



**SAVEAIR**  
Technologies Pvt Ltd



# Product Catalogue

**Contact For Any Enquiry**

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# Advanced PID Temperature Controller

## Series PR 69

- Universal Input
- Flush Mounting Version 48x48 mm with Dual Line Digital Seven Segment Display
- Configurable Output combination
- Configurable: Band, Deviation, Sensor break & Loop break alarms
- Single/Dual acting PID controllers with 4 Control modes
- Auto-tuning PID with provision for Soft-Start
- 6 Segment (3 Ramp & 3 Soak) with Power Failure resumption modes
- RS 485 Communication
- IP 20 (for Terminals & Enclosure) IP 40 (for Front Panel only)
- Timer functionality with settable time from 1min to 9999 min



## Ordering Information

### Dual Acting PID Controller

| Cat. No. | Description                                                                       |
|----------|-----------------------------------------------------------------------------------|
| 151A13B  | 2 Relays (SPST 5A each), SSR (12 VDC, 24 mA)                                      |
| 151B13B  | 1 Relay (SPST 5A), Analog output (0-10V, 4-20 mA), SSR (12 VDC, 24 mA)            |
| 151C13B  | 2 Relays (SPST 5A each), Analog output (0-10V, 4-20 mA)                           |
| 151D13B  | 3 Relays (SPST 5A each)                                                           |
| 151A13B1 | 2 Relays (SPST 5A each), SSR (12 VDC, 24 mA) with RS485                           |
| 151B13B1 | 1 Relay (SPST 5A), Analog output (0-10V, 4-20 mA), SSR (12 VDC, 24 mA) with RS485 |
| 151C13B1 | 2 Relays (SPST 5A each), Analog output (0-10V, 4-20 mA) with RS485                |
| 151D13B1 | 3 Relays (SPST 5A each) with RS485                                                |

