SCZ10 DIN Rail Mount Temperature-Process Control-Transmitter

The SCZ10 Series temperature/process controls/transmitters break new ground in instrumentation technology. In a single, compact, DIN rail mount unit, you have a field progrmmable PID control or isolated transmitter, either with optional RS-485 communications capability.



Each SCZ unit has its own dual display and keypad, making process monitoring and programming a snap. The universal input allows field programming for a wide variety of sensors, making the SCZ10 one of the most flexible controls or transmitters available today.

When used as a control, the SCZ10 is available with mechanical relay, switched (pulsed) DC for SSRs, or proportional current (4~20mA) to drive motor actuators or proportional power units (SCRs).

When used as a transmitter, the 4~20mA output may be scaled virtually anywhere on the input scale, allowing for the greatest application flexibility.

Options for the SCZ10 include RS-485 Serial Communication, Heater Break Alarm, and low voltage operation.

The RS-485 option allows for Modbus® RTU communication with up to 32 SCZ controls/transmitters with a simple RJ-14 connection system, making wiring a breeze.

Whether you are updating an old panel or designing a new system, the SCZ is the unit you need.

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STANDARD FEATURES

- **Dual display**
- **Control or Transmitter**
- **Self-Tune and PID**
- **Directly Programmable from Self Contained Keypad**
- **Universal Input**
- **Optional RS-485**
- **Optional Heater Burnout Alarm**
- **Compact DIN Rail Mount**

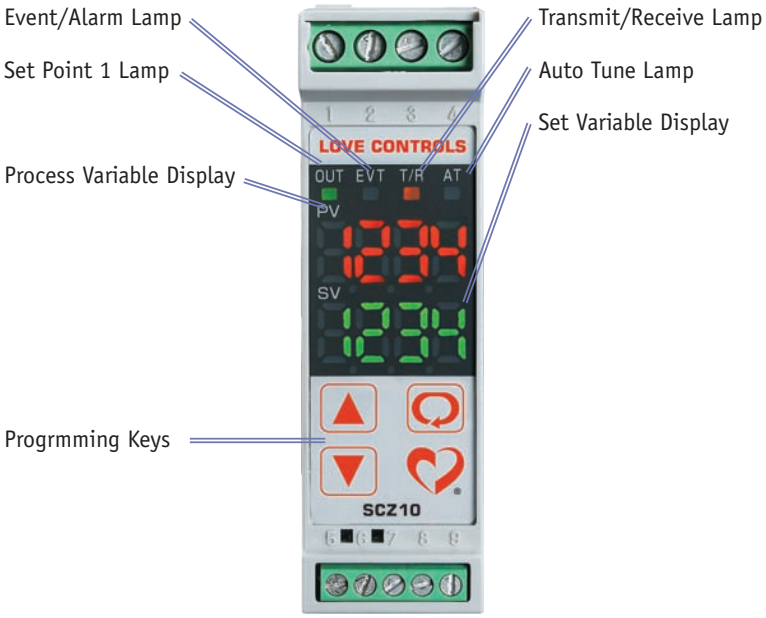
Input Ranges

INPUT TYPE	RANGE °F	RANGE °C
Type J Thermocouple	-320 to +1800	-200 to +1000[1]
Type K Thermocouple	-320 to +2500[1]	-200 to +1370[1]
Type T Thermocouple	-200 to +750[1]	-200 to +400[1]
Type E Thermocouple	-320 to +1500	-200 to +800
Type R Thermocouple	0 to 3200	-17 to +1760
Type S Thermocouple	0 to 3200	-17 to +1760
Type B Thermocouple	0 to 3300	0 to 1820
Type C Thermocouple	0 to 4200	0 to 2315
Type PL-II Thermocouple	0 to 2500	0 to 1390
Type N Thermocouple	-320 to +1500	-200 to +800
100 Ω Plt. 0.00385 DIN RTD	-300 to +1500[1]	-200 to +850[1]
100 Ω Plt. 0.003916 JIS[1] RTD	-300 to +900[1]	-200 to +500[1]
Current/Voltage/Δ Voltage[2]	Scalable Units from -1999 to +9999	

[1] These input ranges can be set for 0.1° display. Range may be limted to no greater than 999.9° or less than -199.9°.

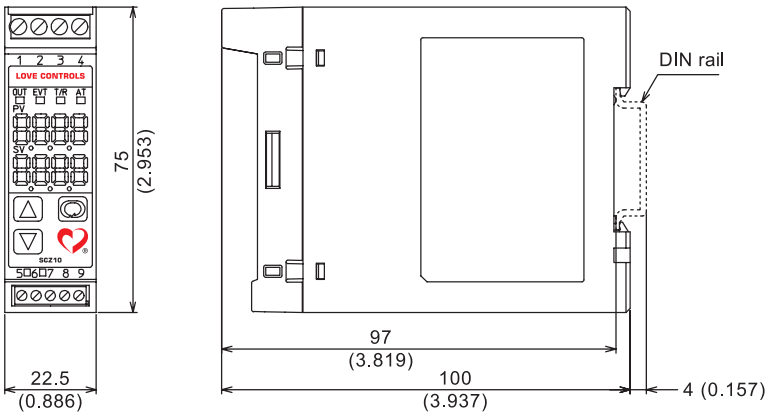
[2] The 0 to 20 mADC, 4 to 20 mADC, 0 to 5 VDC, 1 to 5 VDC, and 0 to 10 VDC inputs are fully scalable from a minimum of 100 counts span placed anywhere within the within the range of -1999 to +9999. Decimal point position is adjustable from the zero place (9999), tenths (999.9) place, or hundredths (99.99) place.

