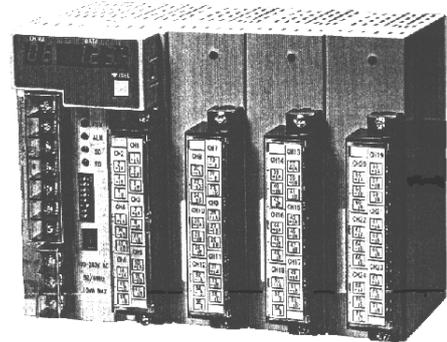


FIELD DATA SCANNING UNIT SE3000 SERIES



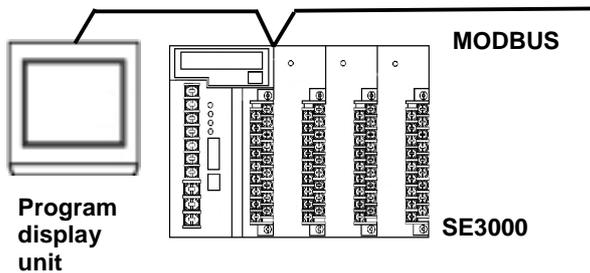
SE3000 series scanning units are designed for data logging with a personal computer. The basic unit with 6 input points can be connected to 7 sub units (6 input points / sub unit) and maximum 48 analog data can be collected. Two software packages, "KIDS" for data logging and "PASS" for parameter programming,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



■ Features

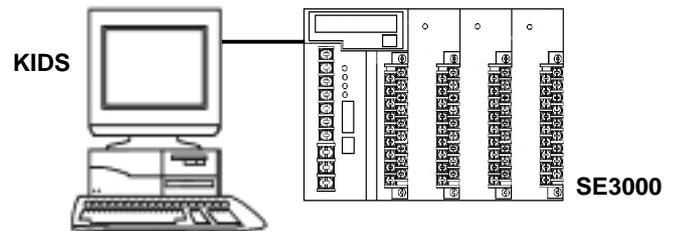
MODBUS protocol

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.



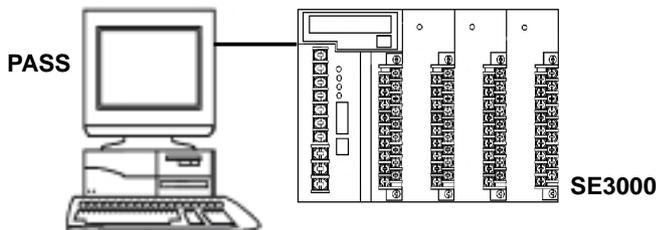
Data logging software package

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.



Parameter programming software package

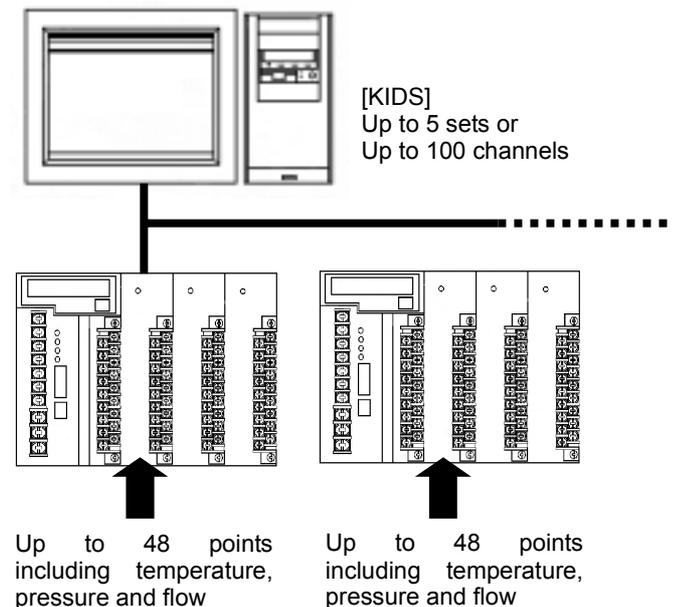
Through an engineering port, parameters can be easily set up by the parameter programming software package "PASS" (separate purchase required) from a personal computer.



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.

