

NOVA

TEMPERATURE CONTROLLERS

• DIGITAL CONTROLLER



• PROGRAMMABLE CONTROLLER



• DIGITAL METER



• LIMIT CONTROLLER





Jeffrey L. Peters
President

Our new line of high accuracy digital temperature controllers expands on our 30-year history of providing customers with the best in digital display and control instrumentation. These controllers are available in a wide variety of enclosure sizes, accept all the popular temperature sensors, and can be set up and operated with ease. So whether your application requires an auto-tune PID controller with two program storage capability or a simple limit controller, I think you will find what you are looking for here.

Our Pledge to You!

- **Quality Policy**
Through the combined efforts of all employees, we will pursue quality leadership through error free results in our products, processes, and services. Our goal is complete customer satisfaction and our commitment is to continuous improvement.
- **No Minimum Order Requirement**
- **Drop Shipments at No Extra Charge**
- **Fast Warranty Replacements**
- **Fast, Courteous, and Knowledgeable Customer Service**



**Accuracy
Reliability
Convenience**

*Your Complete Source for
Temperature Controllers
and Digital Meters*

www.predig.com

CONTENTS

SERIES OVERVIEW

- 3 PD500 SERIES COMPARISON
- 4 PD540 SERIES DIGITAL CONTROLLER
- 6 PD550 SERIES PROGRAMMABLE CONTROLLER
- 8 PD560 SERIES DIGITAL METER
- 9 PD570 SERIES LIMIT CONTROLLER
- 10 SPECIAL FEATURES

PRODUCT DETAILS

- 13 PD540 SERIES DIGITAL CONTROLLER
- 18 PD550 SERIES PROGRAMMABLE CONTROLLER
- 22 PD560 SERIES DIGITAL METER
- 24 PD570 SERIES LIMIT CONTROLLER
- 26 DIMENSIONS AND PANEL CUTOUTS

DISCLAIMER: The information contained in this document is subject to change without notice. Precision Digital Corporation makes no representations or warranties with respect to the contents hereof, and specifically disclaims any implied warranties of merchantability or fitness for a particular purpose.



www.predig.com

Temperature Controllers

NOVA

DIGITAL CONTROLLER
 PROGRAMMABLE CONTROLLER
 DIGITAL METER
 LIMIT CONTROLLER

A COMPLETE RANGE OF EXCEPTIONAL CONTROLLERS

PD500 SERIES COMPARISON

	PD540 Series	PD550 Series	PD560 Series	PD570 Series
Controller Type	Digital Controller	Programmable Controller	Digital Meter	Limit Controller
PID Control Outputs	Three Relays² Two Analog³	Three Relays² Two Analog³		
Limit Control Relay				One Latching Relay
Alarm Output Relays Only			Three Alarm Relays	One Alarm Relay
Retransmitting Outputs	(See Note 3)	(See Note 3)	One 4-20 mA	One 4-20 mA
Digital Inputs	Two	Two	Two	
Digital Outputs		Four		
Max/Min and Time Display			Max/Min Value	Max/Min Value, Time Since Limit Reached
Set Point Programming		2 Programs, 15 Segments Each		
Modbus Available	Yes	Yes	Yes	Yes
Serial Communications	RS-485	RS-485	RS-485	RS-485

- Notes:
1. Maximum available options for each category shown above.
 2. PID controlled time proportional relay activation and alarm capabilities.
 3. Analog outputs capable of 4-20 mA or voltage pulse settings, and may be configured as retransmitting or PID control outputs.

PD540 SERIES
DIGITAL CONTROLLER

NOVA

PD540



1/16 DIN

PD544



3/16 DIN

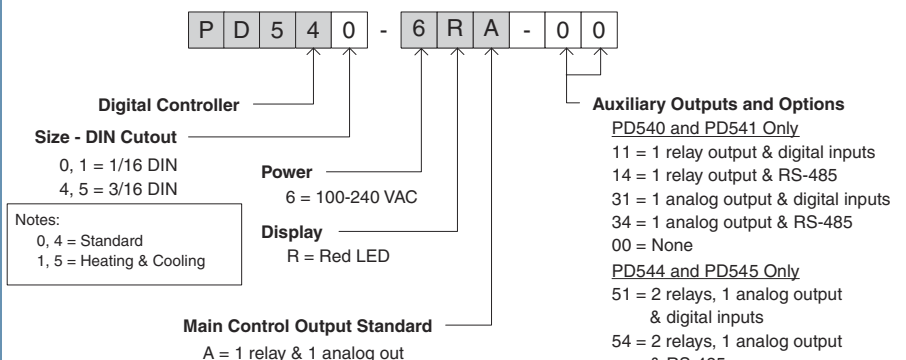
Overall Size	Millimeters (mm)	48 x 48 x 100	72 x 72 x 100
	Inches (for reference only)	1.89 x 1.89 x 3.94	2.83 x 2.83 x 3.94
4 Digit LED Display Height		PV 11.3 mm (0.45 in), SP 9.5 mm (0.37 in)	PV 14.0 mm (0.55 in), SP 12.0 mm (0.47 in)
Sampling Time		250 ms	
Indication Accuracy		±0.1% FS	
Control Loops and Modes		Single-Loop Control or Heating & Cooling	
Running Modes		Auto/Manual Output Control, Run/Stop (Manual or Timer)	
Number of Set Points		4 SP (3 PID Zones and 1 Deviation PID Zone)	
Sensor	PV Input	Universal Input	
	TC	J, K, T, E, R, B, S, L, N, U, W, Platinel II	
	RTD	Pt100 (0.00385), JPt100 (0.00392)	
	VDC	-10-20 mV, 0-100 mV, 0.4-2.0 V, 1-5 V, 0-10 V	
Control	Control Outputs	Universal Output (Max 4)	Universal Output (Max 5)
	Time-Proportional PID	Relay, SSR (V-Pulse)	
	Continuous PID	SCR (4-20 mA)	
Alarm	Capacity	STD 1 Point (Max 2)	STD 1 Point (Max 3)
	Type	20 Types (High/Low Temp Limit, Temp Deviation Range, etc)	
Retransmitting Output		4-20 mA (PV, SP, MV)	
SP Slope Rate		0-99 min 59 sec or 0-99 hour 59 min	
Digital Input	Capacity	2	
	Type	SP Select, Run/Stop	
Communication Protocols		PC Software, Modbus (ASCII, RTU), SYNC (Master, Slave)	
Power Supply		100-240 VAC, 50/60 Hz, 10 Watts Max	

Ordering Guide

The ordering guide to the right describes how to order the best controller to fit your needs. Each of the following pages contain a specialized guide for the controller type and size described on that page.

Ordering Example:

A PD540 series 1/16 DIN Digital Temperature Controller with one 4-20 mA control output and two relays, as well as serial communication options, would be ordered as a PD540-6RA-14.



PD542



PD546

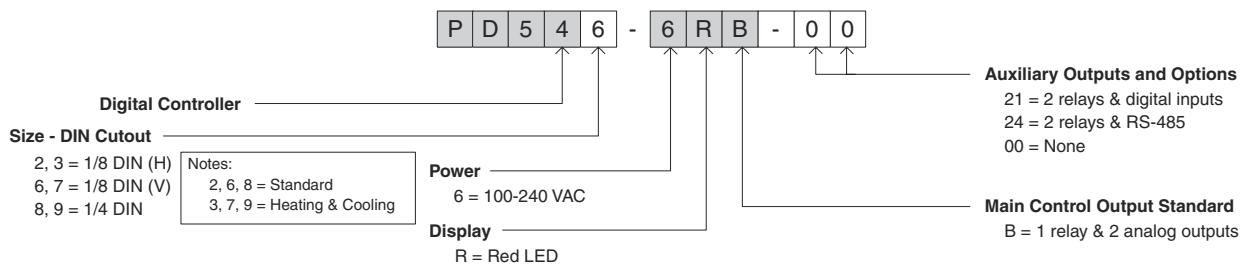


PD548



96 x 48 x 100	48 x 96 x 100	96 x 96 x 100
3.78 x 1.89 x 3.94	1.89 x 3.78 x 3.94	3.78 x 3.78 x 3.94
PV 19.8 mm (0.78 in), SP 11.5 mm (0.45 in)	PV 13.6 mm (0.54 in), SP 10.5 mm (0.41 in)	PV 20.5 mm (0.81 in), SP 11.0 mm (0.43 in)
250 ms		
±0.1% FS		
Single-Loop Control or Heating & Cooling		
Auto/Manual Output Control, Run/Stop (Manual or Timer)		
4 SP (3 PID Zones and 1 Deviation PID Zone)		
Universal Input		
J, K, T, E, R, B, S, L, N, U, W, Platine II		
Pt100 (0.00385), JPt100 (0.00392)		
-10-20 mV, 0-100 mV, 0.4-2.0 V, 1-5 V, 0-10 V		
Universal Output (Max 5)		
Relay, SSR (V-Pulse)		
SCR (4-20 mA)		
STD 1 Point (Max 3)		
20 Types (High/Low Temp Limit, Temp Deviation Range, etc)		
4-20 mA (PV, SP, MV)		
0-99 min 59 sec or 0-99 hour 59 min		
2		
SP Select, Run/Stop		
PC Software, Modbus (ASCII, RTU), SYNC (Master, Slave)		
100-240 VAC, 50/60 Hz, 10 Watts Max		

Ordering Guide



Ordering Example: A PD540 series 1/8 DIN (V) Digital Temperature Controller with two 4-20 mA outputs, three relays, and serial communication options would be ordered as a PD546-6RB-24.

