



SIE-C815-9.10C
DESCRIPTIVE
INFORMATION

Memocon™-SC R84H, U84, U84S, 584

REGISTER MODULES

1000 SERIES

TYPE JAMSC-B1071 -B1070

There are two register modules: register input module type JAMSC-B1071 and register output module type JAMSC-B1070, in 1000 series I/O register module for Memocon-SC R84H, U84, U84S and 584.

By using these modules, numerical value data can be read in or can be sent out. Numerical value inputs are, for example, used to set specific values of timers or counters by using digital switches. Numerical value outputs are, for example, used to send the set point of timers or counters, or the operation results to external numerical indicators. The R84H, U84, U84S and 584 have the data processing functions such as addition, subtraction, multiplication, division, and numerical value comparison, so that they can directly deal with the numerical data by using the register modules. Depending on the setting of the I/O allocation table, the numerical values are dealt with by the register modules will be BCD or binary. The R84H, U84, U84S and 584 can handle different numerical value ranges.

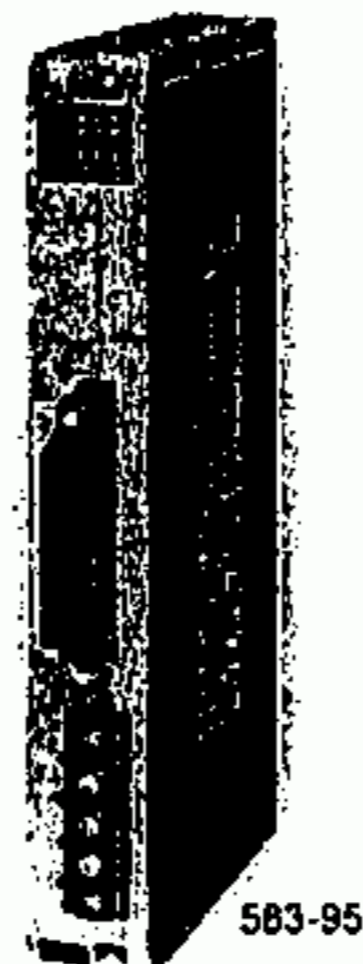
Dimensions of the register modules are the same as other 1000series I/O modules. The register modules are mounted on 1000 series mounting base types JRMSI-B1026, -B1027, or -B1028. When 1000 series I/O modules are connected to the 584, J1040 adapters are needed.

Following are additional reference manual.

- Memocon-SC R84H Designer's Reference manuals (SIE-C815-9.4)
- Memocon-SC 584 User's Manual (SIE-C815-7)
- Memocon-SC U84 User's Manual (SIE-C815-10.1)
- Memocon-SC U84S User's Manual (SIE-C815-12.1)
- I/O adapters 1000 Series (SIE-C815-7.80)



Register Input Module
Type JAMSC-B1071



Register Output Module
Type JAMSC-B1070

REGISTER MODULE TYPES

Name	Type	Input	Output
Register Input Module	JAMSC-B1071	Data from digital switches and so on	Input to the input register
Register Output Module	JAMSC-B1070	Contents of output register	Data for numerical value indicator and so on

GENERAL SPECIFICATIONS

ENVIRONMENTAL CONDITIONS

- Ambient temperature: 0 to +55°C
- Storage temperature: -20 to +85°C
- Humidity: 5 to 95% RH(non-condensing)

DIMENSIONS AND WEIGHT

- Approx dimensions in mm: 35(W)×250(H)×217(D)
- Approx weight: 1kg

SPECIFICATIONS AND OPERATIONS OF REGISTER MODULES

REGISTER INPUT MODULE (TYPE JAMSC-B1071)

Basic Specifications

- Numerical value input range:
R84H—BCD 3-digit or 10-bit binary
U84, U84S, 584—BCD 4-digit or 16-bit binary
- Number of channels: 8
- Indicating lamp:
BUS (lights while communicating with CPU)×1
FIELD (lights while reading numerical value data)×1
- External power supply: 24 VDC±2V at 0.2A
- Module span: One slot (1000 series mounting base)

SPECIFICATIONS AND OPERATIONS OF REGISTER MODULES (Cont'd)

Electrical Characteristics

- Strobe output (SELECT output)
 - Logic: ACTIVE "HIGH"
 - Strobe cycle: 64 ms
 - Output voltage: $\pm 12V$
 - Output current: Source current } See Fig. 1.
50mA max
- Numerical value input
 - Logic: ACTIVE "HIGH"
 - Input impedance: 12 k Ω
 - Input "H" level: +6.5 to +12V
 - Input "L" level: 0 to +3.5V
- Isolation voltage:
 - Between external circuit and internal circuit
 - 50M Ω (500 VDC), 1500 VAC for one minute
- External wiring distance: 30 meters max