# Advanced PID Temperature Controller

## Series PR 69



| Cat. No.                       | 151A13B1                                                                                                                                                                                                                                                                                                                                                                                                    | 151B13B1                                                             | 151C13B1                             | 151D13B1                             |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------|--------------------------------------|
| Parameters                     |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                      |                                      |                                      |
| Supply Voltage (⌘)             | 110 - 240 VAC/DC                                                                                                                                                                                                                                                                                                                                                                                            |                                                                      |                                      |                                      |
| Supply Variation               | -20% to +10%(of ⌘)                                                                                                                                                                                                                                                                                                                                                                                          |                                                                      |                                      |                                      |
| Frequency                      | 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                      |                                      |                                      |
| Control Action                 | ON/OFF (Symmetric/ Asymmetric), PID (Single/ Dual Acting) (Neutral zone only for dual acting)                                                                                                                                                                                                                                                                                                               |                                                                      |                                      |                                      |
| Tuning Method                  | Auto Tuning / Manual Tuning                                                                                                                                                                                                                                                                                                                                                                                 |                                                                      |                                      |                                      |
| Temperature sensors / Inputs   | Thermocouple: J, K, E, S, B, R; RTD: PT100 - 3 wire compensation; Analog Signal DC: (0-50 mV, 0-60 mV,12-60 mV)                                                                                                                                                                                                                                                                                             |                                                                      |                                      |                                      |
| Measurement Range              | Sensor J: 0 to 700°C/32 to 1292°F, Sensor K: 0 to 1300°C/32 to 2372°F, Sensor E: 0 to 600°C/32 to 1112°F, Sensor R: 0 to 1750°C/32 to 3182°F, Sensor S: 0 to 1750°C/32 to 3182°F, Sensor B: 250 to 1820°C/482 to 3308°F, Sensor PT100 3 wire: - 200 to 700°C/-328 to 1292°F                                                                                                                                 |                                                                      |                                      |                                      |
| Measurement Accuracy           | +/-0.5% of full scale of PT100, +/-1% of full scale for TC & mV signals                                                                                                                                                                                                                                                                                                                                     |                                                                      |                                      |                                      |
| Resolution                     | 0.1°C for RTD, J,E & 1° for S,B,K,R & 0.001°C for mV signals                                                                                                                                                                                                                                                                                                                                                |                                                                      |                                      |                                      |
| Configurable Set Points        | 4                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                      |                                      |                                      |
| Display                        | Dual row 7 segment display with LED indications, 4-digit process value, 4 digit set value                                                                                                                                                                                                                                                                                                                   |                                                                      |                                      |                                      |
| Keypad                         | 4-Keys:  - Exit / Configurable Key,  - Down,  - Up,  - Enter / Select |                                                                      |                                      |                                      |
| Output 1                       | Relay: SPST<br>5A @ 240 VAC / 28 VDC                                                                                                                                                                                                                                                                                                                                                                        | Analog: 0 - 10V DC / 4 - 20 mA<br>Configurable Retransmission Output |                                      | Relay: SPST<br>5A @ 240 VAC / 28 VDC |
| Output 2                       | Relay: SPST<br>5A @ 240 VAC / 24 VDC                                                                                                                                                                                                                                                                                                                                                                        |                                                                      |                                      |                                      |