PD550 SERIES
PROGRAMMABLE CONTROLLER

NOVA

PD550



1/16 DIN

PD554



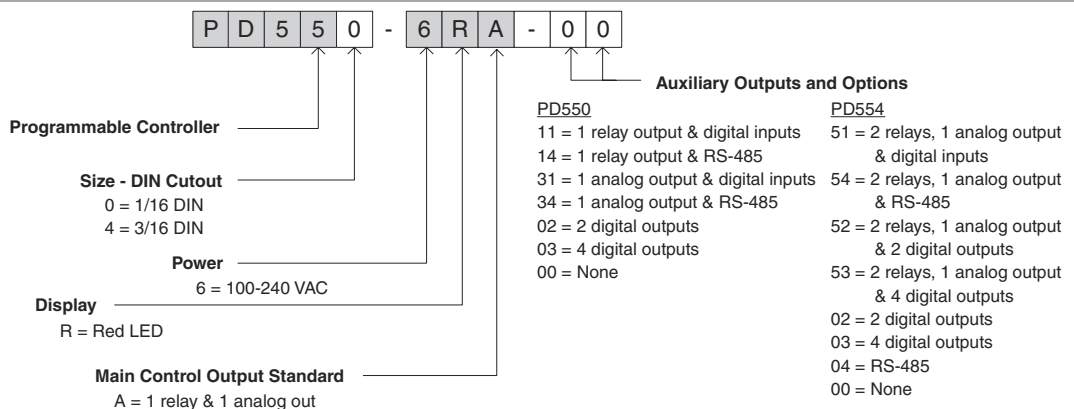
3/16 DIN

Overall Size	Millimeters (mm)	48 x 48 x 100	72 x 72 x 100
	Inches (for reference only)	1.89 x 1.89 x 3.94	2.83 x 2.83 x 3.94
4 Digit LED Display Height		PV 11.3 mm (0.45 in), SP 9.5 mm (0.37 in)	PV 14.0 mm (0.55 in), SP 12.0 mm (0.47 in)
Sampling Time		250 ms	
Indication Accuracy		±0.1% FS	
Control Loops and Modes		Single-Loop Control	
Running Modes		Prog/Reset (3 PID Zones and 1 Deviation PID Zone)	
Number of Programs		2 Program Patterns	
Number of Segments		15 Segments in Two Programs or One 30-Segment Program	
Sensor	PV Input	Universal Input	
	TC	J, K, T, E, R, B, S, L, N, U, W, Platinel II	
	RTD	Pt100 (0.00385), JPt100 (0.00392)	
	VDC	-10-20 mV, 0-100 mV, 0.4-2.0 V, 1-5 V, 0-10 V	
Control	Control Output	Universal Output (Max 4)	Universal Output (Max 5)
	Time-Proportional PID	Relay, SSR (V-Pulse)	
	Continuous PID	SCR (4-20 mA)	
Events (Max 7)	Capacity	STD 1 Point (Max 2)	STD 1 Point (Max 3)
	Alarm Types	20 Types (High/Low Temp Limit, Temp Deviation Range, etc)	
	Inner SP Signal	2 Points (PV, SP, TSP)	
	Program Time Signal	1 Point	
	Others	1 (Run, Pattern End, Up, Down, Soak)	
Retransmitting Output		4-20 mA (PV, SP, MV)	
Digital Input	Capacity	2	
	Type	4 Types (Run, Hold, Step, Reset)	
Communication Protocols		PC Software, Modbus (ASCII, RTU), SYNC (Master, Slave)	
Power Supply		100-240 VAC, 50/60 Hz, 10 Watts Max	

Ordering Guide

Ordering Example:

A PD550 series 1/16 DIN Programmable Temperature Controller with one 4-20 mA control output, two relays, and digital inputs would be ordered as a PD550-6RA-11



PD556



1/8 DIN (V)

PD558



1/4 DIN

48 x 96 x 100

1.89 x 3.78 x 3.94

PV 13.6 mm (0.54 in), SP 10.5 mm (0.41 in)

96 x 96 x 100

3.78 x 3.78 x 3.94

PV 20.5 mm (0.81 in), SP 11.0 mm (0.43 in)

250 ms

±0.1% FS

Single-Loop Control

Prog/Reset (3 PID Zones and 1 Deviation PID Zone)

2 Program Patterns

15 Segments in Two Programs or One 30-Segment Program

Universal Input

J, K, T, E, R, B, S, L, N, U, W, Platinel II

Pt100 (0.00385), JPt100 (0.00392)

-10-20 mV, 0-100 mV, 0.4-2.0 V, 1-5 V, 0-10 V

Universal Output (Max 5)

Relay, SSR (V-Pulse)

SCR (4-20 mA)

STD 1 Point (Max 3)

20 Types (High/Low Temp Limit, Temp Deviation Range, etc)

2 Points (PV, SP, TSP)

1 Point

1 Point (Run, Pattern End, Up, Down, Soak)

4-20 mA (PV, SP, MV)

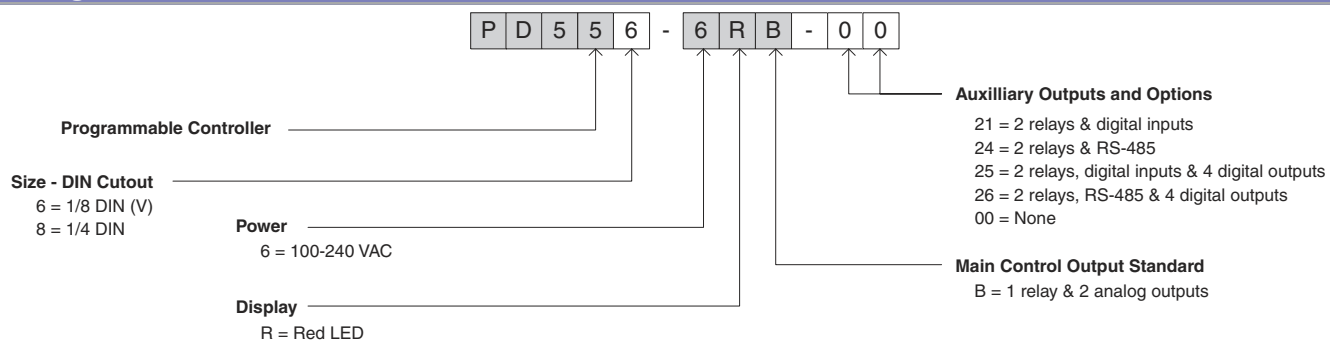
2

4 Types (Run, Hold, Step, Reset)

PC Software, Modbus (ASCII, RTU), SYNC (Master, Slave)

100-240 VAC, 50/60 Hz, 10 Watts Max

Ordering Guide



Ordering Example: A PD550 series 1/8 DIN (V) Programmable Temperature Controller with two 4-20 mA outputs, three relays, and serial communication options would be ordered as a PD556-6RB-24.