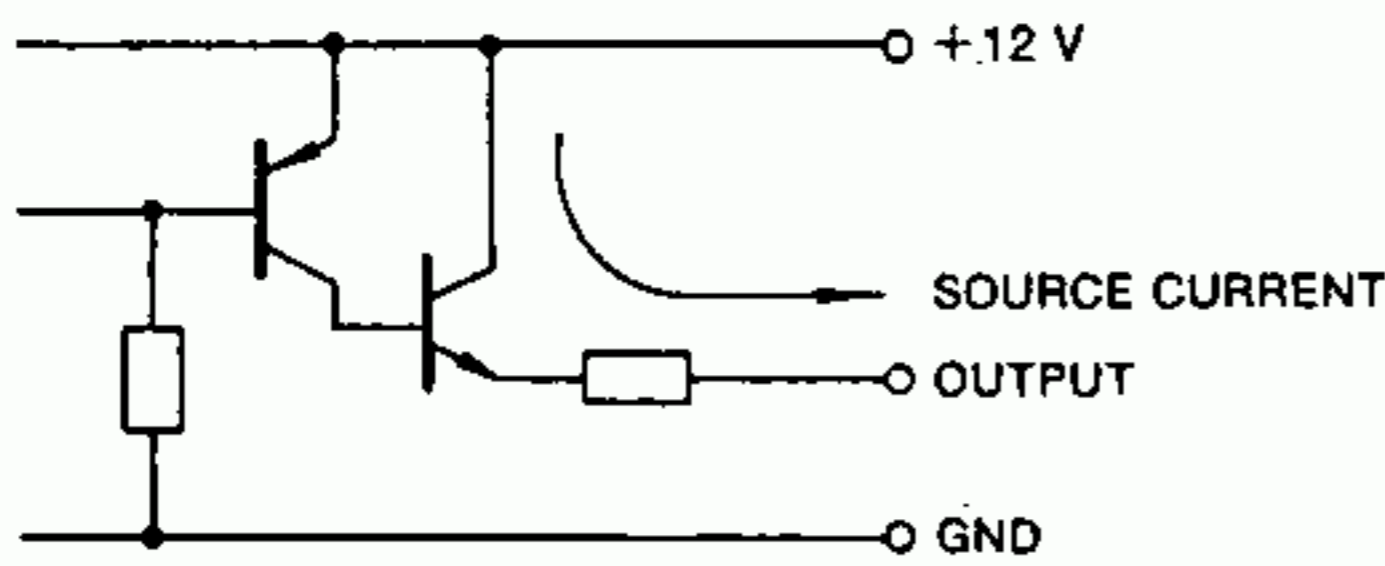


Fig. 1 Strobe Output Circuit

Function

The B1071 stores 8 numerical value inputs, consecutively, into the memory of the module. The stored numerical values are sent to the CPU and are stored into up to 8 input registers. The number of the numerical values sent to the CPU and input register numbers are determined by the I/O allocation table. In the R84H, U84 and U84S, the input data are stored in consecutively numbered input registers and the numerical value input selected by the SELECT 1 signal will be stored in the lowest numbered input register. See Fig. 2.

In the 584, depending on the setting of the I/O allocation table, the input data are not necessarily stored in the consecutively numbered input registers. The numerical value input selected by the SELECT 1 signal will be stored in the input register allocated to the beginning of the I/O allocation table among applicable slots for the B1071.

The B1071 automatically performs the switching of input signals and the temporary storing of the numerical values to the input register by command from the CPU. Therefore, the B1071 can be handled in the same way as discrete input modules without adding any special control circuit.

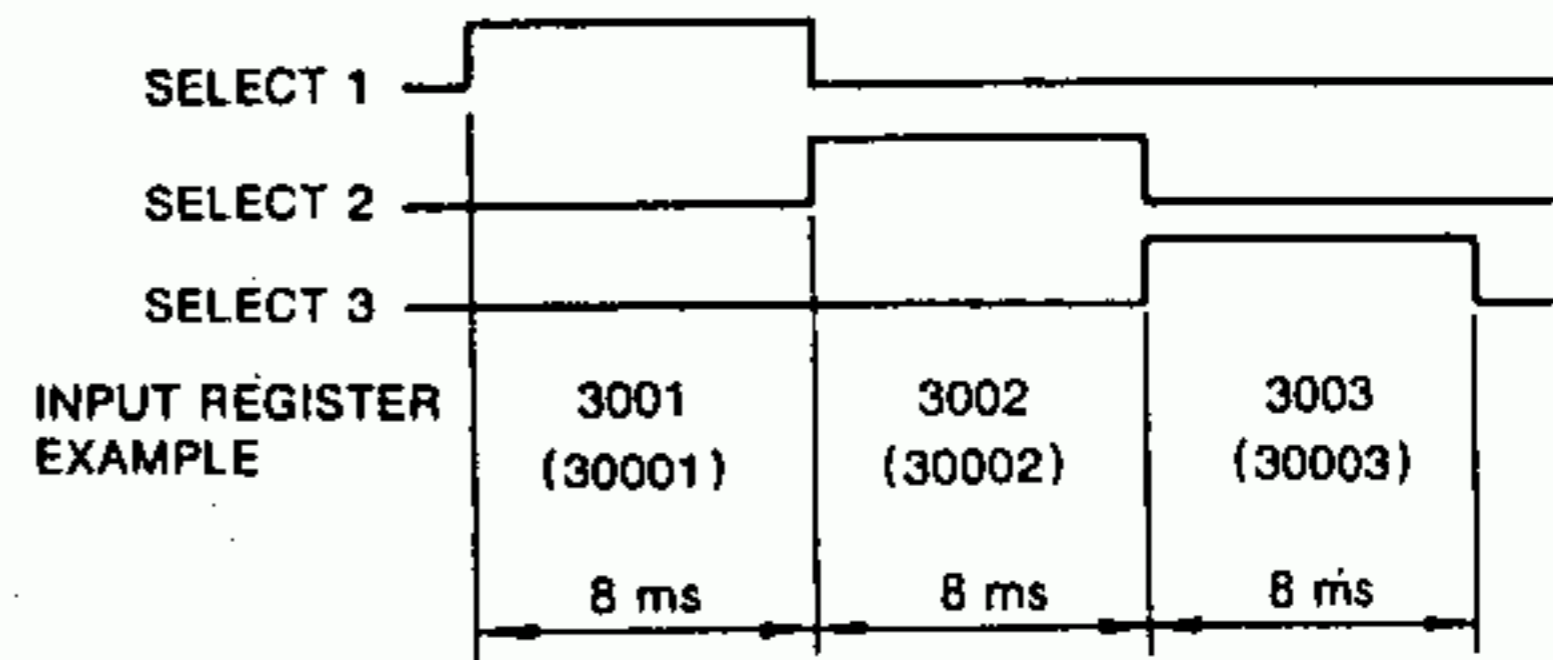


Fig. 2 Numerical Value Input Switching

Operation

The B1071 is mounted on the 1000 series mounting base like any other 1000 series I/O module. Make sure of the following before starting operation.