| Output 3                       | SSR: 12 VDC, 24 mA<br>Short Circuit Protection                                                                                                                                                                                                                                                                                                                                                              |                                                                      | Relay: SPST<br>5A @ 240 VAC / 24 VDC |                                      |
| Analog Output Update Rate      | N A                                                                                                                                                                                                                                                                                                                                                                                                         | 150ms to 5s                                                          |                                      | N A                                  |
| Alarm Types                    | Absolute (High/Low/Band), Deviation (High/Low/Band), Sensor Break, Loop Break,                                                                                                                                                                                                                                                                                                                              |                                                                      |                                      |                                      |
| Soft Start Feature             | Yes                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                      |                                      |                                      |
| Ramp Soak Feature              | 3 Ramp & 3 Soak                                                                                                                                                                                                                                                                                                                                                                                             |                                                                      |                                      |                                      |
| RS 485 Communication           | RS 485 Communication                                                                                                                                                                                                                                                                                                                                                                                        |                                                                      |                                      |                                      |
| Transmission Speed & Type      | 300 to 19200 BPS (Half Duplex)                                                                                                                                                                                                                                                                                                                                                                              |                                                                      |                                      |                                      |
| Transmission Protocol          | Modbus RTU                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                      |                                      |                                      |
| Operating Temperature          | 0°C to +50°C                                                                                                                                                                                                                                                                                                                                                                                                |                                                                      |                                      |                                      |
| Storage Temperature            | -20°C to +60°C                                                                                                                                                                                                                                                                                                                                                                                              |                                                                      |                                      |                                      |
| Humidity (Non Condensing)      | 80% (Rh)                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                      |                                      |                                      |
| Enclosure                      | Flame Retardant UL94V0                                                                                                                                                                                                                                                                                                                                                                                      |                                                                      |                                      |                                      |
| Dimensions (W x H x D) (in mm) | 48 x 48 x 107.4                                                                                                                                                                                                                                                                                                                                                                                             |                                                                      |                                      |                                      |
| Weight (unpacked)              | 160 g                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                      |                                      |                                      |
| Mounting                       | Flush                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                      |                                      |                                      |
| Certification                  |                                                                                                                                                                                                                                       |                                                                      |                                      |                                      |
| Degree of Protection           | IP 20 Terminal & Enclosure, IP 40 (For Front Panel only)                                                                                                                                                                                                                                                                                                                                                    |                                                                      |                                      |                                      |

### EMI / EMC

|                                   |                |
|-----------------------------------|----------------|
| ESD                               | IEC 61000-4-2  |
| Radiated Susceptibility           | IEC 61000-4-3  |
| Electrical Fast Transients        | IEC 61000-4-4  |
| Surges                            | IEC 61000-4-5  |
| Conducted Susceptibility          | IEC 61000-4-6  |
| Voltage Dips & Interruptions (AC) | IEC 61000-4-11 |
| Conducted Emission                | CISPR 11       |
| Radiated Emission                 | CISPR 11       |