PD560 SERIES
DIGITAL METER

NOVA

PD562

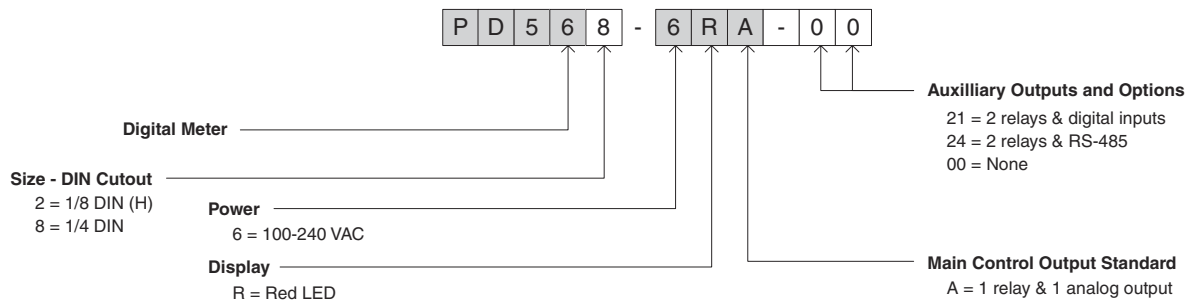


PD568



Overall Size	Millimeters (mm)	96 x 48 x 100	96 x 96 x 100
	Inches (for reference only)	3.78 x 1.89 x 3.94	3.78 x 3.78 x 3.94
4 Digit LED Display Height		PV 19.8 mm (0.78 in), SP 11.5 mm (0.45 in)	PV 20.5 mm (0.81 in), SP 11.0 mm (0.43 in)
Sampling Time		250 ms	
Indication Accuracy		±0.1% FS	
Sensor	PV Input	Universal Input	
	TC	J, K, T, E, R, B, S, L, N, U, W, Platinel II	
	RTD	Pt100 (0.00385), JPt100 (0.00392)	
	VDC	-10-20 mV, 0-100 mV, 0.4-2.0 V, 1-5 V, 0-10 V	
Alarm	Capacity	STD 1 Point (Max 3)	
	Type	8 Types (High/Low Temp Limit, Temp Deviation Range, etc)	
Retransmitting Output		4-20 mA (PV)	
Digital Input	Capacity	2	
	Type	2 Types (PV Max/Min, Reset Max/Min)	
Communication Protocols		PC Software, Modbus (ASCII, RTU)	
Power Supply		100-240 VAC, 50/60 Hz, 10 Watts Max	

Ordering Guide



Ordering Example: A PD560 series 1/4 DIN Digital Meter with one 4-20 mA retransmitting output, three relays, and digital inputs would be ordered as a PD568-6RA-21.

PD570

PD578

PD570 SERIES
LIMIT CONTROLLER

NOVA



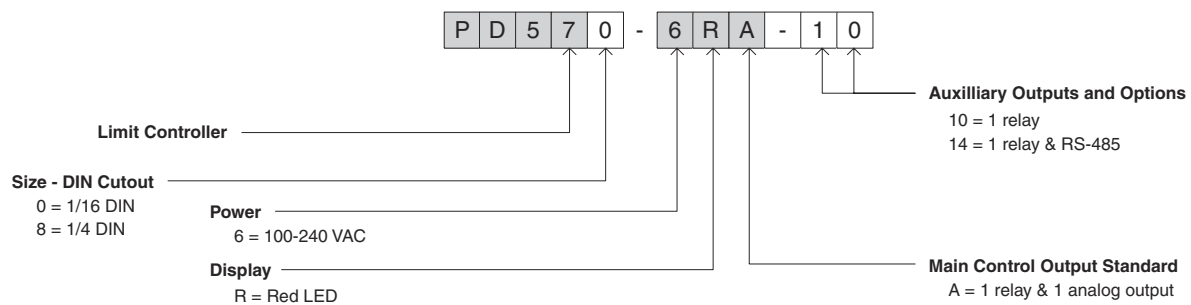
1/16 DIN



1/4 DIN

Overall Size	Millimeters (mm)	48 x 48 x 100	96 x 96 x 100
	Inches (for reference only)	1.89 x 1.89 x 3.94	3.78 x 3.78 x 3.94
4 Digit LED Display Height		PV 11.3 mm (0.45 in), SP 9.5 mm (0.37 in)	PV 20.5 mm (0.81 in), SP 11.0 mm (0.43 in)
Sampling Time		250 ms	
Indication Accuracy		±0.1% FS	
Control Loops and Modes		Single-Loop Control Heating or Cooling	
Sensor	PV Input	Universal Input	
	TC	J, K, T, E, R, B, S, L, N, U, W, Platinel II	
	RTD	Pt100 (0.00385), JPt100 (0.00392)	
	VDC	-10-20 mV, 0-100 mV, 0.4-2.0 V, 1-5 V, 0-10 V	
Alarm	Capacity	STD 1 Point	
	Type	20 Types (High/Low Temp Limit, Temp Deviation Range, etc)	
Retransmitting Output		4-20 mA (PV, SP)	
Communication Protocols		PC Software, Modbus (ASCII, RTU)	
Power Supply		100-240 VAC, 50/60 Hz, 10 Watts Max	

Ordering Guide



Ordering Example: A PD570 series 1/4 DIN Limit Controller with one 4-20 mA retransmitting output, one latching relay, and one alarm relay would be ordered as a PD578-6RA-10.

Unique Features of the Nova Series Controllers

Multiple Simultaneous Outputs (Max 5)

- Multiple and simultaneous output types are available, including relays, SSR (V-Pulse), and SCR (4-20 mA).
- Maximum of five heaters can be controlled with just one controller.

Available Outputs

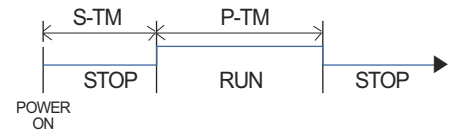
		Control Output			SUB (Aux) Relay Output		Digital Output	
		1	2	3	1	2	D01 - D04	
Output Settings	PD550 Series Programmable Controller	PD540 Series Digital Controller						
		CONTROL PID OUTPUT(HEAT)	✓	✓	✓	✓	✓	
		CONTROL PID OUTPUT(COOL)	✓	✓	✓	✓	✓	
		ALARM 1	✓			✓	✓	✓
		ALARM 2	✓			✓	✓	✓
		ALARM 3	✓			✓	✓	✓
		RUNNING	✓			✓	✓	✓
		RETRANSMITTING OUTPUT		✓	✓			
		INNER SP SIGNAL OUT 1	✓			✓	✓	✓
		INNER SP SIGNAL OUT 2	✓			✓	✓	✓
		TIME SIGNAL OUT	✓			✓	✓	✓
		PROGRAM END ALERT	✓			✓	✓	✓
		SP STATUS (UP, DOWN, SOAK)						✓

Easy Parameter Setup With Dual LED Displays

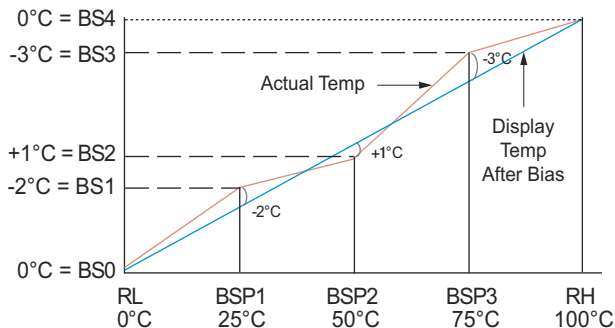
- Dual LED displays show both the parameter being set, and its setting options.

Built-in Run and Stop Output Functions (Manual and Timer)

- Manual output Run/Stop control through easily accessible menus.
- Timer functions can be set to activate the outputs after a set time from power-up, and to turn the outputs off after another set time period.



Programmable Temperature Bias (4 Zones)



The actual temperature is shown within the range of 0°C (RL) and 100°C (RH). Bias points have been used to adjust the displayed temperature as shown in the graph.

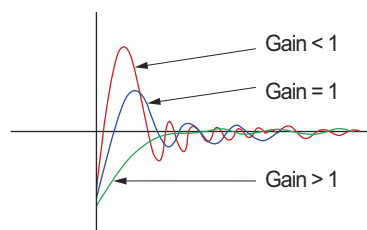
To establish this bias, the settings are shown below.

Temperature Settings to Establish Where the Bias Occurs				
RL	BSP1	BSP2	BSP3	RH
0°C	25°C	50°C	75°C	100°C
Bias Offset for Each Point				
BS0	BS1	BS2	BS3	BS4
0°C	-2°C	+1°C	-3°C	0°C

The graph to the left illustrates how these settings affect the displayed temperature.

Auto-Tuning PID with Automatic Gain Control

- All PID control parameters set automatically with Auto-tuning.
- Adjustable Gain value allows for simple user adjustments.
- To reach the set point faster, lower the Gain value.
- To achieve greater accuracy with less overshoot, increase the Gain value.



Limit Controller for Checking Temperatures

- Latching relay used for limit control.
- Front panel button used to reset the latching relay.
- Alarm relay for added monitoring capabilities.
- Can monitor heating or cooling processes.
- Maximum and minimum temperatures recorded for display at the push of a button.
- Time since system shutdown stored and displayed until system reset.