■ System configuration



■ 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 $\pm 0.5^{\circ}\text{C}$ R, S, Ni-NiMo, AuFe-Cr, WRe5-26, WRe0-26, U, L Lower than $\pm 1.0^{\circ}\text{C}$ (The above 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	Circle type red LED 3 pieces, green LED 1 piece
Display element:	Run status Normal Red LED blinks.
Display content:	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/fixe

■ 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

Rated power voltage:	100 to 240VAC, 50/60Hz
Power consumption:	10VA
Operating condition:	• Normal operating condition ... Ambient temperature/humidity 0 to 50°C, 20 to 80%RH Power voltage 90 to 264VAC, Power frequency 50/60Hz $\pm 2\%$ • Reference operating condition ... Ambient temperature/humidity 21 to 25°C, 45 to 65%RH Power voltage 100VAC $\pm 1\%$, Power frequency 50/60Hz $\pm 0.5\%$ Altitude Left/right 0°, forward tilting 0°, backward tilting 0° Warming up time More than 1 hour
Casing:	Resin
Weight:	Basic unit 0.6kg, sub unit 0.2kg
Mounting:	DIN rail (35mm)

■ Options

Option	Contents
Display unit	Display unit: 7-segment red LED 7-digit Display contents: Channel number 2-digit Data 5-digit Display renewal cycle: 3 seconds

■ Accessories (separate purchase required)

Accessories	Contents
KIDS	Data logging software package Windows 95/98/NT4.0/2000
PASS	Parameter programming software package Windows 95/98/NT4.0/2000
Shunt resistor for current input	For 4 to 20mA 250 Ω (1.5W), For 10 to 50mA 100 Ω (1.5W)

Model

Basic unit (6 input points)

SE310 □ -000

Display unit (option)
0: Not provided
1: Provided

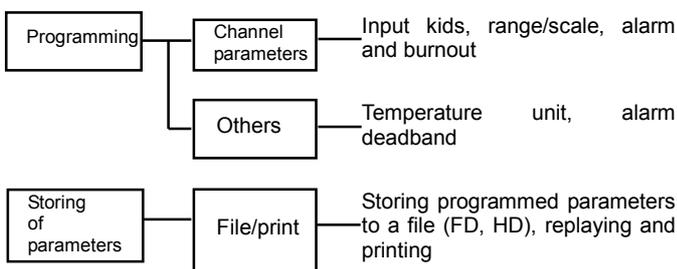
Sub unit (6 input points)

SE3211-000

Parameter programming software package

“PASS” (separate purchase required) Ver. 4.0 or later

The parameter programming software package “PASS” is for programming parameters of the SE3000.