- The B1071 can be installed in one slot, like the discrete I/O module.
- The numerical values of BCD and binary can be input up to 8 in total according to the I/O allocation table.
 - If BCD and binary forms are mixed and allocated in the same slot, for R84H, U84 and U84S, BCD is assigned first to the specified number of registers then binary to the remaining registers.
- The B1071 occupies only the numbers of input registers assigned by the I/O allocation table. Depending on the input data types, input registers assigned to the B1071 should be specified as BCD or binary in the I/O allocation table.
- When an input assignment is BCD, numerical value of each digit should be in the range of 0 to 9.
- The B1071 requires +24 V from the external power supply.
- External wiring should be separated from power lines and length of the external wiring should be less than 30 meters. Shielded wire should be used for the strobe output.
- When the external wiring distance is more than 5 meters, any cable size of more than 0.75 mm² should be used. In this case, junction terminals are needed since the module connector is designed for size of 0.3 mm² or less.

Block Diagram (Fig. 3)

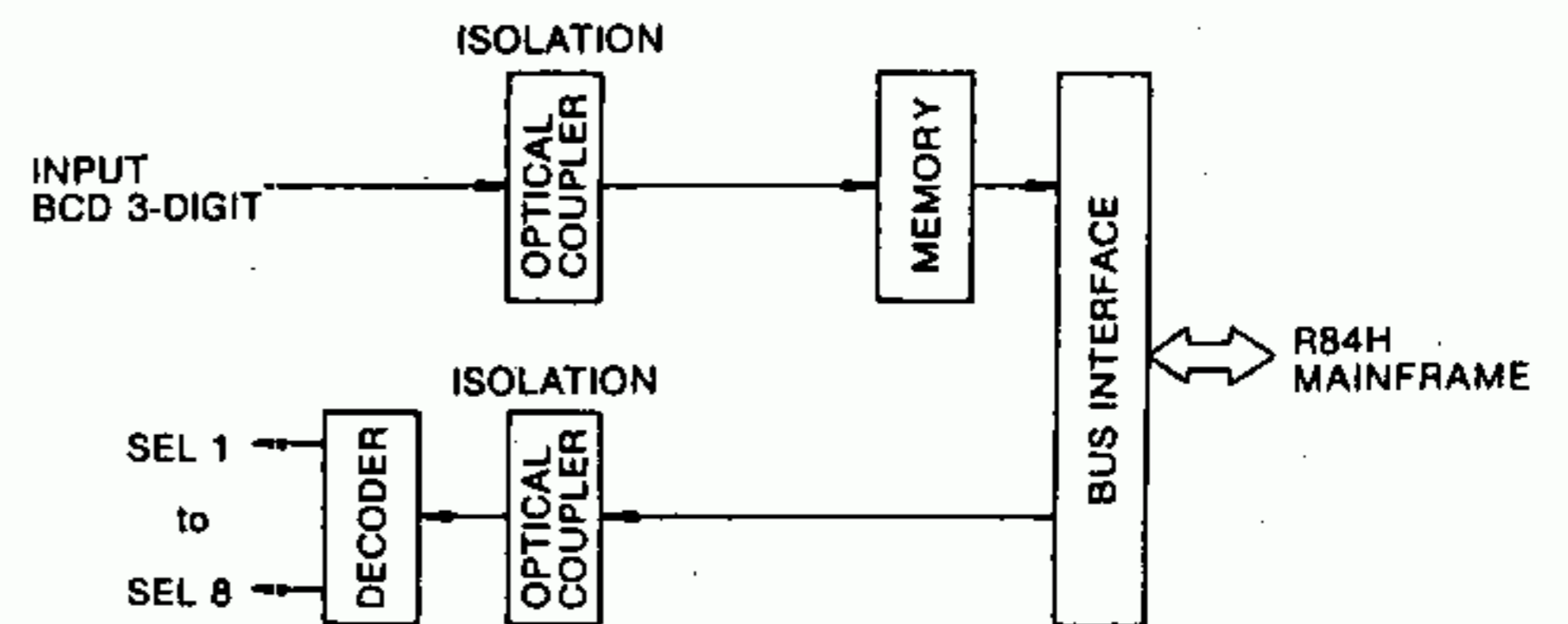


Fig. 3 B1071 Block Diagram

Connection Diagram (Fig. 4)