Universal Input Selection

Input	Temperature Range (°C)	Temperature Range (°F)	Accuracy*	
Thermocouple	K1	-200 to 1370	-300 to 2500	
	K2	-199.9 to 999.9	0 to 2300	Temp Ranges ≥ 0°C : ±0.1% ±1 digit Temp Ranges < 0°C : ±0.2% ±1 digit
	J	-199.9 to 999.9	-300 to 2300	
	T	-199.9 to 400.0	-300 to 750	
	B	0 to 1800	32 to 3300	Temp Ranges ≥ 400°C : ±0.15% ±1 digit Temp Ranges < 400°C : ±5% ±1 digit
	R	0 to 1700	32 to 3100	
	S	0 to 1700	32 to 3100	All Temp Ranges ±0.15% ±1 digit
	E	-199.9 to 999.9	-300 to 1800	Temp Ranges ≥ 0°C : ±0.1% ±1 digit Temp Ranges < 0°C : ±0.2% ±1 digit
	L	-199.9 to 900.0	-300 to 1600	
	U	-199.9 to 400.0	-300 to 750	
	N	-200 to 1300	-300 to 2400	Temp Ranges ≥ 0°C : ±0.1% ±1 digit Temp Ranges < 0°C : ±0.25% ±1 digit
W	0 to 2300	32 to 4200	All Temp Ranges ±0.2% ±1 digit	
Platinel II	0 to 1390	32 to 2500	All Temp Ranges ±0.1% ±1 digit	
RTD	PtA	-199.9 to 850.0	-300 to 1560	**All Temp Ranges ±0.1% ±1 digit
	PtB	-199.9 to 500.0	-199.9 to 999.9	
	PtC	-19.99 to 99.99	-4.0 to 212.0	All Temp Ranges ±0.2% ±1 digit
	JPtA	-199.9 to 500.0	-199.9 to 999.9	**All Temp Ranges ±0.1% ±1 digit
	JPtB	-150.0 to 150.0	-199.9 to 300.0	
DC Voltage	0.4 to 2.0 V	0.400 to 2.000		All Voltage Ranges ±0.1% ±1 digit Display range can be scaled between -1999 and 9999. To accept a 4-20 mA signal, select 0.4 to 2.0 VDC input and connect a 100 Ω resistor across the input terminals.
	1 to 5 V	1.000 to 5.000		
	0 to 10 V	0.00 to 10.00		
	-10 to 20 mV	-10.00 to 20.00		
	0 to 100 mV	0.0 to 100.0		

*Performance at optimal operating conditions (23 ± 2°C, 55 ± 10% RH, 50/60 Hz AC powered)

**For a range scale of 0 to 100°C: ±0.3°C ±1 digit, and for a range scale of -100 to 100°C: ±0.5°C ±1 digit

Control Modes

Type of Control Mode	Description
Continuous PID	Output Current: 4-20 mA (600 Ω maximum) Output Accuracy: $\pm 0.1\%$ of full scale
Time-Proportional PID Voltage Pulse Output	Voltage 'On': 15 VDC (600 Ω minimum, current limited to 30 mA) Voltage 'Off': < 0.1 VDC Cycle Time: 1 to 300 seconds, user selectable
Time-Proportional PID Relay Output	Contact Rating: 250 VAC @ 3 A, 30 VDC @ 3 A (resistive load) Cycle Time: 1 to 300 seconds, user selectable

20 Alarm Types



S indicates standby operation

F for forward operation:
Relay energized in alarm condition.
r for reverse operation (fail-safe):
Relay energized during normal
operating conditions.

Decimal point always displayed

H indicates high alarm
L indicates low alarm
o outside range of deviation band
i inside range of deviation band

A indicates an absolute value alarm
d indicates deviation alarm

No.	Type	Display
1	Absolute Value High Limit Alarm (Forward)	<i>AHf</i>
2	Absolute Value Low Limit Alarm (Forward)	<i>ALf</i>
3	High Limit Deviation Alarm (Forward)	<i>dHf</i>
4	Low Limit Deviation Alarm (Forward)	<i>dLf</i>
5	High Limit Deviation Alarm (Reverse)	<i>dHr</i>
6	Low Limit Deviation Alarm (Reverse)	<i>dLr</i>
7	High and Low Limit Deviation Alarm (Forward)	<i>doF</i>
8	High and Low Limit Range Deviation Alarm (Forward)	<i>d iF</i>
9	Absolute Value High Limit Alarm (Reverse)	<i>AHr</i>
10	Absolute Value Low Limit Alarm (Reverse)	<i>ALr</i>
11	Absolute Value High Limit Alarm with Standby (Forward)	<i>AHfS</i>
12	Absolute Value Low Limit Alarm with Standby (Forward)	<i>ALfS</i>
13	High Limit Deviation Alarm with Standby (Forward)	<i>dHfS</i>
14	Low Limit Deviation Alarm with Standby (Forward)	<i>dLfS</i>
15	Low Limit Deviation Alarm with Standby (Reverse)	<i>dHrS</i>
16	High Limit Deviation Alarm with Standby (Reverse)	<i>dLrS</i>
17	High and Low Limit Deviation Alarm with Standby (Forward)	<i>dofS</i>
18	High and Low Limit Range Deviation Alarm with Standby (Forward)	<i>d i fS</i>
19	Absolute Value High Limit Alarm with Standby (Reverse)	<i>AHrS</i>
20	Absolute Value Low Limit Alarm with Standby (Reverse)	<i>ALrS</i>



Digital Controller PD540

- Dual LED displays show the set point and process variable
- Gain function protects against overshoot
- 1 alarm relay output standard
- Programmable Run/Stop timer
- Control output On/Off status with timer or manually
- Running status LED for auxiliary outputs
- Temperature bias function (Max 4 zones)
- Heating and cooling control available
- Auto-tuning PID parameter calculation
- Modbus, PC Software, and Sync communication option
- CE, UL & C-UL

Special Features

- High accuracy ($\pm 0.1\%$)
 - 18 bit A/D converter
- Universal input: TC, RTD, VDC
- Up to three simultaneous outputs



1/16 DIN

Operating Display



► Display of output status in STOP mode



► Display of Control Output status (%FS of output)



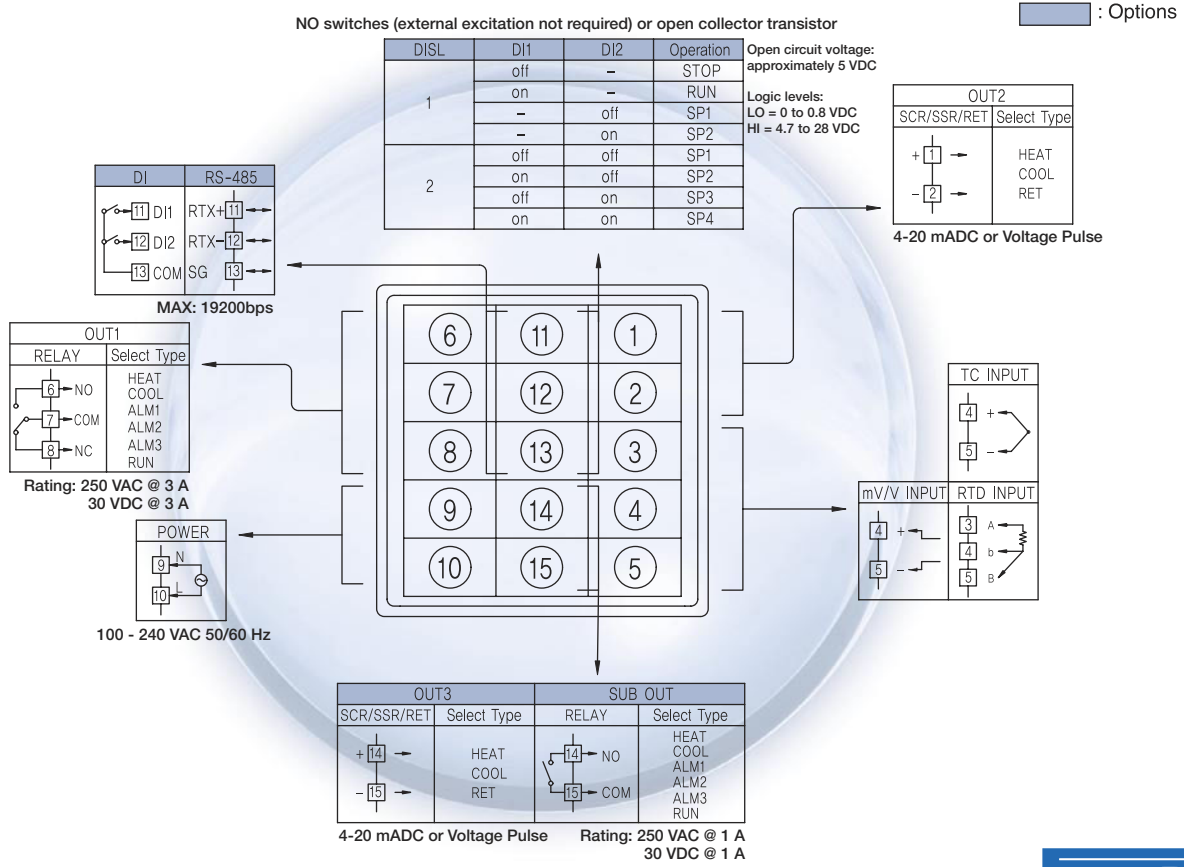
► Select SP number



► Set alarm 1 value

Value set by user

Terminal Assignment





Digital Controller PD544

- Dual LED displays show the set point and process variable
- Gain function protects against overshoot
- 1 alarm relay output standard
- Programmable Run/Stop timer
- Control output On/Off status with timer or manually
- Running status LED for auxiliary outputs
- Temperature bias function (Max 4 zones)
- Heating and cooling control available
- Auto-tuning PID parameter calculation
- Modbus, PC Software, and Sync communication option
- CE, UL & C-UL