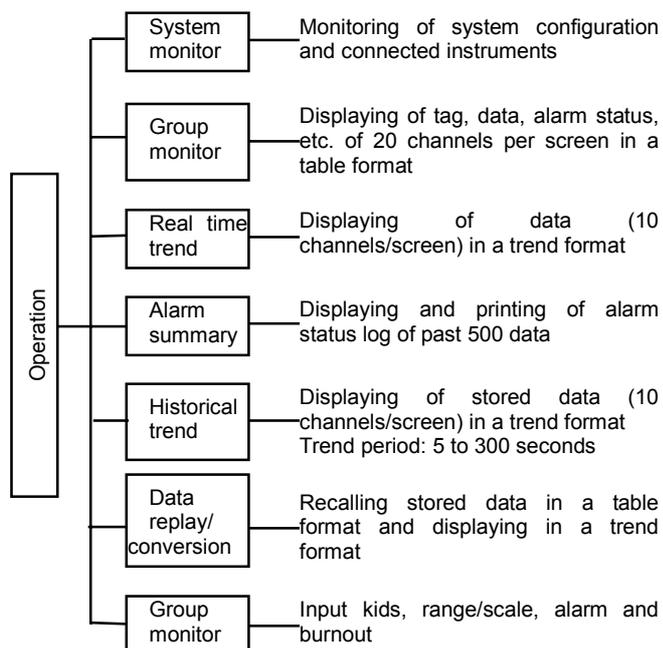


Data logging software package

“KIDS” (separate purchase required) Ver. 4.0 or later

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



General specifications

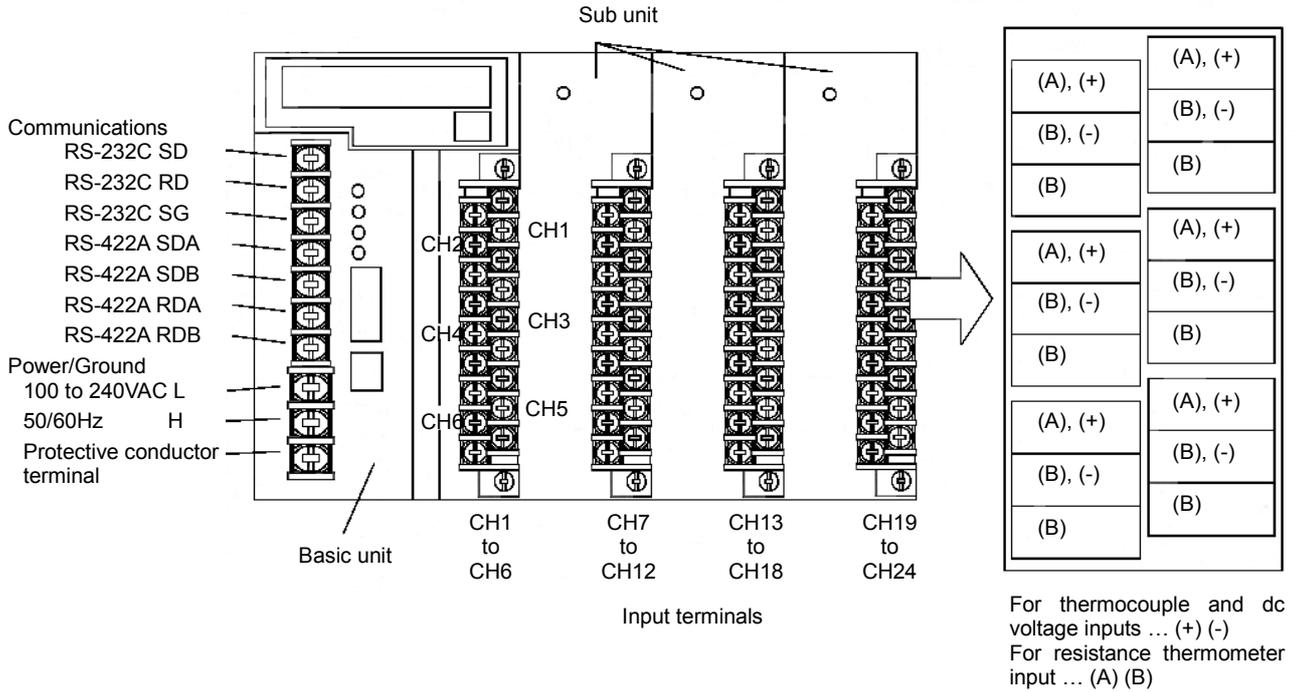
Input kind	Measuring range			Reference range	Accuracy ratings	Display resolution		
DC voltage	-13.8	to	13.8mV	±13.8mV	±0.1% ± 1 digit	10µV		
	-27.6	to	27.6mV	±27.6mV		10µV		
	-69.0	to	69.0mV	±69.0mV		10µV		
	-200	to	-200.0mV	±200.0mV		100µV		
	-500	to	-500.0mV	±500.0mV		100µV		
	-2	to	2V	±2V		1mV		
	-5	to	5V	±15V		1mV		
	-10	to	10V	±10V		10mV		
	-20	to	20V	±20V		10mV		
	-50	to	50V	±50V		10mV		
Thermocouple	K	-200	to	300°C	±13.8mV	±0.1% ± 1 digit	0.1°C	
		-200	to	600°C	±27.6mV		0.1°C	
		-200	to	1370°C	±69.0mV		1°C	
	E	-200	to	200°C	±13.8mV	±0.1% ± 1 digit	0.1°C	
		-200	to	350°C	±27.6mV		0.1°C	
		-200	to	900°C	±69.0mV		1°C	
	J	-200	to	250°C	±13.8mV	±0.1% ± 1 digit	0.1°C	
		-200	to	500°C	±27.6mV		0.1°C	
	T	-200	to	1200°C	±69.0mV	±0.1% ± 1 digit	1°C	
		-200	to	250°C	±13.8mV		0.1°C	
	R	-200	to	400°C	±27.6mV	±0.1% ± 1 digit	0.1°C	
		0	to	1200°C	±13.8mV		1°C	
	S	0	to	1760°C	±27.6mV	±0.1% ± 1 digit	1°C	
		0	to	1300°C	±13.8mV		1°C	
	B	0	to	1760°C	±27.6mV	±0.1% ± 1 digit	1°C	
		0	to	1820°C	±13.8mV		1°C	
	N	0	to	400°C	±13.8mV	±0.15% ± 1 digit	0.1°C	
		0	to	750°C	±27.6mV		0.1°C	
		0	to	1300°C	±69.0mV		1°C	
	WWRe0-26	0	to	2320°C	±69.0mV	±0.2% ± 1 digit	1°C	
WWRe5-26	0	to	2320°C	±69.0mV	1°C			
PR5-20	0	to	1800°C	±13.8mV	±0.15% ± 1 digit	1°C		
PR20-40	0	to	1880°C	±13.8mV		1°C		
Ni-NiMo	0	to	290°C	±13.8mV	±0.1% ± 1 digit	0.1°C		
	0	to	600°C	±27.6mV		0.1°C		
	0	to	1310°C	±69.0mV		1°C		
AuFe-Cr	0	to	300K	±13.8mV	±0.1% ± 1 digit	0.1K		
Platinel	-100	to	350°C	±13.8mV		±0.15% ± 1 digit	0.1°C	
	-100	to	650°C	±27.6mV	0.1°C			
	-100	to	1390°C	±69.0mV	1°C			
U	-200	to	250°C	±13.8mV	±0.1% ± 1 digit	0.1°C		
	-200	to	500°C	±27.6mV		0.1°C		
	-200	to	600°C	±69.0mV		0.1°C		
L	-200	to	250°C	±13.8mV	±0.1% ± 1 digit	0.1°C		
	-200	to	500°C	±27.6mV		0.1°C		
	-200	to	900°C	±69.0mV		1°C		
Resistance thermometer	Pt100	-140	to	150°C	160Ω	±0.15% ± 1 digit	0.1°C	
		-200	to	300°C	220Ω		±0.1% ± 1 digit	0.1°C
		-200	to	850°C	400Ω		0.1°C	
	Old Pt100	-140	to	150°C	160Ω	±0.15% ± 1 digit	0.1°C	
		-200	to	300°C	220Ω		±0.1% ± 1 digit	0.1°C
		-200	to	649°C	400Ω		0.1°C	
	JPt100	-140	to	150°C	160Ω	±0.15% ± 1 digit	0.1°C	
		-200	to	300°C	220Ω		±0.1% ± 1 digit	0.1°C
		-200	to	649°C	400Ω		0.1°C	
	Pt50	-200	to	649°C	220Ω	±0.15% ± 1 digit	0.1°C	
Pt-Co	4	to	374K	220Ω	0.1K			