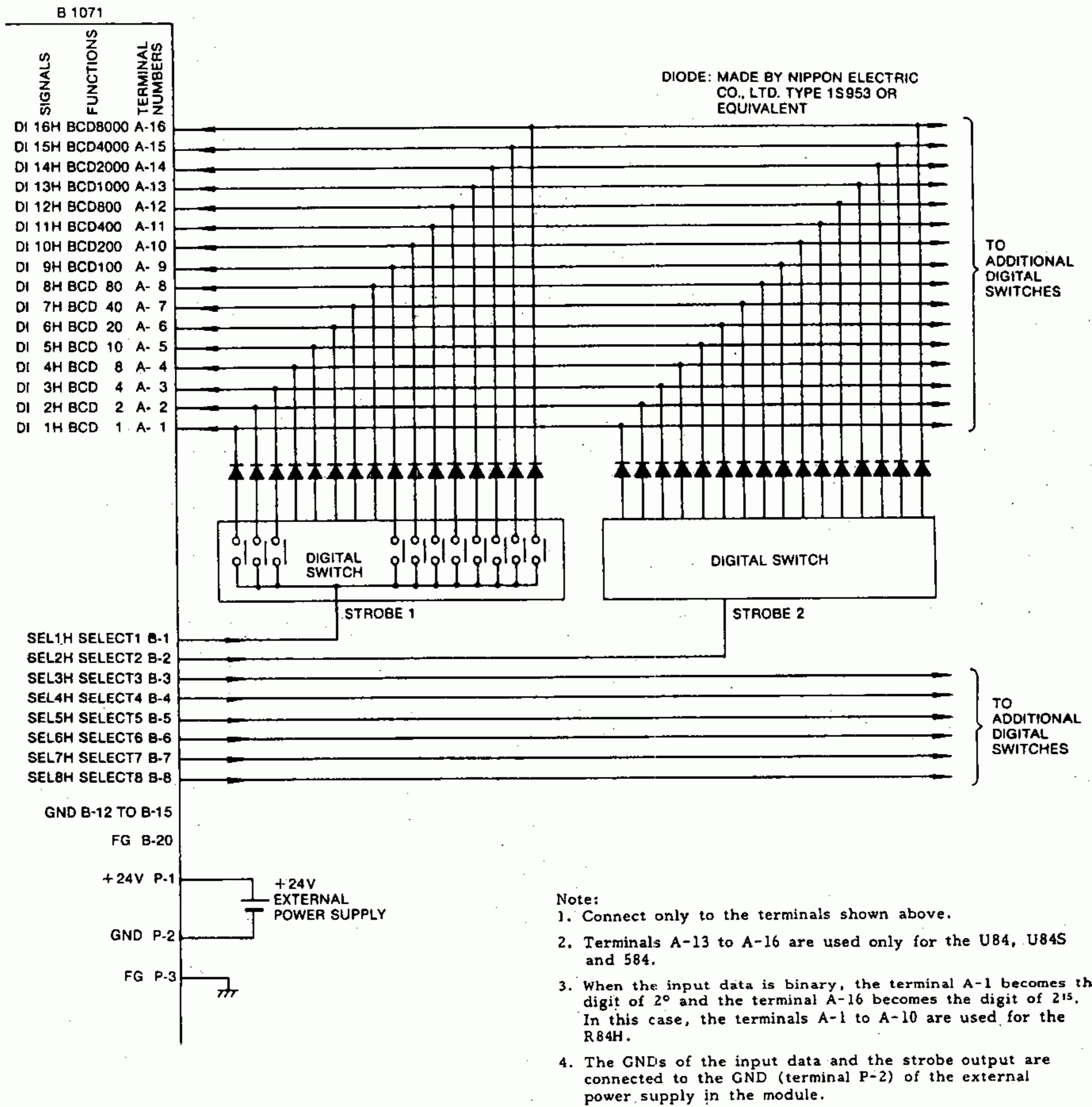


Fig.4 B1071 Connection Diagram

REGISTER OUTPUT MODULE (TYPE JAMSC-B1070)

Basic Specifications

- Output numerical value range:
R84H—BCD 3-digit or 10-bit binary
U84, U84S, 584—BCD 4-digit or 16-bit binary
- Number of channels: 8
- Indicating lamp:
BUS (lights while communicating with CPU) × 1
FIELD (lights while sending numerical value data) × 1
- External power supply: 24 VDC ± 2 V at 0.2 A
- Module span: One slot (1000 series mounting base)

Electrical Characteristics

- Strobe output (SELECT output)
Logic: ACTIVE "LOW"
Strobe cycle: 64 ms
Output voltage: Open collector output, collector voltage 30 V max
Output current: Sink current 50 mA max } See Fig. 5
- Numerical value output
Logic: ACTIVE "LOW"
Output voltage: Open collector output, collector voltage 30 V max
Output current: Sink current 50 mA max } See Fig. 5
- Isolation voltage:
Between external circuit and internal circuit
-50 MΩ (500 VDC), 1500 VAC for one minute
- External wiring distance: 30 meters max (depends on the equipment to be connected)

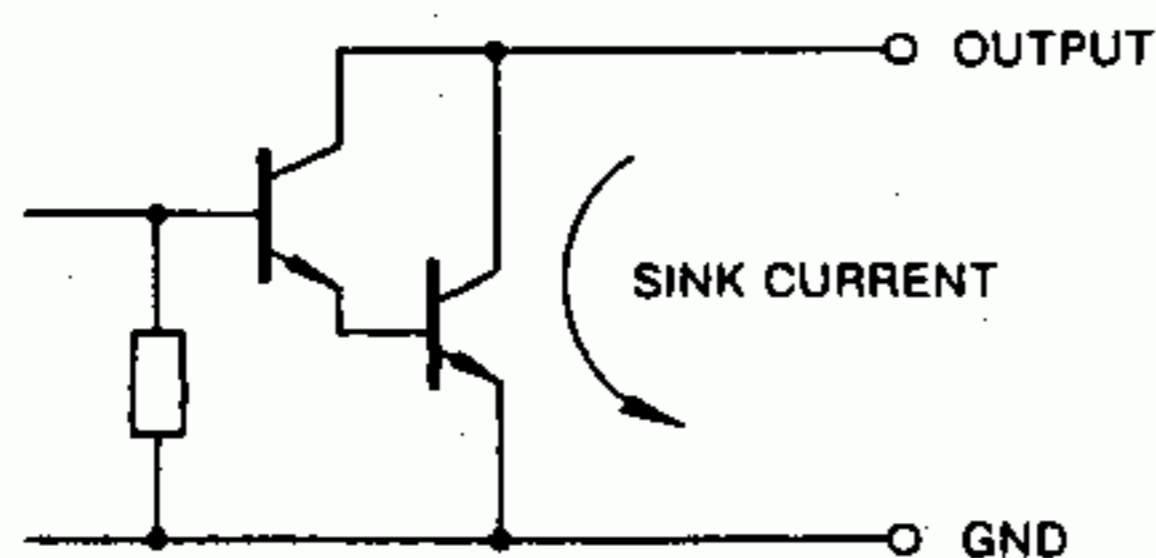


Fig. 5 Output Circuit

Function

The B1070 outputs the contents of up to 8 output registers in the CPU. The number of the output numerical value and No. of the using output register are determined by the I/O allocation table.

In the R84H, U84 and U84S, the output data are used in consecutively numbered output registers, and the lowest numbered output register contents are synchronized with the SELECT 1 signal. (See Fig. 6.)

In the 584, depending on the setting of the I/O allocation table, the output data are not necessarily used in the consecutively numbered output registers. The contents of the output register, allocated to the beginning of the I/O allocation table among applicable slots for the B1070, are synchronized with the SELECT 1 signal.

Numerical value outputs from the B1070 are switched and are synchronized with 8 strobe signals, so that they should be latched by external devices.