Special Features

- High accuracy ($\pm 0.1\%$)
- 18 bit A/D converter
- Universal input: TC, RTD, VDC
- Up to five simultaneous outputs

3/16 DIN

Operating Display



► Display of output status in STOP mode



► Display of Control Output status (%FS of output)



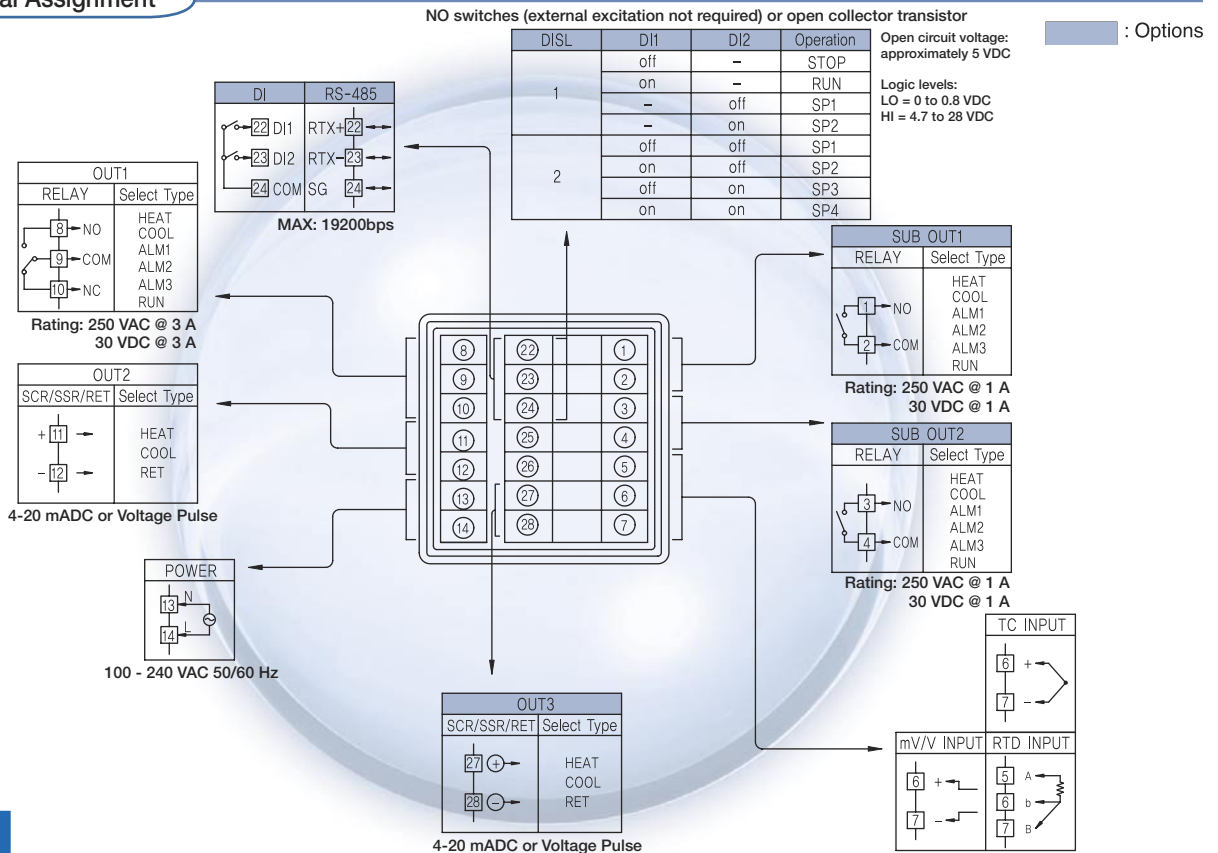
► Select SP number



► Set alarm 1 value

Value set by user

Terminal Assignment





Special Features

- High accuracy ($\pm 0.1\%$)
- 18 bit A/D converter
- Universal input: TC, RTD, VDC
- Up to five simultaneous outputs



1/8 DIN (H)

Digital Controller PD542

- Dual LED displays show the set point and process variable
- Gain function protects against overshoot
- 1 alarm relay output standard
- Programmable Run/Stop timer
- Control output On/Off status with timer or manually
- Running status LED for auxiliary outputs
- Temperature bias function (Max 4 zones)
- Heating and cooling control available
- Auto-tuning PID parameter calculation
- Modbus, PC Software, and Sync communication option
- CE, UL & C-UL

Operating Display



► Display of output status in STOP mode



► Display of Control Output status (%FS of output)



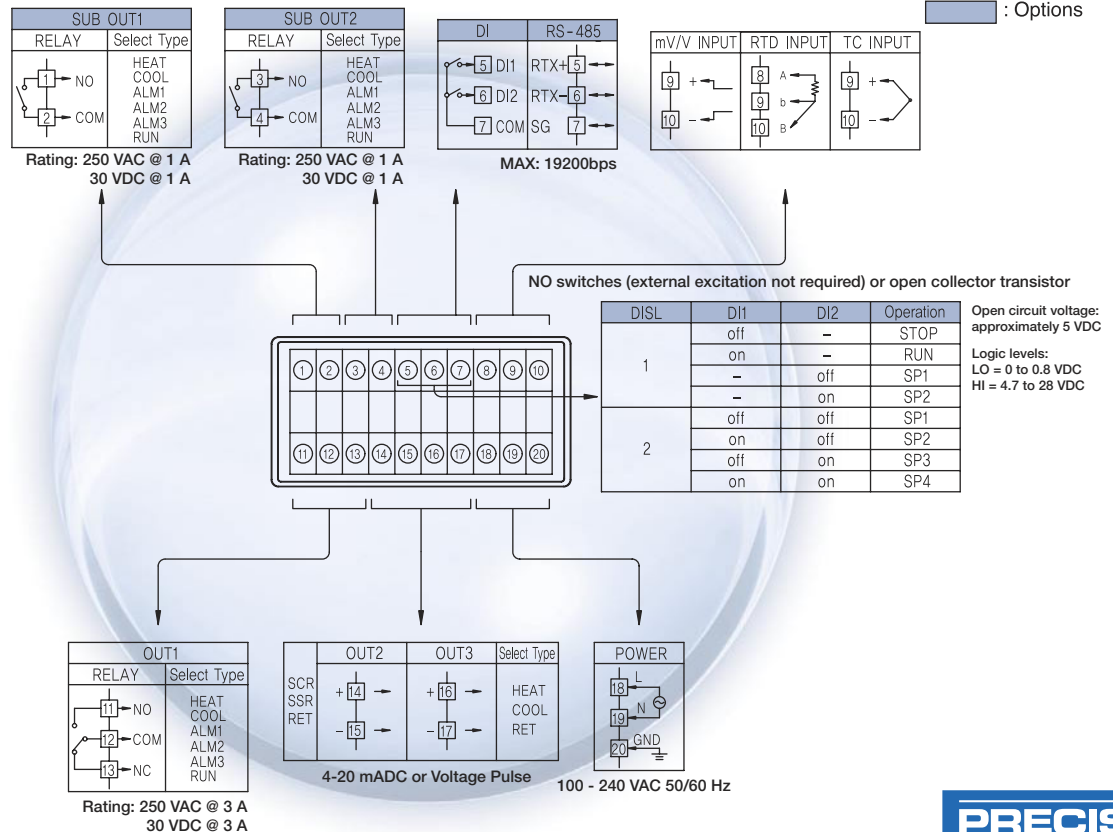
► Select SP number



► Set alarm 1 value

Value set by user

Terminal Assignment





Digital Controller PD546

- Dual LED displays show the set point and process variable
- Gain function protects against overshoot
- 1 alarm relay output standard
- Programmable Run/Stop timer
- Control output On/Off status with timer or manually
- Running status LED for auxiliary outputs
- Temperature bias function (Max 4 zones)
- Heating and cooling control available
- Auto-tuning PID parameter calculation
- Modbus, PC Software, and Sync communication option
- CE, UL & C-UL