Note: 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 25°C under EMC test environment.

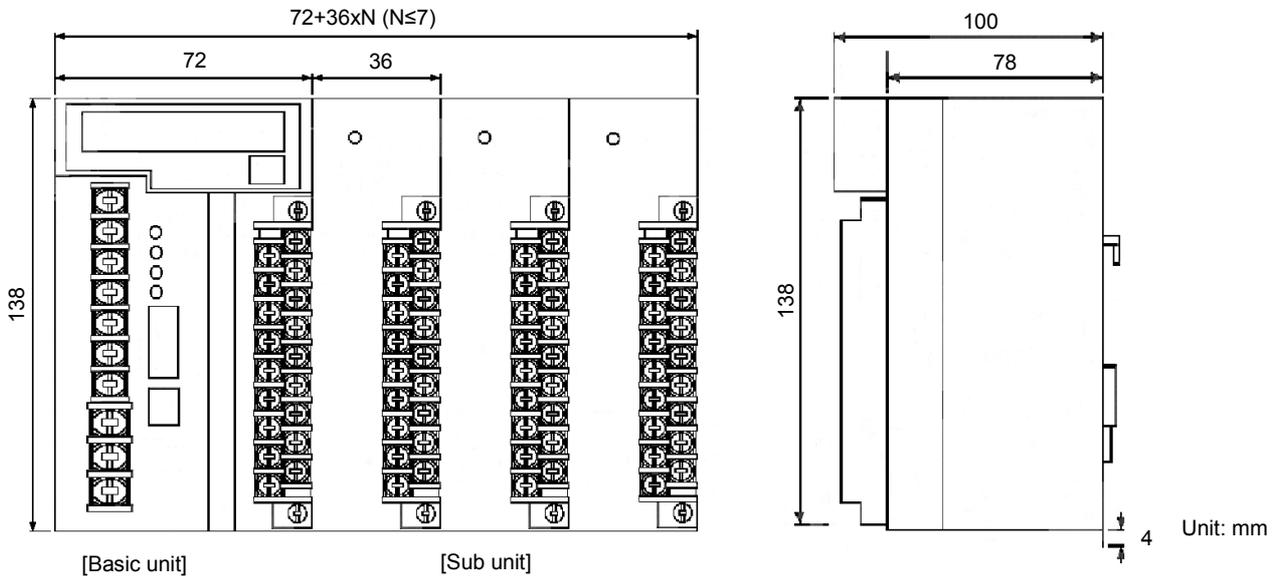
■ Terminal board

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).



■ Terminal board

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



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