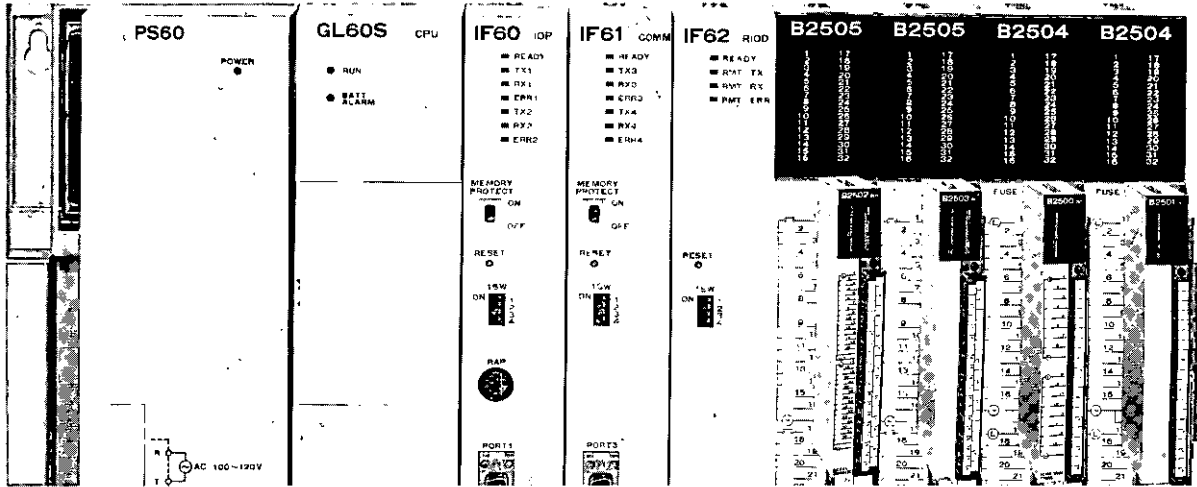


2000 Series I/O Modules

DESCRIPTIVE INFORMATION


FOR MEMOCON-SC GL40S, GL60S, GL60H, GL70H SERIES


TYPE JAMSC-B2




NOTES FOR SAFE OPERATION


Read these manuals thoroughly before use of 2000 Series I/O Modules. In these manuals, NOTES FOR SAFE OPERATION are classified as "WARNING" and "CAUTION".

 **WARNING** : Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to personnel.

 **CAUTION** : Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to personnel and damage to equipment. It may also be used to alert against unsafe practices.

Even items described in  **CAUTION** may result in a vital accident in some situations. In either case, follow these important notes.

The following shows the symbols of prohibition.

 **PROHIBITION** : Specifies prohibited handling.

After reading these manuals, keep it readily available for those using the equipment.

1 INSTALLATION



CAUTION

- The installation environment must meet the environmental conditions given in the product catalog and manuals.

Using the MEMOCON-SC in environments subject to high temperatures, high humidity, excessive dust, corrosive gases, vibration, or shock can lead to electrical shock, fire, or faulty operation.

Do not use the MEMOCON-SC in the following locations.

- Locations subject to direct sunlight or ambient temperatures not between 0 and 55°C.
 - Locations subject to relative humidity in excess of 95%, rapid changes in humidity, or condensation.
 - Locations subject to corrosive or flammable gas.
 - Locations that would subject the MEMOCON-SC to direct vibration or shock.
 - Locations subject to contact with water, oil, chemicals, etc.
- Do not allow wire clippings or other foreign matter to enter the MEMOCON-SC. Foreign matter can cause fires, product failure, or malfunctions.
 - Do not remove the cover of the connector where a Module is not mounted. Foreign matter can cause fires, product failure, or malfunctions.

2 WIRING



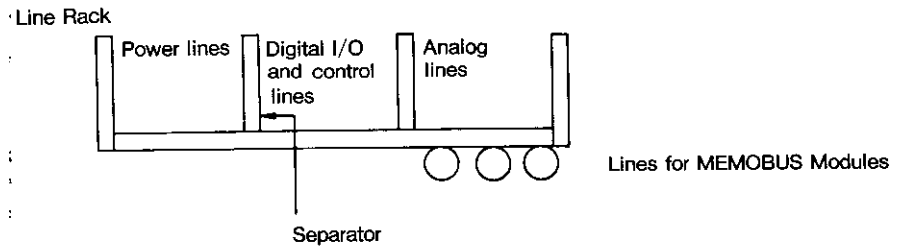
CAUTION

- Connect a power supply complying with the rated specifications.
A power supply that does not comply with the rating may cause a fire.
- Wiring must be performed by qualified personnel.
Mistakes in wiring can cause fires, product failure, or malfunctions.



Separate Wiring Properly.

- I/O lines connecting external devices to the 2000-series I/O Modules must be selected based on the following considerations:
mechanical strength, resistance to noise, wiring distance, signal voltage, etc.
- I/O lines must be separated from power lines both within and outside of the control panel to minimize the affects of noise. Faulty operation can result if I/O lines are not sufficiently separated from power lines.



3 OPERATION



WARNING

- Do not touch terminals while the power is ON.
There is danger of electric shock.



CAUTION

- Operations such as RUN, STOP, forced output, and program change during operation must be carried out with care.
Operational errors may damage the machine or cause accidents.
- Install a fuse between the output and the load for protection.
Otherwise, damage or fire may result due to overload or a short-circuit at the load.

4 MAINTENANCE



PROHIBITION

- Do not attempt to disassemble or modify the MEMOCON-SC in any way.
Doing so can cause fires, product failure, or malfunctions.



CAUTION

- Attaching, installing or removing other Modules is only to be made after the power is turned OFF.
Otherwise, electric shock, malfunction or breakdown will result.

5 GENERAL PRECAUTION

- MEMOCON-SC was not designed or manufactured for use in devices or systems that concern peoples' lives.
Users who intend to use the product described in this manual for special purposes such as devices or systems relating to transportation, medical, space aviation, atomic power control, or underwater use must contact YASKAWA representatives beforehand.
- This product has been manufactured under strict quality control guidelines. However, if this product is to be installed in any location in which a failure of MEMOCON-SC involves a life and death situation or in a facility where failure may cause a serious accident, safety devices must be installed to minimize the likelihood of any accident.
- Any illustrations, photographs, or examples used in this manual are provided as examples only and may not apply to all product to which this manual is applicable.
- The products and specifications described in this manual or the content and presentation of the manual may be changed without notice to improve the product and/or the manual.
A new version of the manual will be re-released under a revised document number when any changes are made.
- Contact your YASKAWA representative listed on the back of this manual to order a new manual whenever this manual is damaged or lost.
Please provide the document number listed on the front cover of this manual when ordering.
- Contact your YASKAWA representative listed on the back of this manual to order new nameplates whenever a nameplate becomes worn or damaged.
- YASKAWA cannot make any guarantee for products which have been modified.
YASKAWA assumes no responsibility for any injury or damage caused by a modified product.

OVERVIEW OF MANUAL

- This manual describes the functional specifications of the 2000-series I/O Modules used for the MEMOCON-SC GL40S, GL60S, GL60H and GL70H Programmable Controllers. Read this manual carefully in order to use the 2000-series I/O Modules properly. Also, keep this manual in a safe place so that it can be used whenever necessary.
- Refer to the following manuals for related Peripheral Devices and Modules.

Document Title	Document Number	Content
MEMOCON-SC GL60S DESCRIPTIVE INFORMATION	SIE-C815-14.1	Describes system configuration devices and their functions, specifications, application methods, etc., for the GL60S.
MEMOCON GL40S DESCRIPTIVE INFORMATION	SIE-C815-15.1	Describes system configuration devices and their function specifications application methods, etc., for the GL40S.
MEMOCON-SC GL60H/GL70H DESCRIPTIVE INFORMATION	SIE-C815-17.1	Describes system configuration devices and their functions, specifications, application methods, etc., for the GL60H, GL70H.
ANALOG I/O MODULE Memocon-SC 2000 SERIES DESCRIPTIVE INFORMATION	SIE-C815-13.9	Describes functions, specifications, application methods, etc., for the Analog I/O Module.
REVERSING COUNTER MODULE Memocon-SC 2000 SERIES DESCRIPTIVE INFORMATION	SIE-C815-13.11	Describes functions, specifications, application methods, etc., for the Reversing Counter Module.
POSITIONING MODULE B2803 Memocon-SC 2000 SERIES I/O DESCRIPTIVE INFORMATION	SIE-C815-13.13	Describes functions, specifications, application methods, etc., for the positioning Module B2803.
POSITIONING MODULE B2833 Memocon-SC 2000 SERIES I/O DESCRIPTIVE INFORMATION	SIE-C815-13.17	Describes functions, specifications, application methods, etc., for the Positioning Module B2833.

- Thoroughly check the specifications and conditions or restrictions of the product before use.

USING THIS MANUAL

This manual is written for those who already have a basic knowledge of MEMOCON PLCs. We recommend reading the MEMOCON-SC GL40S, GL60S and GL60H, GL70H Descriptive Information before attempting to read this manual.

• Meaning of Basic Terms

In this manual, the following terms indicate the meanings as described below, unless otherwise specified.

- PLC=Programmable (Logic) Controller
- PP=Programming Panel
- GL40S, GL60S =MEMOCON-SC GL40S, GL60S, GL60H, GL70H Programmable Controllers
GL60H, GL70H

1 2000 SERIS I/O MODULE SPECIFICATIONS

1.1 I/O MODULE SPECIFICATIONS

Table 1 I/O Module Specifications

Modules		Items	Type JAMSC-	Rated Voltage	Rated Current	Input Impedance	Remarks	Input Delay Time	Number of Inputs	Page					
Input	AC	100 V	B 2501A	100 VAC	10 mA	Approx. 10 k Ω (at 50 Hz)	—	OFF→ON 15 ms or less ON→OFF 25 ms or less	16	10					
		200 V	B 2503A	200 VAC		Approx. 20 k Ω	—			12					
		100 V	B 2505A	100 VAC		Approx. 10 k Ω	—		32	11					
		200 V	B 2507A	200 VAC		Approx. 20 k Ω	—			13					
	DC	12/24 V	B 2601	12/24 VDC	5 mA/10 mA	Approx. 2.4 k Ω	—	OFF→ON 5 ms or less	16	14					
		48 V	B 2611	48 VDC	9.4 mA	Approx. 5 k Ω	—			15					
		12/24 V	B 2603	12/24 VDC	5 mA/10 mA	Approx. 2.4 k Ω	—	OFF→ON 7 ms or less ON→OFF 10 ms or less	32	16					
			B 2605							2.5 mA/5 mA	Approx. 4.7 k Ω	—	OFF→ON 5 ms or less ON→OFF 10 ms or less	64	17
			B 2615												19
		5/12 V	B 2607	5/12 VDC	4 mA/11 mA	Approx. 1.2 k Ω	—	OFF→ON 0.5 ms or less ON→OFF 0.5 ms or less	32	21					
		5 V	B 2625	5 VDC	3.2 mA	Approx. 1.5 k Ω	—	OFF→ON 1 ms or less ON→OFF 1 ms or less	64	23					
		Register	B 2701	12/24 VDC	8 mA/DC 24V	Approx. 2.4 k Ω	—	—	—	8	25				
	B 2711		27												
	Analog	B 2703	0 to 10 V	—	—	Refer to the manual No.SIE-C815-13.9	—	—	8	—					
		B 2733	-10 to +10 V	—	—					—					
		B 2743	1 to 5 V	4 to 20 mA	—					—					
Instrumentation	B 2705	—	—	—	—	—	—	4	—						
Pulse Catch	B 2707	12/24 VDC	4.5 mA/9.5 mA	Approx. 2.4 k Ω	Consult YASKAWA representative	—	—	16	—						

Table 1 I/O Module Specifications (Cont'd)

Modules		Items	Type JAMSC	Rated Voltage	Load Current	Input Impedance	Remarks	Output Delay Time	Number of Outputs	Page
AC	100/200 V	B 2500	100/200 VAC	1 A/output 3 A/8 outputs	—	• With CR, varistor • Fuse *rating : 7.5 A/8 circuits	OFF→ON 10 ms or less ON→OFF 15 ms or less	16	29	
		B 2504		0.3 A/output 1.2 A/8 outputs	—	With CR, fuse	32	30		
DC	48 V	B 2610	48 VDC	200 mA/output	—	Fuse rating : 4 A/8 circuits	1 ms or less	16	31	
	12/24 V	B 2600	12/24 VDC	2 A/output, 5 A/8 outputs	—	Fuse rating : 7.5 A/8 circuits				
		B 2630		0.3 A/output, 0.6 A/4 outputs	—	Fuse rating : 4 A/16 circuits				
		B 2602A			0.3 A/output			—		
		B 2632		0.1 A/output, 0.4 A/8 outputs		—		—		
	B 2604	20 mA/output, 640 mA/32 outputs	—	—	32	35				
	5/12 V	B 2606	5/12 VDC	20 mA/output, 160 mA/8 outputs	—	—		64	36	
5 V	B 2624	5 VDC	20 mA/output, 160 mA/8 outputs	—	—	64	36			
Output	Terminal Type	B 2902	24 VDC 100 VAC 200 VAC	24 VDC 1 A/output 220 VAC 1 A/output	—	• Relay coil voltage : 24 VDC + 10 % • Min. operational voltage /current : 5 V/10 mA	OFF→ON 10 ms or less ON→OFF 15 ms or less	32	40	
	Connector Type	B 2912							41	
Relay Contact		B 2904	110 VDC 200 VAC	110 VDC 0.3 A/ inductive load 220 VAC 0.5 A/ inductive load	—	• Relay coil voltage : 24 VDC ± 5 % • Min. operational voltage : 5 V/1 mA	5 ms or less	16	38	
		B 2914		• Relay coil voltage : 24 VDC ± 5 % • Min. operational voltage : 24 V/10 mA	39					
Register		B 2700	12/24 VDC	100 mA/output	—	With fuse		8	42	
		B 2710			—				44	
Analog		B 2702	0 to 10 V	—	—	Refer to the manual No.SIE-C815-13.9	—	2		
		B 2712	0 to 5 V	—	—					
		B 2722	-5 to +5 V	—	—					
		B 2732	-10 to +10 V	—	—					
		B 2742	—	4 to 20 mA	—					

* Manufactured by Daitou Tsushin.

1.2 INPUT MODULES

(1) B2501A 100 VAC Input Module

Table 2 100 VAC Input Module Specifications

Items		Specifications
Type		JAMSC-B2501A
Number of Inputs		16-Inputs per module
Indicator		16-input status LED's, provided for each input, lighting up when input ON.
Electrical Characteristics	Input Conditions	ON level: ON at input voltage between 80 and 132 VAC continuous. OFF level: 30 VAC max
	Input Impedance	Approx 10k Ω
	Input Current	Approx 10mA (when supplying 100 VAC, 60HZ)
	Transient Voltage	200 VAC (1 cycle or less)
	Response Time	OFF to ON: 15ms max ON to OFF: 25ms max
	Insulation Voltage	1500 VAC for 1 minute
	Internal Consumed Current (Vcc)	40 mA TYP (Inputs ON)

Term. NO.	Signal Name
1	Input 1
2	Input 2
3	Input 3
4	Input 4
5	Input 5
6	Input 6
7	Input 7
8	Input 8
9	100VAC-1
10	Not used
11	Input 9
12	Input 10
13	Input 11
14	Input 12
15	Input 13
16	Input 14
17	Input 15
18	Input 16
19	100VAC-2
20	Not used

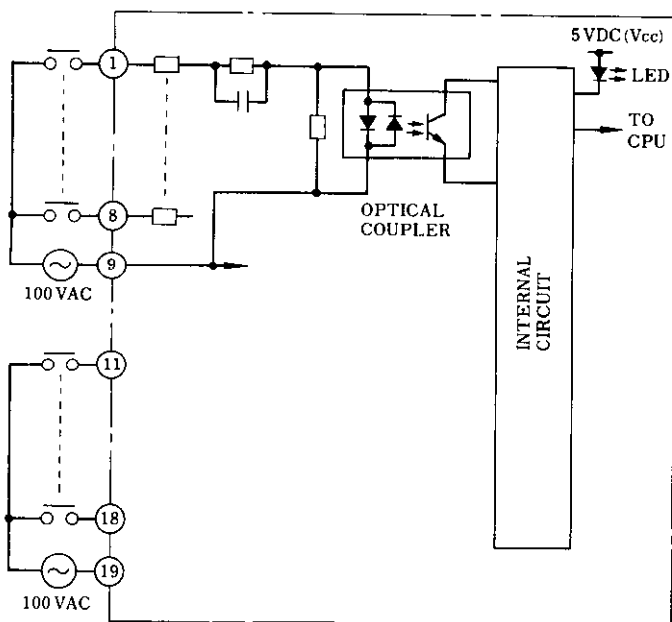


Fig.1 B2501A 100VAC Input Module Simplified Schematic

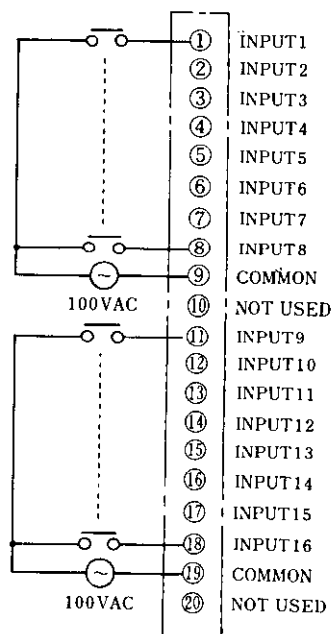


Fig.2 B2501A 100VAC Input Module Terminal Numbering and Input Connection

(2) B2505A 100 VAC Input Module

Table 3 100 VAC Input Module Specifications

Items		Specifications
Type		JAMSC-B2505A
Number of Inputs		32-Inputs per module
Indicator		32-input status LED's, provided for each input, lighting up when input ON.
Electrical Characteristics	Input Conditions	ON level: ON at input voltage between 80 and 132 VAC continuous. OFF level: 30 VAC max
	Input Impedance	Approx 10kΩ
	Input Current	Approx 10mA (when supplying 100 VAC, 60HZ)
	Transient Voltage	200 VAC (1 cycle or less)
	Response Time	OFF to ON: 15ms max ON to OFF: 25ms max
	Insulation Voltage	1500 VAC for 1 minute
	Internal Consumed Current (Vcc)	80 mA TYP (Inputs ON)

Signal Name	Term. NO.	Term. NO.	Signal Name
Input 2	2	1	Input 1
Input 4	4	3	Input 3
Input 6	6	5	Input 5
Input 8	8	7	Input 7
Input 9	10	9	Not used
Input 11	12	11	Input 10
Input 13	14	13	Input 12
Input 15	16	15	Input 14
100VAC-1	18	17	Input 16
Input 18	20	19	Input 17
Input 20	22	21	Input 19
Input 22	24	23	Input 21
Input 24	26	25	Input 23
Input 25	28	27	Not used
Input 27	30	29	Input 26
Input 29	32	31	Input 28
Input 31	34	33	Input 30
100VAC-2	36	35	Input 32
Not used	38	37	Not used

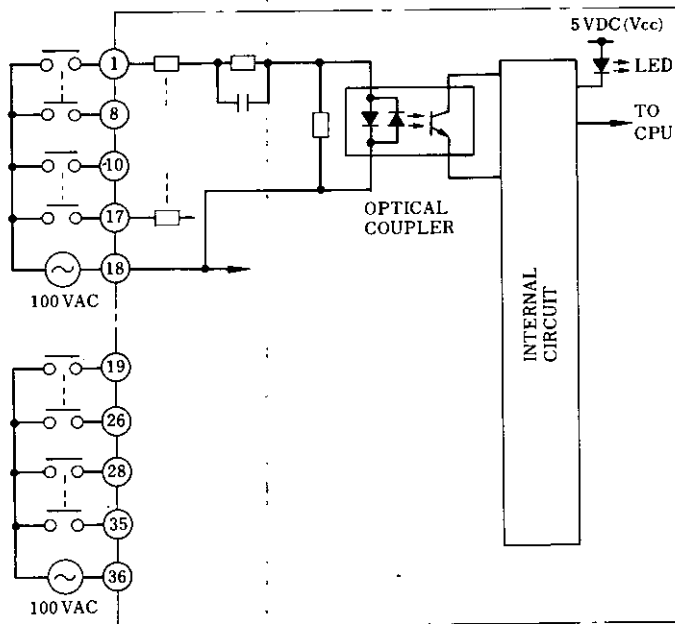


Fig. 3 B2505A 100VAC Input Module Simplified Schematic

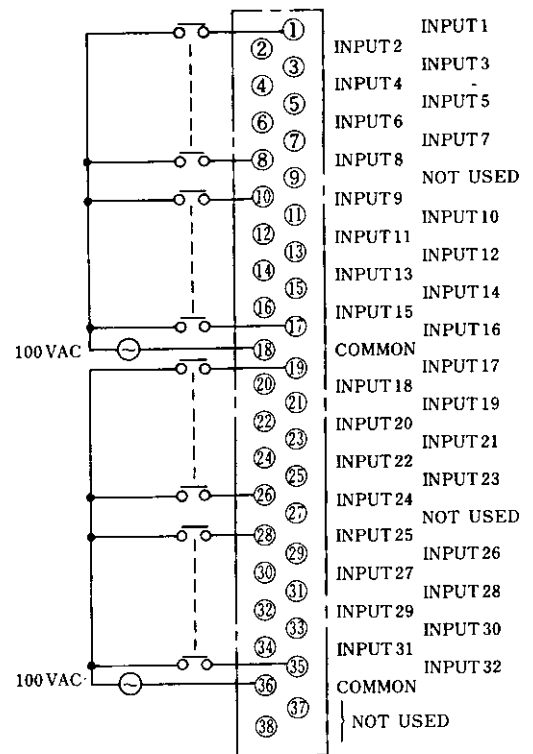


Fig. 4 B2505A 100VAC Input Module Terminal Numbering and Input Connection

(3) B2503A 200 VAC Input Module

Table 4 200 VAC Input Module Specifications

Items	Specifications	
Type	JAMSC-B2503A	
Number of Inputs	16-Inputs per module	
Indicator	16-input status LED's, provided for each input, lighting up when input ON.	
Electrical Characteristics	Input Conditions	ON level: ON at input voltage between 160 and 264 VAC continuous. OFF level: 70 VAC max
	Input Impedance	Approx 20k Ω
	Input Current	Approx 10mA (when supplying 200 VAC, 60HZ)
	Transient Voltage	400 VAC (1 cycle or less)
	Response Time	OFF to ON: 15ms max ON to OFF: 25ms max
	Insulation Voltage	1500 VAC for 1 minute
	Internal Consumed Current (Vcc)	40 mA TYP (Inputs ON)

Term. NO.	Signal Name
1	Input 1
2	Input 2
3	Input 3
4	Input 4
5	Input 5
6	Input 6
7	Input 7
8	Input 8
9	200VAC-1
10	Not used
11	Input 9
12	Input 10
13	Input 11
14	Input 12
15	Input 13
16	Input 14
17	Input 15
18	Input 16
19	200VAC-2
20	Not used

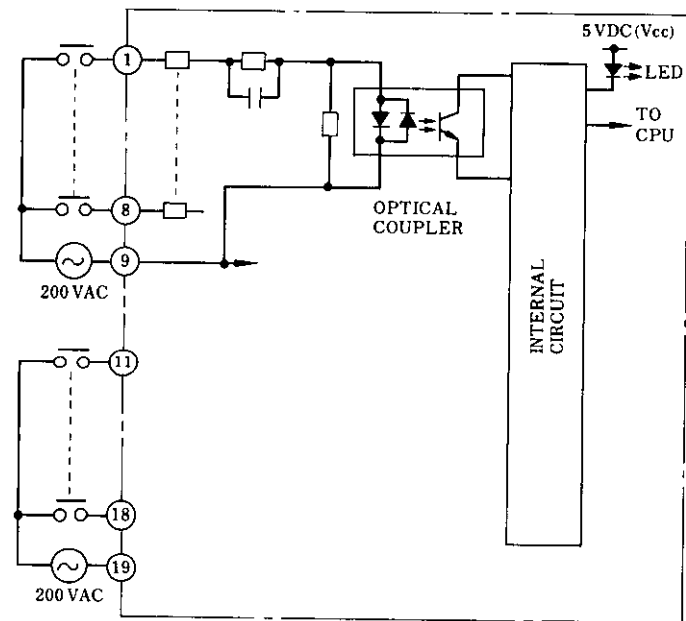


Fig. 5 B2503A 200VAC Input Module Simplified Schematic

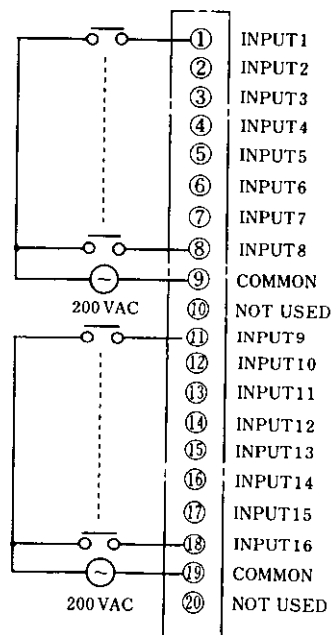


Fig. 6 B2503A 100VAC Input Module Terminal Numbering and Input Connection

(4) B2507A 200 VAC Input Module

Table 5 200 VAC Input Module Specifications

Items		Specifications
Type		JAMSC-B2507A
Number of Inputs		32-Inputs per module
Indicator		32-input status LED's, provided for each input, lighting up when input ON.
Electrical Characteristics	Input Conditions	ON level: ON at input voltage between 160 and 264 VAC continuous. OFF level: 70 VAC max
	Input Impedance	Approx 20kΩ
	Input Current	Approx 10mA (when supplying 200 VAC. 60HZ)
	Transient Voltage	400 VAC (1 cycle or less)
	Response Time	OFF to ON: 15ms max ON to OFF: 25ms max
	Insulation Voltage	1500 VAC for 1 minute
	Internal Consumed Current (Vcc)	80 mA TYP (Inputs ON)

Signal Name	Term. NO.	Term. NO.	Signal Name
Input 2	2	1	Input 1
Input 4	4	3	Input 3
Input 6	6	5	Input 5
Input 8	8	7	Input 7
Input 9	10	9	Not used
Input 11	12	11	Input 10
Input 13	14	13	Input 12
Input 15	16	15	Input 14
200VAC-1	18	17	Input 16
Input 8	20	19	Input 17
Input 20	22	21	Input 19
Input 22	24	23	Input 21
Input 24	26	25	Input 23
Input 25	28	27	Not used
Input 27	30	29	Input 26
Input 29	32	31	Input 28
Input 31	34	33	Input 30
200VAC-2	36	35	Input 32
Not used	38	37	Not used

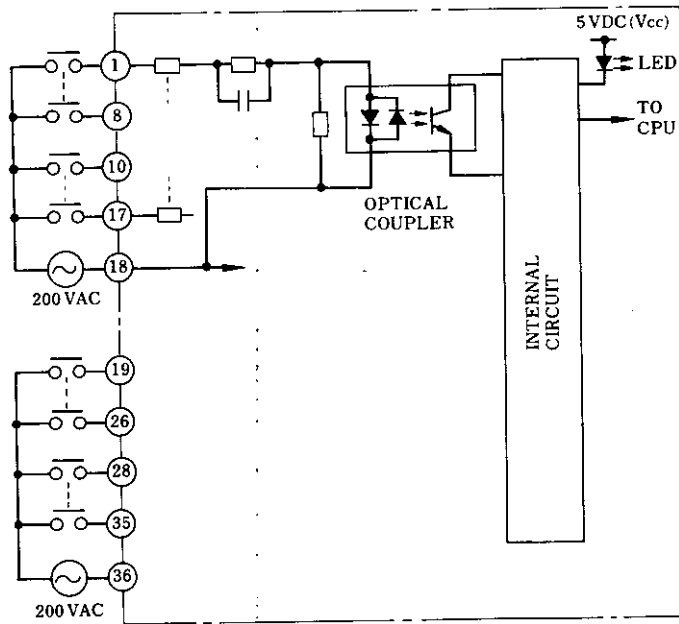


Fig. 7 B2507A 200VAC Input Module Simplified Schematic

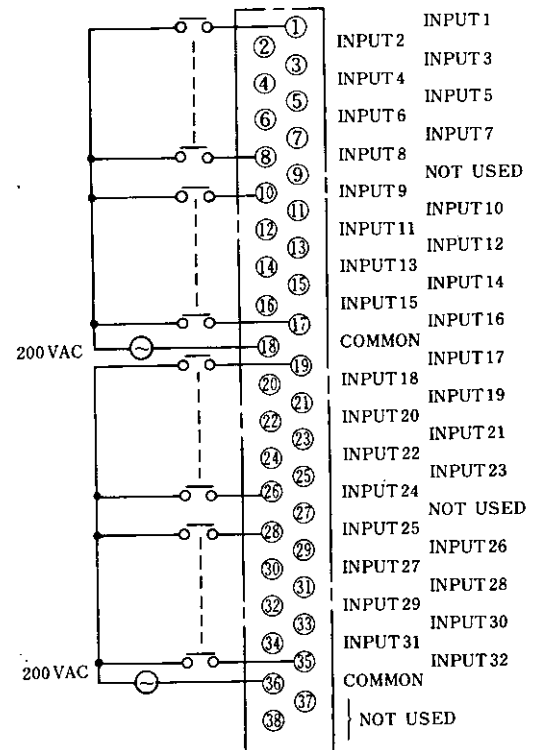


Fig. 8 B2507A 200VAC Input Module Terminal Numbering and Input Connection

(5) B2601 12/24 VDC Input Module

Table 6 12/24 VDC Input Module Specifications

Items	Specifications		
Type	JAMSC-B2601		
Number of Inputs	16-Inputs per module		
Indicators	16-Input status LED's, provided for each input, lighting up when input ON.		
Electrical Characteristics	Input Condition	ON level: 8 VDC min OFF level: 4 VDC max	} Across common and input terminals
	Input Impedance	Approx 2.4 kΩ	
	Input Current	10 mA/24 VDC, 5 mA/12 VDC	
	Working Voltage	10.2 to 26.4 VDC	
	Transient Voltage	35 V (Peak)	
	Response Time	OFF to ON: 5ms max ON to OFF: 5ms max	
	External Power Supply Current (per Module)	Inputs OFF	Inputs ON
		1 mA max	160 mA/24 VDC 80 mA/12 VDC
	Insulation Voltage	1500 VAC for 1 minute	
	Internal Consumed Current (Vcc)	40 mA TYP (Inputs ON)	

