The SDC15 Single Loop Controller is a 48 × 48 mm compact digital controller featuring group multi-range inputs and a PID control system using the new “RationaLOOP PID” (Ra-PID) and “Just-FITTER” algorithms. Up to 2 control outputs are available (depending on the model), selectable from relay contact, voltage pulse, and current. Two kinds of mounting method are provided: panel mounting and socket mounting. Compatible with the Smart Loader Package, which facilitates setup and monitoring.

### Specifications

<table>
<thead>
<tr>
<th>PV input</th>
<th>Input type</th>
<th>Thermocouple, resistance thermometer detector, DC current, DC voltage (selected by model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling cycle</td>
<td>0.5 s</td>
<td></td>
</tr>
</tbody>
</table>

**Indication**
- **Indication method**: 4-digit, 7-segment LED (PV: upper green display, SP: lower orange display)
- **Indication accuracy**: ±0.5% ±1 digit (at an ambient temperature of 23 ± 2 °C)

**Control**
- **Control output #1**: Relay contact (for SSR drive), Voltage pulse (for SSR drive)
- **Control output #2**: None, Voltage pulse (for SSR drive)

**Control method**
- 1. ON/OFF control
- 2. Control with fixed PID value (RationaLOOP PID)
- 3. Self-tuning

**External switch input**
- **Number of inputs**: 2
- **Function**: Up to 4 kinds of setting value (SP) options, RUN/READY selection, AUTO/MANUAL selection, auto tuning stop/start, etc.

**Event**
- **Number of outputs**: 2 to 3 (depending on the model)
- **Event type**: PV high limit, PV low limit, PV high/low limit, deviation high limit, deviation low limit, deviation high/low limit, etc.

**Communication specification**
- **RS-485**

**Current transformer input**
- **Number of inputs**: 2

**General specifications**
- **Rated power supply voltage**
  - AC power supply model: 100 to 240 Vac 50/60 Hz
  - DC power supply model: 24 Vac 50/60 Hz, 24 to 48 Vdc
- **Power consumption**
  - AC power supply model: 12 VA or less
  - DC power supply model: 7 VA or less (24 Vac), 5 W or less (24 to 48 Vdc)
- **Weight**
  - S type: Approx. 200 g (including socket)
  - T type: Approx. 150 g (including mounting bracket)

### Input list

<table>
<thead>
<tr>
<th>Input type</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermocouple</td>
<td>K, J, E, T, R, S, B, N, WRe5-26, DIN U, DIN L, PL II</td>
</tr>
<tr>
<td>Resistance thermometer detector</td>
<td>Pt100, JPt100</td>
</tr>
<tr>
<td>Linear input</td>
<td>0 to 1 V, 0 to 5 V, 0 to 10 V, 0 to 20 mA, 4 to 20 mA</td>
</tr>
</tbody>
</table>

**Standards for input sensor**
- **Thermocouple**
  - WRe5-26: ASTM E988-96 (Reapproved 2002)
  - DIN U, DIN L: DIN 43710-1985
- **Resistance thermometer detector**
  - Pt100: JIS C 1604-1997
  - JPt100: JIS C 1604-1989

**AC power supply model**
- 100 to 240 Vac 50/60 Hz

**DC power supply model**
- 24 Vac 50/60 Hz, 24 to 48 Vdc

**Weight**
- S type: Approx. 200 g (including socket)
- T type: Approx. 150 g (including mounting bracket)

### External dimensions

**Panel mounting type**

**Socket mounting type**

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* For our cUL certification status, contact our sales representatives.
## Single Loop Controller SDC15

### Model No. configuration

<table>
<thead>
<tr>
<th>Basic model No.</th>
<th>Mounting</th>
<th>Control output</th>
<th>PV input</th>
<th>Power supply voltage</th>
<th>Option</th>
<th>Addition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C15</td>
<td>T</td>
<td>Single Loop Controller</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S*4</td>
<td>Panel mounting type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Control output 1:**
  - V0: Voltage pulse output (for SSR drive)
  - VC: Voltage pulse output (for SSR drive)
  - VV: Voltage pulse output (for SSR drive)
  - CO: Current output

- **Control output 2:**
  - C0: Current output

- **Relay output:**
  - T: Thermocouple input (K, J, E, T, R, S, B, N, Wre5-26, DIN U, DIN L)
  - L: Resistance thermometer detector input (Pt100, JPt100)

- **DC voltage/current input:**
  - 0 to 1 Vdc, 1 to 5 Vdc, 0 to 5 Vdc, 0 to 10 Vdc, 0 to 20 mA dc, 4 to 20 mA dc

- **AC voltage input:**
  - 100 to 240 Vac 50/60 Hz
  - 24 Vac 50/60 Hz, 24 to 48 Vdc

- **Event relay outputs:**
  - 00: None
  - 01: Event relay outputs: 3
  - 02**: V3: Event relay outputs: 3 + current transformer inputs: 2 + digital inputs: 2
  - 03**: V3: Event relay outputs: 3 + current transformer inputs: 2 + RS-485 communication
  - 04**: V3: Event relay outputs: 2 (independent contact)
  - 05**: V3: Event relay outputs: 2 (independent contact) + current transformer inputs: 2 + digital inputs: 2
  - 06**: V3: Event relay outputs: 2 (independent contact) + current transformer inputs: 2 + RS-485 communication

- **Current transformer:**
  - 00: None

- **Inspection certificate:**
  - D0: Inspection certificate

- **Supports traceability certification:**
  - Y0: Supports traceability certification

### Optional parts (sold separately)

<table>
<thead>
<tr>
<th>Name</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Loader Package</td>
<td>SLP-C35J50</td>
</tr>
<tr>
<td>Smart Loader Package without user's manual and loader cable</td>
<td>SLP-C35J51</td>
</tr>
<tr>
<td>Terminal cover</td>
<td>81446936-001</td>
</tr>
<tr>
<td>Dedicated socket (for C15S)</td>
<td>81446391-001</td>
</tr>
<tr>
<td>Current transformer (6.8 mm dia. hole)</td>
<td>QH205A</td>
</tr>
<tr>
<td>Current transformer (12 mm dia. hole)</td>
<td>QH212A</td>
</tr>
<tr>
<td>Cover, hard</td>
<td>81446442-001</td>
</tr>
<tr>
<td>Cover, soft</td>
<td>81446443-001</td>
</tr>
<tr>
<td>Mounting bracket (supplied with C15T, also fits C15S)</td>
<td>81446433-001</td>
</tr>
<tr>
<td>L-shape extension loader cable</td>
<td>81441057-001</td>
</tr>
<tr>
<td>Gasket (20 pcs/package)</td>
<td>81446918-001</td>
</tr>
</tbody>
</table>

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*1. Cannot be selected for C15S.  
*2. Only 1a contact is applicable for C15S.  
*3. Current transformer sold separately.  
*4. Socket sold separately.  
*5. Cannot be selected for 24 Vdc model.