

SGU

RoHS

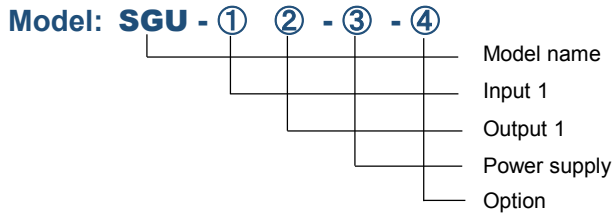
Universal Transmitter (1-output)

Features:

SGU (1-input 1-output) converts DC current, DC voltage, thermocouple or RTD signal into isolated DC voltage/current. Indication displays are equipped.

Functions:

- Sensor correction (Input value correction)
- Normal/Reverse mode
- Filter time constant
- Manual mode
- Input and output types can be changed.
- Output high and low limits



① INPUT 1

DC current	A0	4 to 20mA (Built-in 50Ω shunt resistor)
	A1	4 to 20mA (250Ω shunt resistor)
	A2	4 to 20mA (50Ω shunt resistor)
	A3	0 to 20mA (250Ω shunt resistor)
	A4	0 to 16mA (62.5Ω shunt resistor)
	A5	2 to 10mA (250Ω shunt resistor)
	A6	0 to 10mA (100Ω shunt resistor)
	A7	1 to 5mA (100Ω shunt resistor)
	A8	0 to 1mA (1000Ω shunt resistor)
	A9	10 to 50mA (10Ω shunt resistor)
DC voltage	V0	0 to 10mV (Input resistance 1MΩ)
	V1	0 to 50mV (Input resistance 1MΩ)
	V2	0 to 60mV (Input resistance 1MΩ)
	V3	0 to 100mV (Input resistance 1MΩ)
	V4	0 to 1V (Input resistance 1MΩ)
	V5	0 to 5V (Input resistance 1MΩ)
	V6	1 to 5V (Input resistance 1MΩ)
	V7	-5 to 5V (Input resistance 1MΩ)
	V8	0 to 10V (Input resistance 1MΩ)
	V9	-10 to 10V (Input resistance 1MΩ)
Thermocouple	K0	
	K1	K
	K2	
	J0	
	J1	J
	J2	
	R	R
	S	S
	B	B
	E	E
	T0	
	T1	T
	N	N
	PL	PL-II
	W5	W5Re/W26Re
W3	W3Re/W25Re	
RTD	P0	Pt100
	P1	
	P2	
	P3	JPt100

② OUTPUT 1

DC Current	1	4 to 20mA (allowable load resistance 750Ω max.)
	2	0 to 20mA (allowable load resistance 750Ω max.)※1
	3	0 to 16mA (allowable load resistance 900Ω max.)※1
	4	2 to 10mA (allowable load resistance 1500Ω max.)
	5	0 to 10mA (allowable load resistance 1500Ω max.)※1
DC Voltage	A	0 to 10mV (allowable load resistance 10kΩ min.)※2
	B	0 to 100mV (allowable load resistance 100kΩ min.)※2
	C	0 to 1V (allowable load resistance 1000Ω min.)※2
	D	0 to 5V (allowable load resistance 5000Ω min.)※2
	E	1 to 5V (allowable load resistance 5000Ω min.)
	F	0 to 10V (allowable load resistance 10kΩ min.)※2
	G	-5 to 5V (allowable load resistance 10kΩ min.)

※1: 0mA or less: Out of base accuracy.
 ※2: 0V or less: Out of base accuracy.

③ Power supply

0	100 to 240V AC 50/60Hz
1	24V AC/DC 50/60Hz

For SGUL (with serial communication function), only [0: 100 to 240V AC] is selectable.

④ Option

0	No option needed
1	Multi-rotation trimmer
2	Moisture-proof treatment
3	Multi-rotation trimmer + Moisture-proof treatment

Performance

Base accuracy (at 25°C)	±0.1% of each input span Thermocouple input: When input is 0°C or less: Base accuracy ± 0.1% of each input span When input has a decimal point: Base accuracy ± 0.05% of each input span R, S input, -50 to 200°C (-58 to 392°F): ±0.3% of each input span, B input, 0 to 300°C (32 to 572°F): Accuracy is not guaranteed.
Display accuracy	Base accuracy ± 1 digit
Temperature coefficient	± 0.015%/°C (0 to 10mV output: ±0.02%/°C)
Cold junction compensation accuracy	±0.5°C (1.0°F) at 20±10°C
Effect of allowable lead wire resistance	RTD input: Less than 20Ω per wire: Base accuracy, 20Ω or more per wire: Base accuracy + 0.005 %/Ω
Response time	0.5 sec. max. (0→90%)
Insulation resistance	100MΩ minimum, at 500V DC
Dielectric strength	2.0kV AC for 1 minute