Term. NO.	Signal Name
1	Input 1
2	Input 2
3	Input 3
4	Input 4
5	Input 5
6	Input 6
7	Input 7
8	Input 8
9	12/24VDC-1
10	12/24VDC-1
11	Input 9
12	Input 10
13	Input 11
14	Input 12
15	Input 13
16	Input 14
17	Input 15
18	Input 16
19	12/24VDC-2
20	12/24VDC-2

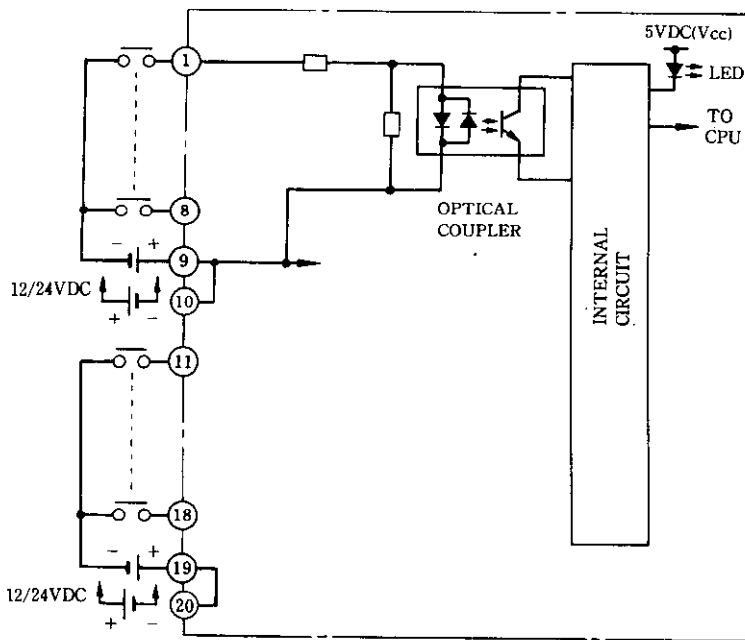


Fig.9 B2601 12/24 VDC Input Module Simplified Schematic

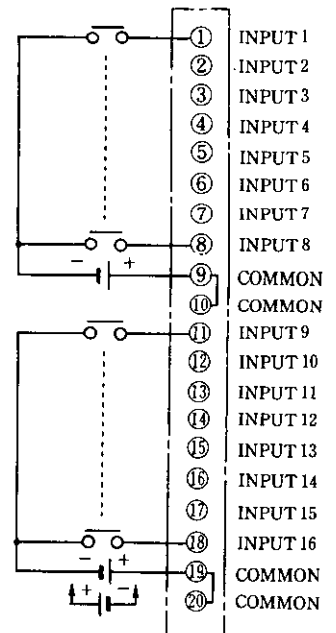


Fig. 10 B 2603 12/24 VDC Input Module Terminal Numbering and Input Connection

(6) B2611 48 VDC Input Module

Table 7 48 VDC Input Module Specifications

Items	Specifications		
Type	JAMSC-B2611		
Number of Inputs	16-Inputs per module		
Indicators	16-Input status LED's, provided for each input, lighting up when input ON.		
Electrical Characteristics	Input Condition	ON level: 30 VDC min OFF level: 20 VDC max	
	Input Impedance	Approx 5kΩ	
	Input Current	9.4mA/48 VDC	
	Working Voltage	40.8 to 52.8 VDC	
	Transient Voltage	70 V (Peak)	
	Response Time	OFF to ON: 5ms max ON to OFF: 5ms max	
	External Power Supply Current (per Module)	Inputs OFF	1 mA max
		Inputs ON	160 mA/48 VDC max
	Insulation Voltage	1500 VAC for 1 minute	
	Internal Consumed Current (Vcc)	40 mA TYP (Inputs ON)	

Term. NO.	Signal Name
1	Input 1
2	Input 2
3	Input 3
4	Input 4
5	Input 5
6	Input 6
7	Input 7
8	Input 8
9	48VDC-1
10	48VDC-1
11	Input 9
12	Input 10
13	Input 11
14	Input 12
15	Input 13
16	Input 14
17	Input 15
18	Input 16
19	48VDC-2
20	48VDC-2

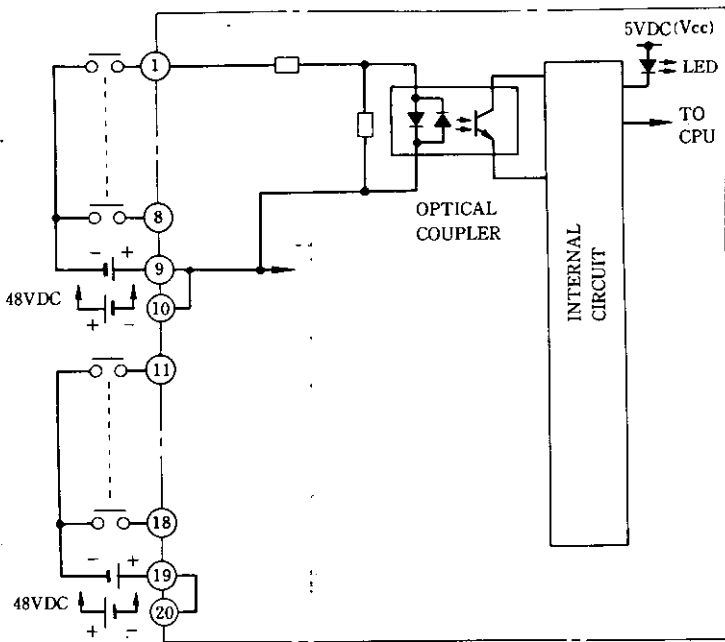


Fig. 11 B 2611 48VDC Input Module Simplified Schematic

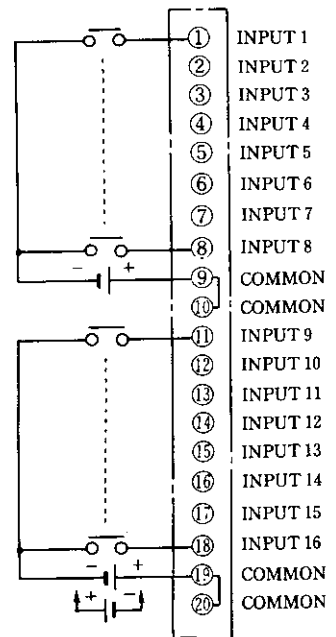


Fig. 12 B 2611 48 VDC Input Module Terminal Numbering and Input Connection

(7) B2603 12/24 VDC Input Module

Table 8 12/24 VDC Input Module Specifications

Items	Specifications		
Type	JAMSC-B2603		
Number of Inputs	32-Inputs per module		
Indicators	32-Input status LED's, provided for each input, lighting up when input ON.		
Electrical Characteristics	Input Condition	ON level: 9 VDC min OFF level: 6 VDC min	} Across common and input terminals
	Input Impedance	Approx 2.4kΩ	
	Input Current	10 mA/24 VDC, 5mA/12 VDC	
	Working Voltage	10.2 to 26.4 VDC	
	Transient Voltage	35V (Peak)	
	Response Time	OFF to ON: 7ms max ON to OFF: 10ms max	
	External Power Supply Current (per Module)	Inputs OFF	1 mA max
		Inputs ON	320 mA/24 VDC max. 160 mA/12 VDC max
	Insulation Voltage	1500 VAC for 1 minute	
	Internal Consumed Current (Vcc)	80 mA TYP (Inputs ON)	

Signal Name	Term. NO.	Term. NO.	Signal Name
		1	Input 1
Input 2	2	3	Input 3
Input 4	4	5	Input 5
Input 6	6	7	Input 7
Input 8	8	9	12/24VDC-1
Input 9	10	11	Input 10
Input 11	12	13	Input 12
Input 13	14	15	Input 14
Input 15	16	17	Input 16
12/24VDC-2	18	19	Input 17
Input 18	20	21	Input 19
Input 20	22	23	Input 21
Input 22	24	25	Input 23
Input 24	26	27	12/24VDC-3
Input 25	28	29	Input 26
Input 27	30	31	Input 28
Input 29	32	33	Input 30
Input 31	34	35	Input 32
12/24VDC-4	36	37	Not used
Not used	38		

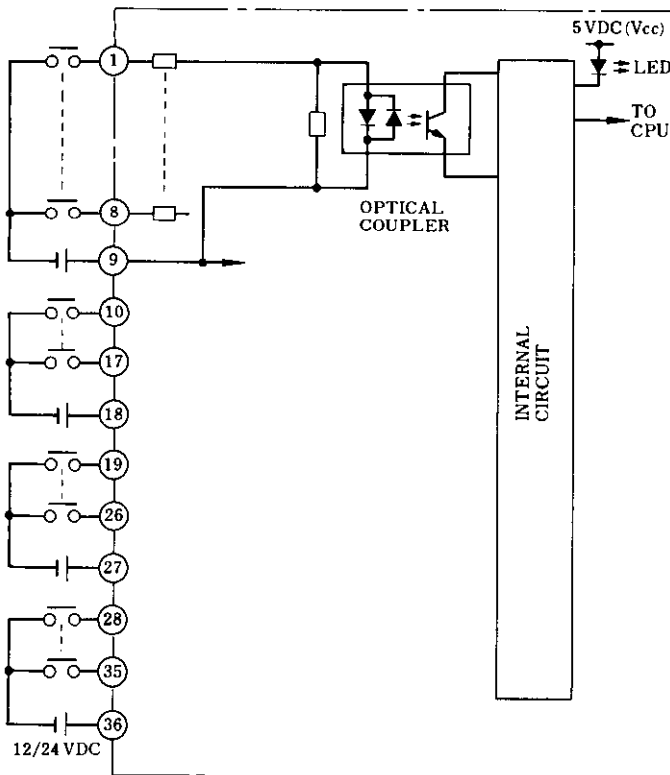
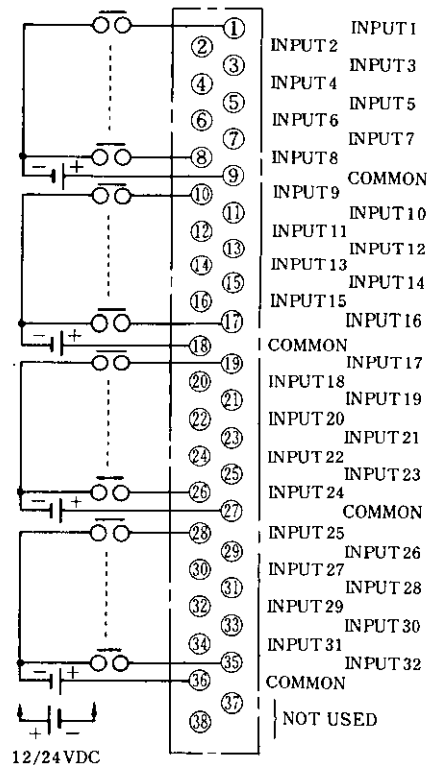


Fig. 13 B2603 12/24 VDC Input Module Simplified Schematic



Note: For external power supply, ± common is available.

Fig. 14 B2603 12/24 VDC Input Module Terminal Numbering and Input Connection

(8) B2605 12/24 VDC Input Module

Table 9 12/24 VDC Input Module Specifications

Items		Specifications				
Type		JAMSC-82605				
Number of Inputs		64-Inputs per module				
Indicators		32-Input status LED's, provided for each input (32 higher-/32 lower-order), lighting up when switching input ON.				
Electrical Characteristics	Input Condition	ON level: 9 VDC min } (Across common and input terminals) OFF level: 6 VDC max }				
	Input Impedance	Approx 4.7kΩ				
	Input Current	5 mA/24 VDC, 2.5mA/12 VDC				
	Working Voltage	10.2 to 26.4 VDC				
	Transient Voltage	35V (Peak)				
	Response Time	OFF to ON: 5ms max ON to OFF: 10ms max				
	External Power Supply Current (per Module)	<table border="1"> <thead> <tr> <th>Inputs OFF</th> <th>Inputs ON</th> </tr> </thead> <tbody> <tr> <td>1 mA max</td> <td>320 mA/24 VDC max. 160 mA/12 VDC max</td> </tr> </tbody> </table>	Inputs OFF	Inputs ON	1 mA max	320 mA/24 VDC max. 160 mA/12 VDC max
	Inputs OFF	Inputs ON				
	1 mA max	320 mA/24 VDC max. 160 mA/12 VDC max				
Insulation Voltage	1500 VAC for 1 minute					
Internal Consumed Current (Vcc)	80 mA TYP (Inputs ON)					

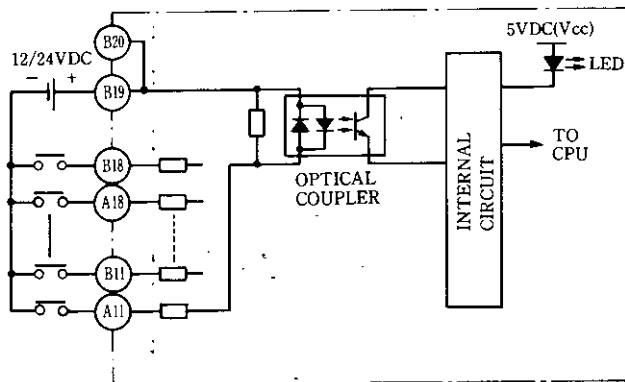
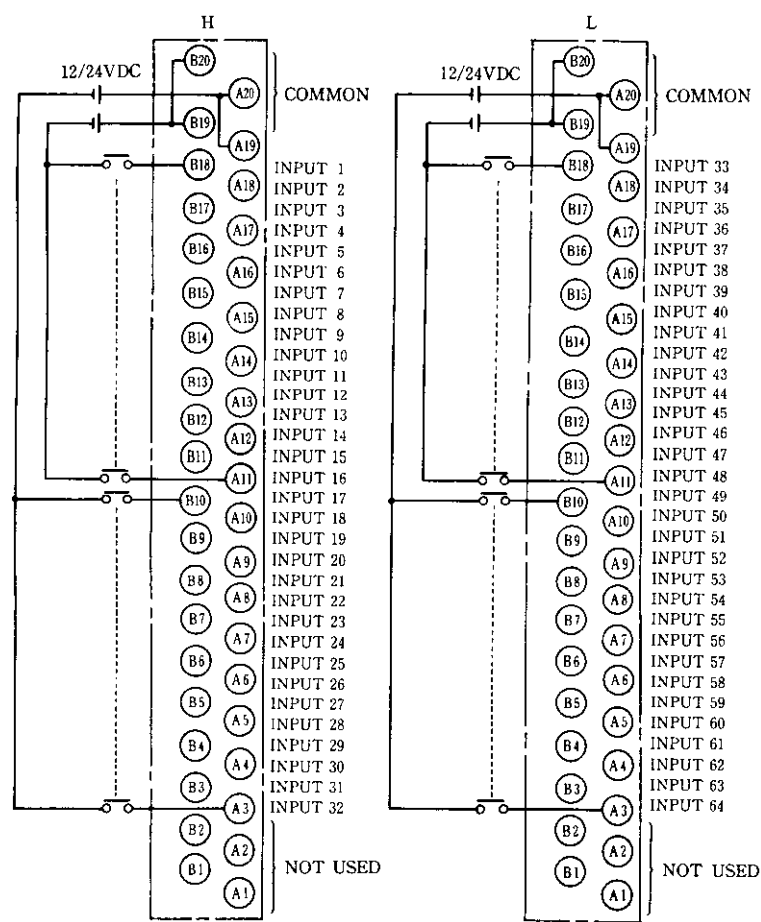


Fig.15 B 2605 12/24 VDC Input Module
Simplified Schematic

H				L			
Signal Name	Term. NO.	Term. NO.	Signal Name	Signal Name	Term. NO.	Term. NO.	Signal Name
12/24VDC-1	B 20	A 20	12/24VDC-2	12/24VDC-3	B 20	A 20	12/24VDC-4
12/24VDC-1	B 19	A 19	12/24VDC-2	12/24VDC-3	B 19	A 19	12/24VDC-4
Input 1	B 18	A 18	Input 2	Input 33	B 18	A 18	Input 34
Input 3	B 17	A 17	Input 4	Input 35	B 17	A 17	Input 36
Input 5	B 16	A 16	Input 6	Input 37	B 16	A 16	Input 38
Input 7	B 15	A 15	Input 8	Input 39	B 15	A 15	Input 40
Input 9	B 14	A 14	Input 10	Input 41	B 14	A 14	Input 42
Input 11	B 13	A 13	Input 12	Input 43	B 13	A 13	Input 44
Input 13	B 12	A 12	Input 14	Input 45	B 12	A 12	Input 46
Input 15	B 11	A 11	Input 16	Input 47	B 11	A 11	Input 48
Input 17	B 10	A 10	Input 18	Input 49	B 10	A 10	Input 50
Input 19	B 9	A 9	Input 20	Input 51	B 9	A 9	Input 52
Input 21	B 8	A 8	Input 22	Input 53	B 8	A 8	Input 54
Input 23	B 7	A 7	Input 24	Input 55	B 7	A 7	Input 56
Input 25	B 6	A 6	Input 26	Input 57	B 6	A 6	Input 58
Input 27	B 5	A 5	Input 28	Input 59	B 5	A 5	Input 60
Input 29	B 4	A 4	Input 30	Input 61	B 4	A 4	Input 62
Input 31	B 3	A 3	Input 32	Input 63	B 3	A 3	Input 64
Not used	B 2	A 2	Not used	Not used	B 2	A 2	Not used
Not used	B 1	A 1	Not used	Not used	B 1	A 1	Not used



ATTACHMENT (Made by FUJITSU LTD.)
 [CONNECTOR : FCN-361J040-AU40P]
 [CASE : FCN-360C040-B]

Fig. 16 B 2605 12/24 VDC Input Module Terminal Numbering and Input Connection

(9) B2615 12/24 VDC Input Module

Table 10 12/24 VDC Input Module Specifications

Items	Specifications					
Type	JAMSC-B2615					
Number of Inputs	64-Inputs per module					
Indicators	32-Input status LED's, provided for each input (32 higher-/32 lower-order), lighting up when switching input ON.					
Electrical Characteristics	Input Condition	ON level: 9 VDC min OFF level: 6 VDC max	} Across common and input terminals			
	Input Impedance	Approx 4.7kΩ				
	Input Current	5 mA/24 VDC. 2.5mA/12 VDC				
	Working Voltage	10.2 to 26.4 VDC				
	Transient Voltage	35V (Peak)				
	Response Time	OFF to ON: 5ms max ON to OFF: 10ms max				
	External Power Supply Current (per Module)	<table border="1"> <thead> <tr> <th>Inputs OFF</th> <th>Inputs ON</th> </tr> </thead> <tbody> <tr> <td>1 mA max</td> <td>320 mA/24 VDC max. 160 mA/12 VDC max</td> </tr> </tbody> </table>	Inputs OFF	Inputs ON	1 mA max	320 mA/24 VDC max. 160 mA/12 VDC max
	Inputs OFF	Inputs ON				
	1 mA max	320 mA/24 VDC max. 160 mA/12 VDC max				
	Insulation Voltage	1500 VAC for 1 minute				
Internal Consumed Current (Vcc)	80 mA TYP (Inputs ON)					

Note : Only common pins for external power supply are different from B2605.

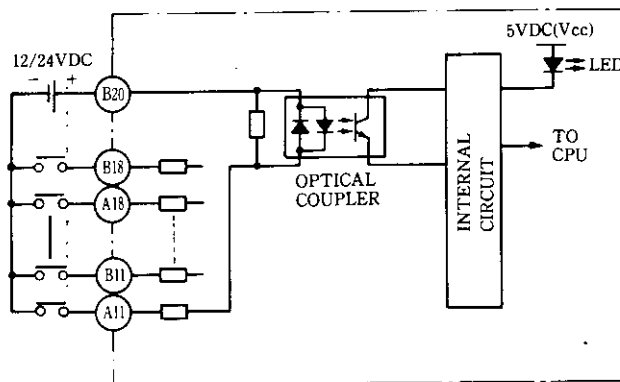
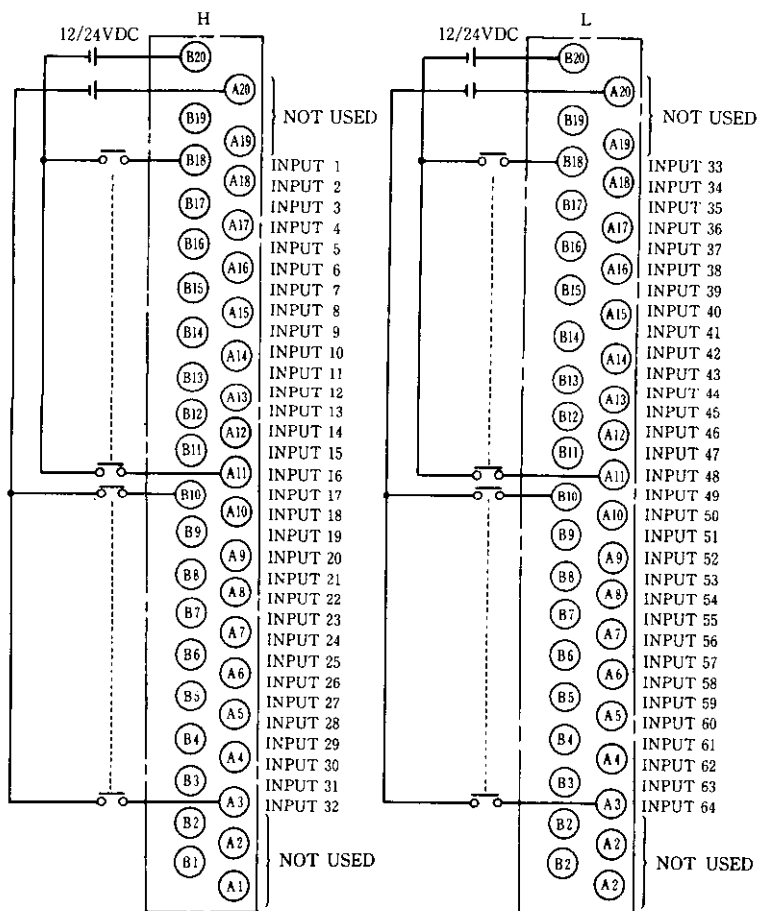


Fig. 17 B2615 12/24 VDC Input Module Simplified Schematic

H				L			
Signal Name	Term. NO.	Term. NO.	Signal Name	Signal Name	Term. NO.	Term. NO.	Signal Name
12/24VDC-1	B 20	A 20	12/24VDC-2	12/24VDC-3	B 20	A 20	12/24VDC-4
Not used	B 19	A 19	Not used	Not used	B 19	A 19	Not used
Input 1	B 18	A 18	Input 2	Input 33	B 18	A 18	Input 34
Input 3	B 17	A 17	Input 4	Input 35	B 17	A 17	Input 36
Input 5	B 16	A 16	Input 6	Input 37	B 16	A 16	Input 38
Input 7	B 15	A 15	Input 8	Input 39	B 15	A 15	Input 40
Input 9	B 14	A 14	Input 10	Input 41	B 14	A 14	Input 42
Input 11	B 13	A 13	Input 12	Input 43	B 13	A 13	Input 44
Input 13	B 12	A 12	Input 14	Input 45	B 12	A 12	Input 46
Input 15	B 11	A 11	Input 16	Input 47	B 11	A 11	Input 48
Input 17	B 10	A 10	Input 18	Input 49	B 10	A 10	Input 50
Input 19	B 9	A 9	Input 20	Input 51	B 9	A 9	Input 52
Input 21	B 8	A 8	Input 22	Input 53	B 8	A 8	Input 54
Input 23	B 7	A 7	Input 24	Input 55	B 7	A 7	Input 56
Input 25	B 6	A 6	Input 26	Input 57	B 6	A 6	Input 58
Input 27	B 5	A 5	Input 28	Input 59	B 5	A 5	Input 60
Input 29	B 4	A 4	Input 30	Input 61	B 4	A 4	Input 62
Input 31	B 3	A 3	Input 32	Input 63	B 3	A 3	Input 64
Not used	B 2	A 2	Not used	Not used	B 2	A 2	Not used
Not used	B 1	A 1	Not used	Not used	B 2	A 2	Not used



ATTACHMENT (Made by FUJITSU LTD.)
 [CONNECTOR : FCN-361J040-AU40P]
 [CASE : FCN-360C040-B]

Fig. 18 B2615 12/24 VDC Input Module Terminal Numbering and Input Connection

(10) B2607 5/12 VDC Input Module

Table 11 5/12 VDC Input Module Specifications

Items		Specifications	
Type		JAMSC-B2607	
Number of Inputs		32-Inputs per module	
Indicators		32-Input status LED's, provided for each input, lighting up when input ON.	
Electrical Characteristics	Input Condition	ON level: 3.5VDC min OFF level: 1.0VDC max	} (Across common and input terminals)
	Input Impedance	Approx 1.2kΩ	
	Input Current	4 mA/5 VDC, 11 mA/12 VDC	
	Working Voltage	4.5 to 13.2 VDC	
	Transient Voltage	18V (Peak)	
	Response Time	OFF to ON: 0.5 ms max ON to OFF: 0.5 ms max	
	External Power Supply Current (per Module)	Inputs OFF	1 mA max
		Inputs ON	390 mA/12 VDC max, 145 mA/ 5 VDC max
	Insulation Voltage	1500 VAC for 1 minute	
	Internal Consumed Current (Vcc)	100 mA TYP (Inputs ON)	

Signal Name	Term. NO.	Term. NO.	Signal Name
Input 2	2	1	Input 1
Input 4	4	3	Input 3
Input 6	6	5	Input 5
Input 8	8	7	Input 7
Input 9	10	9	5/12VDC-1
Input 11	12	11	Input 10
Input 13	14	13	Input 12
Input 15	16	15	Input 14
5/12VDC-2	18	17	Input 16
Input 18	20	19	Input 17
Input 20	22	21	Input 19
Input 22	24	23	Input 21
Input 24	26	25	Input 23
Input 25	28	27	5/12VDC-3
Input 27	30	29	Input 26
Input 29	32	31	Input 28
Input 31	34	33	Input 30
5/12VDC-4	36	35	Input 32
Not used	38	37	Not used

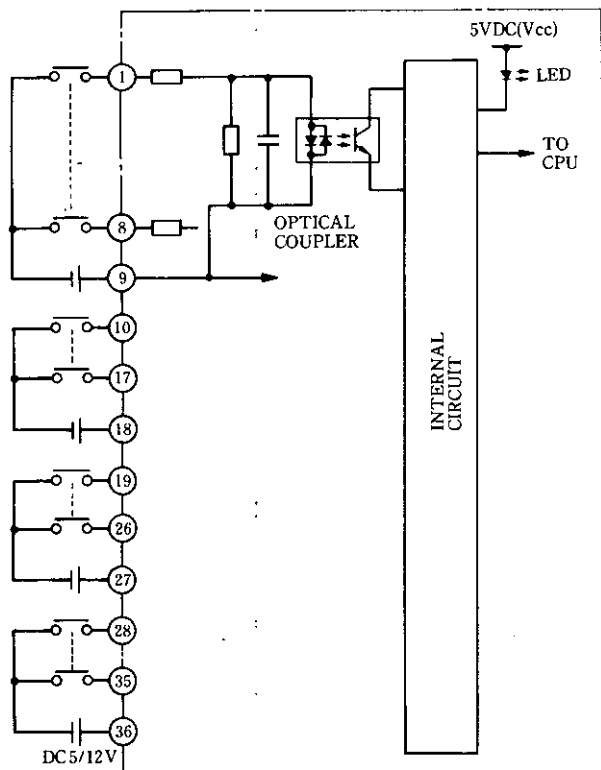


Fig. 19 B 2607 5/12 VDC Input Module Simplified Schematic

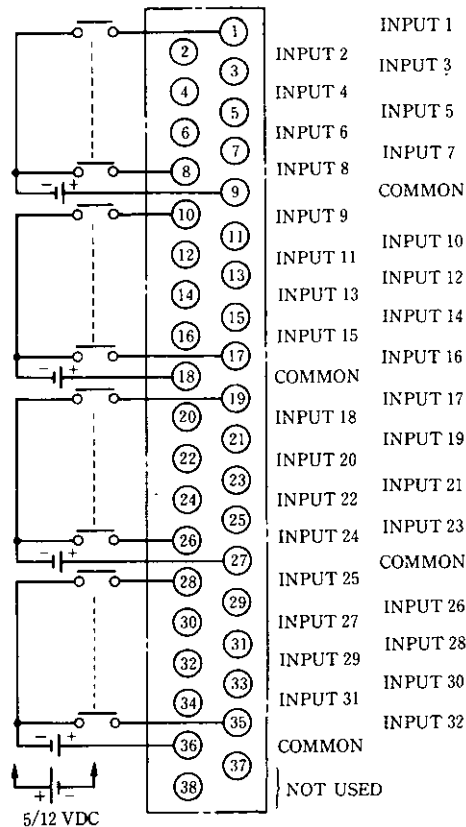


Fig. 20 B 2607 5/12 VDC Input Module Terminal Numbering and Input Connection

Note: For external power supply, ± common is available.