Special Features

- High accuracy ($\pm 0.1\%$)
- 18 bit A/D converter
- Universal input: TC, RTD, VDC
- Up to five simultaneous outputs

1/8 DIN (V)

Operating Display



► Display of output status in STOP mode



► Display of Control Output status (%FS of output)



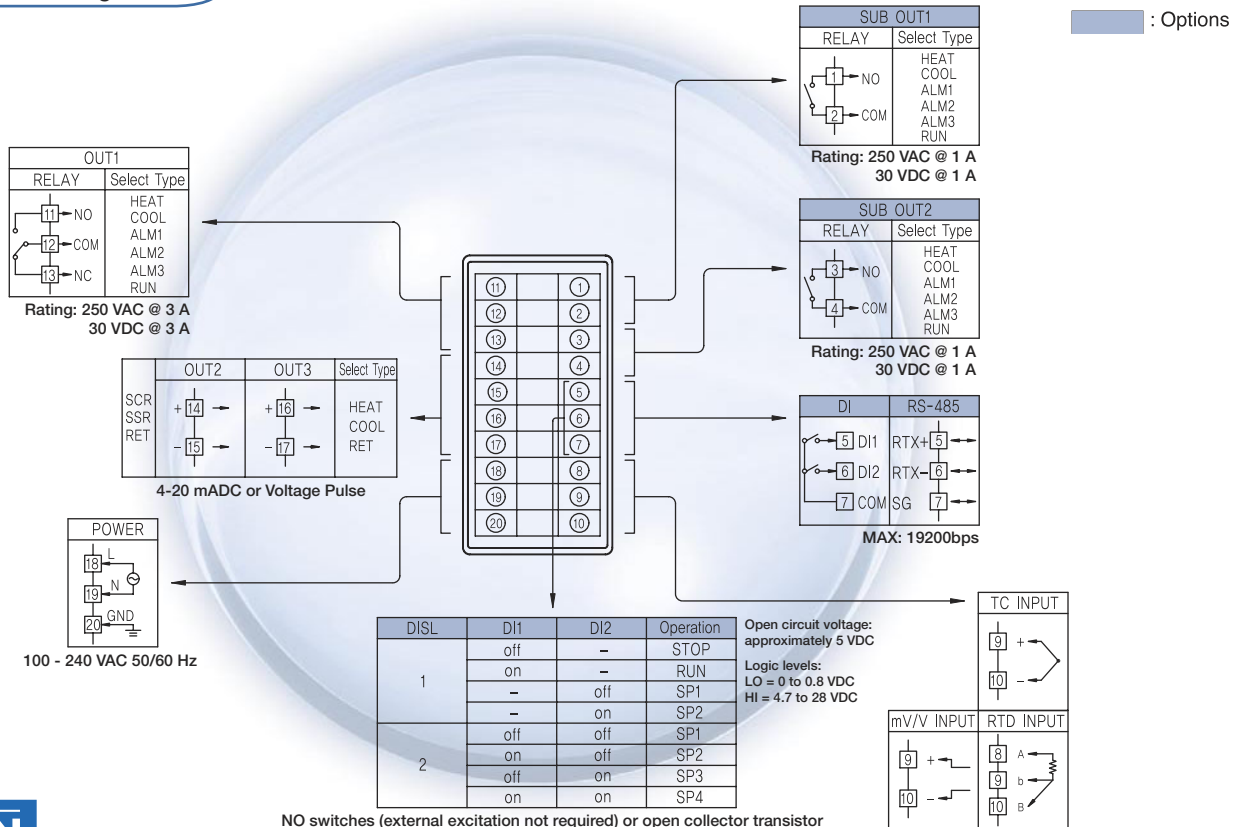
► Select SP number



► Set alarm 1 value

Value set by user

Terminal Assignment





Digital Controller PD548

- Dual LED displays show the set point and process variable
- Gain function protects against overshoot
- 1 alarm relay output standard
- Programmable Run/Stop timer
- Control output On/Off status with timer or manually
- Running status LED for auxiliary outputs
- Temperature bias function (Max 4 zones)
- Heating and cooling control available
- Auto-tuning PID parameter calculation
- Modbus, PC Software, and Sync communication option
- CE, UL & C-UL

Special Features

- High accuracy ($\pm 0.1\%$)
- 18 bit A/D converter
- Universal input: TC, RTD, VDC
- Up to five simultaneous outputs

1/4 DIN

Operating Display

► Display of output status in STOP mode

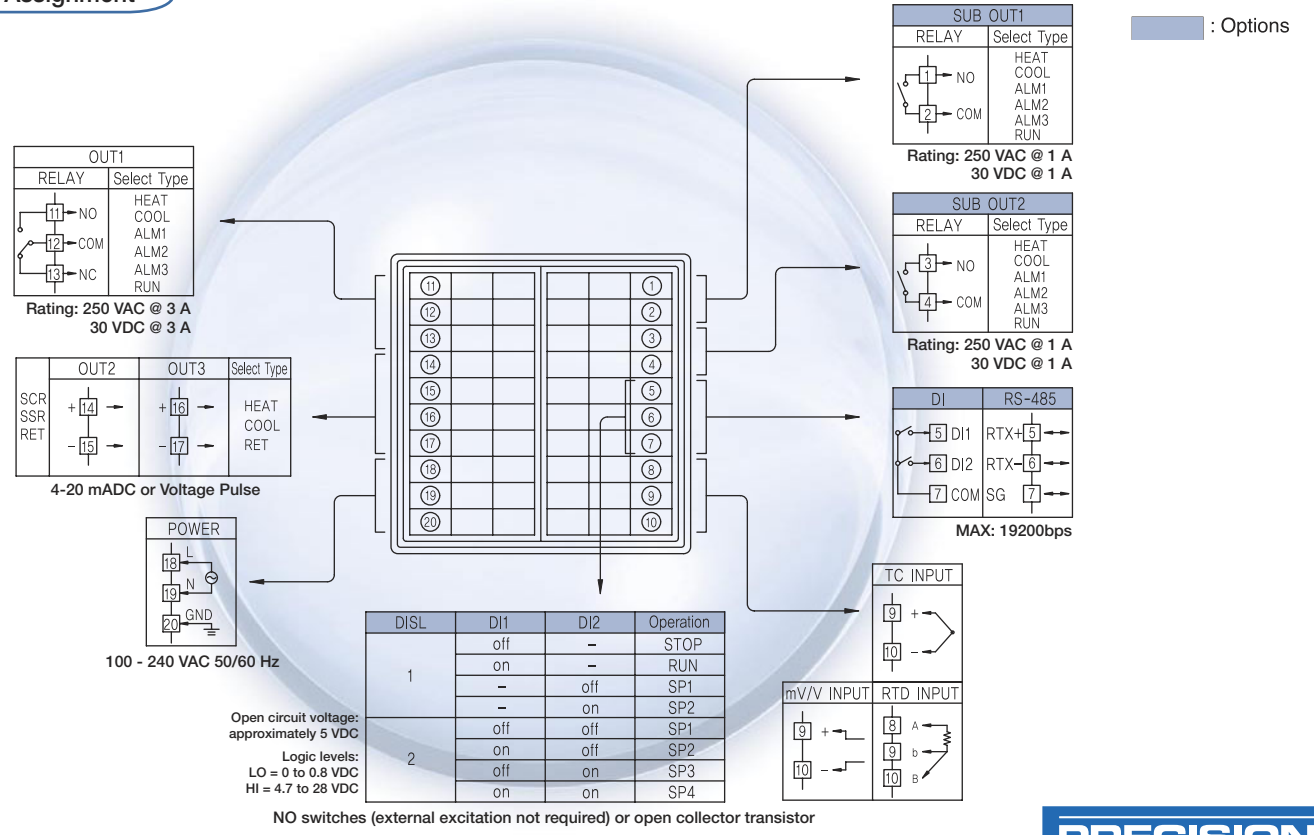
► Display of Control Output status (%FS of output)

► Select SP number

► Set alarm 1 value

Value set by user

Terminal Assignment





Programmable Controller PD550

Special Features

- High accuracy ($\pm 0.1\%$)
- 18 bit A/D converter
- Universal input: TC, RTD, VDC
- Multiple simultaneous outputs, max 3
- Easy to set up parameters and programs
- Gain function to protect against temperature overshoot



