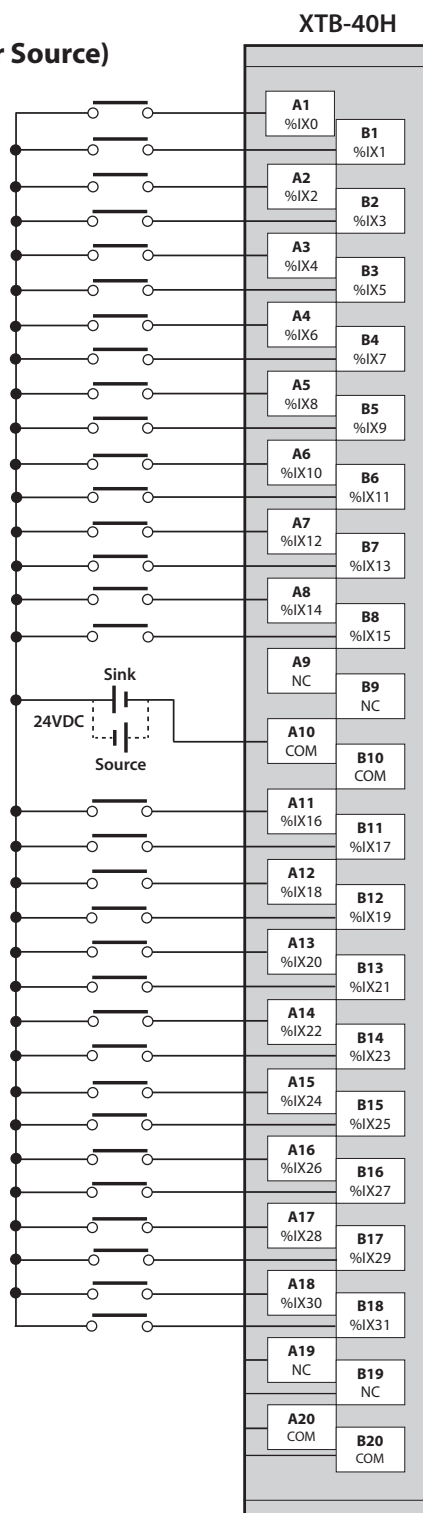
XBE-DC32A Digital Input Module Terminal Block Wiring

Download module specific XTB-40H Terminal Label Printouts here: [Download Printouts](#)

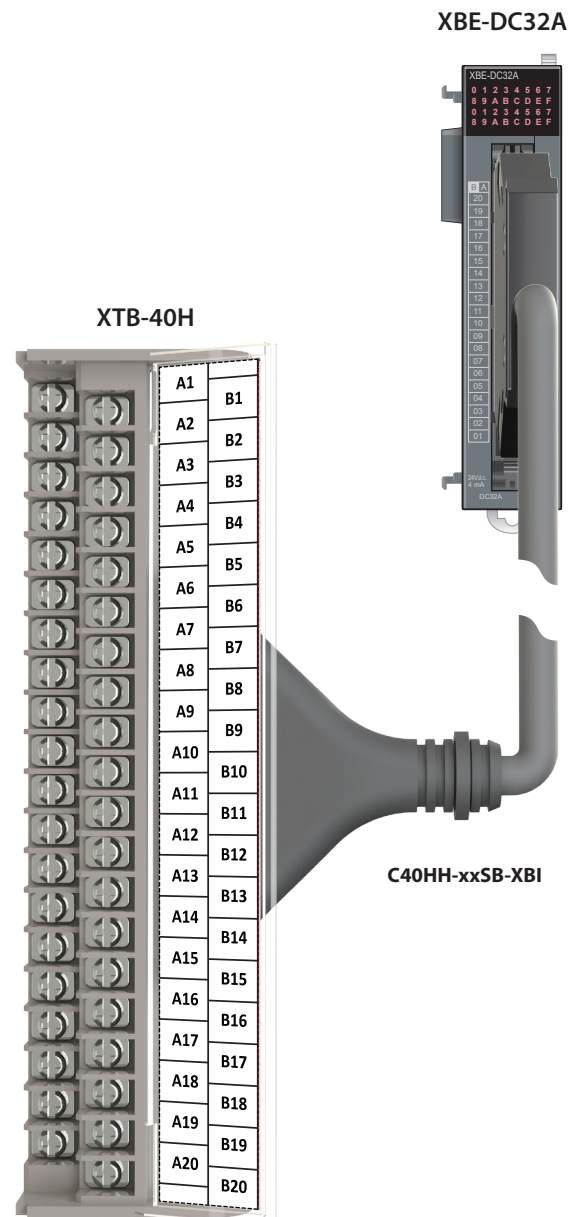
Terminal Wiring

Inputs

(Sink or Source)



PLC Connection



Note:

- Wiring: AWG22-16 (1.5mm²/MAX)
- Screw: M3 X 8L
- Screw Torque: 1.2 N·m (12kgf·cm)



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

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.