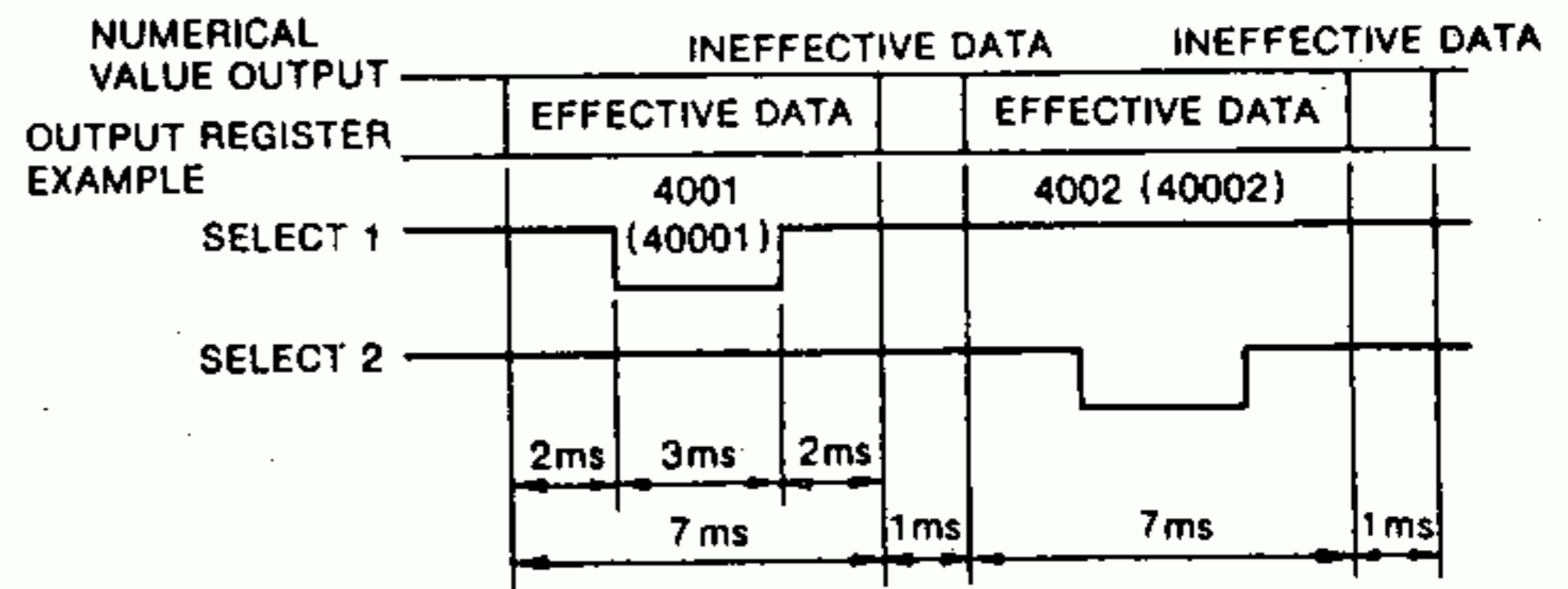


Fig. 6 Numerical Value Output Switching

Operations

The B1070 is mounted on the 1000 series mounting base, like any other 1000 series I/O module. Make sure of following before starting operation.

- Only one slot space is needed to install numerical value outputs, like the discrete I/O module.
- The numerical value of BCD and binary can be output up to 8 in total according to the I/O allocation table.
If BCD and binary forms are mixed and allocated in the same slot, for R84H, U84 and U84S, BCD is assigned first to the specified number of registers then binary to the remaining registers.
- The number of output registers are determined by the I/O allocation table. Depending on the output data types, output registers assigned to the B1070 should be specified as BCD or binary.
- The B1070 requires +24V from the external power supply.
- Numerical value outputs from the B1070 should be latched on the external circuit by using the strobe output.
- External wiring length is frequently limited by the specifications of the equipment being connected, so that the maximum length of 30 meters is not always applicable. The length should be within the range defined in accordance with the specifications of the equipment to be connected.
- External wiring should be separated from power lines and the length should be less than 30 meters. Especially the shielded wire should be used for strobe outputs.
- When the external wiring distance is more than 5 meters, any cable size more than 0.75 mm² should be used. In this case, terminals are needed since the module connector is designed for size of 0.3 mm² or less.

Block Diagram (Fig. 7)