General specifications

Input	Thermocouple	K, J, R, S, B, E, T, N, PL-II, W5Re/W26Re, W3Re/W25Re External resistance: 100Ω max. (However, B: 40Ω max.)	
	RTD	Pt100, JPt100 Input detection current: Approx. 200 μA, Allowable lead wire resistance: 200Ω or less per wire	
	DC current	4 to 20mA, 0 to 20mA, 0 to 16mA, 2 to 10mA, 0 to 10mA, 1 to 5mA, 0 to 1mA, 10 to 50mA DC	
	DC voltage	0 to 10mV, 0 to 50mV, 0 to 60mV, 0 to 100mV, 0 to 1V, 0 to 5V, 1 to 5V, -5 to 5V, 0 to 10V, -10 to 10V DC	
Zero adjustment range	-5 to 5% (Adjustable from front panel)	Span adjustment range	95 to 105% (Adjustable from front panel)
Power supply	100 to 240V AC 50/60Hz	Allowable voltage range	85 to 264V AC
	24V AC/DC 50/60Hz		20 to 28V AC/DC
Power consumption	100 to 240 V AC: Approx. 9 VA max. (SGUL: Approx. 10 VA max.) 24 V AC: Approx. 6 VA max. 24 V DC: Approx. 3 W max.		
Operating temperature, humidity	-10 to 55°C (Non-condensing, No icing), 35 to 85 %RH (Non-condensing)		
Storage temperature	-10 to 60°C		
Material	Case: Flame-resistant resin, Black color, Panel: Polycarbonate		
Mounting method	DIN rail		
External dimensions	22.5(W) x 89(H) x 70(D)mm (without socket)		
Weight	Approx. 78g (without socket)		

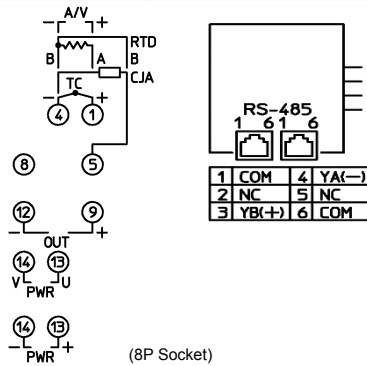
Measurement range

Input code	Measurement range		Resolution
A0 to A9	-1999 to 9999 ※4		1
V0 to V9			
K0	-200 to 1370 °C※2	-328 to 2498 °F※2	1°C(°F)
K1	-200 to 200 °C ※1※2	-328 to 392 °F※1※2	1°C(°F)※3
K2	0 to 400 °C※2	32 to 752 °F※2	1°C(°F)※3
J0	-200 to 1000°C※2	-328 to 1832 °F※2	1°C(°F)
J1	-200 to 200 °C※1※2	-328 to 392 °F※1※2	1°C(°F)※3
J2	0 to 400 °C※2	32 to 752 °F※2	1°C(°F)※3
R	-50 to 1760 °C※2	-58 to 3200 °F※2	1°C(°F)
S	-50 to 1760 °C※2	-58 to 3200 °F※2	1°C(°F)
B	0 to 1820 °C※2	32 to 3308 °F※2	1°C(°F)
E	-200 to 800 °C※2	-328 to 1472 °F※2	1°C(°F)
T0	-200 to 400 °C※2	-328 to 752 °F※2	1°C(°F)
T1	-100 to 100 °C※2	-148 to 212 °F※2	1°C(°F)※3
N	-200 to 1300°C※2	-328 to 2372 °F※2	1°C(°F)
PL	0 to 1390 °C※2	32 to 2534 °F※2	1°C(°F)
W5	0 to 2315 °C※2	32 to 4199 °F※2	1°C(°F)
W3	0 to 2315 °C※2	32 to 4199 °F※2	1°C(°F)
P0	-200 to 650 °C※2	-328 to 1202 °F※2	1°C(°F)
P1	-100 to 100 °C※2	-148 to 212 °F※2	1°C(°F)※3
P2	-200 to 500 °C※2	-328 to 932 °F※2	1°C(°F)
P3	-100 to 100 °C※2	-148 to 212 °F※2	1°C(°F)※3

- ※1: 'No decimal point' and '1 digit after decimal point' can be selected in [Decimal point place]. If '1 digit after decimal point' is selected, the input low limit value is -199.9.
- ※2: In the case of thermocouple or RTD input, °C or °F can be selected in [Input unit]. Please specify the input span. Minimum span is 50°C or 100°F.
- ※3: If '1 digit after decimal point' is selected in [Decimal point place], it becomes 0.1.
- ※4: Decimal point position change and scaling are possible.

Terminal arrangement

PWR ⑬ - ⑭	Power supply voltage 100 to 240V AC, 24V AC/DC
OUT ⑨ - ⑫	Output
TC ① - ④	Thermocouple input
RTD ① - ④ - ⑤	RTD input
A ① - ④	DC current input
V ① - ④	DC voltage input
CJA ④ - ⑤	Cold junction compensator input
RS-485	Serial communication RS-485 (For SGUL)



Circuit configuration