(1) B2625 5VDC Input Module

Table 12 5 VDC Input module Specifications

Items		Specifications				
Type		JAMSC-B2625				
Number of Inputs		64-Inputs per module				
Indicators		32-Input status LED's, provided for each input (32 higher-/32 lower-order), lighting up when switching input ON.				
Electrical Characteristics	Input Condition	ON level: 3 VDC min } (Across common and input terminals) OFF level: 2 VDC max }				
	Input Impedance	Approx 1.5k Ω				
	Input Current	3.2 mA/5 VDC				
	Working Voltage	4.5 to 5.5 VDC				
	Transient Voltage	35V (Peak)				
	Response Time	OFF to ON: 1ms max ON to OFF: 1ms max				
	External Power Supply Current (per Module)	<table border="1"> <thead> <tr> <th>inputs OFF</th> <th>Inputs ON</th> </tr> </thead> <tbody> <tr> <td>1 mA max</td> <td>.240 mA/5 VDC max.</td> </tr> </tbody> </table>	inputs OFF	Inputs ON	1 mA max	.240 mA/5 VDC max.
	inputs OFF	Inputs ON				
	1 mA max	.240 mA/5 VDC max.				
	Insulation Voltage	1500 VAC for 1 minute				
Internal Consumed Current (Vcc)	100 mA TYP (Inputs ON)					

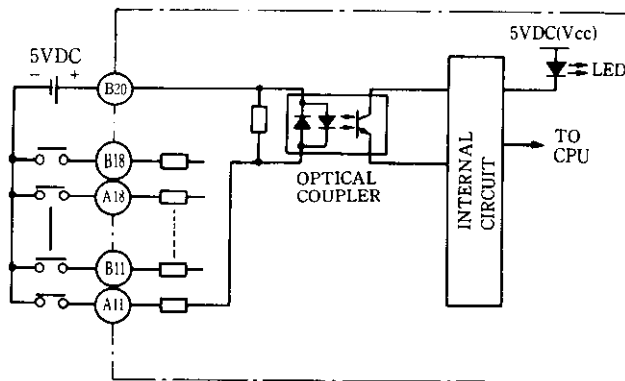
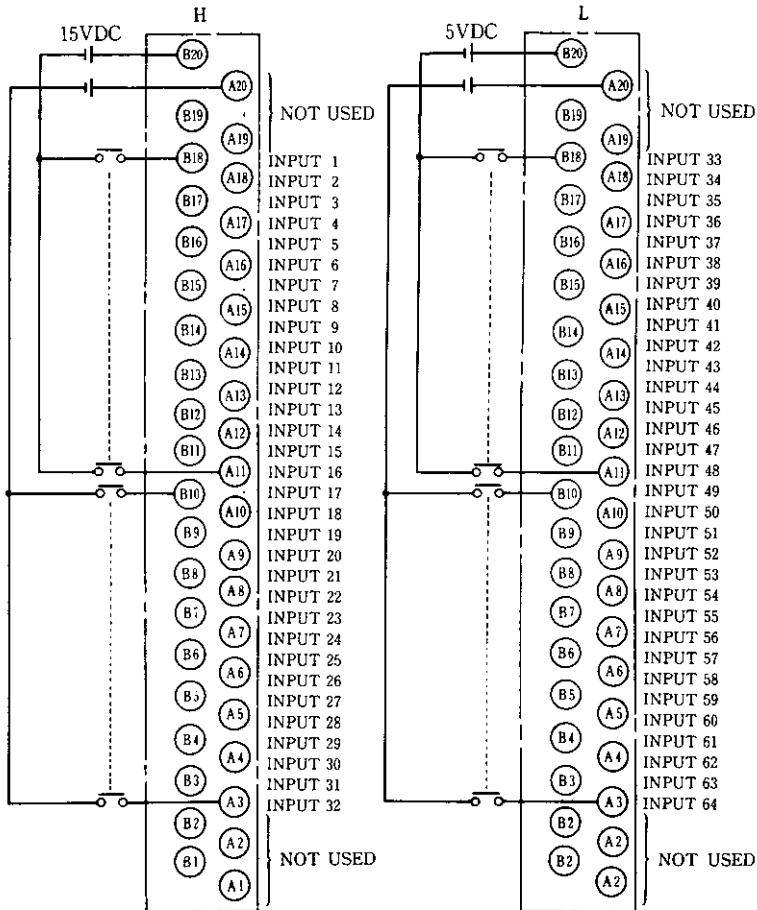


Fig.21 B2625 5 VDC Input Module Simplified Schematic

Signal Name	Term. NO.	Term. NO.	Signal Name
5VDC-1	B 20	A 20	5VDC-2
Not used	B 19	A 19	Not used
Input 1	B 18	A 18	Input 2
Input 3	B 17	A 17	Input 4
Input 5	B 16	A 16	Input 6
Input 7	B 15	A 15	Input 8
Input 9	B 14	A 14	Input 10
Input 11	B 13	A 13	Input 12
Input 13	B 12	A 12	Input 14
Input 15	B 11	A 11	Input 16
Input 17	B 10	A 10	Input 18
Input 19	B 9	A 9	Input 20
Input 21	B 8	A 8	Input 22
Input 23	B 7	A 7	Input 24
Input 25	B 6	A 6	Input 26
Input 27	B 5	A 5	Input 28
Input 29	B 4	A 4	Input 30
Input 31	B 3	A 3	Input 32
Not used	B 2	A 2	Not used
Not used	B 1	A 1	Not used

Signal Name	Term. NO.	Term. NO.	Signal Name
5VDC-3	B 20	A 20	5VDC-4
Not used	B 19	A 19	Not used
Input 33	B 18	A 18	Input 34
Input 35	B 17	A 17	Input 36
Input 37	B 16	A 16	Input 38
Input 39	B 15	A 15	Input 40
Input 41	B 14	A 14	Input 42
Input 43	B 13	A 13	Input 44
Input 45	B 12	A 12	Input 46
Input 47	B 11	A 11	Input 48
Input 49	B 10	A 10	Input 50
Input 51	B 9	A 9	Input 52
Input 53	B 8	A 8	Input 54
Input 55	B 7	A 7	Input 56
Input 57	B 6	A 6	Input 58
Input 59	B 5	A 5	Input 60
Input 61	B 4	A 4	Input 62
Input 63	B 3	A 3	Input 64
Not used	B 2	A 2	Not used
Not used	B 1	A 1	Not used



ATTACHMENT (Made by FUJITSU LTD.)
 [CONNECTOR : FCN-361J040-AU40P]
 CASE : FCN-360C040-B

Fig.22 B2625 5 VDC Input Module Terminal Numbering and Input Connection

(12) B2701 Register Input Module

Table 13 Register Input Module

Items	Specifications	
Type	JAMSC-B2701	
Number of Inputs	16-Bits × 8 registers*	
External Connection	Terminal	
Indicators	"READY" : Normal Module "BUS ACT" : Communication with CPU. "POWER" : Normal external power supply.	
Fuse Rating	Micro Fuse 1A, DM10	
Electrical Characteristics	External Power Supply Voltage. Current	10.8-26.4VDC, 50mA TYP/12VDC, 100mA TYP/24VDC
	Select Signal Output Voltage	External Power Supply Voltage Approx -2.5V (Source Output)
	Data Input Voltage	ON : 7V min. OFF : 3V max
	Data Input Current (per Point)	8 mA TYP/24VDC 4 mA TYP/12VDC
	Data Input Impedance	Approx. 2.4 Ω
	Select Cycle	64ms/32ms Switching method.
	Insulation Voltage	500 VDC for a minute.
	Internal Consumed Current (Vcc)	120mA TYP

Signal Name	Term. NO.	Term. NO.	Signal Name
DATA 2	2	1	DATA 1
DATA 4	4	3	DATA 3
DATA 6	6	5	DATA 5
DATA 8	8	7	DATA 7
DATA 10	10	9	DATA 9
DATA 12	12	11	DATA 11
DATA 14	14	13	DATA 13
DATA 16	16	15	DATA 15
SEL 2	18	17	SEL 1
SEL 4	20	19	SEL 3
SEL 6	22	21	SEL 5
SEL 8	24	23	SEL 7
Not used	26	25	SPEED
Not used	28	27	
Not used	30	29	Not used
Not used	32	31	Not used
Not used	34	33	Not used
0V	36	35	12/24VDC
FG	38	37	Not used

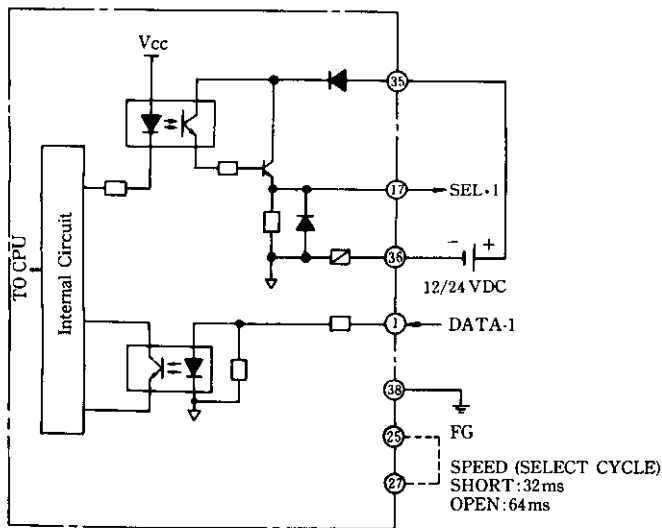
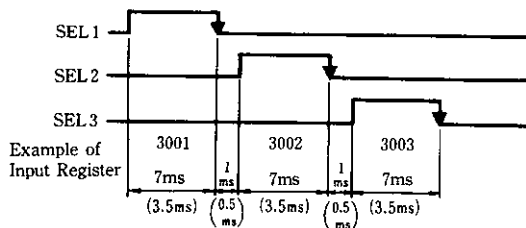


Fig.23 B2701 Register Input Module Simplified Schematic

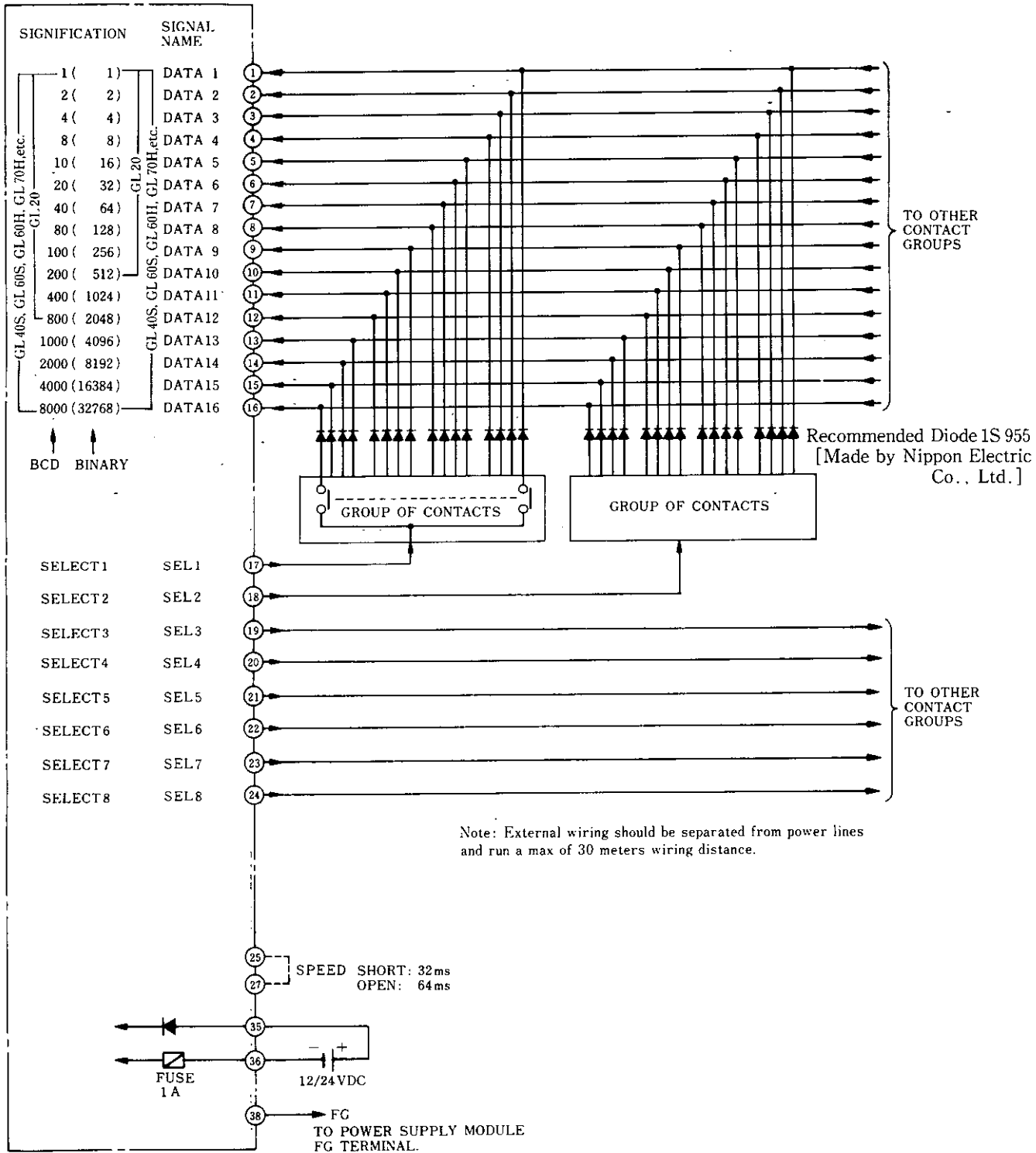
*When connected to GL20, module should be 3-digit BCD or 10-bit binary × 8 registers.



Note: Data in () show select cycle of 32ms.

Fig.24 Switching Timing of Select Signal

B2701



Note: External wiring should be separated from power lines and run a max of 30 meters wiring distance.

Fig.25 External Connection Diagram

(13) B2711 Register Input Module

Table 14 Register Input Module

Items		Specifications
Type		JAMSC-B2711
Number of Inputs		16-Bits × 8 registers
External Connection		Connector
Indicators		"READY" : Normal Module "BUS ACT" : Communication with CPU. "POWER" : Normal external power supply.
Fuse Rating		Micro Fuse 1A, DM10
Electrical Characteristics	External Power Supply Voltage, Current	10.8-26.4VDC, 50mA TYP/12VDC, 100mA TYP/24VDC
	Select Signal Output Voltage	External Power Supply Voltage Approx -2.5V Sink type
	Data Input Voltage	ON : 3V min , OFF : 9V max
	Data Input Current (per Point)	8 mA TYP/24VDC 4 mA TYP/12VDC
	Data Input Impedance	Approx. 2.4Ω
	Select Cycle	32/64/192/320ms Switching method.
	Insulation Voltage	500 VDC for a minute.
	Internal Consumed Current (Vcc)	150mA TYP

Signal Name	Term. NO.	Term. NO.	Signal Name
DATA 1	A 1	B 1	SEL 1
DATA 2	A 2	B 2	SEL 2
DATA 3	A 3	B 3	SEL 3
DATA 4	A 4	B 4	SEL 4
DATA 5	A 5	B 5	SEL 5
DATA 6	A 6	B 6	SEL 6
DATA 7	A 7	B 7	SEL 7
DATA 8	A 8	B 8	SEL 8
DATA 9	A 9	B 9	
DATA 10	A 10	B 10	OV *
DATA 11	A 11	B 11	OV *
DATA 12	A 12	B 12	OV
DATA 13	A 13	B 13	OV
DATA 14	A 14	B 14	OV
DATA 15	A 15	B 15	*
DATA 16	A 16	B 16	12/24VDC *
	A 17	B 17	12/24VDC *
	A 18	B 18	12/24VDC *
	A 19	B 19	
FG #	A 20	B 20	FG

Note: Signals with mark * are different from B1071.

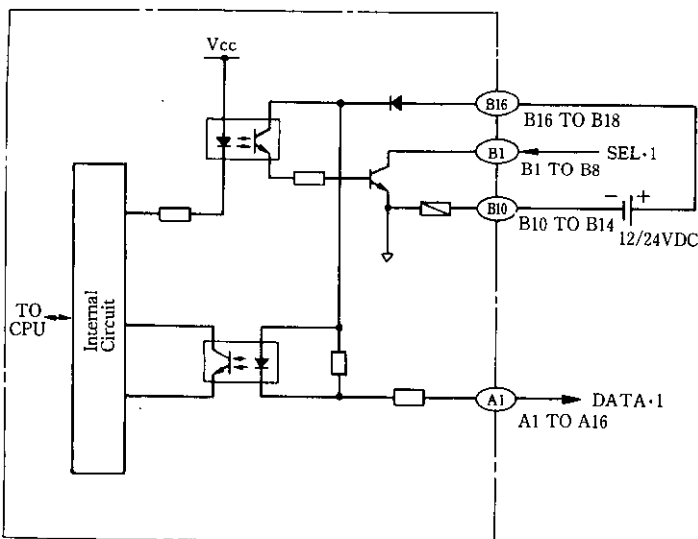
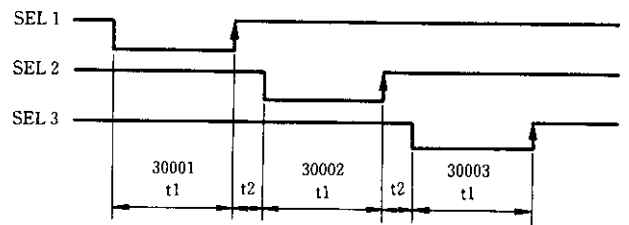


Fig.26 B2711 Register Input Module Simplified Schematic



Note: shows loading data.

Rotary Switch	t 1	t 2	1 cycle
0	3.5 ms	0.5 ms	32 ms
1	7 ms	1 ms	64 ms
2	21 ms	3 ms	192 ms
3 to E	35 ms	5 ms	320 ms
F	0.9 ms	0.4 ms	10 ms

Fig.27 Switching Timing of Select Signal

B2711

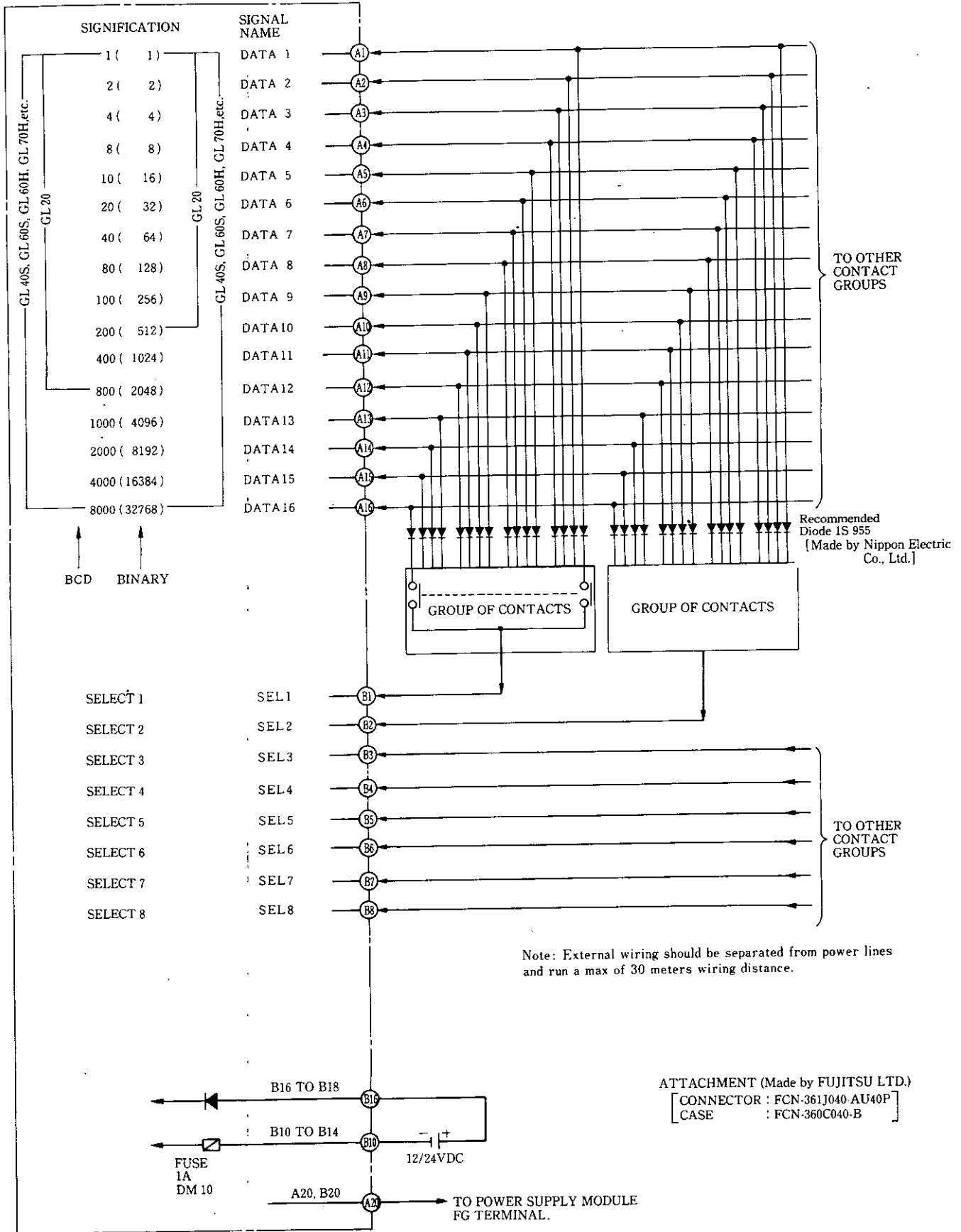


Fig.28 External Connection Diagram

1.3 OUTPUT MODULES

(1) B2500 100/200 VAC Output Module

Table 15 100/200 VAC Output Module Specifications

Items		Specifications	
Type		JAMSC-B2500	
Number of Outputs		16-Outputs per module	
Indicators		16-Output status LED's, provided for each output, lighting up when output ON (at internal logic side). 2-Blown fuses, provided for every 8 outputs, 1 LED lighting up with fuse blown.	
Fuse Rating		7.5 A MP 75	
Electrical Characteristics	Load Voltage	Working Voltage	80 to 240 VAC
		Max Voltage	264 VAC
		Average ON Voltage	1.5 V rms (Load current: 1 A rms)
	Load Current	ON Current	1 A rms per output, 3 A per 8 outputs
		OFF Current	1.5 mA rms (100 VAC 50Hz), 3 mA rms (240 VAC 50Hz)
		Inrush Current	20A (10 ms)
		Min Load Current	10 mA rms
	Response Time		OFF to ON: 1ms max ON to OFF: 1/2 Cycle + 1 ms max
	Insulation Voltage		1500 VAC for 1 minute
	Internal Consumed Current		(Vcc) 190 mA TYP (Outputs ON) (VD) 290 mA TYP (Outputs ON)

Term. NO.	Signal Name
1	Output 1
2	Output 2
3	Output 3
4	Output 4
5	Output 5
6	Output 6
7	Output 7
8	Output 8
9	100/200 VAC-1
10	
11	Output 9
12	Output 10
13	Output 11
14	Output 12
15	Output 13
16	Output 14
17	Output 15
18	Output 16
19	100/200 VAC-2
20	

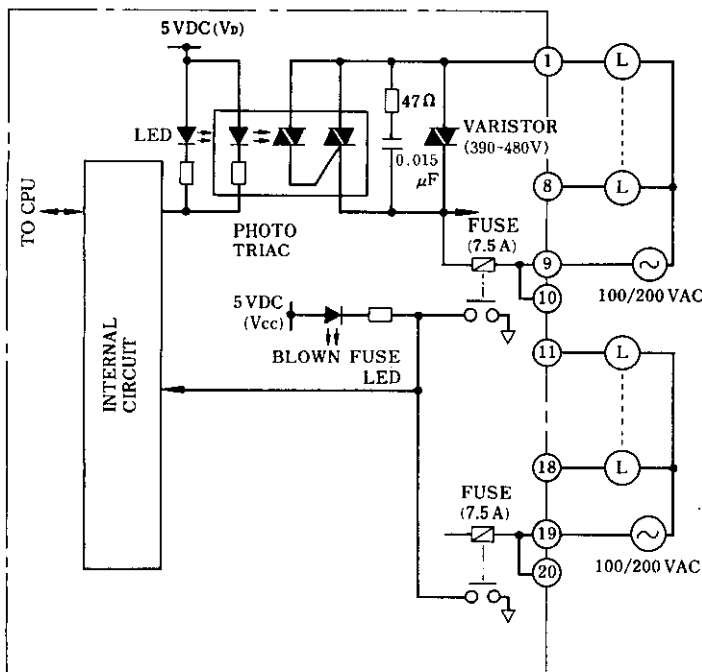


Fig.29 B2500 100/200VAC Output Module Simplified Schematic

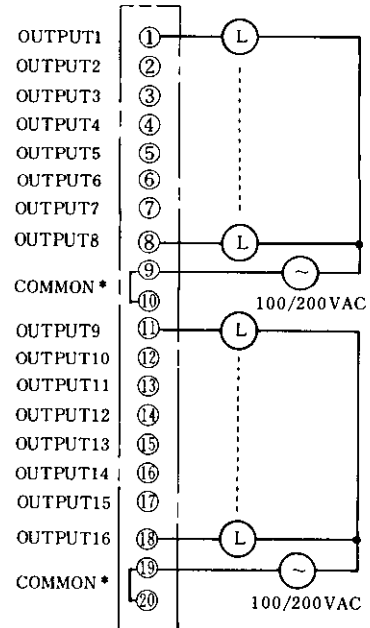


Fig.30 B2500 100/200VAC Output Module Terminal Numbering and Output Connection

* As connected internally, not used as junction terminal.

(2) B2504 100/200 VAC Output Module

Table 16 100/200 VAC Output Module Specifications

Items		Specifications		
Type		JAMSC-B2504		
Number of Outputs		32-Outputs per module		
Indicators		32-Output status LED's, provided for each output, lighting up when output ON (at internal logic side). 2-Blown fuses, provided for every 16 outputs, 1 LED lighting up with fuse blown.		
Fuse Rating		5 A GP 50		
Electrical Characteristics	Load Voltage	Working Voltage	80 to 240 VAC	
		Max Voltage	264 VAC	
		Average ON Voltage	1.5 V rms (Load current: 1 A rms)	
	Load Current	ON Current	0.3 A rms per output, 1.2 A per 8 outputs	
		OFF Current	1.5 mA rms (100 VAC 50Hz), 3 mA rms (240 VAC 50Hz)	
		Inrush Current	20A (10 ms)	
		Min Load Current	10 mA rms	
	Response Time		OFF to ON: 1ms max ON to OFF: 1/2 Cycle + 1 ms max	
	Insulation Voltage		1500 VAC for 1 minute	
	Internal Consumed Current		380 mA TYP (Outputs ON) 560 mA TYP (Outputs ON)	

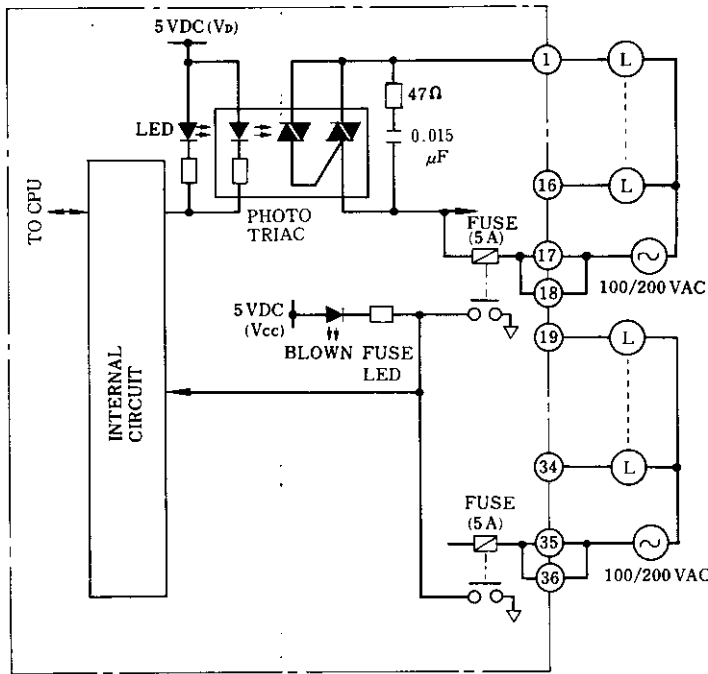
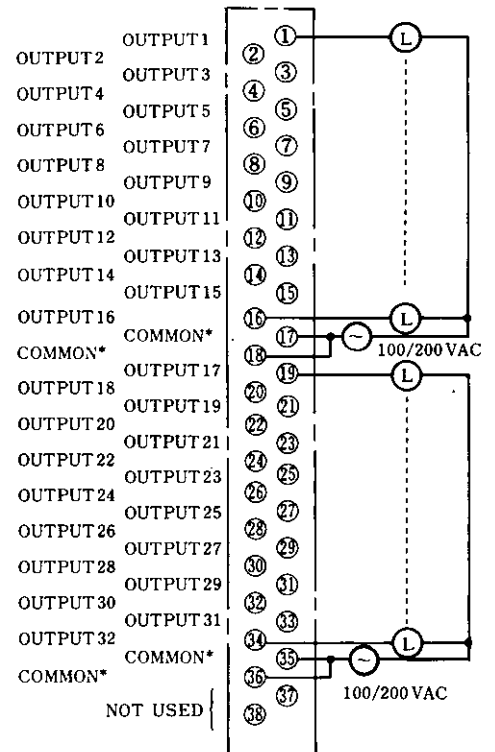


Fig.31 B2504 100/200VAC Output Module Simplified Schematic

Signal Name	Term. NO.	Term. NO.	Signal Name
		1	Output 1
Output 2	2	3	Output 3
Output 4	4	5	Output 5
Output 6	6	7	Output 7
Output 8	8	9	Output 9
Output10	10	11	Output11
Output12	12	13	Output13
Output14	14	15	Output15
Output16	16	17	100/200VAC-1
100/200VAC-1	18	19	Output17
Output18	20	21	Output19
Output20	22	23	Output21
Output22	24	25	Output23
Output24	26	27	Output25
Output26	28	29	Output27
Output28	30	31	Output29
Output30	32	33	Output31
Output32	34	35	100/200VAC-2
100/200VAC-2	36	37	Not used
Not used	38		



* As connected internally, not used as junction terminal.

