



## SYSTEMS S3000

## INDUSTRIAL CONTROLLER

### S3077: MULTIPLEX BOARD DUAL 4-TO-1 REED RELAY

#### FEATURES:

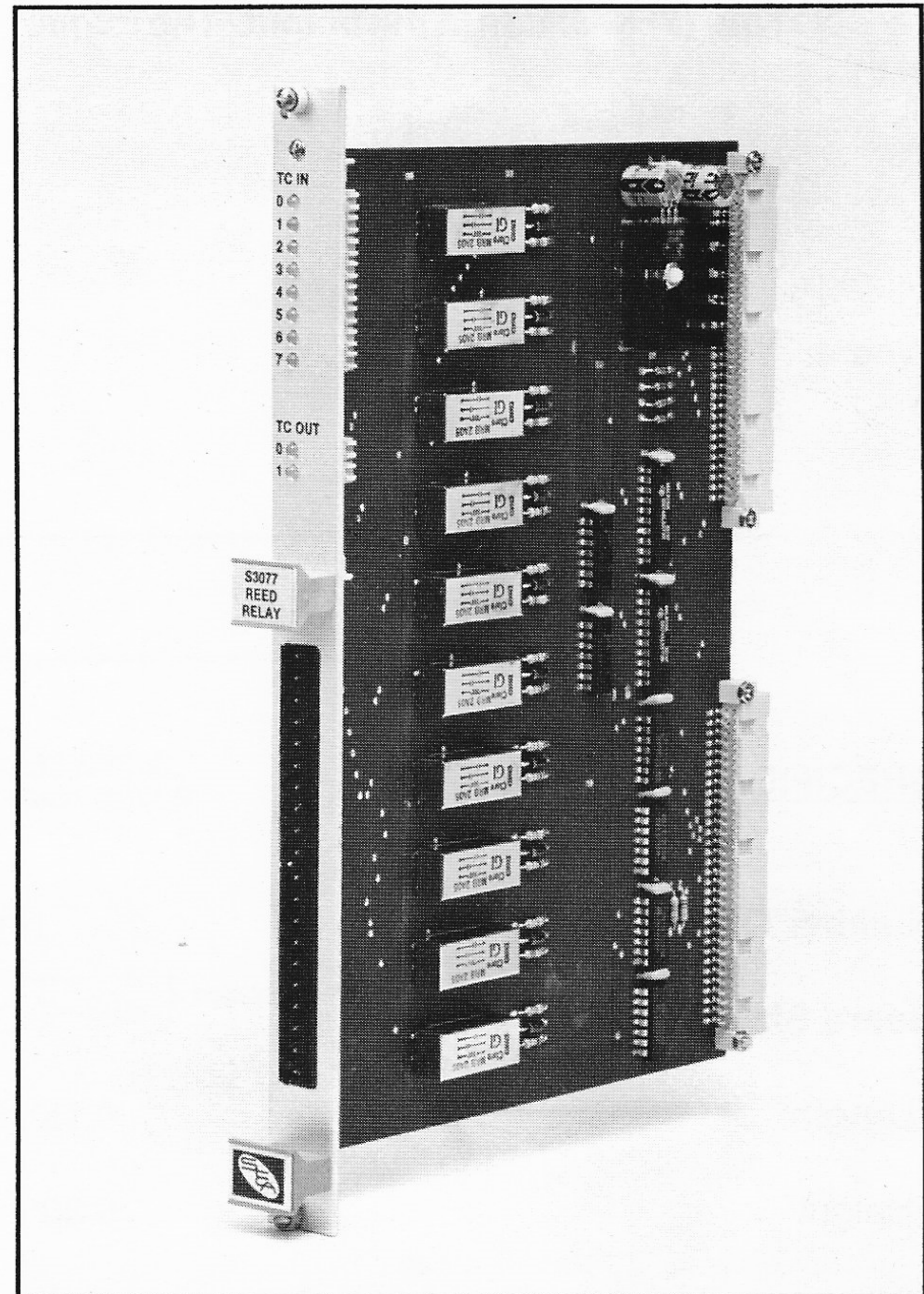
- 2 EACH 4-TO-1 REED RELAY MULTIPLEX SECTIONS
- 10 INDIVIDUAL STATUS LEDS (1 LED PER INPUT POINT AND 1 LED PER MULTIPLEXED OUTPUT)
- DIFFERENTIAL MULTIPLEXING (DIFFERENTIAL INPUT AND OUTPUT)
- REED RELAY CONTACTS RATED AT .75 AMPS
- REED RELAY CONTACTS RATED AT 200VDC OR 200VAC
- REMOVABLE FIELD WIRING CONNECTOR
- STANDARD DOUBLE HEIGHT EUROCARD
- IDEAL FOR SWITCHING SPEED REFERENCE SIGNALS, THERMAL COUPLE LEADS