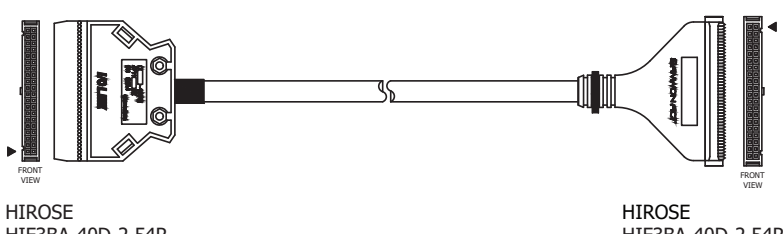
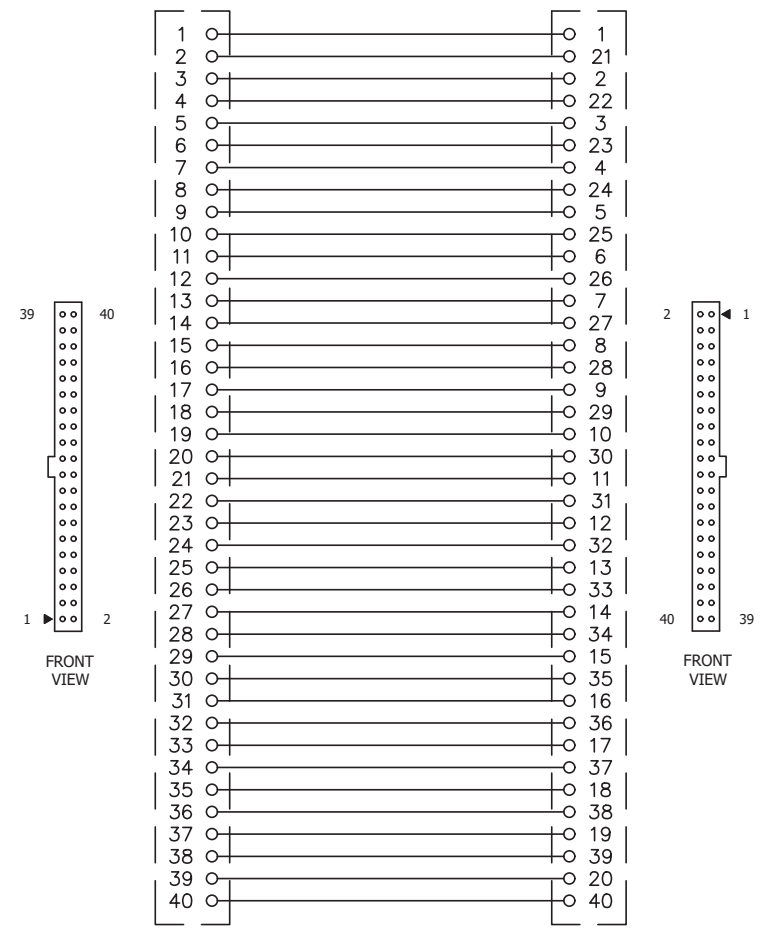
Download module specific XTB-40H Terminal Label Printouts here: [Terminal Printouts](#)



Part Number	Price	Description	Length	Compatible With
<u>XTB-40H</u>	\$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
<u>XTB-40H-LABEL</u>	\$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	
<u>C40HH-05SB-XBI</u>	\$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	
<u>C40HH-10SB-XBI</u>	\$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	
<u>C40HH-15SB-XBI</u>	\$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	
<u>C40HH-20SB-XBI</u>	\$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	
<u>C40HH-30SB-XBI</u>	\$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		-10°C to +50°C (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	 HIROSE HIF3BA-40D-2.54R HIROSE HIF3BA-40D-2.54R	A1
B19		B1
B18		A2
B17		B2
B16		A3
B15		B3
B14		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	 39 40 1 2 FRONT VIEW 2 1 40 39 FRONT VIEW	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