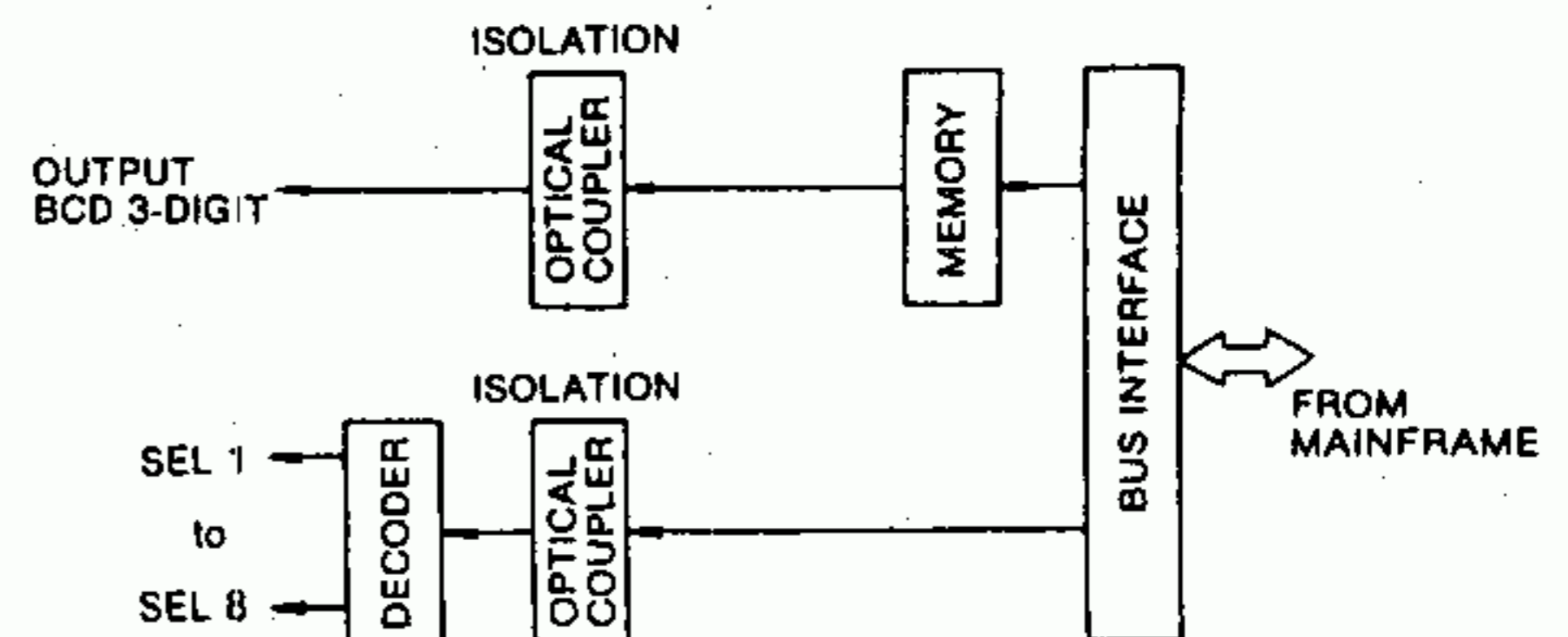


Fig. 7 B1070 Block Diagram

Connection Diagram (Fig. 8)