Fig.32 B2504 100/200VAC Output Module Terminal Numbering and Output Connection

(3) B2610 48 VDC Output Module

Table 17 48 VDC Output Module Specifications

Items		Specifications					
Type		JAMSC-B2610					
Number of Outputs		16-Outputs per module					
Indicators		16-Output status LED's, provided for every 8 outputs, lighting up when output ON.					
Fuse Rating		4 A MF51 NR4					
Electrical Characteristics	Load Voltage	Working Voltage	43.2 to 52.8 VDC				
		Transient Voltage	80 VDC (Peak)				
		Average ON Voltage	1.5 V max (Load current : 200 mA)				
	Load Current	ON Current	200 mA per output				
		OFF Current	0.1 mA max				
		Inrush Current	1 A (10 ms)				
	Response Time		OFF to ON : 1 ms max ON to OFF : 1 ms max				
	External Power Supply Current (per Module)		<table border="1"> <thead> <tr> <th>Outputs OFF</th> <th>Outputs ON</th> </tr> </thead> <tbody> <tr> <td>30 mA max</td> <td>45 mA max</td> </tr> </tbody> </table>	Outputs OFF	Outputs ON	30 mA max	45 mA max
	Outputs OFF	Outputs ON					
	30 mA max	45 mA max					
Insulation Voltage		1500 VAC for 1 minute					
Internal Consumed Current		<table border="1"> <thead> <tr> <th>(Vcc)</th> <th>(VD)</th> </tr> </thead> <tbody> <tr> <td>1 mA TYP</td> <td>110 mA TYP</td> </tr> </tbody> </table> (Outputs ON)	(Vcc)	(VD)	1 mA TYP	110 mA TYP	
(Vcc)	(VD)						
1 mA TYP	110 mA TYP						

Term. NO.	Signal Name
1	Output1
2	Output2
3	Output3
4	Output4
5	Output5
6	Output6
7	Output7
8	Output8
9	48 VDC-1
10	OV-1
11	Output9
12	Output10
13	Output11
14	Output12
15	Output13
16	Output14
17	Output15
18	Output16
19	48 VDC-2
20	OV-2

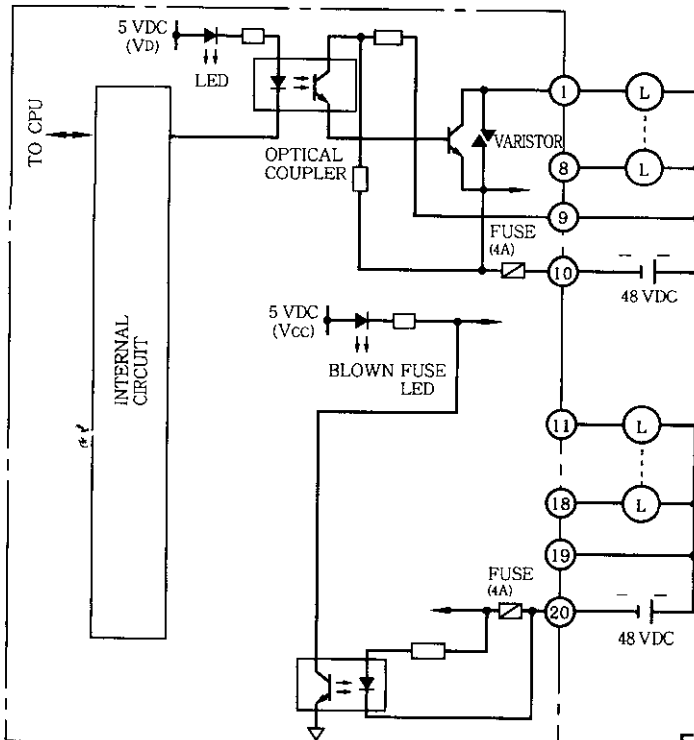


Fig.33 B2610 48 VDC Output Module Simplified Schematic

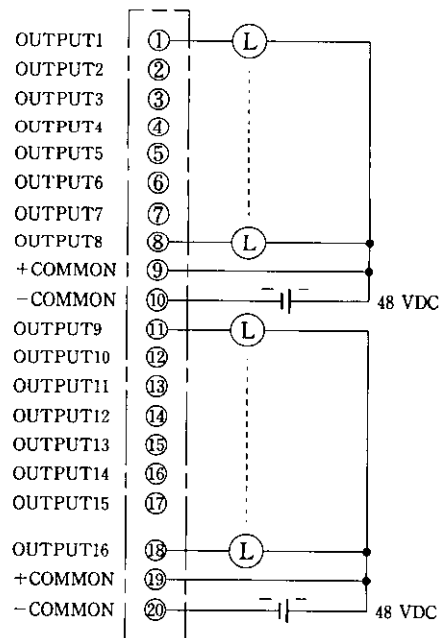


Fig.34 B2610 48 VDC Output Module Terminal Numbering and Output Connection

(4) B2600 12/24 VDC Output Module

Table 18 12/24 VDC Output Module Specifications

Items		Specifications						
Type		JAMSC-B2600						
Number of Outputs		16-Outputs per module						
Indicators		16-Output status LED's, provided for every 8 outputs, lighting up when output ON.						
Fuse Rating		7.5 A MP75						
Electrical Characteristics	Load Voltage	Working Voltage	10.2 to 26.4 VDC					
		Transient Voltage	35 VDC (Peak)					
		Average ON Voltage	1.5 V max (Load current: 2 A)					
	Load Current	ON Current	2 A per output, 5 A per 8 outputs					
		OFF Current	0.2 mA max					
		Inrush Current	7 A (10 ms)					
	Response Time		OFF to ON: 1 ms max ON to OFF: 1 ms max					
	External Power Supply Current (per Module)		<table border="1"> <thead> <tr> <th>Outputs OFF</th> <th>Outputs ON</th> </tr> </thead> <tbody> <tr> <td>3 mA max</td> <td>91 mA/24 VDC max, 44 mA/12 VDC max</td> </tr> </tbody> </table>	Outputs OFF	Outputs ON	3 mA max	91 mA/24 VDC max, 44 mA/12 VDC max	
	Outputs OFF	Outputs ON						
	3 mA max	91 mA/24 VDC max, 44 mA/12 VDC max						
Insulation Voltage		500 VDC for 1 minute						
Internal Consumed Current		<table border="1"> <thead> <tr> <th>(Vcc)</th> <th>(VD)</th> <th>(Outputs ON)</th> </tr> </thead> <tbody> <tr> <td>0.8 mA TYP</td> <td>100 mA TYP</td> <td></td> </tr> </tbody> </table>	(Vcc)	(VD)	(Outputs ON)	0.8 mA TYP	100 mA TYP	
(Vcc)	(VD)	(Outputs ON)						
0.8 mA TYP	100 mA TYP							

Term. NO.	Signal Name
1	Output 1
2	Output 2
3	Output 3
4	Output 4
5	Output 5
6	Output 6
7	Output 7
8	Output 8
9	12/24VDC-1
10	0V-1
11	Output 9
12	Output 10
13	Output 11
14	Output 12
15	Output 13
16	Output 14
17	Output 15
18	Output 16
19	12/24VDC-2
20	0V-2

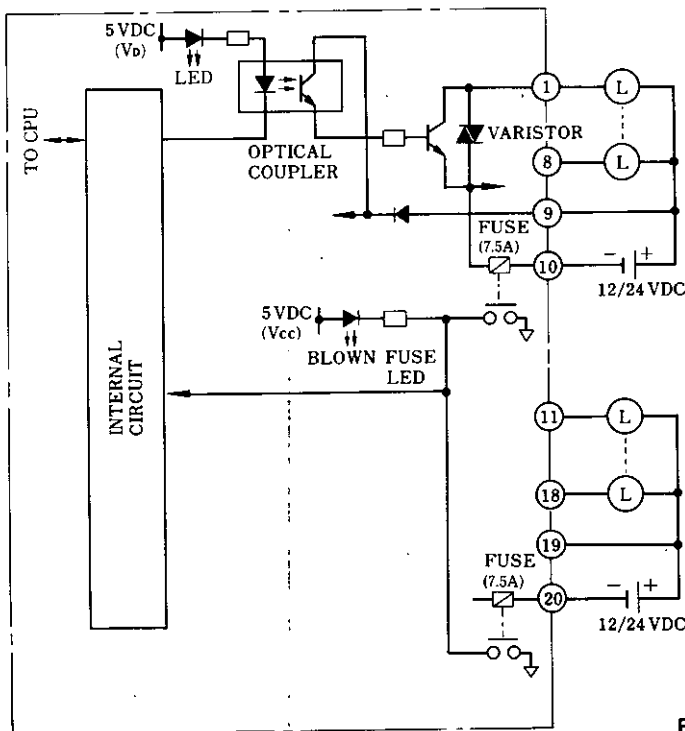


Fig.35 B2600 12/24VDC Output Module Simplified Schematic

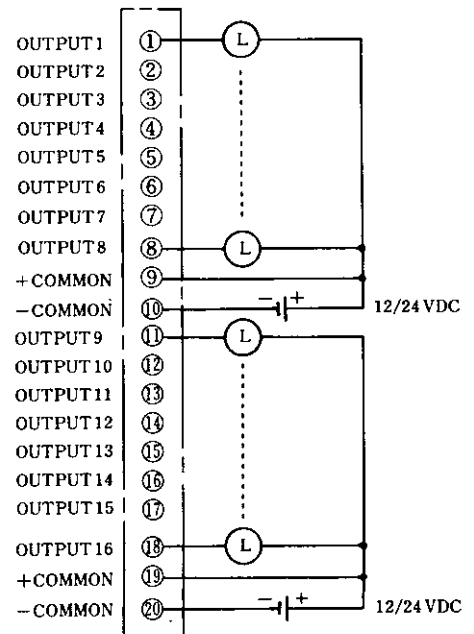


Fig.36 B2600 12/24VDC Output Module Terminal Numbering and Output Connection

(5) B2630 12/24 VDC Output Module

Table 19 12/24 VDC Output Module Specifications

Items		Specifications	
Type		JAMSC-B2630	
Number of Outputs		16-Outputs per module	
Indicators		16-Output status LED's, provided for every 8 outputs, lighting up when output ON.	
Fuse Rating		7.5 A MP75	
Electrical Characteristics	Load Voltage	Working Voltage	10.2 to 26.4 VDC
		Transient Voltage	35 VDC (Peak)
		Average ON Voltage	1.5 V max (Load current : 2 A)
	Load Current	ON Current	2 A per output, 5 A per 8 outputs
		OFF Current	0.2 mA max
		Inrush Current	7 A (10 ms)
	Response Time		OFF to ON : 1 ms max ON to OFF : 1 ms max
	Insulation Voltage		500 VDC for 1 minute
	Internal Consumed Current		(Vcc) 0.8 mA TYP } (VD) 100 mA TYP } (Outputs ON)

Term. NO.	Signal Name
1	Output1
2	Output2
3	Output3
4	Output4
5	Output5
6	Output6
7	Output7
8	Output8
9	12/24 VDC-1
10	
11	Output9
12	Output10
13	Output11
14	Output12
15	Output13
16	Output14
17	Output15
18	Output16
19	12/24 VDC-2
20	

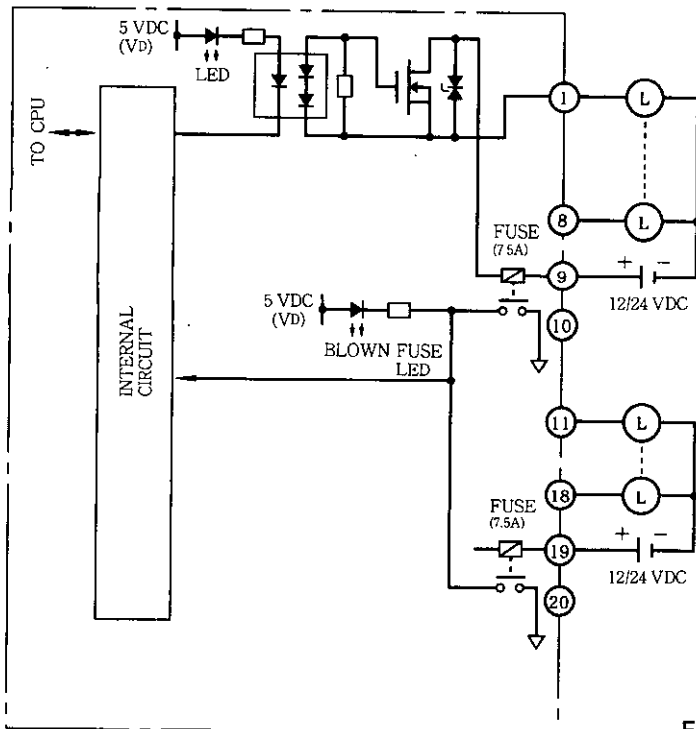


Fig.37 B2630 12/24 VDC Output Module Simplified Schematic

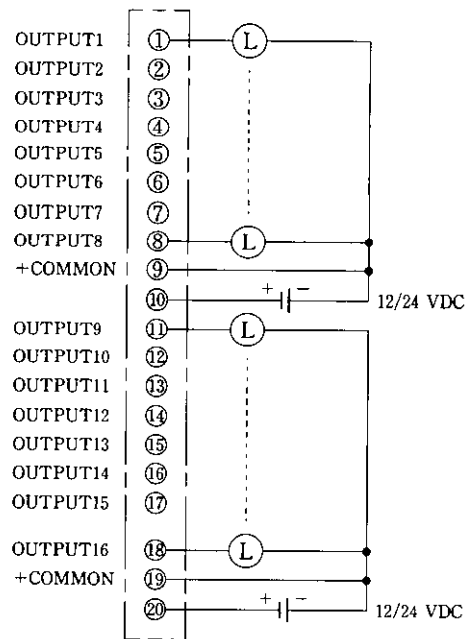


Fig.38 B2630 12/24 VDC Output Module Terminal Numbering and Output Connection

(6) B2602A 12/24 VDC Output Module

Table 20 12/24 VDC Output Module Specifications.

Items		Specifications					
Type		JAMSC-B2602A					
Number of Outputs		32-Outputs per module					
Indicators		32-Output status LED's, provided for every 16 outputs, lighting up when output ON.					
Fuse Rating		4A MF51NR4					
Electrical Characteristics	Load Voltage	Working Voltage	10.2 to 26.4 VDC				
		Transient Voltage	35 VDC (Peak)				
		Average ON Voltage	1.5 V max (Load current: 0.3 A)				
	Load Current	ON Current	0.3A per output, 0.6 A per 4 outputs				
		OFF Current	0.2 mA max				
		Inrush Current	1A (10 ms)				
	Response Time		OFF to ON: 1 ms max ON to OFF: 1 ms max				
	External Power Supply Current (per Module)		<table border="1"> <thead> <tr> <th>Outputs OFF</th> <th>Outputs ON</th> </tr> </thead> <tbody> <tr> <td>1 mA max</td> <td>90 mA/24 VDC max, 45 mA/12 VDC max</td> </tr> </tbody> </table>	Outputs OFF	Outputs ON	1 mA max	90 mA/24 VDC max, 45 mA/12 VDC max
	Outputs OFF	Outputs ON					
	1 mA max	90 mA/24 VDC max, 45 mA/12 VDC max					
Insulation Voltage		1500 VAC for 1 minute					
Internal Consumed Current (Vcc) (Vd)		1 mA TYP } (Outputs ON) 250 mA TYP					

Signal Name	Term. NO.	Term. NO.	Signal Name
		1	Output 1
Output 2	2	3	Output 3
Output 4	4	5	Output 5
Output 6	6	7	Output 7
Output 8	8	9	Output 9
Output 10	10	11	Output 11
Output 12	12	13	Output 13
Output 14	14	15	Output 15
Output 16	16	17	12/24VDC-1
OV-1	18	19	Output 17
Output 18	20	21	Output 19
Output 20	22	23	Output 21
Output 22	24	25	Output 23
Output 24	26	27	Output 25
Output 26	28	29	Output 27
Output 28	30	31	Output 29
Output 30	32	33	Output 31
Output 32	34	35	12/24VDC-2
OV-2	36	37	Not used
Not used	38		

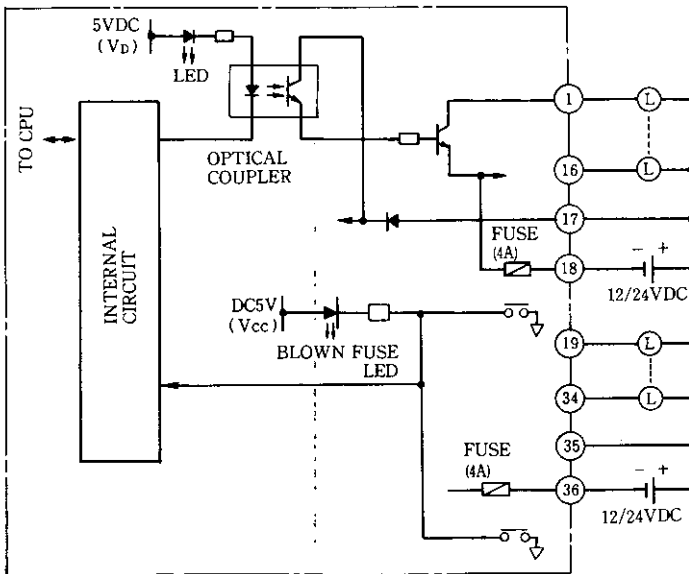


Fig.39 B2602A 12/24 VDC Output Module Simplified Schematic

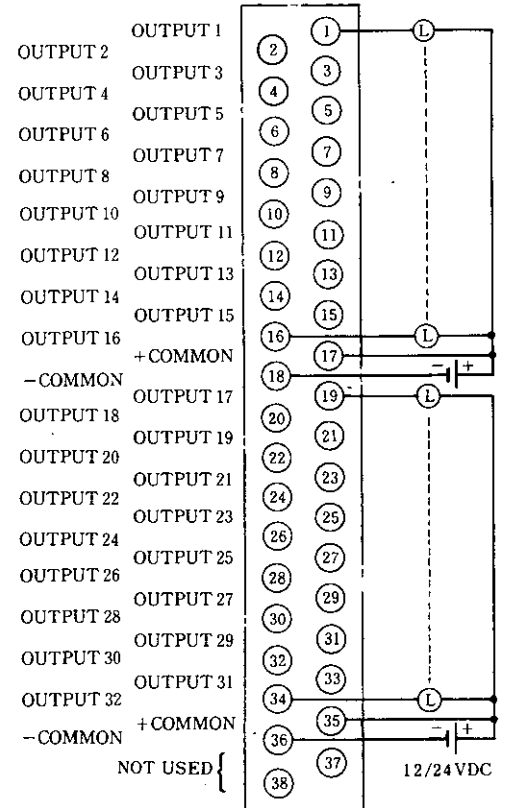


Fig.40 B2602A 12/24 VDC Output Module Terminal Numbering and Output Connection

(7) B2632 12/24 VDC Output Module

Table 21 12/24 VDC Output Module Specifications

Items		Specifications	
Type		JAMSC-B2632	
Number of Outputs		32-Outputs per module	
Indicators		32-Output status LED's, provided for every 16 outputs, lighting up when output ON.	
Fuse Rating		4 A GP40	
Electrical Characteristics	Load Voltage	Working Voltage	10.2 to 26.4 VDC
		Transient Voltage	35 VDC (Peak)
		Average ON Voltage	1.5 V max (Load current : 0.3 A)
	Load Current	ON Current	0.3 A per output, 0.6 A per 4 outputs
		OFF Current	0.2 mA max
		Inrush Current	1 A (10 ms)
	Response Time		OFF to ON : 1 ms max ON to OFF : 1 ms max
	Insulation Voltage		1500 VAC for 1 minute
	Internal Consumed Current (Vcc (VD))		1 mA TYP } (Outputs ON) 250 mA TYP }

Signal Name	Term. NO.	Term. NO.	Signal Name
Output 2	2	1	Output 1
Output 4	4	3	Output 3
Output 6	6	5	Output 5
Output 8	8	7	Output 7
Output10	10	9	Output 9
Output12	12	11	Output11
Output14	14	13	Output13
Output16	16	15	Output15
Not used	18	17	12/24 VDC-1
Output18	20	19	Output17
Output20	22	21	Output19
Output22	24	23	Output21
Output24	26	25	Output23
Output26	28	27	Output25
Output28	30	29	Output27
Output30	32	31	Output29
Output32	34	33	Output31
Not used	36	35	12/24 VDC-2
Not used	38	37	Not used

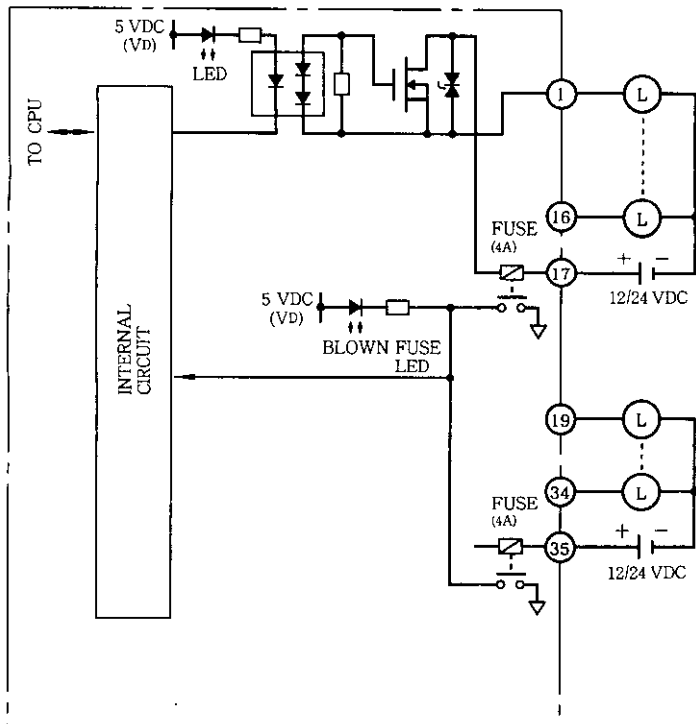


Fig.41 B2632 12/24 VDC Output Module Simplified Schematic

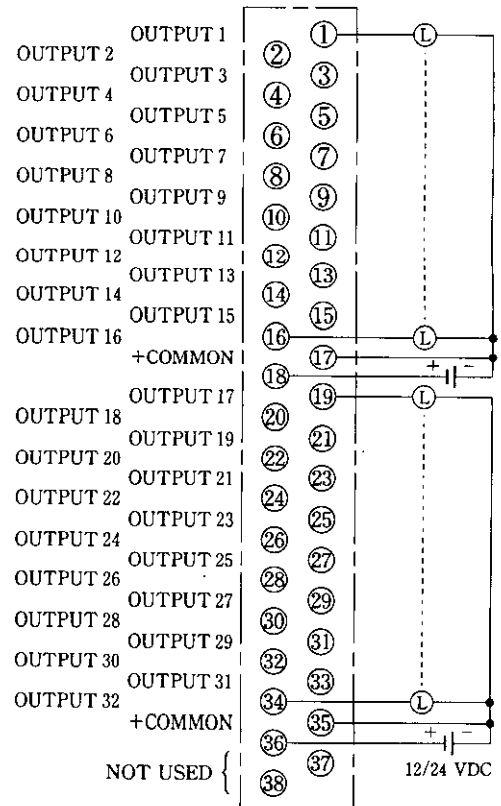


Fig.42 B2632 12/24 VDC Output Module Terminal Numbering and Output Connection

(8) B2604 12/24 VDC Output Module

Table 22 12/24 VDC Output Module Specifications

Items		Specifications					
Type		JAMSC-B2604					
Number of Outputs		64-Outputs per module					
Indicators		32-Output status LED's, provided for each output (32 higher-/32 lower-order), lighting up when switching output ON.					
Electrical Characteristics	Load Voltage	Working Voltage	10.2 to 26.4 VDC				
		Transient Voltage	35 VDC (Peak)				
		Average ON Voltage	2 V max (Load current: 0.1 A)				
	Load Current	ON Current	0.1A per output, 0.4 A per 8 outputs				
		OFF Current	0.2 mA max				
		Inrush Current	0.5 A (10 ms)				
	Response Time		OFF to ON: 1 ms max ON to OFF: 1 ms max				
	External Power Supply Current (per Module)		<table border="1"> <thead> <tr> <th>Outputs OFF</th> <th>Outputs ON</th> </tr> </thead> <tbody> <tr> <td>1 mA max</td> <td>150 mA/24 VDC max. 75 mA/12 VDC max</td> </tr> </tbody> </table>	Outputs OFF	Outputs ON	1 mA max	150 mA/24 VDC max. 75 mA/12 VDC max
	Outputs OFF	Outputs ON					
	1 mA max	150 mA/24 VDC max. 75 mA/12 VDC max					
Insulation Voltage		1500 VAC for 1 minute					
Internal Consumed Current (V _{cc} / V _o)		2 mA TYP } (Outputs ON) 600 mA TYP }					

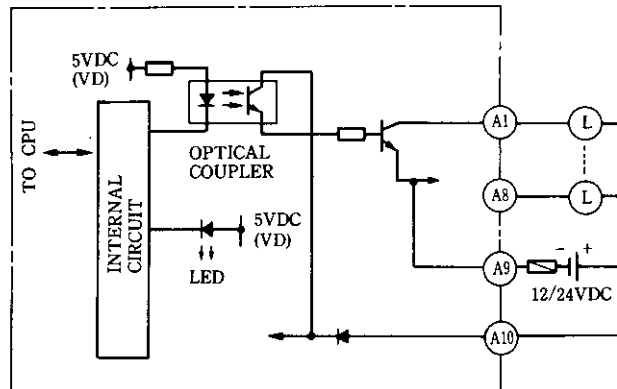


Fig.43 B 2604 12/24 VDC Output Module
Simplified Schematic

H				L			
Signal Name	Term. NO.	Term. NO.	Signal Name	Signal Name	Term. NO.	Term. NO.	Signal Name
12/24VDC-4	B 20	A 20	12/24VDC-2	12/24VDC-8	B 20	A 20	12/24VDC-6
OV-4	B 19	A 19	OV-2	OV-8	B 19	A 19	OV-6
Output 32	B 18	A 18	Output 16	Output 64	B 18	A 18	Output 48
Output 31	B 17	A 17	Output 15	Output 63	B 17	A 17	Output 47
Output 30	B 16	A 16	Output 14	Output 62	B 16	A 16	Output 46
Output 29	B 15	A 15	Output 13	Output 61	B 15	A 15	Output 45
Output 28	B 14	A 14	Output 12	Output 60	B 14	A 14	Output 44
Output 27	B 13	A 13	Output 11	Output 59	B 13	A 13	Output 43
Output 26	B 12	A 12	Output 10	Output 58	B 12	A 12	Output 42
Output 25	B 11	A 11	Output 9	Output 57	B 11	A 11	Output 41
12/24VDC-3	B 10	A 10	12/24VDC-1	12/24VDC-7	B 10	A 10	12/24VDC-5
OV-3	B 9	A 9	OV-1	OV-7	B 9	A 9	OV-5
Output 24	B 8	A 8	Output 8	Output 56	B 8	A 8	Output 40
Output 23	B 7	A 7	Output 7	Output 55	B 7	A 7	Output 39
Output 22	B 6	A 6	Output 6	Output 54	B 6	A 6	Output 38
Output 21	B 5	A 5	Output 5	Output 53	B 5	A 5	Output 37
Output 20	B 4	A 4	Output 4	Output 52	B 4	A 4	Output 36
Output 19	B 3	A 3	Output 3	Output 51	B 3	A 3	Output 35
Output 18	B 2	A 2	Output 2	Output 50	B 2	A 2	Output 34
Output 17	B 1	A 1	Output 1	Output 49	B 1	A 1	Output 33