### Environmental

|           |               |
|-----------|---------------|
| Cold Heat | IEC 60068-2-1 |
| Dry Heat  | IEC 60068-2-2 |
| Vibration | IEC 60068-2-6 |

# Advanced PID Temperature Controller Series PR 69



## Ordering Information

Single Acting PID Controller  
Advanced PID Series PR 69

| Cat. No. | Description                                                            |
|----------|------------------------------------------------------------------------|
| 151A12B  | 2 Relays (SPST 5A each), SSR (12 VDC, 24 mA)                           |
| 151B12B  | 1 Relay (SPST 5A), Analog output (0-10V, 4-20 mA), SSR (12 VDC, 24 mA) |
| 151C12B  | 2 Relays (SPST 5A each), Analog output (0-10V, 4-20 mA)                |
| 151D12B  | 3 Relays (SPST 5A each)                                                |
| 151E12B  | 1 Relay (1 C/O 10A), SSR (12VDC, 24 mA)                                |

# Advanced PID Temperature Controller

## Series PR 69



| Cat. No.                       | 151A12B                                                                                                                                                                                                                                                                                                                                                                                                   | 151B12B                                                              | 151C12B                              | 151D12B                              |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------|--------------------------------------|
| Parameters                     |                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                      |                                      |                                      |
| Supply Voltage (⎓)             | 110 - 240 VAC/DC                                                                                                                                                                                                                                                                                                                                                                                          |                                                                      |                                      |                                      |
| Supply Variation               | -20% to +10% (of ⎓)                                                                                                                                                                                                                                                                                                                                                                                       |                                                                      |                                      |                                      |
| Frequency                      | 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                      |                                      |                                      |
| Control Action                 | ON/OFF (Symmetric / Asymmetric), PID (Single Acting)                                                                                                                                                                                                                                                                                                                                                      |                                                                      |                                      |                                      |
| Tuning Method                  | Auto Tuning / Manual Tuning                                                                                                                                                                                                                                                                                                                                                                               |                                                                      |                                      |                                      |
| Temperature sensors / Inputs   | Thermocouple: J, K, E, S, B, R; RTD: PT100 - 3 wire compensation; Analog Signal DC: (0-50 mV, 0-60 mV,12-60 mV)                                                                                                                                                                                                                                                                                           |                                                                      |                                      |                                      |
| Measurement Range              | Sensor J: 0 to 700°C/32 to 1292°F, Sensor K: 0 to 1300°C/32 to 2372°F, Sensor E: 0 to 600°C/32 to 1112°F, Sensor R: 0 to 1750°C/32 to 3182°F, Sensor S: 0 to 1750°C/32 to 3182°F, Sensor B: 250 to 1820°C/482 to 3308°F, Sensor PT100 3 wire: - 200 to 700°C/-328 to 1292°F                                                                                                                               |                                                                      |                                      |                                      |
| Measurement Accuracy           | ± 0.5% of full scale of PT100, ± 1% of full scale for TC & mV signals                                                                                                                                                                                                                                                                                                                                     |                                                                      |                                      |                                      |
| Resolution                     | 0.1°C for RTD, J,E & 1° for S,B,K,R & 0.001°C for mV signals                                                                                                                                                                                                                                                                                                                                              |                                                                      |                                      |                                      |
| Configurable Set Points        | 2                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                      |                                      |                                      |
| Display                        | Dual row 7 segment display with LED indications, 4-digit process value, 4 digit set value                                                                                                                                                                                                                                                                                                                 |                                                                      |                                      |                                      |
| Keypad                         | 4-Keys:  - Exit / Configurable Key,  - Down,  - Up,  - Enter / Select |                                                                      |                                      |                                      |
| Output 1                       | Relay: SPST<br>5A @ 240 VAC / 24 VDC                                                                                                                                                                                                                                                                                                                                                                      | Analog: 0 - 10V DC / 4 - 20 mA<br>Configurable Retransmission Output |                                      | Relay: SPST<br>5A @ 240 VAC / 24 VDC |
| Output 2                       | Relay: SPST<br>5A @ 240 VAC / 28 VDC                                                                                                                                                                                                                                                                                                                                                                      |                                                                      |                                      |                                      |
| Output 3                       | SSR: 12 VDC, 24 mA<br>Short Circuit Protection                                                                                                                                                                                                                                                                                                                                                            |                                                                      | Relay: SPST<br>5A @ 240 VAC / 28 VDC |                                      |
| Analog Output Update Rate      | N A                                                                                                                                                                                                                                                                                                                                                                                                       | 150ms to 5s                                                          |                                      | N A                                  |
| Alarm Types                    | Absolute (High/Low/Band), Deviation (High/Low/Band), Sensor Break, Loop Break,                                                                                                                                                                                                                                                                                                                            |                                                                      |                                      |                                      |
| Soft Start Feature             | Yes                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                      |                                      |                                      |
| Ramp Soak Feature              | No                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                      |                                      |                                      |
| Operating Temperature          | 0°C to +50°C                                                                                                                                                                                                                                                                                                                                                                                              |                                                                      |                                      |                                      |
| Storage Temperature            | -20°C to +60°C                                                                                                                                                                                                                                                                                                                                                                                            |                                                                      |                                      |                                      |
| Humidity (Non Condensing)      | 80% (Rh)                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                      |                                      |                                      |
| Enclosure                      | Flame Retardant UL94V0                                                                                                                                                                                                                                                                                                                                                                                    |                                                                      |                                      |                                      |
| Dimensions (W x H x D) (in mm) | 48 x 48 x 107.4                                                                                                                                                                                                                                                                                                                                                                                           |                                                                      |                                      |                                      |
| Weight (unpacked)              | 160 g                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                      |                                      |                                      |
| Mounting                       | Flush                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                      |                                      |                                      |
| Certification                  |   RoHS Compliant                                                                                                                                                                                                                    |                                                                      |                                      |                                      |
| Degree of Protection           | IP 20 Terminal & Enclosure, IP 40 (For Front Panel only)                                                                                                                                                                                                                                                                                                                                                  |                                                                      |                                      |                                      |