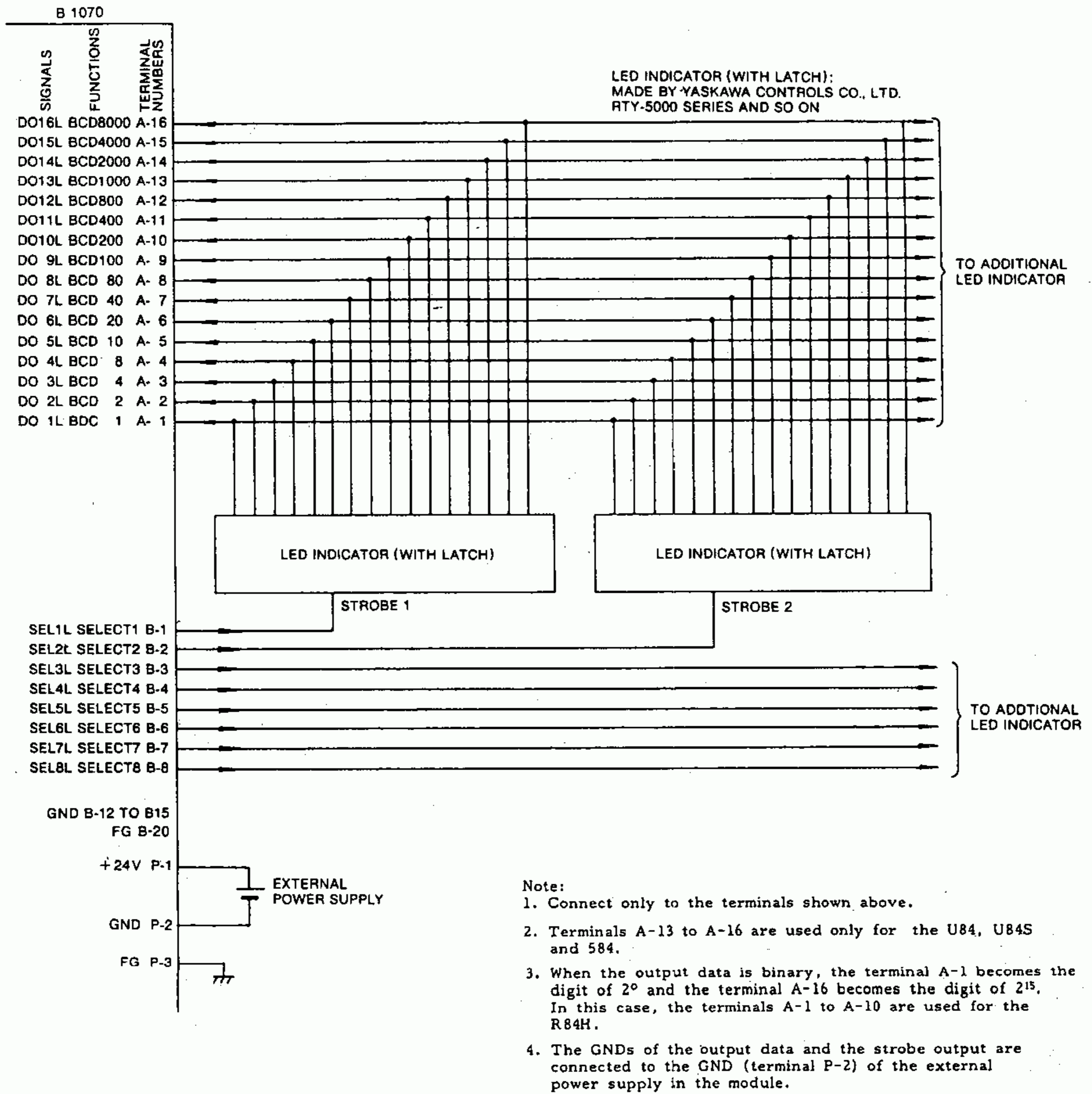


Fig. 8 B1070 Connection Diagram

WIRING FOR THE EXTERNAL CONNECTOR

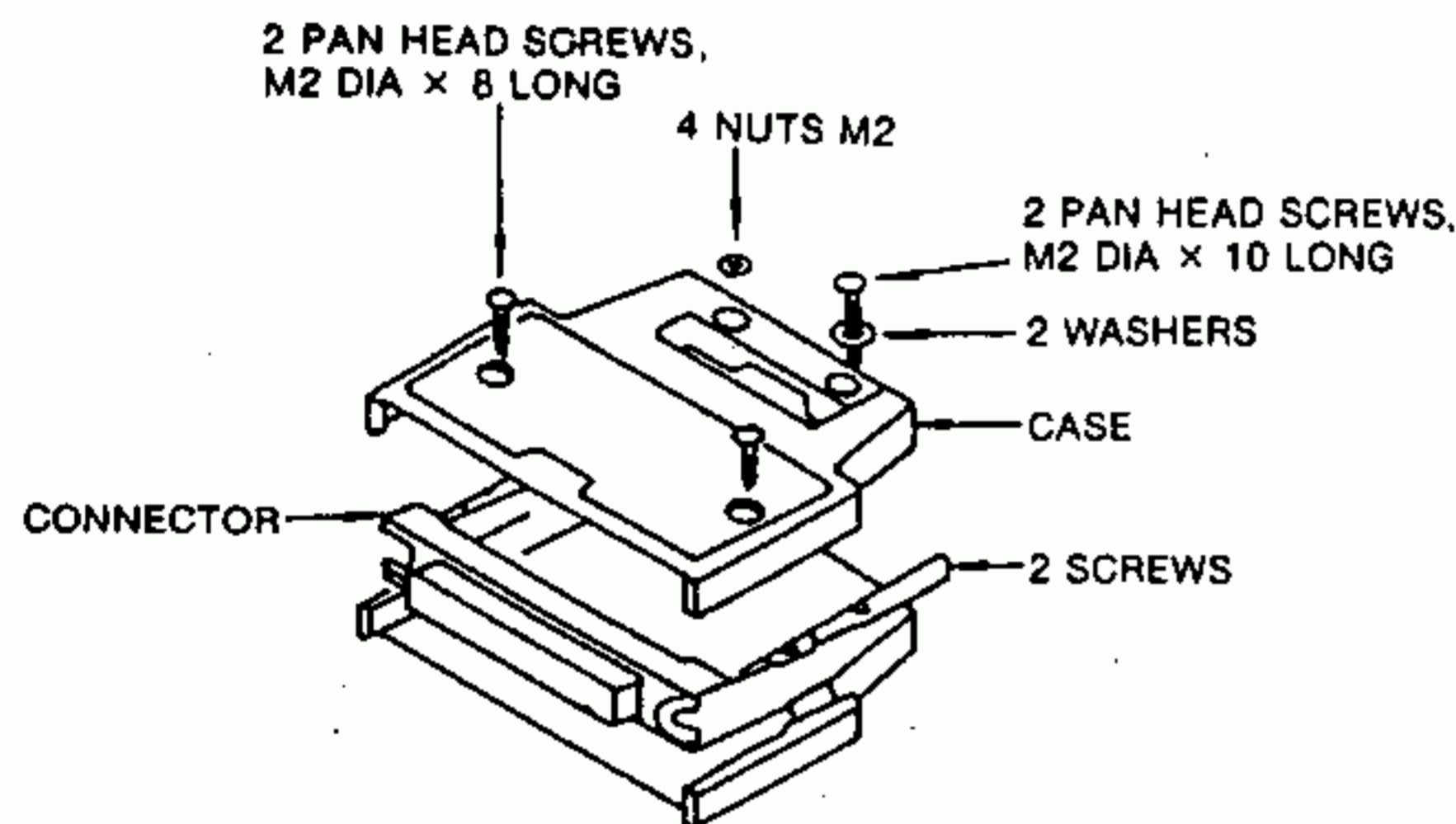
An external wiring connector is supplied with a register module.

CONNECTOR TYPE

- Jack: Type FCN-361J040AU40P (made by FUJITSU)
- Cover: Type FCN-360 C040-B (made by FUJITSU)

REMOVAL OF CONNECTOR CASE

The connector case can be removed by unscrewing the 4-fixed screws, as shown in Fig. 9.



Note:

1. After connecting wires, the wires should be firmly held by the cable clamp of the case. Assemble the connector case by using the 4-fixed screws.
2. When the wires are small in number or in size, wrap vinyl tape around the wires so that the cable clamp can firmly hold the wires.

Fig. 9 Removal of the Connector

WIRE CONNECTION

Wire of 0.3 mm² should be used. The soldering section should be covered with insulating tubes to prevent the section from short-circuiting by touching the wires. Terminal numbers are indicated at the wire side, as shown in Fig. 10.