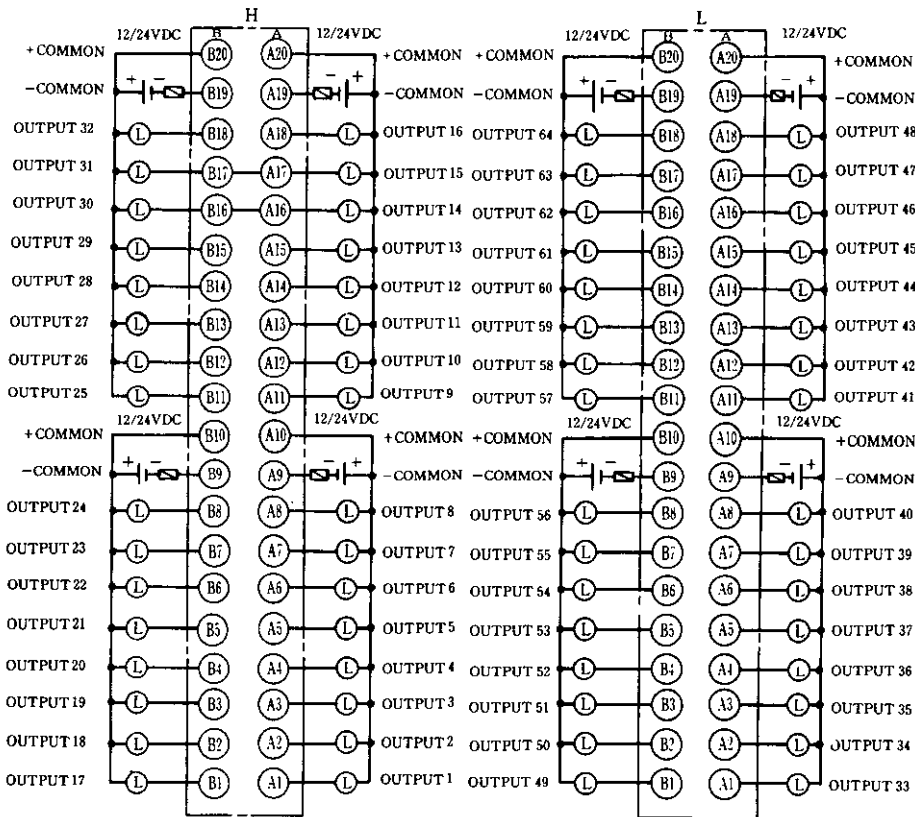


Fig.44 B 2604 12/24 VDC Output Module Terminal
Numbering and Output Connection

ATTACHMENT (Made by FUJITSU LTD.)
[CONNECTOR : FCN-361J040-AU40P]
CASE : FCN-360C040-B

(9) B2606 5/12 VDC Output Module

Table 23 5/12 VDC Output Module Specifications

Items		Specifications					
Type		JAMSC-B2606					
Number of Outputs		32-Outputs per module					
Indicators		32-Output status LED's, provided for each output, lighting up when output ON.					
Electrical Characteristics	Load Voltage	Working Voltage	4.5 to 13.2 VDC				
		Transient Voltage	18 VDC (Peak)				
		Average ON Voltage	0.3 V max (Load current: 20 mA)				
	Load Current	ON Current	20 mA per output, 640 mA per 32 outputs				
		OFF Current	0.2 mA max				
		Inrush Current	300 mA (10 ms)				
	Response Time		OFF to ON: 1 ms max ON to OFF: 1 ms max				
	External Power Supply Current (per Module)		<table border="1"> <thead> <tr> <th>Outputs OFF</th> <th>Outputs ON</th> </tr> </thead> <tbody> <tr> <td>1 mA max</td> <td>180 mA/12 VDC max, 70 mA/5 VDC max</td> </tr> </tbody> </table>	Outputs OFF	Outputs ON	1 mA max	180 mA/12 VDC max, 70 mA/5 VDC max
	Outputs OFF	Outputs ON					
	1 mA max	180 mA/12 VDC max, 70 mA/5 VDC max					
Insulation Voltage		1500 VAC for 1 minute					
Internal Consumed Current (V _{CC} , V _O)		1 mA TYP } (Outputs ON) 320 mA TYP }					

Signal Name	Term. NO.	Term. NO.	Signal Name
		1	Output 1
Output 2	2	3	Output 3
Output 4	4	5	Output 5
Output 6	6	7	Output 7
Output 8	8	9	Output 9
Output 10	10	11	Output 11
Output 12	12	13	Output 13
Output 14	14	15	Output 15
Output 16	16	17	12/24VDC-1
0V-1	18	19	Output 17
Output 18	20	21	Output 19
Output 20	22	23	Output 21
Output 22	24	25	Output 23
Output 24	26	27	Output 25
Output 26	28	29	Output 27
Output 28	30	31	Output 29
Output 30	32	33	Output 31
Output 32	34	35	12/24VDC-2
0V-2	36	37	Not used
Not used	38		

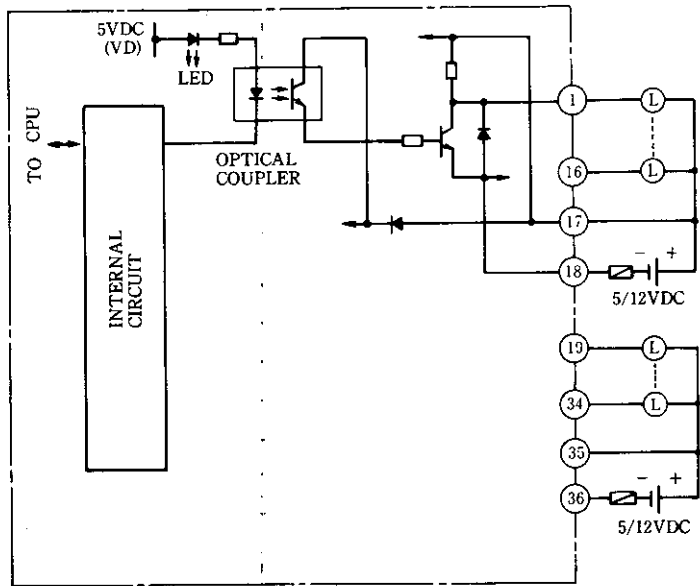


Fig.45 B 2606 5/12 VDC Output Module Simplified Schematic

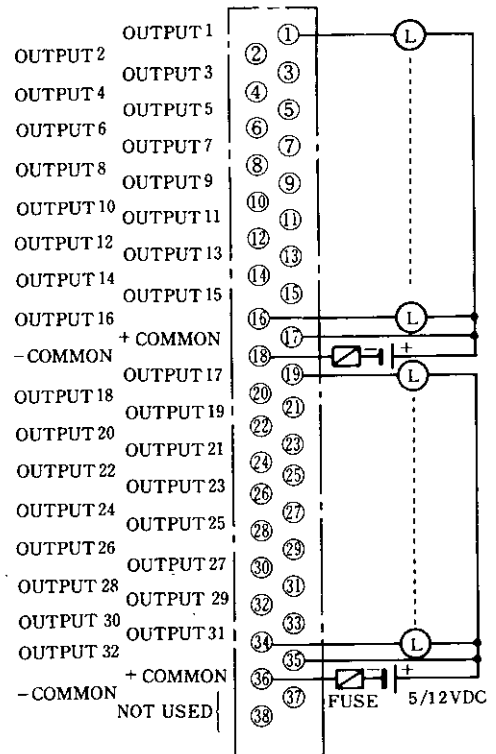


Fig.46 B 2606 5/12 VDC Output Module Terminal Numbering and Output Connection

(10) B2624 5VDC Output Module

Table 24 5 VDC Output Module Specifications

Items		Specifications					
Type		JAMSC-B2624					
Number of Outputs		64-Outputs per module					
Indicators		32-Output status LED's, provided for each output (32 higher-/32 lower-order), lighting up when switching output ON.					
Fuse, Surge Suppressor		Not provided					
Electrical Characteristics	Load Voltage	Working Voltage	4.5 to 5.5 VDC				
		Transient Voltage	18 VDC (Peak)				
		Average ON Voltage	1.1 V max (Load current: 20 mA)				
	Load Current	ON Current	20 mA per output, 160 mA per 8 outputs				
		OFF Current	0.2 mA max				
		Inrush Current	0.5 A (10 ms)				
	Response Time		OFF to ON: 1 ms max ON to OFF: 1 ms max				
	External Power Supply Current (per Module)		<table border="1"> <thead> <tr> <th>Outputs OFF</th> <th>Outputs ON</th> </tr> </thead> <tbody> <tr> <td>1 mA max</td> <td>90 mA/5 VDC max.</td> </tr> </tbody> </table>	Outputs OFF	Outputs ON	1 mA max	90 mA/5 VDC max.
	Outputs OFF	Outputs ON					
	1 mA max	90 mA/5 VDC max.					
Insulation Voltage		1500 VAC for 1 minute					
Internal Consumed (V _{CC}) Current (V _D)		5 mA TYP } (Outputs ON) 290 mA TYP }					

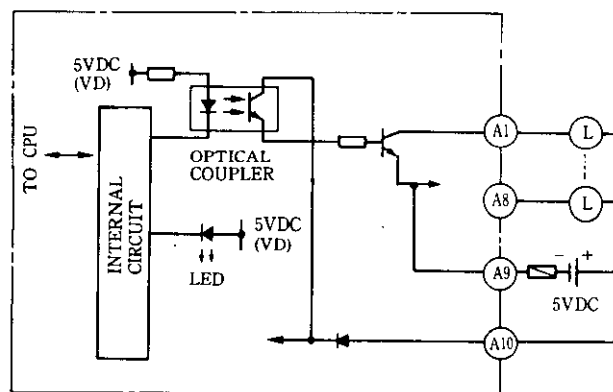


Fig.47 B2624 5 VDC Output Module Simplified Schematic

H				L			
Signal Name	Term. NO.	Term. NO.	Signal Name	Signal Name	Term. NO.	Term. NO.	Signal Name
5VDC-4	B 20	A 20	5VDC-2	5VDC-8	B 20	A 20	5VDC-6
OV-4	B 19	A 19	OV-2	OV-8	B 19	A 19	OV-6
Output 32	B 18	A 18	Output 16	Output 64	B 18	A 18	Output 48
Output 31	B 17	A 17	Output 15	Output 63	B 17	A 17	Output 47
Output 30	B 16	A 16	Output 14	Output 62	B 16	A 16	Output 46
Output 29	B 15	A 15	Output 13	Output 61	B 15	A 15	Output 45
Output 28	B 14	A 14	Output 12	Output 60	B 14	A 14	Output 44
Output 27	B 13	A 13	Output 11	Output 59	B 13	A 13	Output 43
Output 26	B 12	A 12	Output 10	Output 58	B 12	A 12	Output 42
Output 25	B 11	A 11	Output 9	Output 57	B 11	A 11	Output 41
5VDC-3	B 10	A 10	5VDC-1	5VDC-7	B 10	A 10	5VDC-5
OV-3	B 9	A 9	OV-1	OV-7	B 9	A 9	OV-5
Output 24	B 8	A 8	Output 8	Output 56	B 8	A 8	Output 40
Output 23	B 7	A 7	Output 7	Output 55	B 7	A 7	Output 39
Output 22	B 6	A 6	Output 6	Output 54	B 6	A 6	Output 38
Output 21	B 5	A 5	Output 5	Output 53	B 5	A 5	Output 37
Output 20	B 4	A 4	Output 4	Output 52	B 4	A 4	Output 36
Output 19	B 3	A 3	Output 3	Output 51	B 3	A 3	Output 35
Output 18	B 2	A 2	Output 2	Output 50	B 2	A 2	Output 34
Output 17	B 1	A 1	Output 1	Output 49	B 1	A 1	Output 33

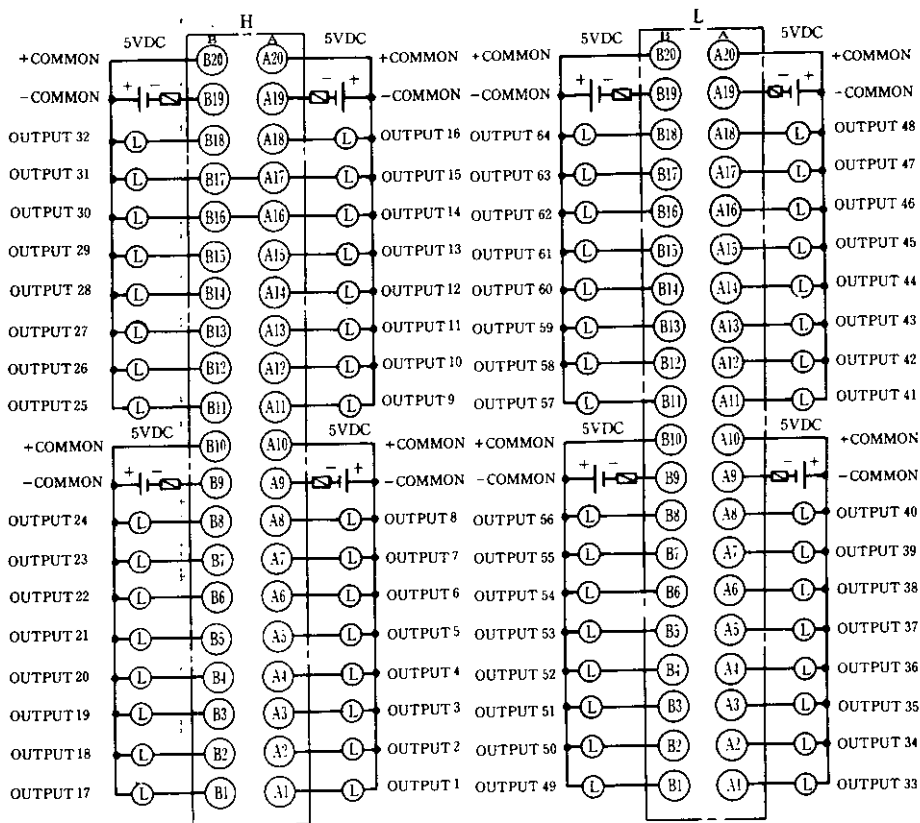


Fig.48 B2624 5 VDC Output Module Terminal Numbering and Output Connection

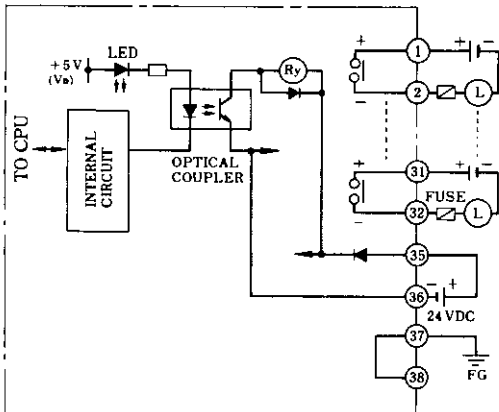
ATTACHMENT (Made by FUJITSU LTD.)
 [CONNECTOR : FCN-361J040-AU40P]
 [CASE : FCN-360C040-B]

(1) B2904 Bestact* Relay Output Module for Light Load

Table 25 Bestact Relay Output Module Specifications

Items		Specifications																																																									
Type		JAMSC-B2904																																																									
Number of Outputs		16-Outputs per module																																																									
Indicators		16-Output status LED's provided for each output, lighting up when output ON.																																																									
Fuse, Surge Suppressor		Not provided.																																																									
Electrical Characteristics	Rated Voltage, Current	220 VAC, 0.5 A (PF 0.6) 110 VDC, 0.3 A (Time constant 40ms)																																																									
	Min Operational Voltage, Current	5 V, 1 mA																																																									
	Max Closing Current	220 VAC, 15 A (PF 0.7)																																																									
	Max Interrupting Current	220 VAC, 15 A (PF 0.4) 110 VDC, 0.5 A (Time constant 40 ms).																																																									
	Contact Resistance	250mΩ max																																																									
	Electrical Life	<table border="1"> <thead> <tr> <th rowspan="2">Voltage</th> <th colspan="2">Closing</th> <th colspan="2">Interrupting</th> <th rowspan="2">Switching Life</th> </tr> <tr> <th>Current A</th> <th>PF^{#1} TC^{#2}</th> <th>Current A</th> <th>PF^{#1} TC^{#2}</th> </tr> </thead> <tbody> <tr> <td rowspan="2">220 VAC (Inductive Load)</td> <td>5</td> <td>0.7</td> <td>0.5</td> <td>0.4</td> <td>300,000</td> </tr> <tr> <td>2.5</td> <td></td> <td>0.25</td> <td></td> <td>600,000</td> </tr> <tr> <td rowspan="2">110 VAC (Inductive Load)</td> <td>5</td> <td>0.7</td> <td>0.5</td> <td>0.4</td> <td>300,000</td> </tr> <tr> <td>2.5</td> <td></td> <td>0.25</td> <td></td> <td>600,000</td> </tr> <tr> <td>110 VAC (Resistive Load)</td> <td>2</td> <td>1.0</td> <td>2</td> <td>1.0</td> <td>50,000</td> </tr> <tr> <td>110 VDC (Inductive Load)</td> <td>0.3</td> <td>40ms</td> <td>0.3</td> <td>40ms</td> <td>200,000</td> </tr> <tr> <td>110 VAC (Inductive Load)</td> <td>0.02</td> <td>Relay coil load</td> <td>0.012</td> <td>Relay coil load</td> <td>15,000,000</td> </tr> <tr> <td>24 VDC (Inductive Load)</td> <td>0.037</td> <td>Relay coil load</td> <td>0.037</td> <td>Relay coil load</td> <td>10,000,000</td> </tr> </tbody> </table>		Voltage	Closing		Interrupting		Switching Life	Current A	PF ^{#1} TC ^{#2}	Current A	PF ^{#1} TC ^{#2}	220 VAC (Inductive Load)	5	0.7	0.5	0.4	300,000	2.5		0.25		600,000	110 VAC (Inductive Load)	5	0.7	0.5	0.4	300,000	2.5		0.25		600,000	110 VAC (Resistive Load)	2	1.0	2	1.0	50,000	110 VDC (Inductive Load)	0.3	40ms	0.3	40ms	200,000	110 VAC (Inductive Load)	0.02	Relay coil load	0.012	Relay coil load	15,000,000	24 VDC (Inductive Load)	0.037	Relay coil load	0.037	Relay coil load	10,000,000
		Voltage	Closing		Interrupting		Switching Life																																																				
Current A			PF ^{#1} TC ^{#2}	Current A	PF ^{#1} TC ^{#2}																																																						
220 VAC (Inductive Load)		5	0.7	0.5	0.4	300,000																																																					
		2.5		0.25		600,000																																																					
110 VAC (Inductive Load)		5	0.7	0.5	0.4	300,000																																																					
		2.5		0.25		600,000																																																					
110 VAC (Resistive Load)		2	1.0	2	1.0	50,000																																																					
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110 VAC (Inductive Load)	0.02	Relay coil load	0.012	Relay coil load	15,000,000																																																						
24 VDC (Inductive Load)	0.037	Relay coil load	0.037	Relay coil load	10,000,000																																																						
Response Time	OFF to ON: 6 ms max (Excluding bounce) ON to OFF: 4 ms max																																																										
External Power Supply for Coil	24 VDC ±5% (ripple 5% or less). 300 mA TYP/24VDC (Outputs ON)																																																										
Insulation Voltage	1500 VAC for 1 minute																																																										
Internal Consumed (VCC) Current (VD)	1 mA TYP (Outputs ON) 140 mA TYP (Outputs ON)																																																										

#1 Power factor
#2 Time constant



Note: For DC load connection, connect odd number terminals (1, 3, ...31) to plus side and even number terminals (2, 4, ...32) to minus side.

Fig.49 B2904 Bestact Relay Output Module Simplified Schematic

Signal Name	Term. NO.	Term. NO.	Signal Name
		1	+Output 1
-Output 1	2	3	+Output 2
-Output 2	4	5	+Output 3
-Output 3	6	7	+Output 4
-Output 4	8	9	+Output 5
-Output 5	10	11	+Output 6
-Output 6	12	13	+Output 7
-Output 7	14	15	+Output 8
-Output 8	16	17	+Output 9
-Output 9	18	19	+Output 10
-Output 10	20	21	+Output 11
-Output 11	22	23	+Output 12
-Output 12	24	25	+Output 13
-Output 13	26	27	+Output 14
-Output 14	28	29	+Output 15
-Output 15	30	31	+Output 16
		33	Not used
Not used	34	35	24VDC
0V	36	37	FG
FG	38		

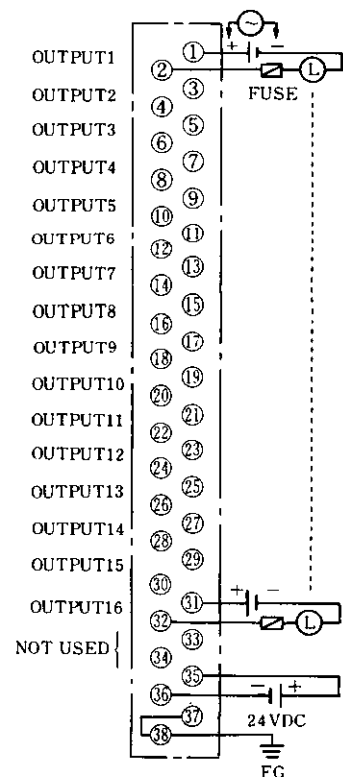


Fig.50 B2904 Bestact Relay Output Module Terminal Numbering and Output Connection

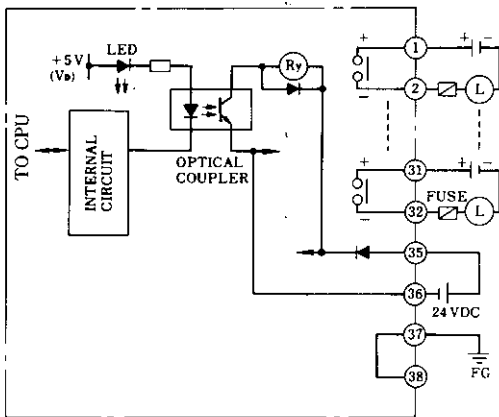
* YASKAWA'S tradename for a hermetically sealed contact.

(12) B2914 Bestact* Relay Output Module for General Load

Table 26 Bestact Relay Output Module Specifications

Items	Specifications																																																				
Type	JAMSC-B2914																																																				
Number of Outputs	16-Outputs per module																																																				
Indicators	16-Output status LED's, provided for each output, lighting up when output ON.																																																				
Fuse, Surge Suppressor	Not provided.																																																				
Electrical Characteristics	Rated Voltage, Current	220 VAC, 0.5 A (PF 0.6) 110 VDC, 0.3 A (Time constant 40ms)																																																			
	Min Operational Voltage, Current	24 V, 10mA																																																			
	Max Closing Current	220 VAC, 15 A (PF 0.7)																																																			
	Max Interrupting Current	220 VAC, 15 A (PF 0.4) 110 VDC, 0.5 A (Time constant 40 ms).																																																			
	Contact Resistance	500mΩ max																																																			
	Electrical Life	<table border="1"> <thead> <tr> <th rowspan="2">Voltage</th> <th colspan="2">Closing</th> <th colspan="2">Interrupting</th> <th rowspan="2">Switching Life</th> </tr> <tr> <th>Current A</th> <th>pp1 TC#2</th> <th>Current A</th> <th>pp1 TC#2</th> </tr> </thead> <tbody> <tr> <td rowspan="2">220VAC (Inductive Load)</td> <td>5</td> <td rowspan="2">0.7</td> <td>0.5</td> <td rowspan="2">0.4</td> <td>1,000,000</td> </tr> <tr> <td>2.5</td> <td>0.25</td> <td>2,000,000</td> </tr> <tr> <td rowspan="2">110VAC (Inductive Load)</td> <td>5</td> <td rowspan="2">0.7</td> <td>0.5</td> <td rowspan="2">0.4</td> <td>1,000,000</td> </tr> <tr> <td>2.5</td> <td>0.25</td> <td>2,000,000</td> </tr> <tr> <td>110VAC (Resistive Load)</td> <td>2</td> <td>1.0</td> <td>2</td> <td>1.0</td> <td>200,000</td> </tr> <tr> <td>110VDC (Inductive Load)</td> <td>0.3</td> <td>40ms</td> <td>0.3</td> <td>40ms</td> <td>300,000</td> </tr> <tr> <td>110VAC (Inductive Load)</td> <td>0.02</td> <td>Relay coil load</td> <td>0.012</td> <td>Relay coil load</td> <td>30,000,000</td> </tr> <tr> <td>24VDC (Inductive Load)</td> <td>0.037</td> <td>Relay coil load</td> <td>0.037</td> <td>Relay coil load</td> <td>15,000,000</td> </tr> </tbody> </table>	Voltage	Closing		Interrupting		Switching Life	Current A	pp1 TC#2	Current A	pp1 TC#2	220VAC (Inductive Load)	5	0.7	0.5	0.4	1,000,000	2.5	0.25	2,000,000	110VAC (Inductive Load)	5	0.7	0.5	0.4	1,000,000	2.5	0.25	2,000,000	110VAC (Resistive Load)	2	1.0	2	1.0	200,000	110VDC (Inductive Load)	0.3	40ms	0.3	40ms	300,000	110VAC (Inductive Load)	0.02	Relay coil load	0.012	Relay coil load	30,000,000	24VDC (Inductive Load)	0.037	Relay coil load	0.037	Relay coil load
Voltage	Closing			Interrupting		Switching Life																																															
	Current A	pp1 TC#2	Current A	pp1 TC#2																																																	
220VAC (Inductive Load)	5	0.7	0.5	0.4	1,000,000																																																
	2.5		0.25		2,000,000																																																
110VAC (Inductive Load)	5	0.7	0.5	0.4	1,000,000																																																
	2.5		0.25		2,000,000																																																
110VAC (Resistive Load)	2	1.0	2	1.0	200,000																																																
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110VAC (Inductive Load)	0.02	Relay coil load	0.012	Relay coil load	30,000,000																																																
24VDC (Inductive Load)	0.037	Relay coil load	0.037	Relay coil load	15,000,000																																																
Response Time	OFF to ON: 6 ms max (Excluding bounce) ON to OFF: 4 ms max																																																				
External Power Supply for Coil	24 VDC ±5% (ripple 5% or less). 300 mA TYP/24VDC (Outputs ON)																																																				
Insulation Voltage	500 VDC for 1 minute																																																				
Internal Consumed Current (VCC) (VD)	1 mA TYP (Outputs ON) 140 mA TYP (Outputs ON)																																																				

#1 Power factor
#2 Time constant



Note: For DC load connection, connect odd number terminals (1, 3, ...31) to plus side and even number terminals (2, 4, ...32) to minus side.

Fig.51 B2914 Bestact Relay Output Module Simplified Schematic

* YASKAWA'S tradename for a hermetically sealed contact.