FRONT PANEL KEY FUNCTIONS



DIMENSIONS

All dimensions in millimeters (inches).



MODEL IDENTIFICATION

To order, specify part number by filling the boxes with the appropriate numbers.

S C Z 1 0 — ☐ ☐ ☐ ☐ — ***

Output
1 = Relay
2 = Switched Voltage
3 = Current (4~20mA)

Power
0 = Line (120~240 VAC/VDC)
1 = Low (24VAC/VDC

RS-485 Communications*
0 = No
1 = Modbus® RTU

Heater Burnout Alarm**
0 = No
1 = Yes

***** Max. Current**
00 = NA
05 = 5 Amps
10 = 10 Amps
20 = 20 Amps
50 = Amps

Notes:
* The RS-485 and Heater Burnout Alarm options are mutually exclusive.
** The Current Alarm is only available for outputs 1 and 2.

SPECIFICATIONS

PV display: Red LED 4-digit Character size: 7.5 x 4.1mm (H x W)
SV display: Green LED 4-digit Character size 7.5 x 4.1mm (H x W)
Input:
Thermocouple: K, J, R, S, E, T, N, PL-II, C (W/Re5-26) External resistance: 100Ω or less
B thermocouple: External resistance: 40Ω or less
RTD: Pt100, JPt100 3-wire system. Allowable input wire resistance (10Ω or less per wire)
DC current: 0 to 20mAdc, 4 to 20mA input impedance 50Ω (50Ω shunt resistor sold separately).
Allowable input current: 50mA or less
DC voltage: 0 to 1Vdc
Input impedance: 1MΩ or greater
Allowable input voltage: 5V or less
Allowable signal source resistance: 2kΩ or less
Accuracy (Indicating • Setting)
Thermocouple input: ±0.2% of input span, ±1 digit or 2°C (4°F), whichever is greater.
R, S input 0 to 200°C (0 to 400°F): ±6°C (12°F).
B input 0 to 300°C (0 to 600°F): Accuracy is not guaranteed.
K, J, E, N input less than 0°C (32°F): ±0.4% of input span ±1 digit.
RTD input: ±0.1% of input span ±1 digit or ±1°C (2°F), whichever is greater.
DC voltage input: ±0.2% of input span ±1 digit
DC current input: ±0.2% of input span ±1 digit
Input sampling period: 0.25 seconds, 4 Hz.
Control action
Proportional band: 0.0 to 110.0% (ON/OFF when set to 0.0)
Integral time: 0 to 1000 seconds (Off when set to 0)
Derivative time: 0 to 300 seconds (Off when set to 0)
Proportional cycle: 1 to 120 seconds
ARW: 0 to 100%
Manual reset: Proportional band converted value
Output limit: 0 to 100% (DC current output type: -5 to 105%)
Hysteresis:
Thermocouple and RTD input: 0.1 to 100.0 degrees
DC voltage and current input: 1 to 1000 (Decimal point place follows the selection.)
Control output
• **Relay contact:** 3A @ 250Vac, Resistive; 1A @ 250Vac Inductive (COS =0.4)
Electric life 100,000 cycles.
• **Non-contact voltage (for SSR drive):** 12 Vdc @ 40mA Max. (Short-circuit protected)
• **DC current:** 4 to 20mAdc, Load resistance: Max. 550Ω
Output accuracy: ±0.3% of output span.
Resolution : 12,000 counts.
Alarm (EVT) output (Common output with Loop break alarm, Heater burnout alarm):
Setting accuracy: The same as indicating accuracy
Action: ON/OFF action
Hysteresis: Thermocouple and RTD input: 0.1 to 100.0°
DC voltage and current input: 1 to 1000 units.
Output: Open collector 0.1 A @ 24Vdc (Max.)
External dimensions: 22.5 x 75 x 100mm (W x H x D)
Case Material: Flame resistant resin
Isolation:
*** When control output is non-contact voltage or DC current, there is no isolation between control output and communication.**
Insulated resistance: 10MΩ or greater at 500Vdc except as stated above.
Dielectric strength: 1.5kVac for 1 minute between input terminal and power terminal, 1.5kVac for 1 minute between output terminal and power terminal.
Power consumption: Approx. 6VA
Ambient temperature: 0 to 50°C (32 to 131°F)
Ambient humidity: 35 to 85%RH (Non-condensing)
Weight: Approx.150g (5.3 oz.)