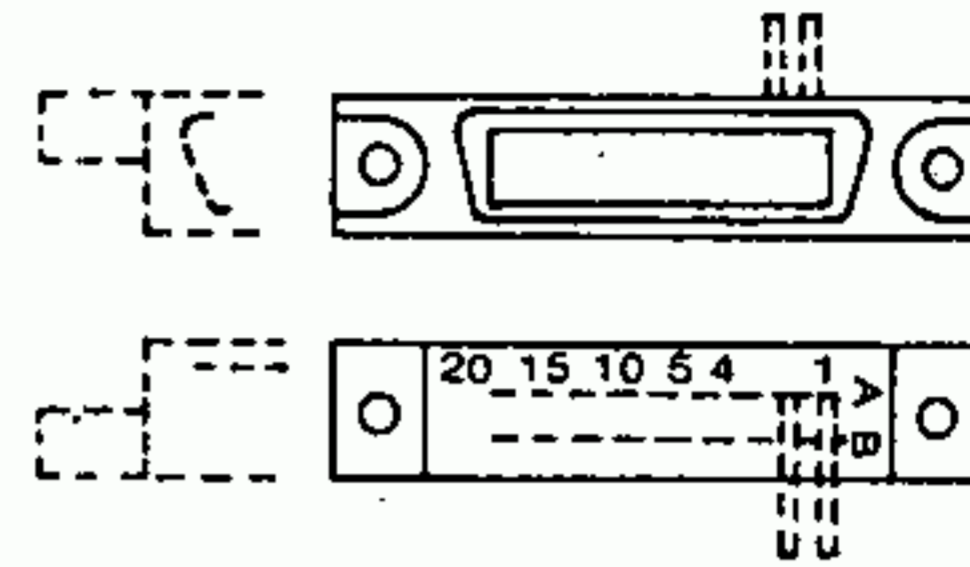
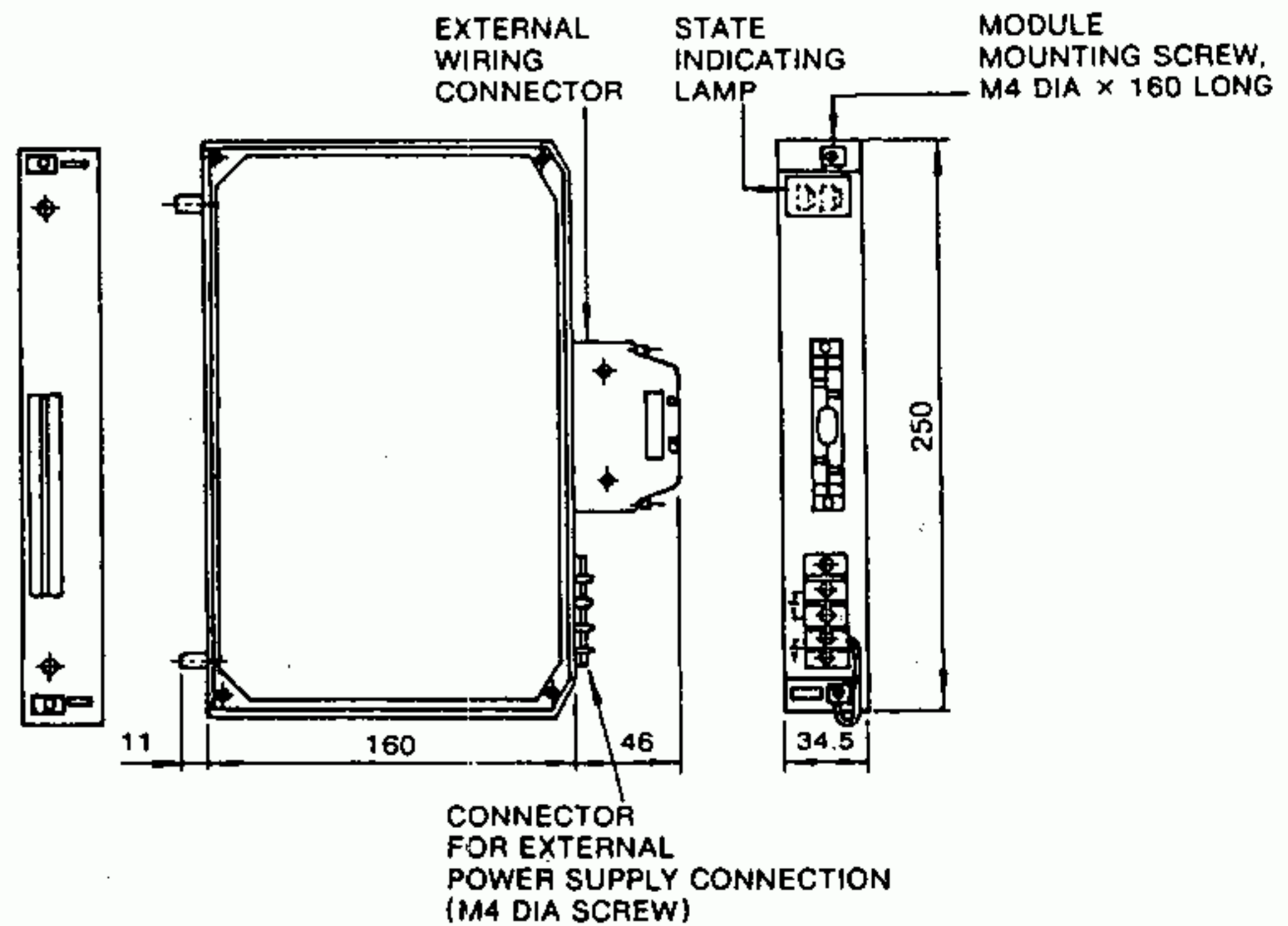


Fig. 10 Terminal Number Indication

DIMENSIONS in mm

Type	Application	Weight
JAMSC-B1070	Register output module	1 kg
JAMSC-B1071	Register input module	1 kg



TOKYO OFFICE Ohlemachi Bldg., Chiyoda-ku, Tokyo, 100 Japan
 Phone (03) 284-9111, -9145, -9146 Telex YASKAWA J33530 Fax (03) 284-9034
SEOUL OFFICE Seoul Center Bldg., 91-1, So Kong-Dong, Chung-Ku, Seoul, Korea
 Phone (02) 776-7844 Fax (02) 753-2639
SINGAPORE OFFICE CPF Bldg., 79 Robinson Road No. 24-03, Singapore 0106
 Phone 2217530 Telex (87) 24890 YASKAWA RS Fax (65) 224-5854
TAIPEI OFFICE Union Commercial Bldg., 137, Nanking East Road, Sec. 2, Taipei, Taiwan
 Phone (2) 531-7732, 551-7065 Fax (2) 537-3837

Due to ongoing product modification/improvement, data subject to change without notice.

YASKAWA ELECTRIC AMERICA, INC.: SUBSIDIARY

Los Angeles Office 7341 Lincoln Way, Garden Grove, California 92641, U. S. A.
 Phone (714) 894-5911 Telex (230) 678396 YASKAWAUS TSTN Fax (714) 894-3258
New Jersey Office 30 Two Bridges Road, Fairfield, New Jersey 07006, U. S. A.
 Phone (201) 575-5940 Fax (201) 575-5947

Chicago Office / YASNAC America 3160 MacArthur Blvd., Northbrook, Illinois 60062, U. S. A.
 Phone (312) 291-2340 Telex (230) 270197 YSKW YSNC NBRK Fax (312) 564-3276

YASKAWA ELECTRIC EUROPE GmbH: SUBSIDIARY
 Monschauerstrasse 1, 4000 Düsseldorf 11, West Germany
 Phone (0211) 501127 Telex (41) 8588673 YASD D Fax (0211) 507737

YASKAWA ELETRICO DO BRASIL COMERCIO LTDA.: SUBSIDIARY
 Av. Brig. Faria Lima, 1664-cj. 511, Pinheiros, São Paulo-SP, Brasil CEP-01452
 Phone (011) 212-5464, 613-3694 Telex (011) 24168 FERN BR