SE3000 series scanning units are designed for data logging with a personal computer. The basic unit with 6 input points can be connected to 7 sub units (6 input points / sub unit) and maximum 48 analog data can be collected. Two software packages, “KIDS” for data logging and “PASS” for parameter programming, are available. This unit can be used for input point extension of CHINO’s BR series Graphic Recorders.

**Features**

MODBUS protocol
Three kinds of serial communications, RS-232C, RS-422A and RS-485, are standard. The communications protocol is MODBUS for easy system configurations and any specific communications software package is not required.

Parameter programming software package
Through an engineering port, parameters can be easily set up by the parameter programming software package “PASS” (separate purchase required) from a personal computer.

Universal input
10 dc voltage/current inputs, 36 thermocouple inputs and 11 resistance thermometer inputs are standard, and ranges can be set to each channel independently.

Data logging software package
Data can be managed by the data logging software package “KIDS” (separate purchase required) on a personal computer. The logged data can be utilized by worksheet applications.

**System configuration**

- Up to 5 sets or
- Up to 100 channels

- Up to 48 points including temperature, pressure and flow
- Up to 48 points including temperature, pressure and flow
**Input specifications**

Measuring point: Basic unit 6 points, sub unit 6 points/unit

Up to 7 sub units can be connected to one basic unit. (Up to 48 points)

Input kinds: Universal input (dc voltage, dc current, thermocouple, resistance thermometer)

Accuracy ratings: Refer to the table of measuring ranges.

Measuring interval: 6-point/1 second, 12-point/2 seconds, 18-point/3 seconds, 24-point/4 seconds, 30-point/5 seconds, 36-point/6 seconds, 42-point/7 seconds, 48-point/8 seconds

Reference junction compensation accuracy:
- K, E, J, T, N, Platinel ….. Lower than ±0.5ºC
- R, S, Ni-NiMo, AuFe-Cr, WWRe5-26, WWRe0-26, U, L ….. Lower than ±1.0ºC

(Below error is added to the accuracy ratings for the internal reference junction compensation.)

Burnout: The sensor disconnection is detected for the thermocouple input and the resistance thermometer input.

Burnout enable or disable can be selected in each input.

**Display specifications (Basic unit)**

- **Status display**
  - Display element: Circle type red LED 3 pieces, green LED 1 piece
  - Display content: Run status Normal Red LED blinks.
    - Communications status Receiving Green LED lights.
    - Transmitting Red LED lights.
  - Alarm status Activating RED LED lights.

- **Data display (option):** 5-digit 1 point, Channel shifting/fixed

**Programming specifications (basic unit)**

Communications programming: By DIP switches and sliding switches

Input programming: By the parameter programming software package “PASS” (separate purchase required) from a personal computer.

(For the connection to BR graphic recorders, the input programming can be executed by the BR recorders, too.)

**Alarm specifications (Basic unit)**

Alarm point: Up to 4 points per each channel

Alarm: High, low, high difference, low difference, high rate-of-change, low rate-of-change

Alarm output: Not provided

**Safety specifications**

CE: EN61326 A1 Class A, EN61010-1 A2

**General specifications**

<table>
<thead>
<tr>
<th>Rated power voltage:</th>
<th>100 to 240VAC, 50/60Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power consumption:</td>
<td>10VA</td>
</tr>
</tbody>
</table>

Operating condition:

- Normal operating condition:
  - Ambient temperature/humidity: 0 to 50ºC, 20 to 80%RH
  - Power voltage: 90 to 264VAC, Power frequency: 50/60Hz ± 2%

- Reference operating condition:
  - Ambient temperature/humidity: 21 to 25ºC, 45 to 65%RH
  - Power voltage: 100VAC ± 1%, Power frequency: 50/60Hz ± 0.5%

Altitude: Left/right 0º, forward tilting 0º, backward tilting 0º

Casing: Resin

Weight: Basic unit 0.6kg, sub unit 0.2kg

Mounting: DIN rail (35mm)

**Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display unit</td>
<td>Display unit: 7-segment red LED 7-digit</td>
</tr>
<tr>
<td>Display</td>
<td>Display contents: Channel number 2-digit</td>
</tr>
<tr>
<td></td>
<td>Data 5-digit</td>
</tr>
<tr>
<td></td>
<td>Display renewal cycle: 3 seconds</td>
</tr>
</tbody>
</table>

**Accessories (separate purchase required)**

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIDS</td>
<td>Data logging software package Windows 95/98/NT4.0/2000</td>
</tr>
<tr>
<td>PASS</td>
<td>Parameter programming software package Windows 95/98/NT4.0/2000</td>
</tr>
<tr>
<td>Shunt resistor</td>
<td>For 4 to 20mA 2500 (1.5W), For 10 to 50mA 1000 (1.5W)</td>
</tr>
</tbody>
</table>
The parameter programming software package "PASS" is for programming parameters of the SE3000.

- Programming parameters:
  - Input kids, range/scale, alarm and burnout
  - Temperature unit, alarm deadband

- Storing parameters:
  - File/print: Storing programmed parameters to a file (FD, HD), replaying and printing

The data logging software package "KIDS" is for logging the data measured by the SE3000 and replaying the stored data.

- Data logging by up to 5 sets of SE3000 (up to 100 channels)
- Data logging, replaying, trend graph and report creation
- Stored data for worksheet applications

The accuracy ratings are under the reference operating conditions. For thermocouple inputs (internal reference junction compensation), the accuracy ratings do not include the reference junction compensating accuracy. The detailed description of the accuracy ratings is separately prepared.

* The indication may vary to the value of maximum 2mV or in equivalent to 25ºC under EMC test environment.
■ Terminal board

The figure shown below is the terminal board for the connection with 3 sets of the sub unit (total 24 input points) and with the display unit (option).

For the connection of 1 basic unit and 3 sub units (total 24 input points), and with the display unit

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