Signal Name	Term. NO.	Term. NO.	Signal Name
		1	-Output 1
-Output 1	2	3	-Output 2
-Output 2	4	5	-Output 3
-Output 3	6	7	-Output 4
-Output 4	8	9	-Output 5
-Output 5	10	11	-Output 6
-Output 6	12	13	-Output 7
-Output 7	14	15	-Output 8
-Output 8	16	17	-Output 9
-Output 9	18	19	-Output 10
-Output 10	20	21	-Output 11
-Output 11	22	23	-Output 12
-Output 12	24	25	-Output 13
-Output 13	26	27	-Output 14
-Output 14	28	29	-Output 15
-Output 15	30	31	-Output 16
-Output 16	32	33	Not used
Not used	34	35	24VDC
0V	36	37	FG
FG	38		

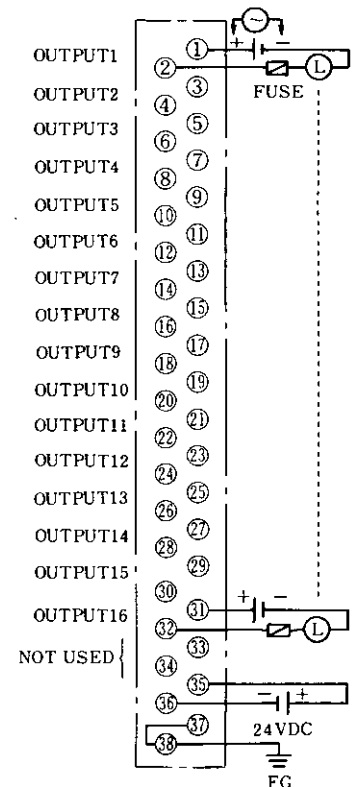


Fig.52 B2914 Bestact Relay Output Module Terminal Numbering and Output Connection

(13) B2902 Relay Output Module

Table 27 Relay Output Module Specifications

Items	Specifications		
Type	JAMSC-B2902		
Number of Outputs	32-Outputs per module		
Indicators	32-Output status LED's, provided for each output lighting up when output ON.		
Fuse, Surge Suppressor	Not provided.		
Electrical Characteristics	Contact Ratings	Rated Voltage, Current	220 VAC, 1 A (Induction load, PF 0.4) 110 VAC, 1.2 A (Induction load, PF 0.4) 24 VDC, 1 A (Induction load, time constant 15 ms).
		Max Switching Frequency	3,600 switching/hour
		Min Operational Voltage, Current	5 V, 10 mA
		Max Operational Voltage	264 VAC/125 VDC
		Max Closing Current	220 VAC, 10 A (PF 0.7)
		Max Interrupting Current	220 VAC, 5 A (PF 0.4) 24 VDC, 1 A (Time constant 40 ms).
		Contact Resistance	100mΩ max
		Switching Life	100,000 switching min (at rated load)
		Response Time	OFF to ON: 10 ms max ON to OFF: 15 ms max
		External Power Supply for Coil	24 VDC ±10% (ripple 5% or less) 290 mA TYP/24VDC (Outputs ON)
Insulation Voltage	1500 VAC for 1 minute		
Internal Consumed (VCC) Current (VD)	1.5 mA TYP (Outputs ON) 250 mA TYP (Outputs ON)		

Signal Name	Term. NO.	Term. NO.	Signal Name
		1	Output 1
Output 2	2	3	Output 3
Output 4	4	5	Output 5
Output 6	6	7	Output 7
Output 8	8	9	Common-1
Output 9	10	11	Output 10
Output 11	12	13	Output 12
Output 13	14	15	Output 14
Output 15	16	17	Output 16
Common-2	18	19	Output 17
Output 18	20	21	Output 19
Output 20	22	23	Output 21
Output 22	24	25	Output 23
Output 24	26	27	Common-3
Output 25	28	29	Output 26
Output 27	30	31	Output 28
Output 29	32	33	Output 30
Output 31	34	35	Output 32
Common-4	36	37	24VDC
0V	38		

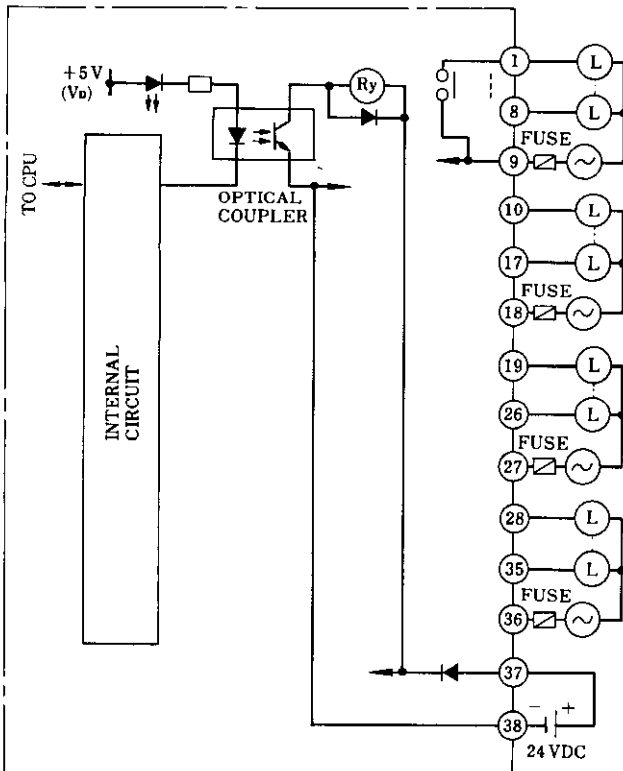


Fig.53 B2902 Relay Output Module Simplified Schematic

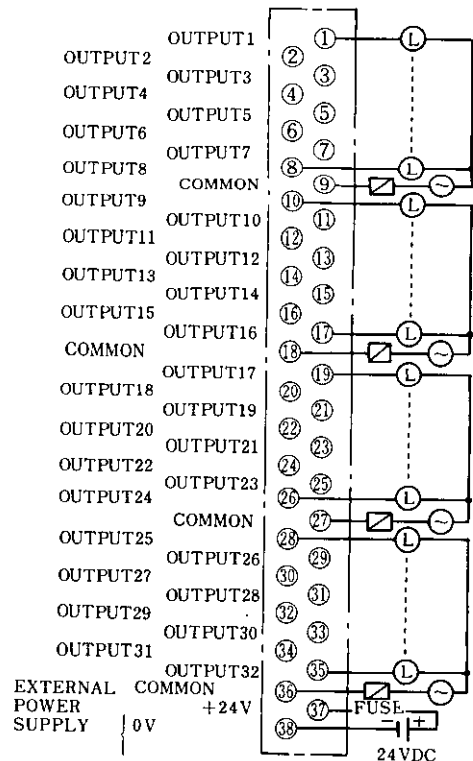


Fig.54 B2902 Relay Output Module Terminal Numbering and Output Connection

(14) B2912 Relay Output Module

Table 28 Relay Output Module Specifications

Items	Specifications	
Type	JAMSC-B2912	
Number of Outputs	32-Outputs per module	
Indicators	32-Output status LED's, provided for each output, lighting up when output ON.	
Fuse, Surge Suppressor	Not provided.	
Electrical Characteristics	Rated Voltage, Current	110 VAC, 1 A (Induction load, PF 0.4, 3A per 8 outputs) 24 VDC, 1A (Induction load, time constant 15ms, 3A per 8 outputs)
	Max Switching Frequency	3,600 switching/hour
	Min Operational Voltage, Current	5 V, 10 mA
	Max Operational Voltage	125 VAC/30 VDC
	Max Closing Current	100 VAC, 10 A (PF 0.7)
	Max Interrupting Current	100 VAC, 5 A (PF 0.4) 24 VDC, 1 A (Time constant 40 ms).
	Contact Resistance	100mΩ max
	Switching Life	100,000 switching min (at rated load)
	Response Time	OFF to ON: 10 ms max ON to OFF: 15 ms max
	External Power Supply for Coil	24 VDC ±10% (ripple 5% or less) 290 mA TYP/24VDC (Outputs ON)
Insulation Voltage	1500 VAC for 1 minute	
Internal Consumed (Vcc) Current (V _D)	1.5 mA TYP (Outputs ON) 180 mA TYP (Outputs ON)	

Signal Name	Term. NO.	Term. NO.	Signal Name
Output 1	A 1	B 1	Output17
Output 2	A 2	B 2	Output18
Output 3	A 3	B 3	Output19
Output 4	A 4	B 4	Output20
Output 5	A 5	B 5	Output21
Output 6	A 6	B 6	Output22
Output 7	A 7	B 7	Output23
Output 8	A 8	B 8	Output24
Common-1	A 9	B 9	Common-3
NOT USED	A 10	B 10	NOT USED
Output 9	A 11	B 11	Output25
Output10	A 12	B 12	Output26
Output11	A 13	B 13	Output27
Output12	A 14	B 14	Output28
Output13	A 15	B 15	Output29
Output14	A 16	B 16	Output30
Output15	A 17	B 17	Output31
Output16	A 18	B 18	Output32
Common-2	A 19	B 19	Common-4
0V	A 20	B 20	24VDC

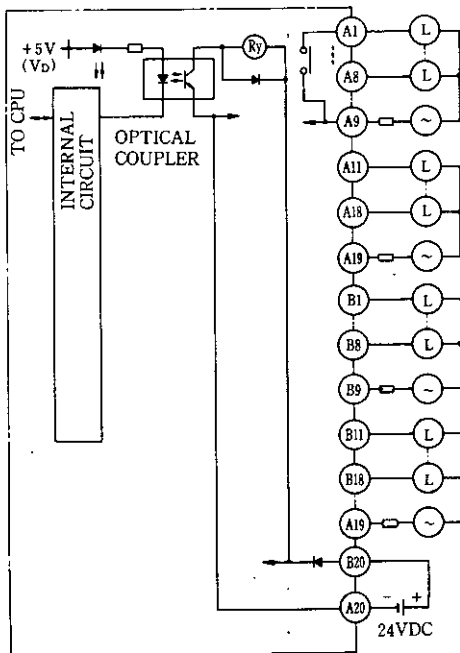
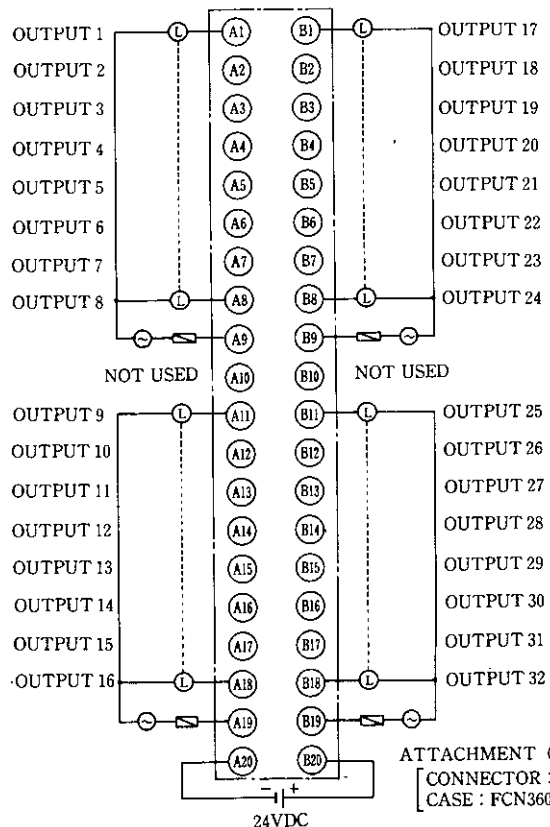


Fig.55 B2912 Relay Output Module Simplified Schematic



ATTACHMENT (Made by FUJITSU LTD.)
 CONNECTOR : FCN361J040-AU40P
 CASE : FCN360C040-B

(15) B2700 Register Output Module

Table 29 Register Output Module

Items		Specifications
Type		JAMSC-B2700
Number of Output		16-Bits × 8 Registers
External Connection		Terminal
Indicator		"READY" : Normal module "BUS ACT" : Communication with cpu "POWER" : Normal external power supply
Fuse Rating		Micro fuse 3.2A, DM32
Electrical Characteristics	Extetnal Power Supply Voltage, Current	10 · 8-26.4VDC, 13mA TYP/ 12VDC, 26mA TYP/24VDC
	Output volage, Currrent	Open collector Output (Collector Voltage-50V max) 100mA/point
	Saturated ON Voltage	0.7 VTYP/100mA
	Strove Cycle	64ms/32ms Switching method
	Insulation Voltage	500VDC for 1 minute
	Internail Consumed Current(Vcc)	180mA TYP

Signal Name	Term. NO.	Term. NO.	Signal Name
DATA 2	2	1	DATA 1
DATA 4	4	3	DATA 3
DATA 6	6	5	DATA 5
DATA 8	8	7	DATA 7
DATA 10	10	9	DATA 9
DATA 12	12	11	DATA 11
DATA 14	14	13	DATA 13
DATA 16	16	15	DATA 15
SEL 2	18	17	SEL 1
SEL 4	20	19	SEL 3
SEL 6	22	21	SEL 5
SEL 8	24	23	SEL 7
Not used	26	25	SPEED
OV	28	27	OV
OV	30	29	OV
Not used	32	31	OV
Not used	34	33	Not used
OV	36	35	12/24VDC
FG	38	37	Not used

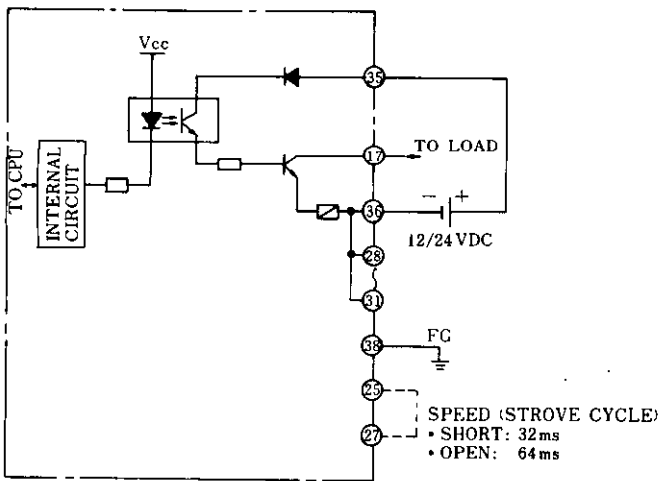
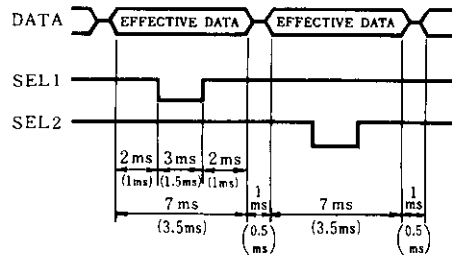


Fig.57 B 2700 Register Output Module Simplified Schematic



Note: Data in () show strove cycle of 32ms.

Fig.58 Switching Timing of Data

B2700

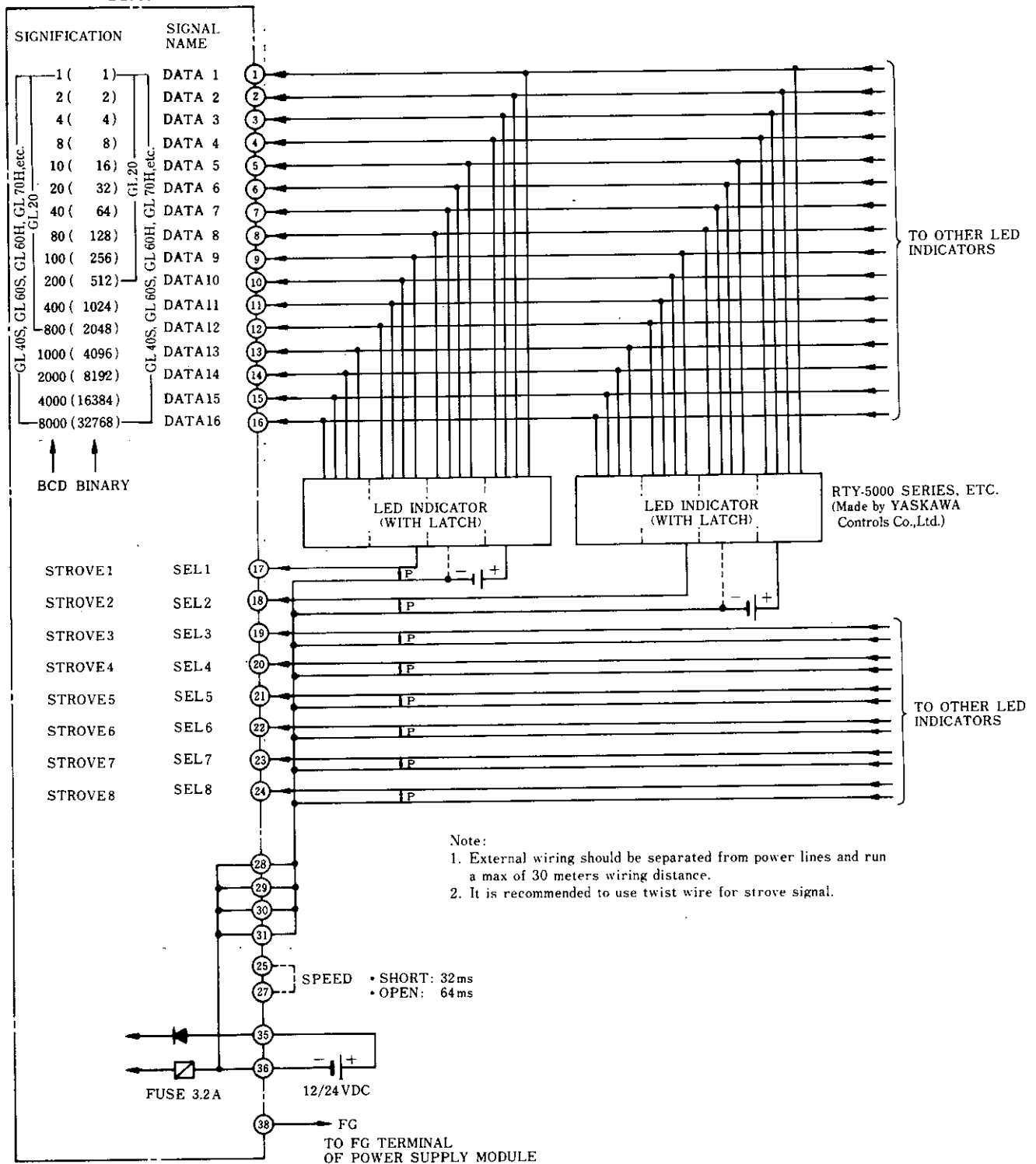


Fig.59 External Connection Diagram

(16) B2710 Register Output Module

Table 30 Register Output Module

Items	Specifications	
Type	JAMSC-B2710	
Number of Output	16-Bits × 8 Registers	
External Connection	Connector	
Indicator	"READY" : Normal module "BUS ACT" : Communication with cpu "POWER" : Normal external power supply	
Fuse Rating	Micro fuse 3.2A, DM32	
Electrical Characteristics	External Power Supply Voltage, Current	10.8-26.4VDC, 13mA TYP/ 12VDC, 26mA TYP/24VDC
	Output voltage, Current	Open collector Output (Collector Voltage-50V max) 100mA/point
	Saturated ON Voltage	0.7 VTYP/100mA
	Strobe Cycle	32/64/192/320ms Switching method
	Insulation Voltage	500 VDC for 1 minute
	Internal Consumed Current(Vcc)	240mA TYP

Signal Name	Term. NO.	Term. NO.	Signal Name
DATA 1	A 1	B 1	SEL 1
DATA 2	A 2	B 2	SEL 2
DATA 3	A 3	B 3	SEL 3
DATA 4	A 4	B 4	SEL 4
DATA 5	A 5	B 5	SEL 5
DATA 6	A 6	B 6	SEL 6
DATA 7	A 7	B 7	SEL 7
DATA 8	A 8	B 8	SEL 8
DATA 9	A 9	B 9	
DATA 10	A 10	B 10	0 V *
DATA 11	A 11	B 11	0 V *
DATA 12	A 12	B 12	0 V
DATA 13	A 13	B 13	0 V
DATA 14	A 14	B 14	0 V
DATA 15	A 15	B 15	*
DATA 16	A 16	B 16	12/24VDC *
	A 17	B 17	12/24VDC *
	A 18	B 18	12/24VDC *
	A 19	B 19	
FG *	A 20	B 20	FG

Note : Signals with mark * are different from B1070.

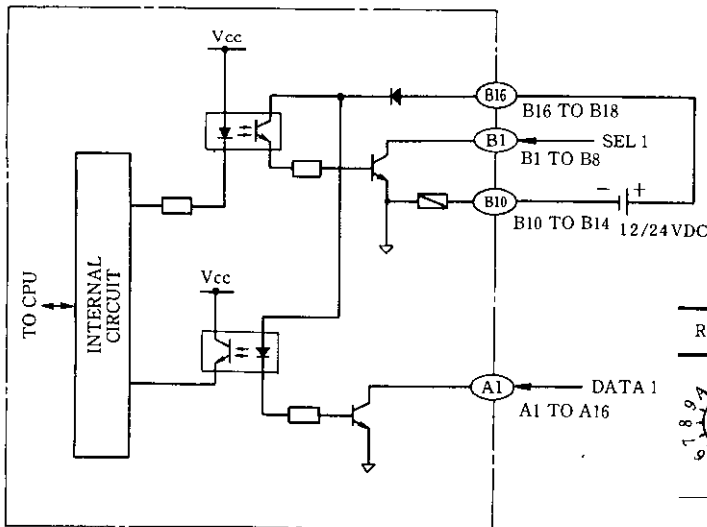
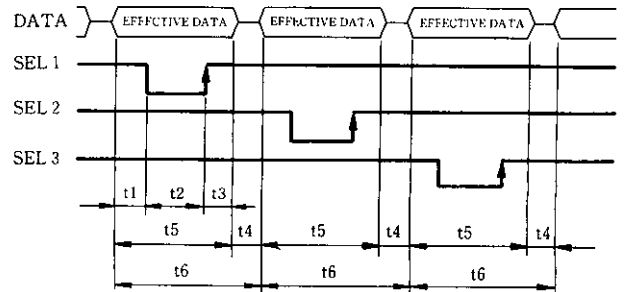


Fig.60 B2710 Register Output Module Simplified Schematic



Note: DATA and SEL signals output regative logic (active "L").

Rotary Switch	t 1	t 2	t 3	t 4	t 5	t 6	1 cycle
0	1 ms	1.5 ms	1 ms	0.5 ms	3.5 ms	4 ms	32 ms
1	2 ms	3 ms	2 ms	1 ms	7 ms	8 ms	64 ms
2	6 ms	9 ms	6 ms	3 ms	21 ms	24 ms	192 ms
3 to F	10 ms	15 ms	10 ms	5 ms	35 ms	40 ms	320 ms

Fig.61 Switching Timing of Data

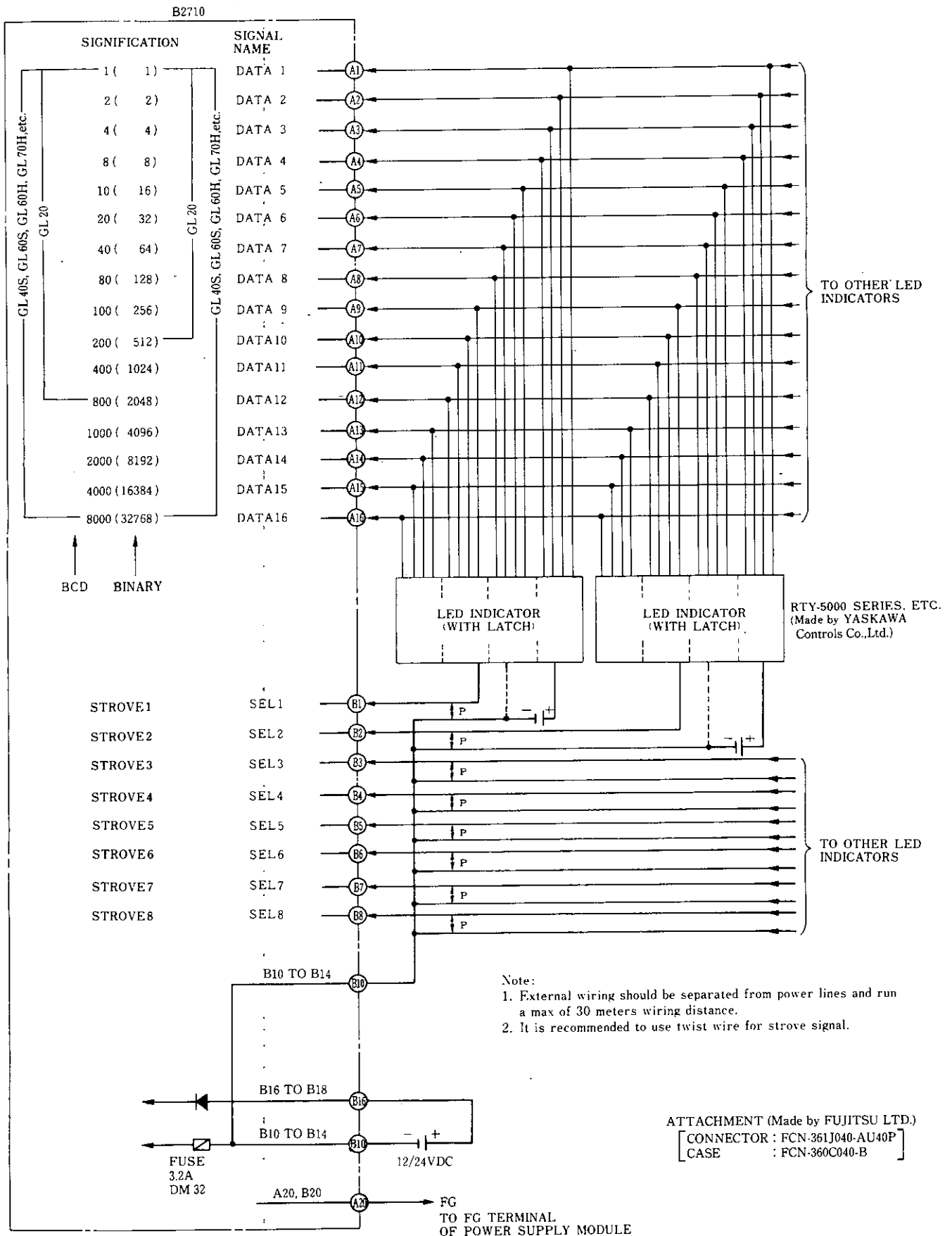


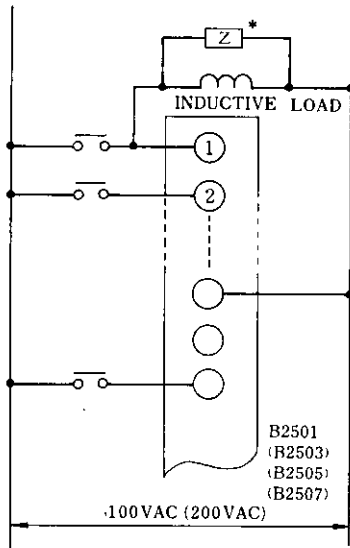
Fig.62 External Connection Diagram

2 PRECAUTIONS FOR USING I/O MODULES

2.1 INPUT MODULES

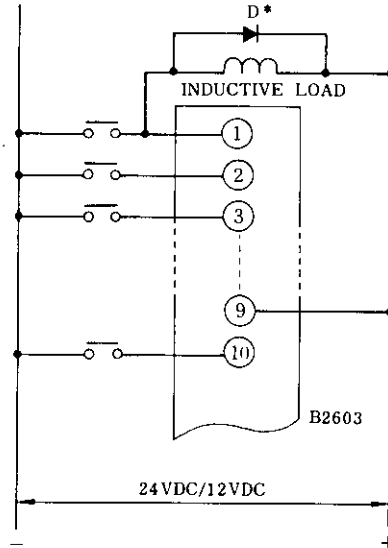
(1) Inductive Load

Where an inductive load is connected in parallel with the input module as shown in Figs. 59 and 60, connect a surge absorber or flywheel diode in parallel with the inductive load, respectively for the AC input module and DC input module.



*The surge absorber capacity should be selected corresponding to the load. It is recommended that type CR 50500 (made by Okaya Electric Industries Co.) or equivalent be used.

Fig.63 AC Input Module

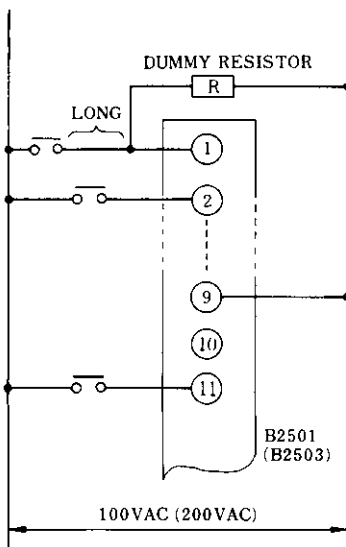


*The flywheel diode should be selected corresponding to the load. It is recommended that type F14 series (made by NEC) or equivalent be used.

Fig.64 DC Input Module

(2) Input Dummy Resistor

Where the external wiring is long or where there is an induction source in the vicinity, connect a dummy resistor in parallel to the input module, as shown in Figs. 61 and 62.

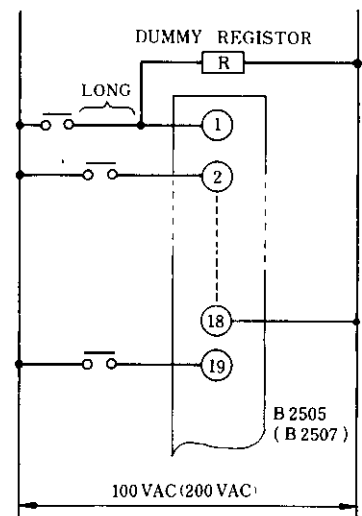


R: Input dummy resistor
 • B2505: 5 k Ω (10 W min)
 • B2507: 10k Ω (20 W min)

Fig.66 AC Input Module

R: Input dummy resistor
 • B2501: 5 k Ω (10 W min)
 • B2503: 10k Ω (20 W min)

Fig.65 AC Input Module



(3) Leakage Current in Input Equipment

Some input equipment (e.g. non-contact switches and limit switches with LED) has leakage current during the OFF state. If this equipment is connected to AC input modules, it may fail to maintain the voltage for an OFF condition which is an input due to leakage current, and input signals may not be cut off.

(Example) A non-contact switch with 5 mA of leakage current is connected to B2501.

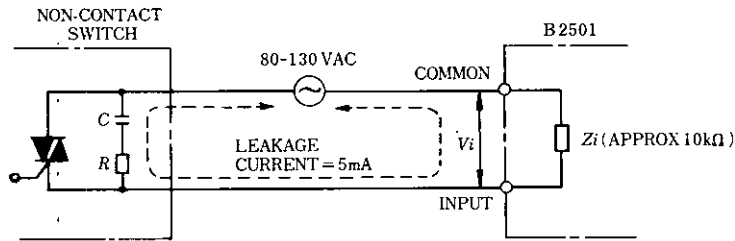


Fig.67 Connection of a Non-contact Switch

If the leakage current is 5 mA, the input voltage (Vi) of B2501 becomes;

$$V_i = 5 \text{ mA} \times Z_i = 5 \text{ mA} \times 10\text{k}\Omega = 50 \text{ V}$$

Since this does not satisfy an input condition (OFF voltage = 30 V or less), input signals may not be cut off. In this case, add a proper dummy resistor to the input terminal of B2501.

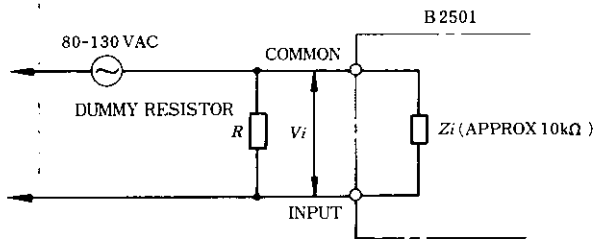


Fig.68 Addition of a Dummy Resistor

The value of the dummy resistor R should be determined so that an input voltage Vi of B2501 becomes 30 V or less.

$$\frac{R \times Z_i}{R + Z_i} \times \text{leakage current} < 30 \text{ V}$$

$$\frac{R \times 10\text{k}\Omega}{R + 10\text{k}\Omega} \times 5\text{mA} < 30 \text{ V} \quad \therefore R < 15\text{k}\Omega$$

Thus, the value of R becomes 15kΩ or less. However, if the value is too small, heating value increases, resulting in the need of a resistor with large wattage.

Assume that the value of R is 10 kΩ. Then the wattage W of the dummy resistor becomes;

$$W = \frac{(\text{power supply voltage})^2}{R} = \frac{(100\text{V})^2}{10\text{k}\Omega} = 1 \text{ W} \quad \therefore W = 1 \text{ W}$$

Generally, the wattage W of the dummy resistor is taken to be 3W to provide a surplus wattage about three times more than required.