#### GENERAL DESCRIPTION:

The S3077 Reed Relay board is a signal multiplexing board consisting of dual 4-to-1 sections which multiplex differential signals. Each input, consisting of two signal lines each, is multiplexed to one output, also consisting of two signal lines. Refer to Figure 1 for a schematic of the reed relay multiplexing logic. Each reed relay is independently controlled by outputs on the board. Each reed relay

#### INSTALLATION:

The S3077 may be installed in any I/O slot of the S3000 rack. Install the S3077 by aligning the board with the card guides and sliding in until firmly seated. The board is held in the rack via captive screws located on the S3077 faceplate. To remove the S3077, loosen the captive screws and gently



contains an LED located on the faceplate to indicate when the respective reed relay is on. The contacts of the relays are normally open, thus closing when the reed relay is "on".

Input and output wiring is implemented with a removable 20-pin field wiring connector which allows easy board replacement. Refer to Figure 2 for the connector pin-outs.

pull the board out of the rack using the handles located on the S3077 faceplate.

**NOTE:** When installing or removing an S3077, the System should be in power-down mode (PS3007 power supply "off").

## MAIN PROCESSOR INTERFACE:

The S3077 contains two output bytes which are accessed by specifying the two digit slot (00-15) and the byte (0 for output bits 00-07 and 1 for output bits 10-11).

When specified in the systems configuration of the main processor board the S3077 is automatically written to as part of the I/O update. The status of a variable type (Y) is written to the output. The format of this variable is:

output byte: Yaab

output bit: Yaab.c

Where: Y = output variable type (Y)

aa = two digit slot address  
(00-15)

b = byte address  
(0 for outputs 00-07,  
1 for outputs 10-11)

c = bit address (0-7)

These variables are set in the user program and written to the S3077 during the I/O update at the beginning of the main program scan. Outputs 00-07 are mapped to RR0-RR7 and outputs 10 and 11 are mapped to RR17 and RR11 respectively (See Figure 1).

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## SPECIFICATIONS:

**Number Of I/O Slots Required:**

1

**Board Size:**

Length:

9.15"

Height:

6.30"

Width:

0.80"

**Number Of I/O Points:**

Differential inputs:

8

Differential outputs:

2

**Number Of Isolated Sections:**

2

**Reed Relay Contacts:**

Power Rating (per contact):

10 VA

Voltage (maximum):

200 VDC or VAC

Current (maximum-switched):

.75 amps

**Reed Relay Contacts (Cont.):**

Contact Resistance (on-max):

200 ohms

Open Contact Resistance (max):

10,000M ohms

Life Expectancy:

10 million operations

Switching Time (off-on):

1.0 millisec

Switching Time (on-off):

.5 millisec

Dielectric Withstanding Voltage:

350VDC or 250VAC

**Power Requirements (all relays on):**

IccBUS(max)-maximum S3000 bus current:

250 milliamps

**Temperature Ranges:**

Storage:

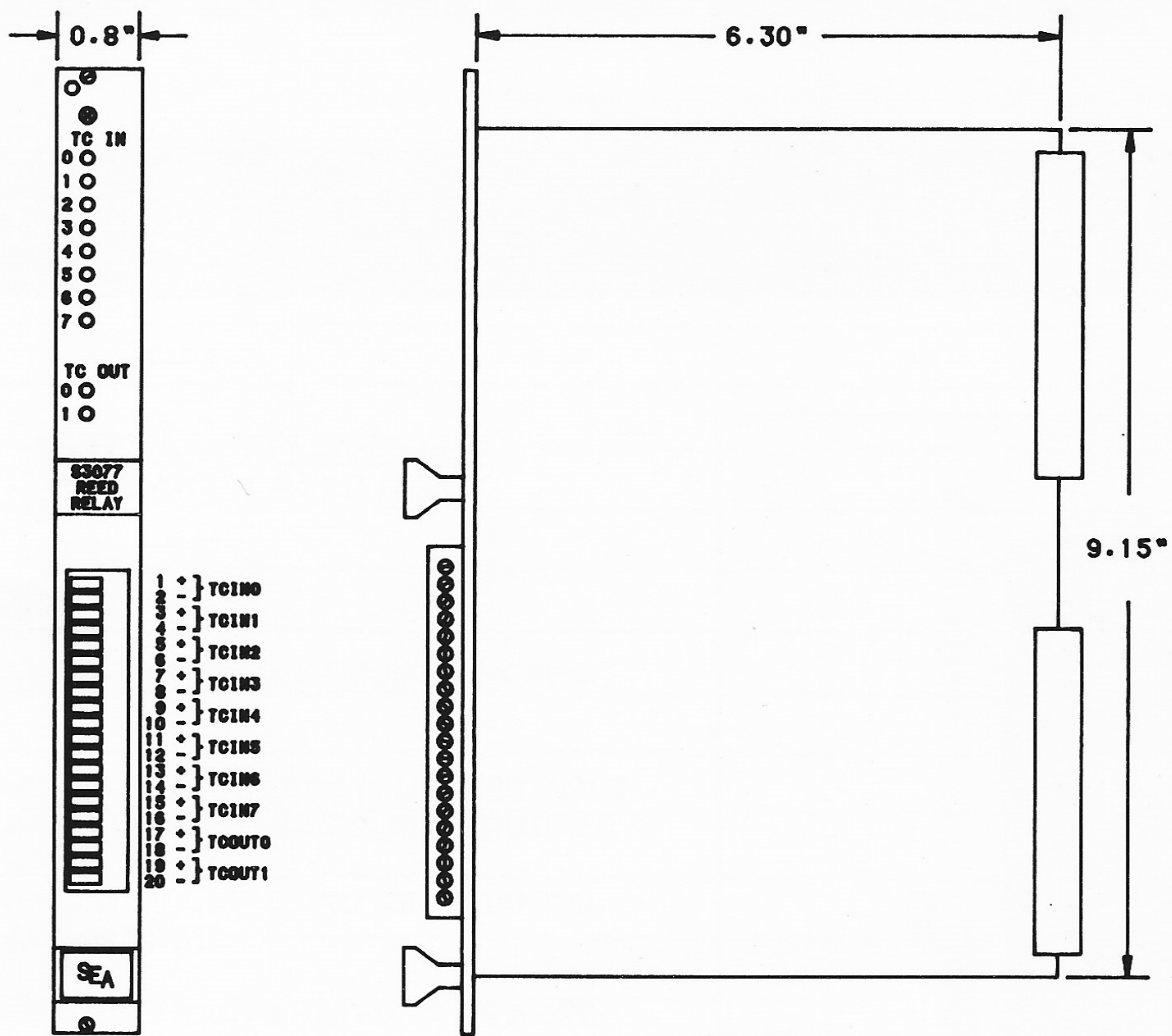
0 to 85° C

Operating:

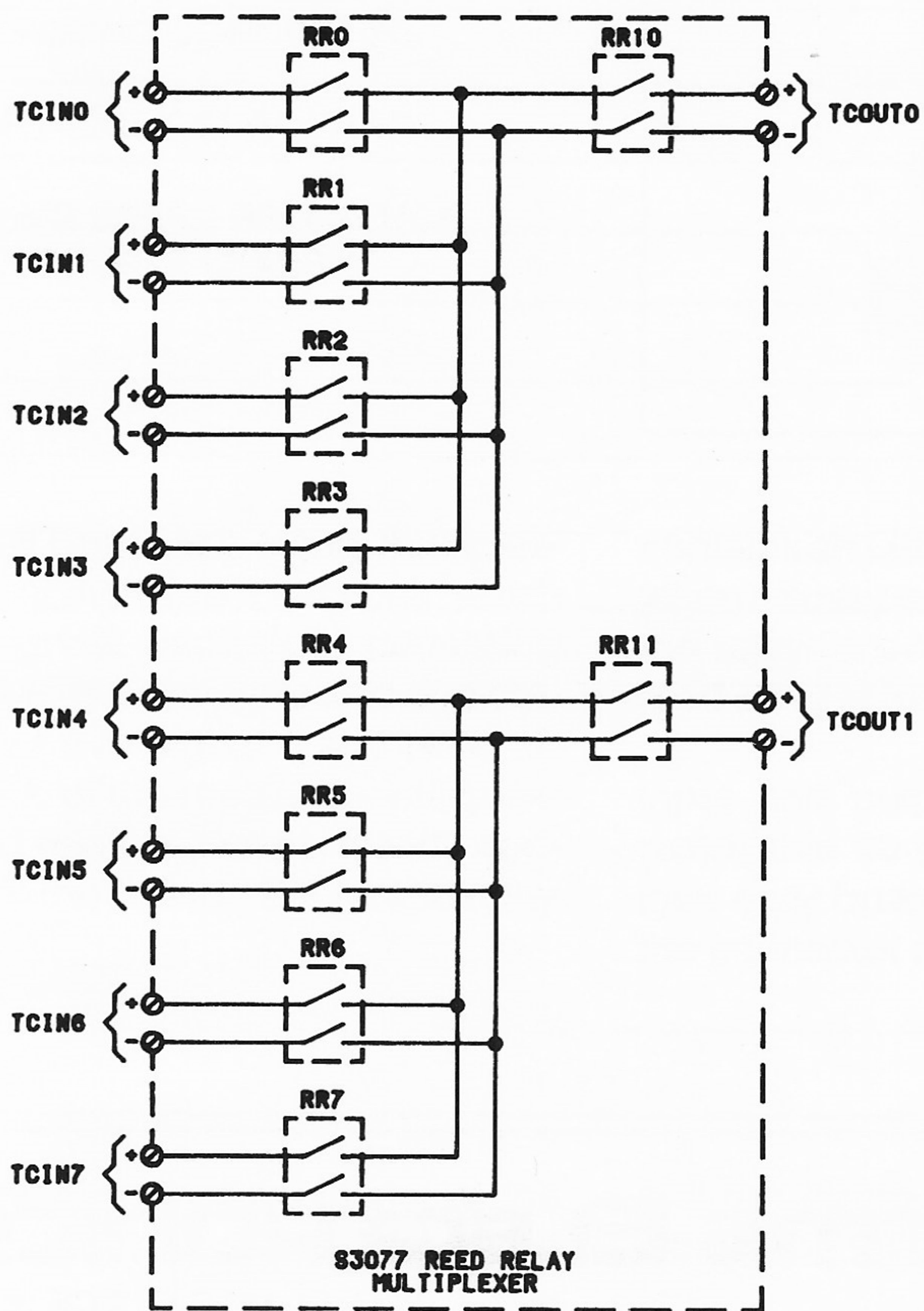
0 to 60° C

**Relative Humidity:**

5 to 95%



**FIGURE 2**  
BOARD OUTLINE



**FIGURE 1**  
MULTIPLEX LOGIC