1/16 DIN

- Large program capacity: 2 patterns with 15 segments each
- Running status LED for auxiliary output
- Variety of auxiliary outputs available (IS, TS, Prog, END)
- Program Run/Stop controlled by Digital Input option
- Temperature bias function (Max 4 zones)
- Auto-tuning PID parameter calculation
- Modbus, PC Software, and Sync communication option
- CE, UL & C-UL

Operating Display



► Display of program status when stopped



► Display of the Output level in percent of full scale



► Display indicates program running status

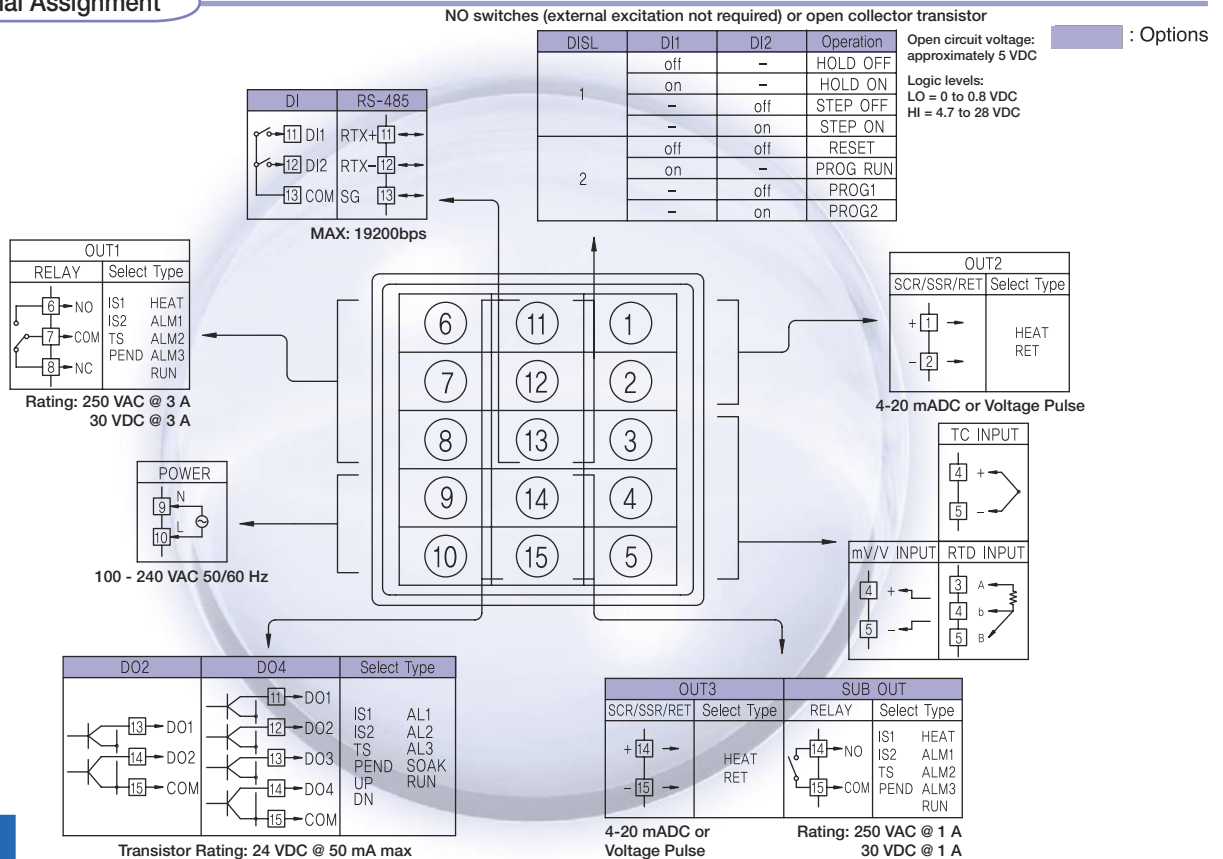


► To jump to next program segment immediately: "Step=On"



► To hold currently running program: "Hold=On"

Terminal Assignment





Special Features

- High accuracy ($\pm 0.1\%$)
- 18 bit A/D converter
- Universal input: TC, RTD, VDC
- Multiple simultaneous outputs, max 5
- Easy to set up parameters and programs
- Gain function to protect against temperature overshoot



Programmable Controller PD554

- Large program capacity: 2 patterns with 15 segments each
- Running status LED for auxiliary output
- Variety of auxiliary outputs available (IS, TS, Prog, END)
- Program Run/Stop controlled by Digital Input option
- Temperature bias function (Max 4 zones)
- Auto-tuning PID parameter calculation
- Modbus, PC Software, and Sync communication option
- CE, UL & C-UL

3/16 DIN

Operating Display



► Display of program status when stopped



► Display of the Output level in percent of full scale



► Display indicates program running status

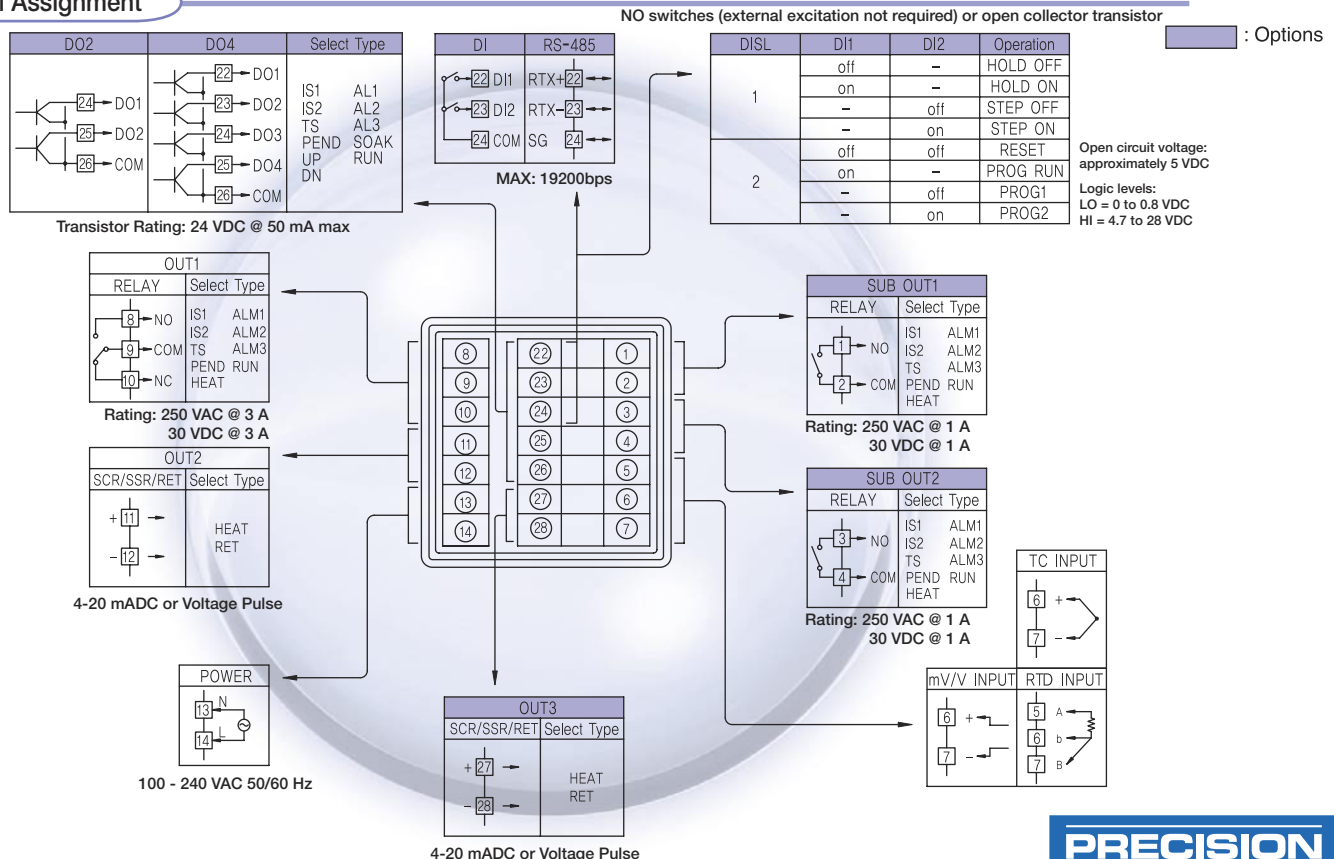


► To jump to next program segment immediately: "Step=On"



► To hold currently running program: "Hold=On"