(4) ON/OFF Conditions of DC Input Module

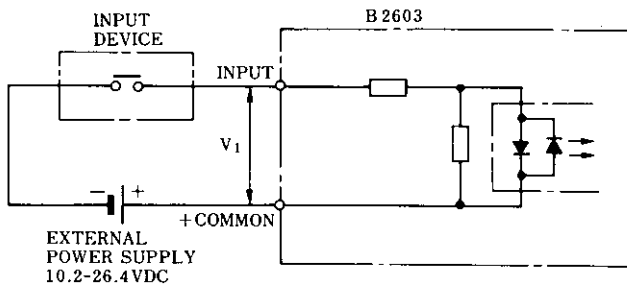


Fig.69 ON/OFF Conditions of B2603

Input conditions of B2603 are;

ON level: 9 VDC or more

OFF level: 6 VDC or less

(Example) When a limit switch with LED is connected to B2603

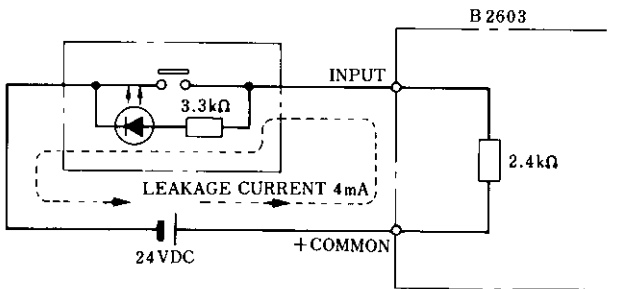


Fig.70 Connection of a Limit Switch with LED

If a serial resistor of LED is $3.3 \text{ k}\Omega$ and the leakage current is 4mA , then
 $V_i = 2.4 \text{ k}\Omega \times 4\text{mA} = 9.6 \text{ V}$

This does not satisfy the input condition (OFF level = $\underline{6} \text{ V}$ or less).

Therefore, add a proper dummy resistor to the input terminal of B2603 so that the input condition is satisfied.

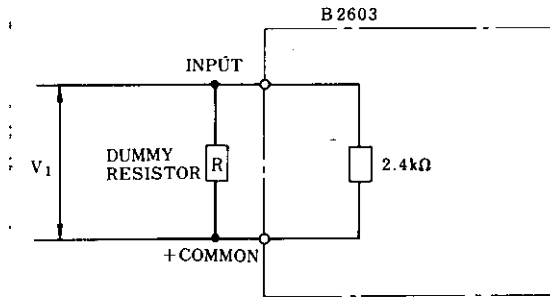


Fig.71 Addition of a Dummy Resistor

The value of a dummy resistor R should be chosen such that the input voltage V_i of B2603 becomes $\underline{6} \text{ V}$ or less.

$$4\text{mA} \times \frac{2.4\text{k}\Omega \times R}{2.4\text{k}\Omega + R} < \underline{6} \text{ V} \quad \therefore R < \underline{4} \text{ k}\Omega$$

Thus, the value of the resistor becomes $\underline{3}\text{k}\Omega$.

Necessary wattage W is;

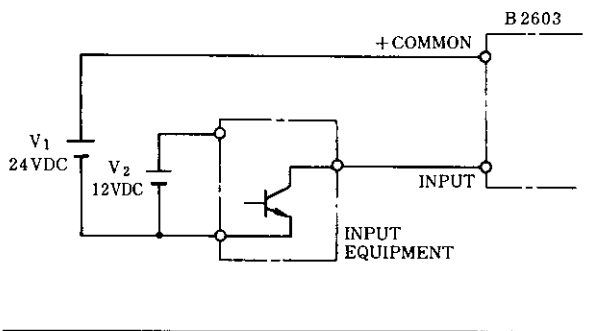
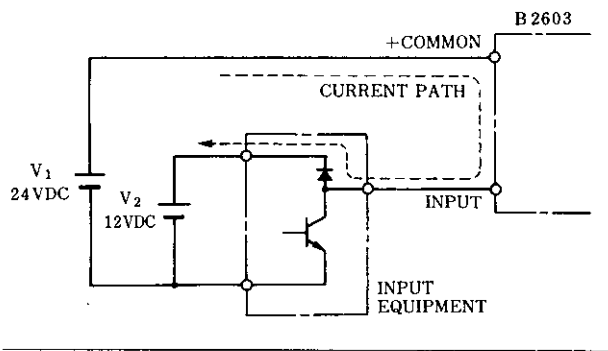
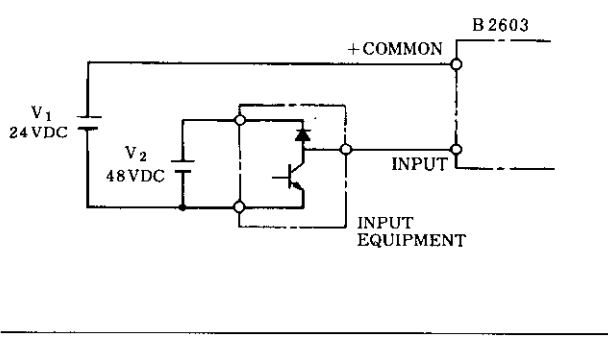
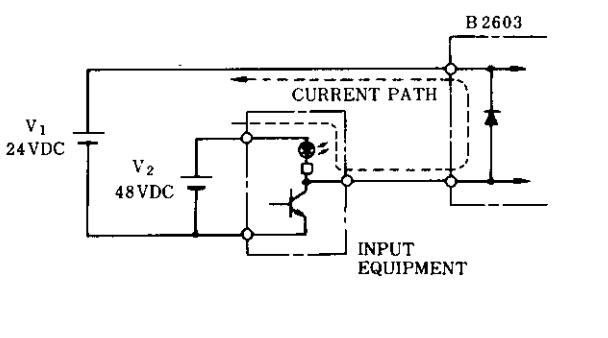
$$W = \frac{(\text{power supply voltage})^2}{R} = \frac{(24 \text{ V})^2}{\underline{3}\text{k}\Omega} = \text{about } \underline{200} \text{ mW}$$

In general, the wattage of a dummy resistor is taken to be $\underline{0.5 \text{ to } 1 \text{ W}}$ to provide a surplus wattage about three times more than required.

(5) Connection to Input Equipment with Different Voltage

Usually, power voltage of input equipment should be matched that of input modules. However, Table 30 shows possibilities of connecting input equipment having different voltages.

Table 31 Possibilities of Connecting Input Equipment Having Different Voltages

Examples of Input Equipment	Connection Possibilities
<p>① Open collector output ($V_1 > V_2$)</p> 	<p>Can be connected. However, the voltage resistance of the output transistor of the input equipment should be 40 V or more.</p>
<p>② With resistor, LED or diode ($V_1 > V_2$)</p> 	<p>Cannot be connected. When the input equipment is OFF, current shown by a dotted line in the left figure may flow and input does not become OFF. Especially, in case of LED, reverse voltage may be applied during the OFF time to the equipment with LED and the LED may be broken.</p>
<p>③ With open collector or diode ($V_1 > V_2$)</p> 	<p>Can be connected.</p>
<p>④ With resistor or LED ($V_1 > V_2$)</p> 	<p>Cannot be connected. When the input equipment is OFF, current shown by a dotted line in the left figure may flow and the LED of the input equipment comes on dimly.</p>

(6) Precaution in Using B2603

Ambient temperature of B2603 (32-point) input modules depends on the external power supply voltage and the number of input points that are ON at the same time. Adjust the ambient temperature within a value shown in Fig. 68.

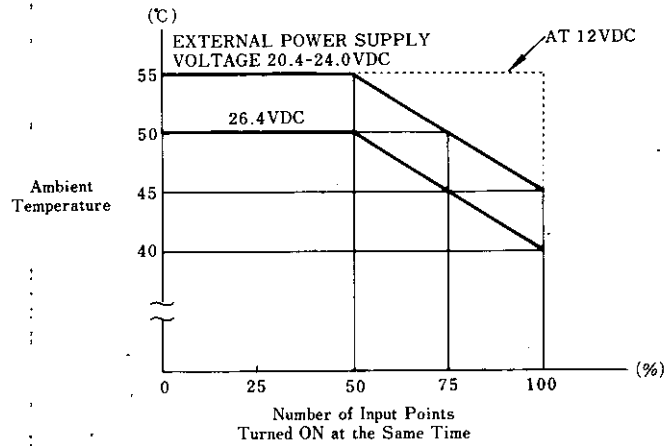
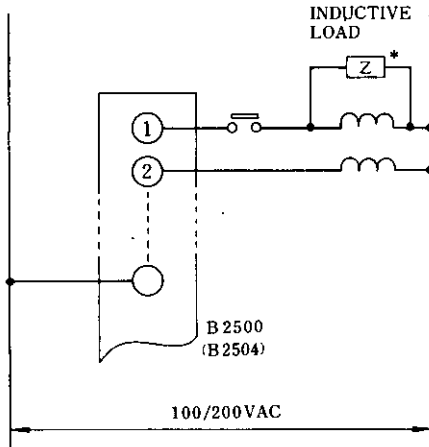


Fig.72 Adjustment of Ambient Temperature

2.2 OUTPUT MODULES

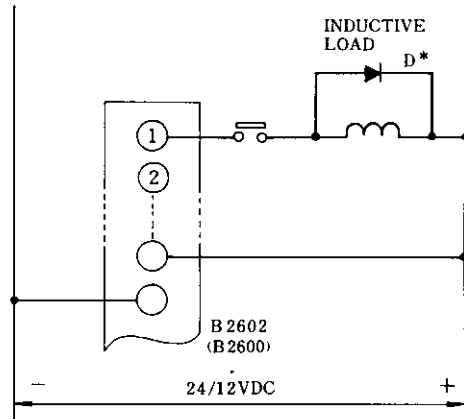
(1) Connection to Contacts

When connecting contacts to an inductive load of the output module, as shown in Figs. 69 and 70, always connect a surge absorber or a flywheel diode in parallel to the inductive load.



*The surge absorber capacity should be selected corresponding to the load. It is recommended that type CR 50500 (made by Okaya Electric Industries Co.) or equivalent be used.

Fig.73 AC Output Module



*The flywheel diode should be selected corresponding to the load. It is recommended that type F14 series (made by NEC) or equivalent be used.

Fig.74 DC Output Module

(2) Minimum Load Current

As the output switch of the AC output module, a triac is used. Since a triac cannot operate stably if the load is less than the specified minimum load current, make sure to use the load which is secure current levels above the minimum load current. If the minimum load current cannot be kept, connect a dummy resistor in parallel to the load so that the total load current is above the minimum load current.

(3) Maximum Load Current

Load current at an output point is different from the load current at a common terminal. This should be taken into consideration for distributing loads.

(4) Output Fuse

The output fuse is used for preventing the trouble caused by shortcircuit of the load, but not for protecting the output element of the module.

(5) Output Status LED Indicator for 100 VAC Output Module

The output status LED indicator for the AC output module lights up by power supply for the internal logic circuit.

(6) Leakage Current from the Output Module

AC output module and relay contact output module contain a surge suppressing circuit. The refore, leakage current flows during OFF.

Table 32 Leakage Current in Output Modules

Output Module Type JAMSC-	Output Impedance during OFF (50 Hz)	Maximum Leakage Current
B2500 ,B2504	Approx <u>68</u> kΩ	Approx <u>2</u> mA at 130 VAC

When a light-load relay is connected to these output modules, the relay does not turn off due to the current.

(Example) When load impedance is 6kΩ and the load responds incorrectly due to 1 mA of leakage current.

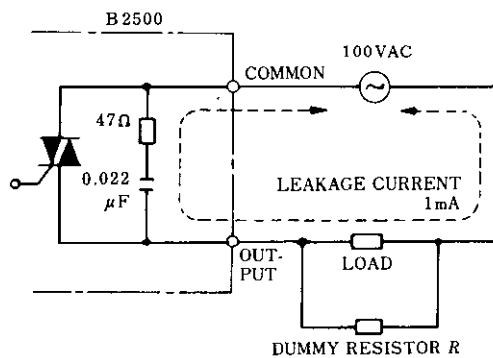


Fig.75 Connection of Light Load

If 0.5 mA or less of current flow in the load does not cause any malfuncton, then the value of dummy resistor R becmoes;

$$1 \text{ mA} \times \frac{R}{R + 6 \text{ k}\Omega} < 0.5 \text{ mA}$$

$$\therefore R < 6 \text{ k}\Omega$$

Thus, make the value of R 6kΩ.

Necessary wattage W is:

$$W = \frac{(\text{power supply voltage})^2}{R} = \frac{(100 \text{ V})^2}{6 \text{ k}\Omega} = 1.7 \text{ W}$$

Generally, the wattage of the dummy resistor is taken to be 5 W to provide surplus wattage about 3 times more than required.

(7) Connection of Solenoid with Diode

Solenoids with diodes have the advantage being driven by half-wave rectification and less starting current. When solenoids with diodes are used as load of AC output module, be careful of the following points.

(a) When output is OFF, overvoltage is applied to load:

When output of AC output module is OFF, current (A), shown by a dotted line, flows at half-cycle of the power supply to be a forward-biased diode for rectification, and is charged on capacitors. See Fig. 72.

With next half-wave, after polarity is reversed, diode for rectification is reverse-biased and current (A) is blocked; discharge current (B), shown by a dotted line, flows from the capacitor. At this time, supply voltage and voltage charged on the capacitor are superimposed, and applied to the rectification solenoid with diode. The peak value of this voltage is approximately $2\sqrt{2}E$ (E: supply voltage). Rectification diode should require a withstand reverse voltage of $2\sqrt{2}E$ or more.

Connect a resistance of approximate multiples of $10k\Omega$ to several hundred $k\Omega$ on solenoid ends so that voltage applied to the solenoid is reduced. See Fig. 73.

(b) When output is ON, solenoid may not turn ON:

Where the solenoid with diode is connected, solenoid may not turn ON because voltage of output ends is not reduced to operation level by effect of voltage charged in the capacitor. Connect a resistance of approximate multiples of $10k\Omega$ to several hundred $k\Omega$ on solenoid ends so that voltage applied to solenoid is reduced. See Fig. 73.

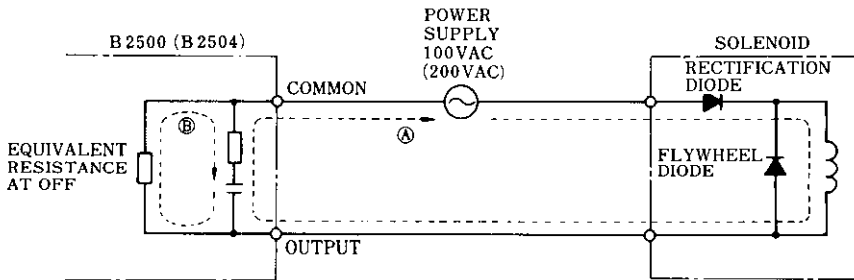


Fig.76 Connection of Solenoid with Diode

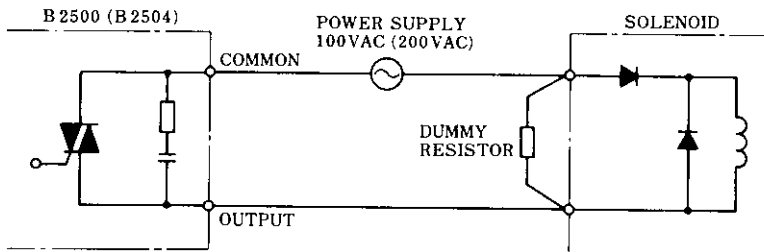


Fig.77 Connection of Dummy Resistor

(8) Connection of B2904/B2914

Bestact relay output module, B2904/B2914 has a polarity on contact output as shown in Fig. 74. When DC power supply is used as a load, observe the correct polarity. If using an opposite polarity, electrical life of the contact may be shortened.

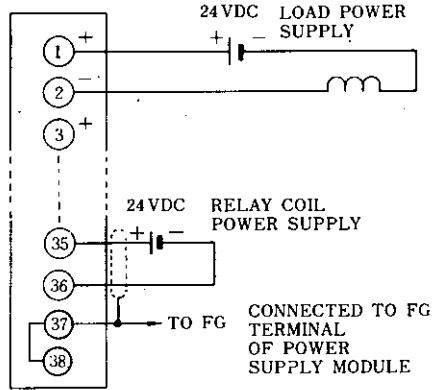


Fig.78 Connection of B2904/B2914 and DC Load

2.3 CONNECTION BETWEEN I/O MODULES

Where two or more GL20 controllers are used in a system, and signals are exchanged between GL20 controllers via input and output modules, connections should be as shown in Figs. 75 and 76. In this case, make sure to use modules of the same voltage rating, and connect a dummy resistor to the output module, to make stable operation.

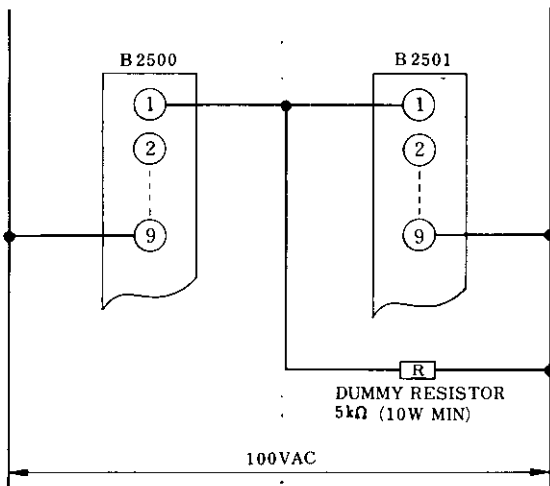


Fig.79 Connection between AC Input and Output Modules

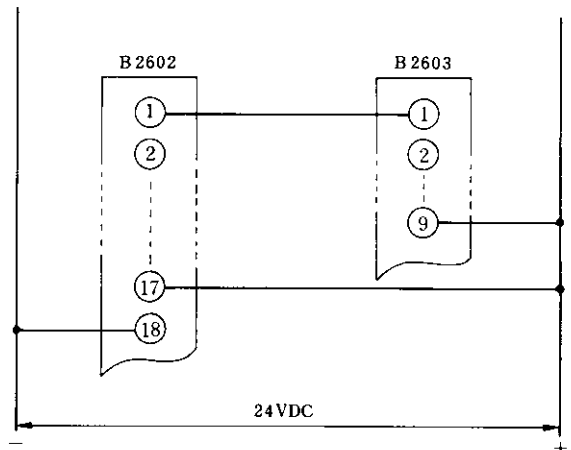


Fig.80 Connection between DC Input and Output Modules

2.4 EXTERNAL POWER SUPPLY

General DC stabilized power supply should be used for DC I/O modules as an external power supply. Add a noise filter on the AC input side of the DC stabilized power supply for special modules such as a register module, analog module, or counter module. Do not run the primary and the secondary sides of the noise filter and the DC output side in the same wire duct.

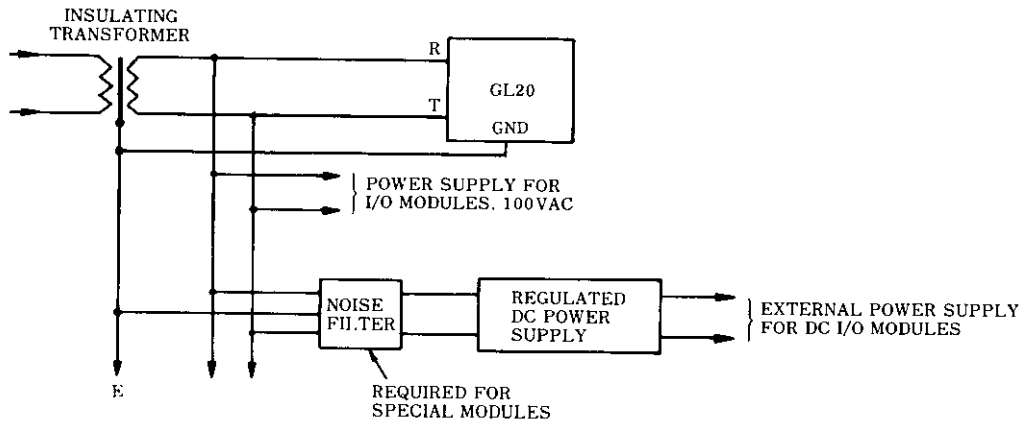
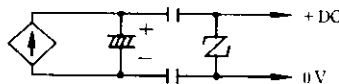


Fig.81 External Power Supply for DC I/O Modules

If it is necessary to use a simple DC power supply such as full wave rectification, minimize the ripple by adding a smoothing capacitor. The following should be observed:

- Instantaneous output voltage with ripple should always be within the range of the operation voltage of the DC I/O modules.
- Output voltage, including that of the power ON time and power OFF time, should never exceed the transient voltage of the DC I/O modules.
- Prevent the introduction of surge voltage by adding a noise filter on the input side of a rectifying device.
- Surge voltage may occur with contactor provided on output of full wave rectification. Apply a surge suppressor between contactor outputs of module side. See figure below. Avoid making a sequence control system for turning external power supply ON and OFF with contact device such as a contactor located at the entry of I/O module.



2.5 PRECAUTIONS WHEN INSTALLING I/O MODULES

Mount base for MEMOCON-SC GL40S, GL60S, GL60H and GL70H, is shown as table below. From 6 to 9 I/O Modules can be installed on the mount base. However, the number of modules to be inserted must be limited so that the total consumed current of the modules to be used will not exceed the capacity of the internal power (supplied from a main power supply module or an auxiliary power supply module). The total consumed current should be calculated in accordance with Fig. 76.

Be sure not to exceed the capacity of the power supply unit.

AUXILIARY POWER SUPPLY MODULE PS 60A 5 V 10 A	AUXILIARY POWER SUPPLY MODULE PS 21 5 V 4 A	AUXILIARY POWER SUPPLY MODULE PS 22 5 A 6 A (7.5 A) **	MAIN POWER SUPPLY MODULE PS 40 5 V 7.5 A
INPUT BUFFER MODULE B 2110A 5 V 0.4 A	DC OUTPUT MODULE B 2600 5 V 0.1 A	OUTPUT REGISTER B 2700 5 V 0.18 A	PID MODULE B 2800 5 V 0.2 A
AC OUTPUT MODULE B 2500 5 V 0.48 A	DC INPUT MODULE B 2601, B 2611 5 V 0.04 A	OUTPUT REGISTER MODULE B 2710 5 V 0.24 A	REVERSIBLE COUNTER MODULE B 2801 5 V 0.25 A
AC INPUT MODULE B 2501 5 V 0.04 A	DC OUTPUT MODULE B 2602A 5 V 0.25 A	INPUT REGISTER MODULE B 2701 5 V 0.12 A	PRESET COUNTER MODULE B 2802 5 V 0.3 A
AC INPUT MODULE B 2503 5 V 0.04 A	DC INPUT MODULE B 2603 5 V 0.08 A	INPUT REGISTER B 2711 5 V 0.15 A	POSITION DETERMINING MODULE B 2803 to B 2823 5 V 0.2 A
AC OUTPUT MODULE B 2504 5 V 0.94 A	DC OUTPUT MODULE B 2604 5 V 0.6 A	OUTPUT ANALOG MODULE B 2722 (B 2742) 5 V 0.5A(0.6A)	POSITION DETERMINING MODULE B 2833 5 V 0.5 A
AC INPUT MODULE B 2505 5 V 0.08 A	DC INPUT MODULE B 2605, B 2615 5 V 0.08 A	INPUT ANALOG MODULE B 2723 5 V 0.15 A	MEMOLINK MASTER MODULE B 2804 5 V 0.5 A
AC INPUT MODULE B 2507 5 V 0.08 A	DC OUTPUT MODULE B 2606 5 V 0.32 A	INPUT INSTRUMENTATION MODULE B 2705 5 V 0.15 A	MEMOLINK SLAVE MODULE B 2805 5 V 0.25 A
	DC INPUT MODULE B 2607 5 V 0.1 A	OUTPUT RELAY CONTACT MODULE B 2902, B 2912 5 V 0.25 A	INTERFACE BETWEEN MODULE 5 V 0.3 A
	DC OUTPUT MODULE B 2624 5 V 0.29 A	OUTPUT RELAY CONTACT MODULE B 2914 5 V 0.14 A	
	DC INPUT MODULE B 2625 5 V 0.1 A	PULSE CATCH B 2707 5 V 0.1 A	
	DC OUTPUT MODULE B 2610 5 V 0.11 A		
	DC OUTPUT MODULE B 2630 5 V 0.1 A		
	DC OUTPUT MODULE B 2632 5 V 0.25 A		

** Not including a converter (Y21)
 Y21TS (thermocouple) : 5V 0.11A
 Y21RS (resistance thermocouple bulb) : 5V 0.08A
 Y21VS (A/D) : 5V 0.07A

**
 When combining with MB22...6A
 When combining with MB22A...7.5A

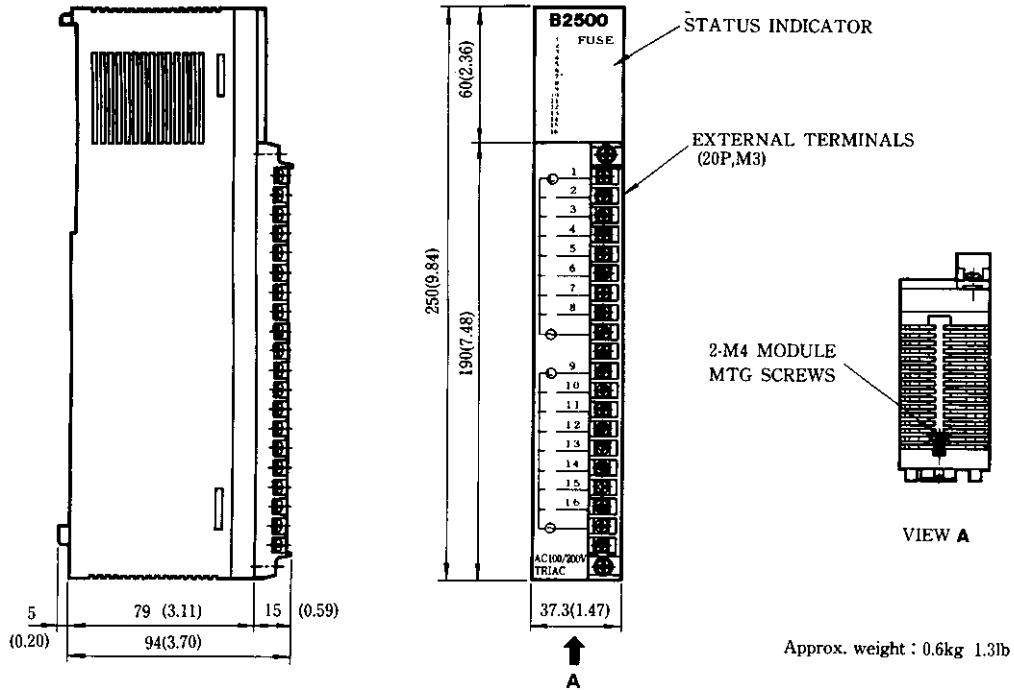
Type	Max. Installation Number of I/O Modules
JRMSI-MB20	8 or less
JRMSI-MB22	9 or less
JRMSI-MB22A	9 or less
JRMSI-MB40	7 or less
JRMSI-MB60	6 or less
JRMSI-MB70A	8 or less

Fig.82 Consumed Current of Each Module

3 DIMENSIONS in mm (inches)

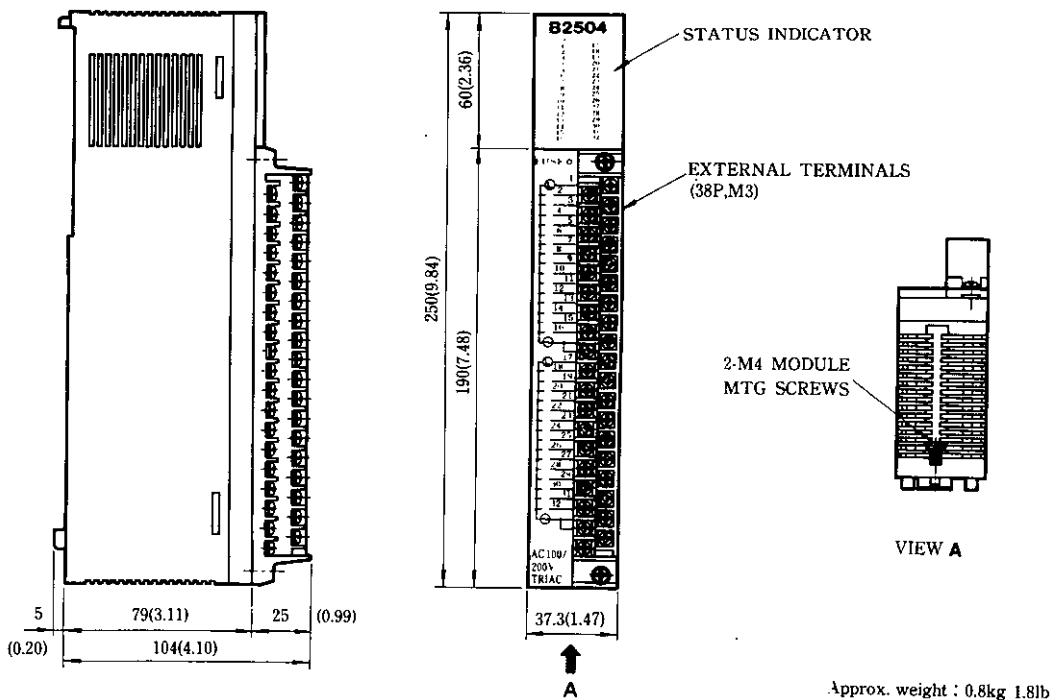
(1) 16-I/Os Module

Types JAMSC-B2500, B2501A, B2503A, B2600, B2601, B2610, B2611, B2630, B2800, B2806



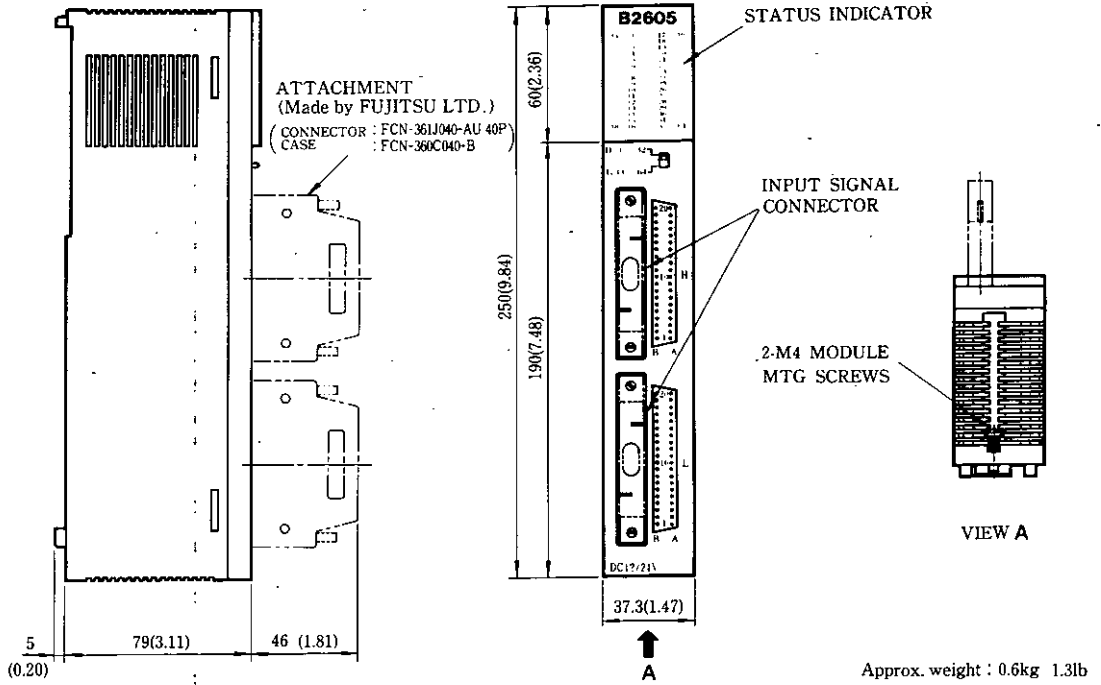
(2) 32-I/Os Module

Types JAMSC-B2504, B2505A, B2507A, B2602A, B2603, B2606, B2607, B2632, B2700, B2701, B2707, B2801, B2802, B2902, B2904, B2914