### EMI / EMC

|                                   |                |
|-----------------------------------|----------------|
| ESD                               | IEC 61000-4-2  |
| Radiated Susceptibility           | IEC 61000-4-3  |
| Electrical Fast Transients        | IEC 61000-4-4  |
| Surges                            | IEC 61000-4-5  |
| Conducted Susceptibility          | IEC 61000-4-6  |
| Voltage Dips & Interruptions (AC) | IEC 61000-4-11 |
| Conducted Emission                | CISPR 11       |
| Radiated Emission                 | CISPR 11       |

### Environmental

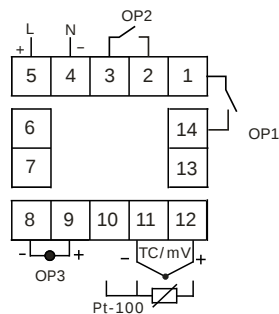
|           |               |
|-----------|---------------|
| Cold Heat | IEC 60068-2-1 |
| Dry Heat  | IEC 60068-2-2 |
| Vibration | IEC 60068-2-6 |

# Advanced PID Temperature Controller Series PR 69

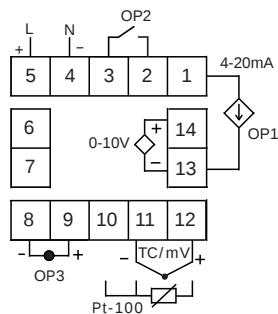


## CONNECTION DIAGRAM

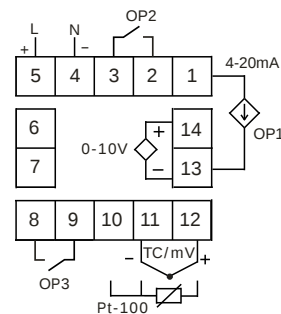
**151A12B/151A13B**



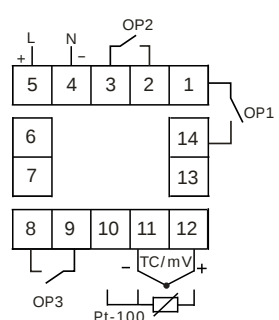
**151B12B/151B13B**



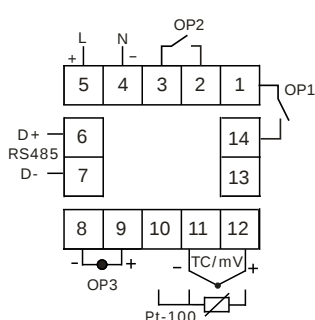
**151C12B/151C13B**



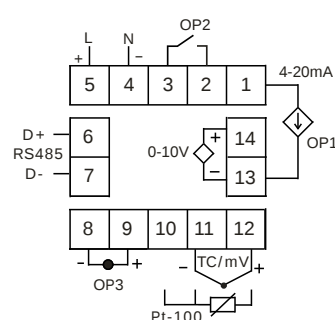
**151D12B/151D13B**



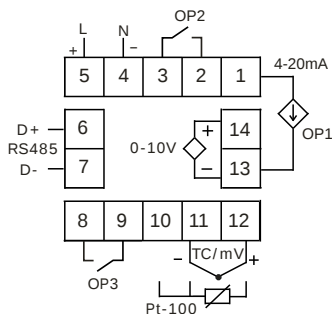
**151A13B1**



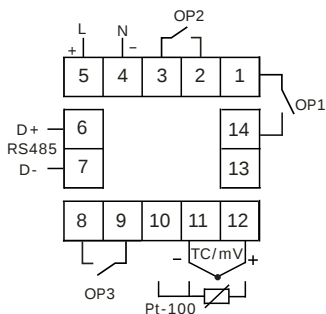
**151B13B1**



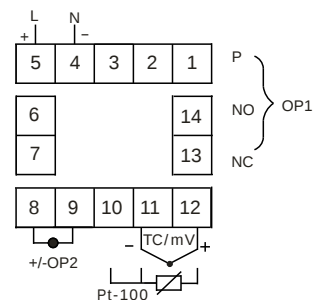
**151C13B1**



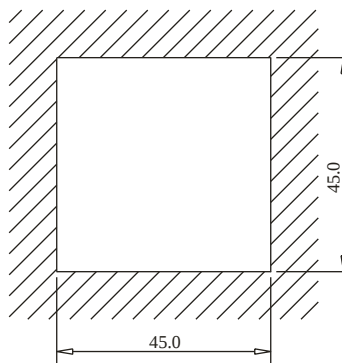
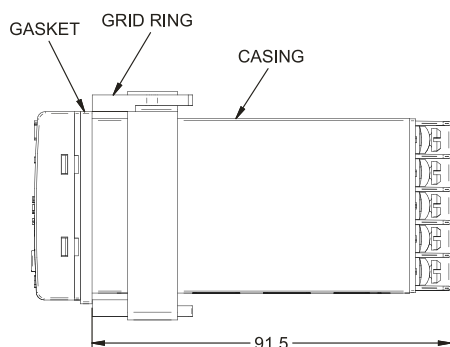
**151D13B1**



**151E12B**



## MOUNTING DIMENSION (mm)



Terminal Connection: AWG 20 to 12, Ph1- 4...5.0 mm, Torque 0.5 N. m (4.4 lb.in)