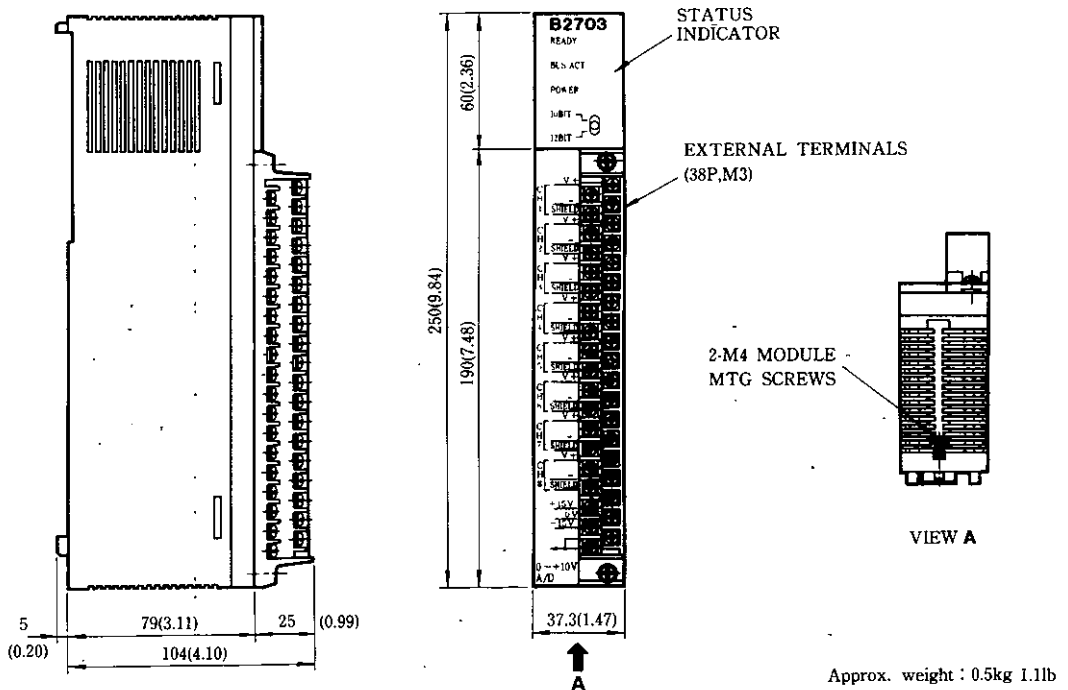
(3) 64-I/Os Module

Types JAMSC-B2605, B2604, B2615, B2625, B2624



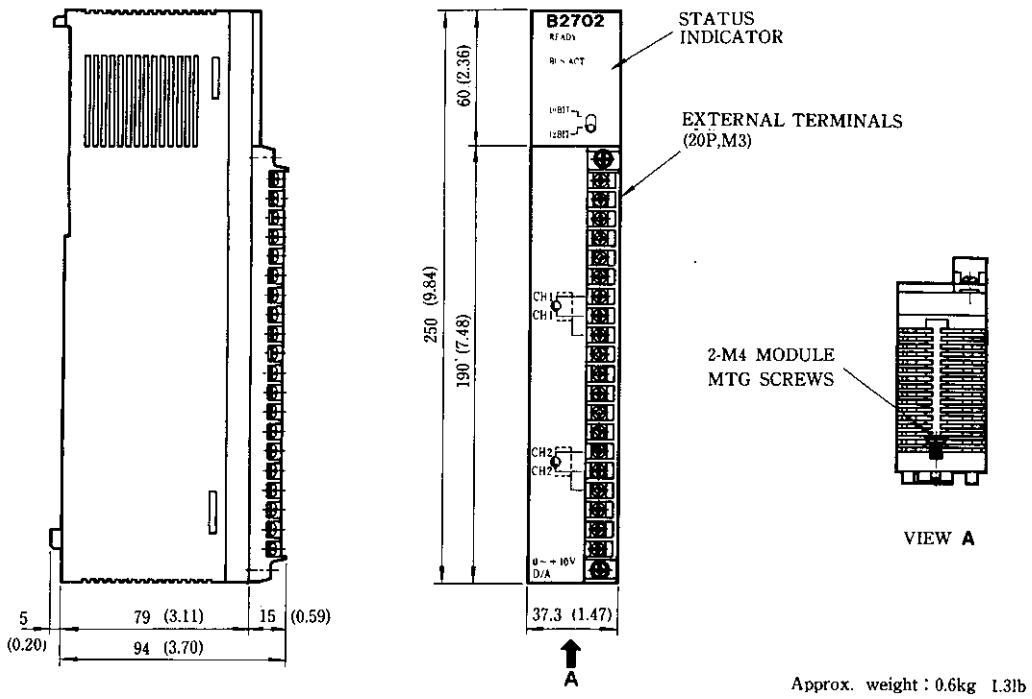
(4) Analog Input Module

Types JAMSC-B2703, 2733, B2743



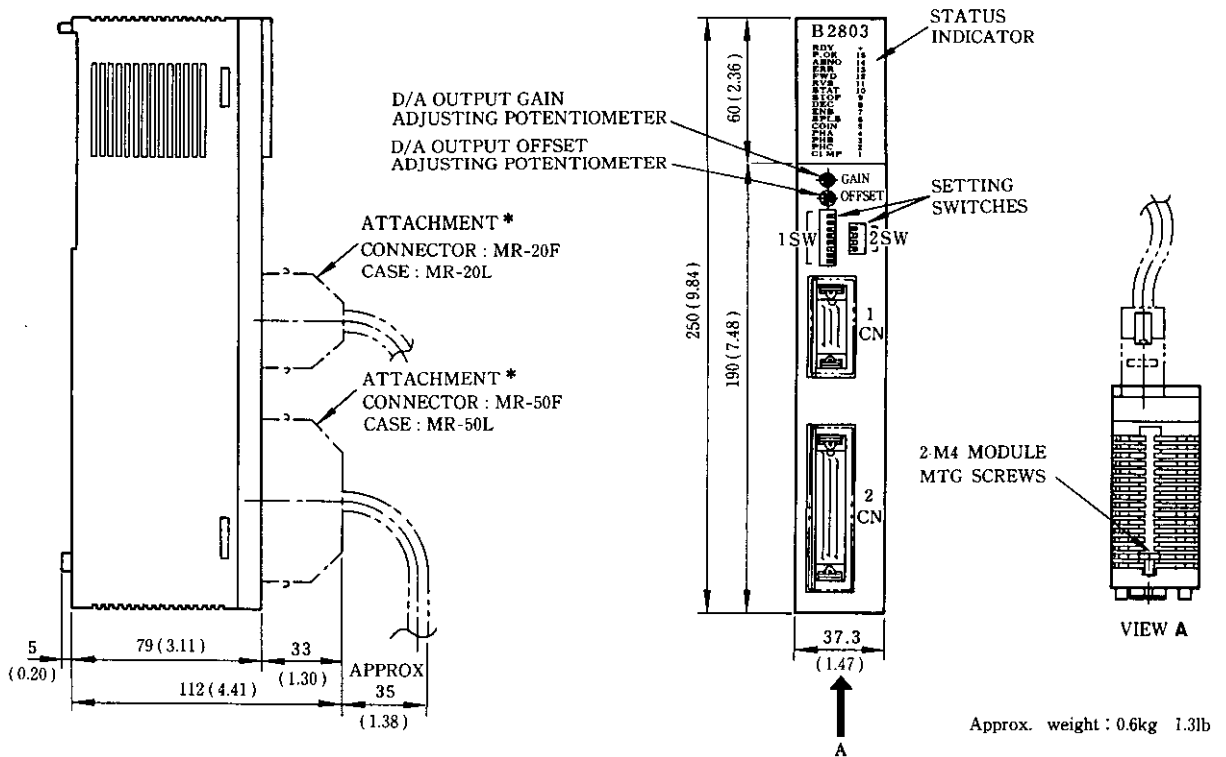
(5) Analog Output Module

Types JAMSC-B2702, B2712, B2722, B2732, B2742



(6) Positioning Module

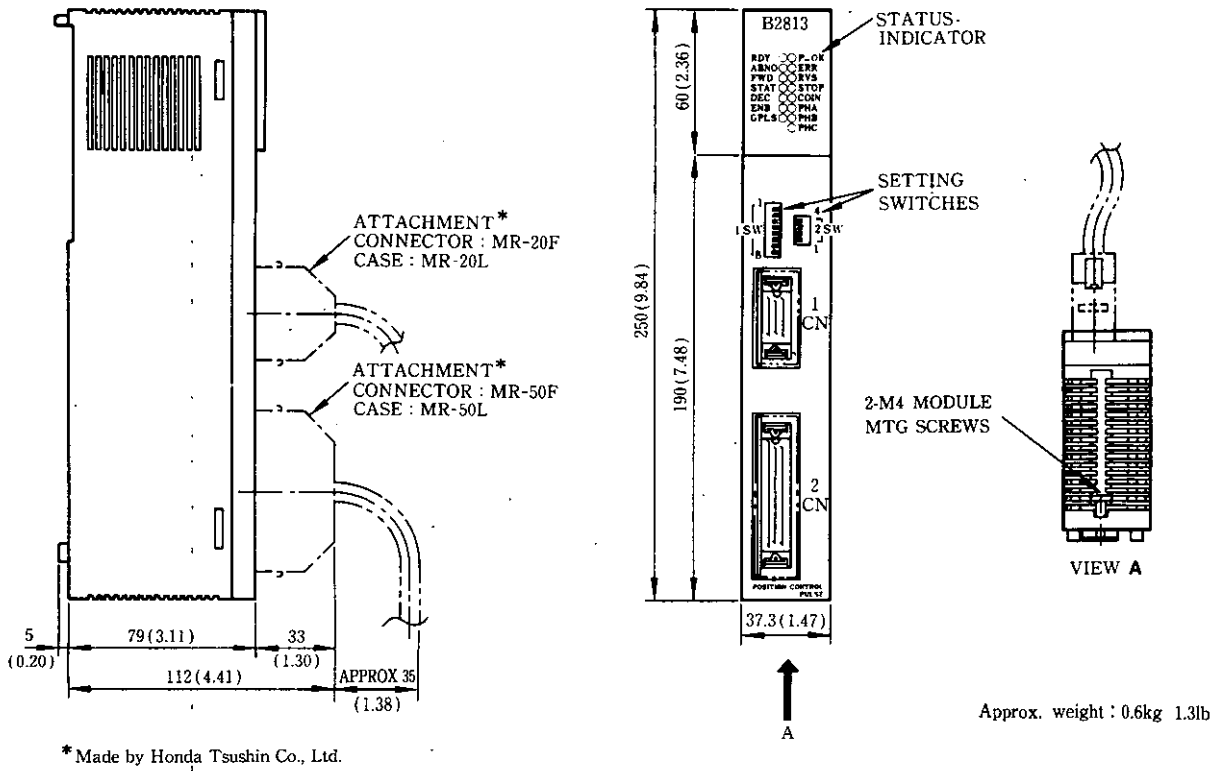
Type JAMSC-B2803, B2833



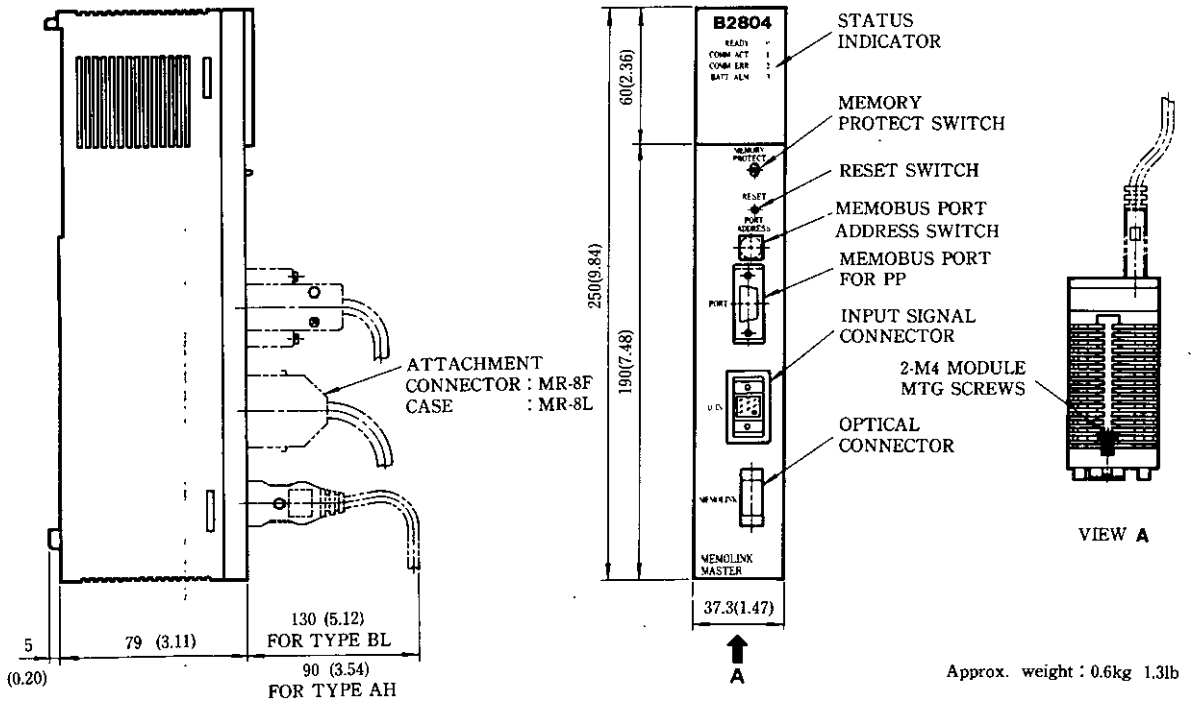
• Made by Honda Tsushin Co., Ltd.

(7) Positioning Module

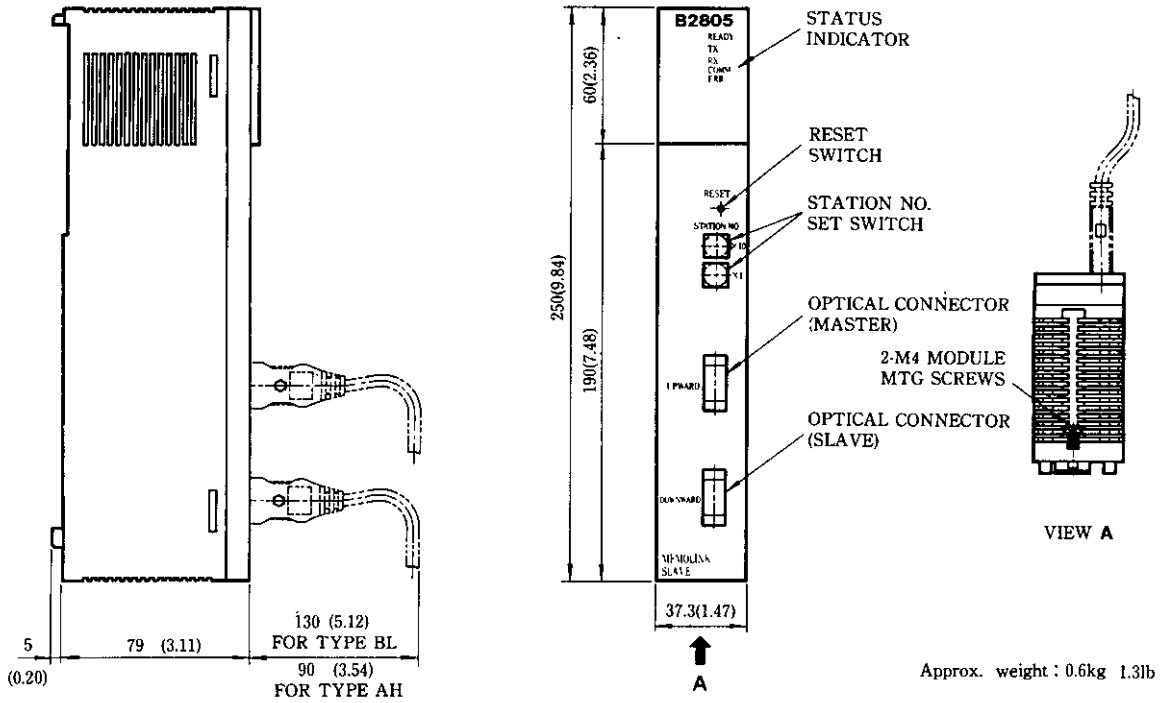
Types JAMSC-B2813, B2823



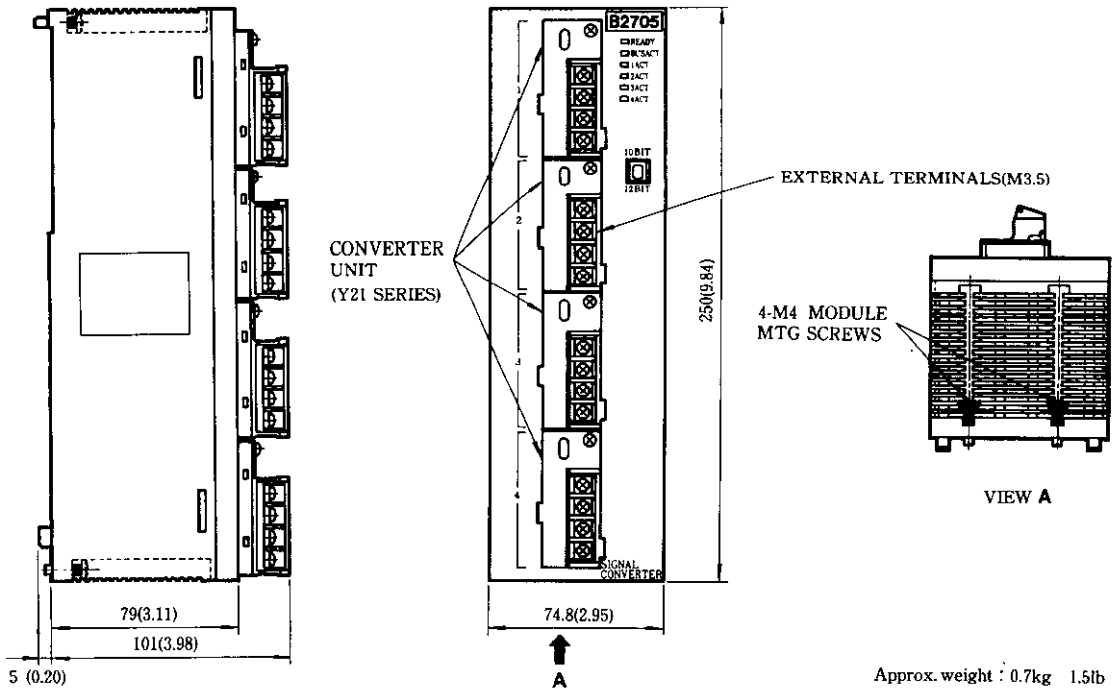
(8) MEMOLINK Master Module Type JAMSC-B2804



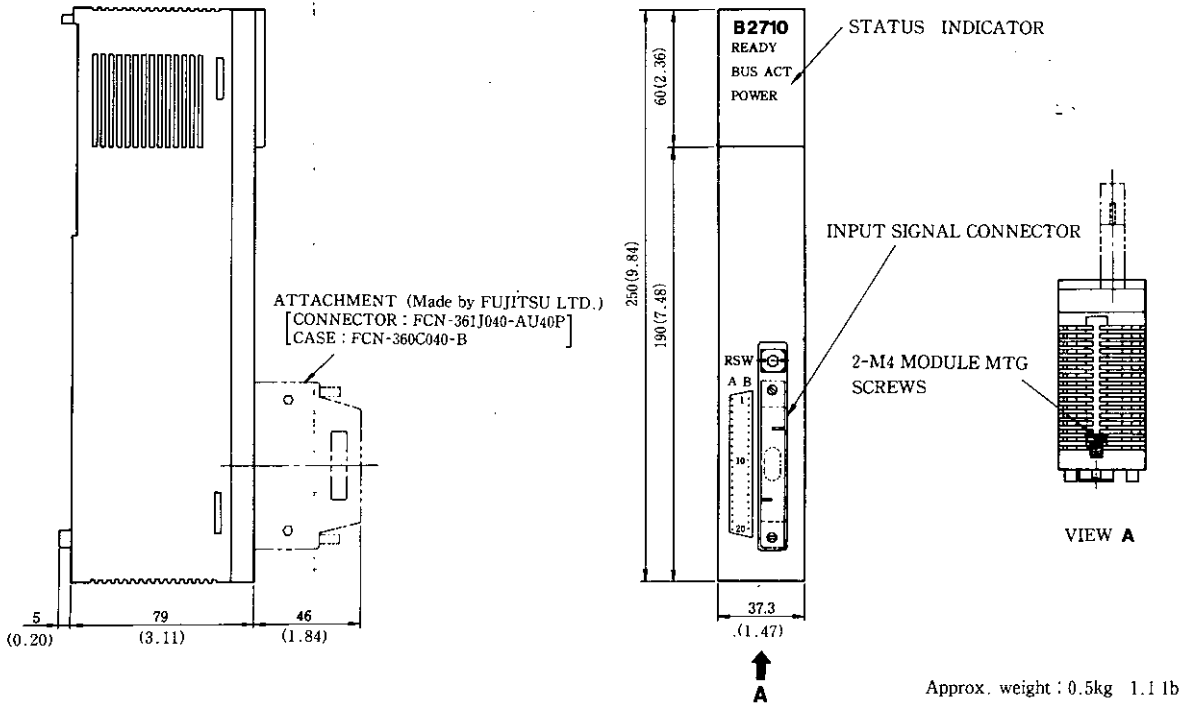
(9) MEMOLINK Slave Module Type JAMSC-B2805



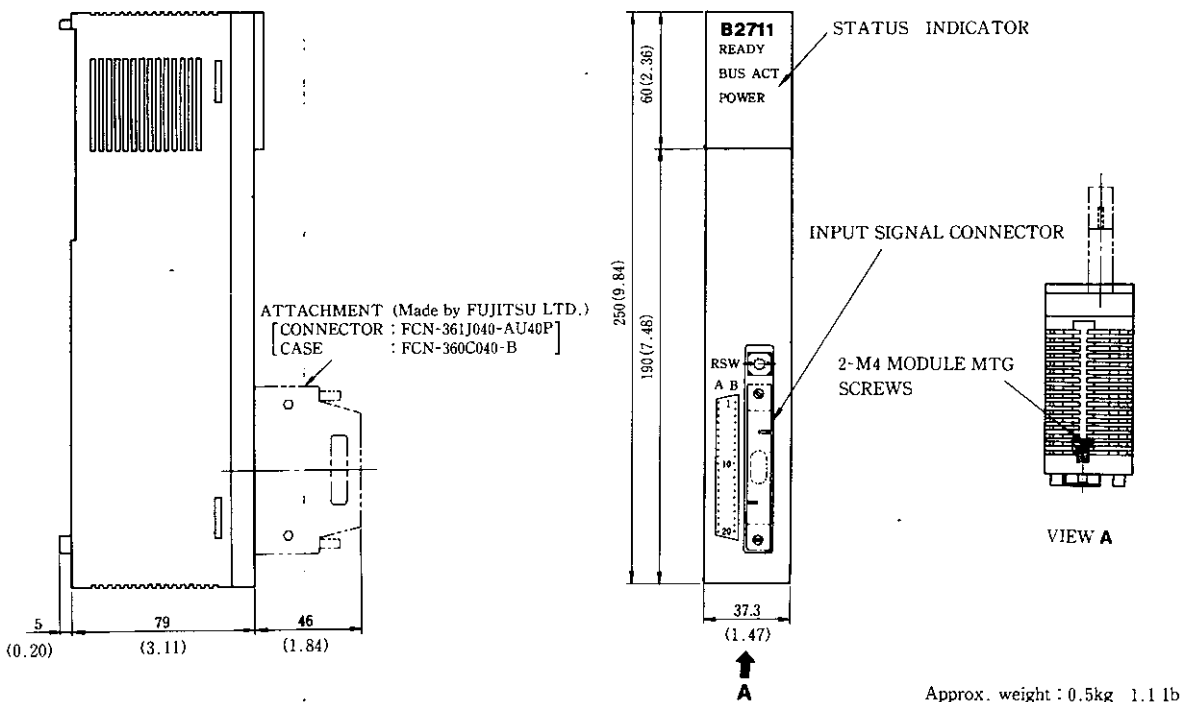
(10) Signal Converter Module Type JAMSC-B2705



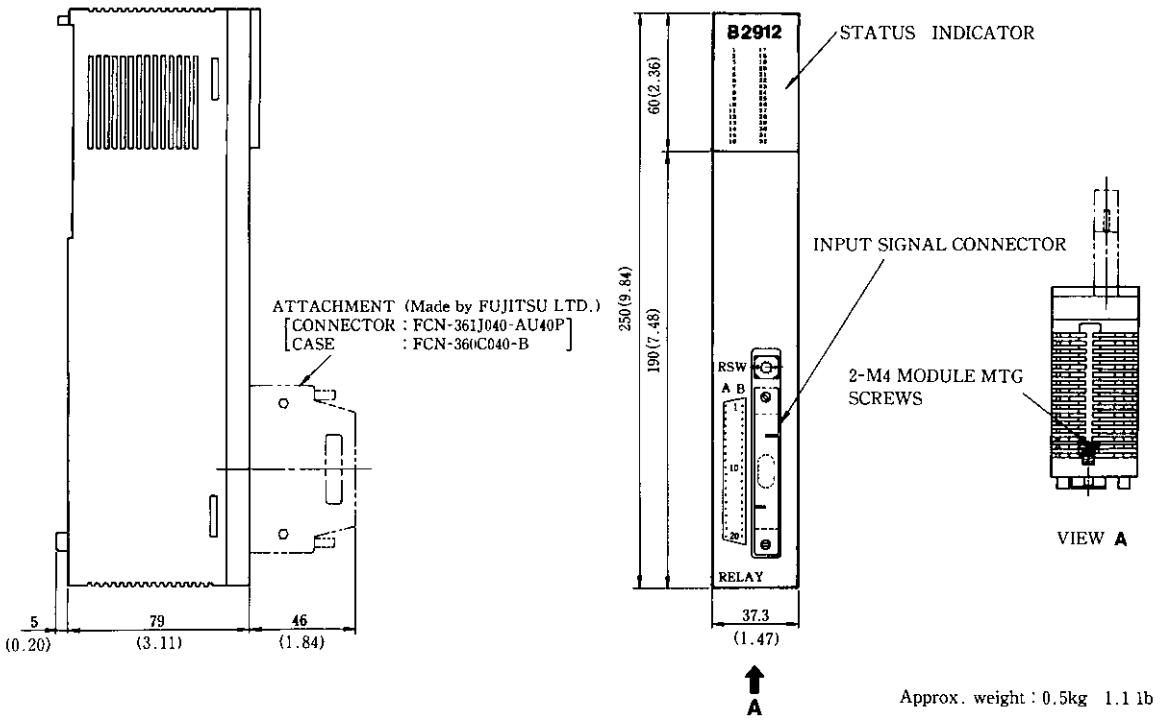
(11) Register Output Module Type JAMSC-B2710



(12) Register Input Module Type JAMSC-B2711



(13) Relay Output Module Type JAMSC-B2912



2000 Series I/O Modules

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