Terminal Assignment





Programmable Controller PD556

Special Features

- High accuracy ($\pm 0.1\%$)
- 18 bit A/D converter
- Universal input: TC, RTD, VDC
- Multiple simultaneous outputs, max 5
- Easy to set up parameters and programs
- Gain function to protect against temperature overshoot

- Large program capacity: 2 patterns with 15 segments each
- Running status LED for auxiliary output
- Variety of auxiliary outputs available (IS, TS, Prog, END)
- Program Run/Stop controlled by Digital Input option
- Temperature bias function (Max 4 zones)
- Auto-tuning PID parameter calculation
- Modbus, PC Software, and Sync communication option
- CE, UL & C-UL

1/8 DIN (V)

Operating Display



► Display of program status when stopped



► Display of the Output level in percent of full scale



► Display indicates program running status

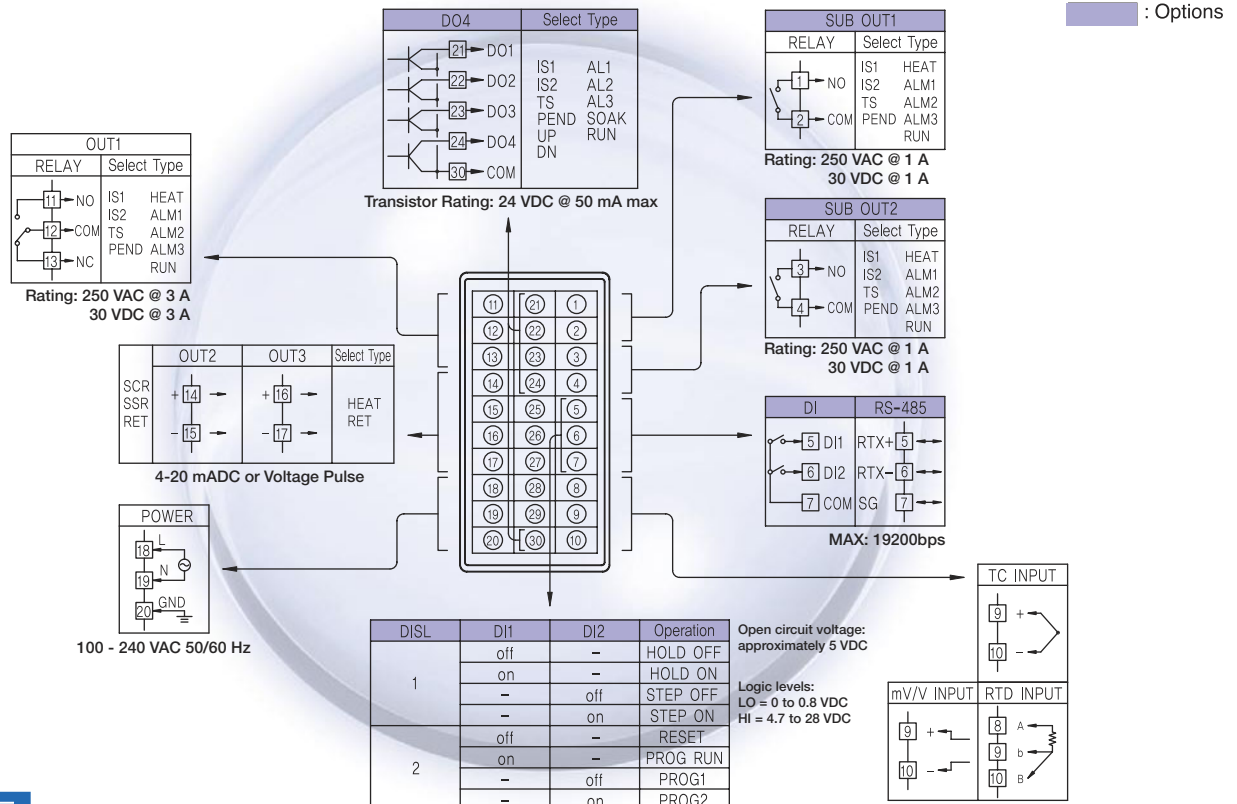


► To jump to next program segment immediately: "Step=On"



► To hold currently running program: "Hold=On"

Terminal Assignment



NO switches (external excitation not required) or open collector transistor



Special Features

- High accuracy ($\pm 0.1\%$)
- 18 bit A/D converter
- Universal input: TC, RTD, VDC
- Multiple simultaneous outputs, max 5
- Easy to set up parameters and programs
- Gain function to protect against temperature overshoot



Programmable Controller PD558

- Large program capacity: 2 patterns with 15 segments each
- Running status LED for auxiliary output
- Variety of auxiliary outputs available (IS, TS, Prog, END)
- Program Run/Stop controlled by Digital Input option
- Temperature bias function (Max 4 zones)
- Auto-tuning PID parameter calculation
- Modbus, PC Software, and Sync communication option
- CE, UL & C-UL

1/4 DIN

Operating Display



► Display of program status when stopped



► Display of the Output level in percent of full scale



► Display indicates program running status

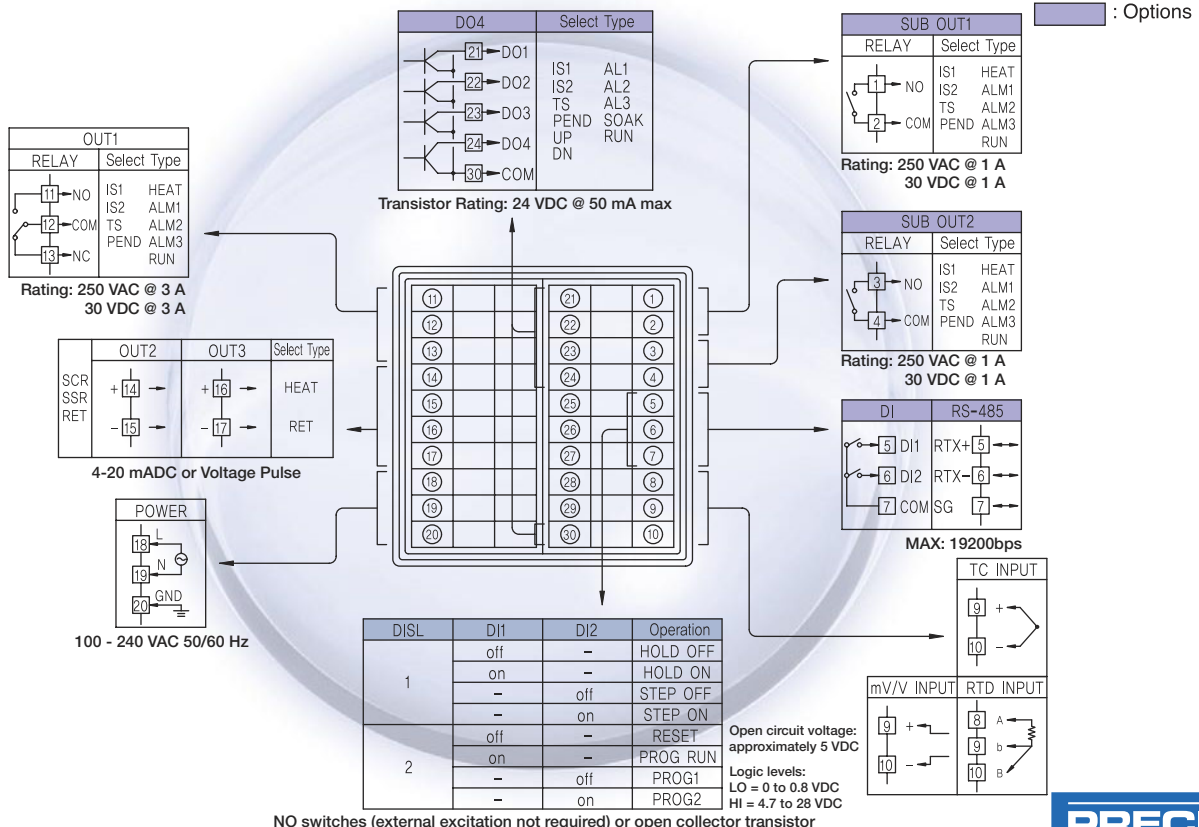


► To jump to next program segment immediately: "Step=On"



► To hold currently running program: "Hold=On"

Terminal Assignment





Special Features

- High accuracy ($\pm 0.1\%$)
- Universal input: TC, RTD, VDC
- Alarm relay outputs, max 3
- Easy to set parameters and alarm values



Digital Meter PD562

- Stores and displays max/min temperature values
- 1 retransmitting and 1 alarm output standard
- Reset function through Digital Input option
- Modbus and PC Software communication option
- CE, UL & C-UL

1/8 DIN (H)

Operating Display



► Display input value

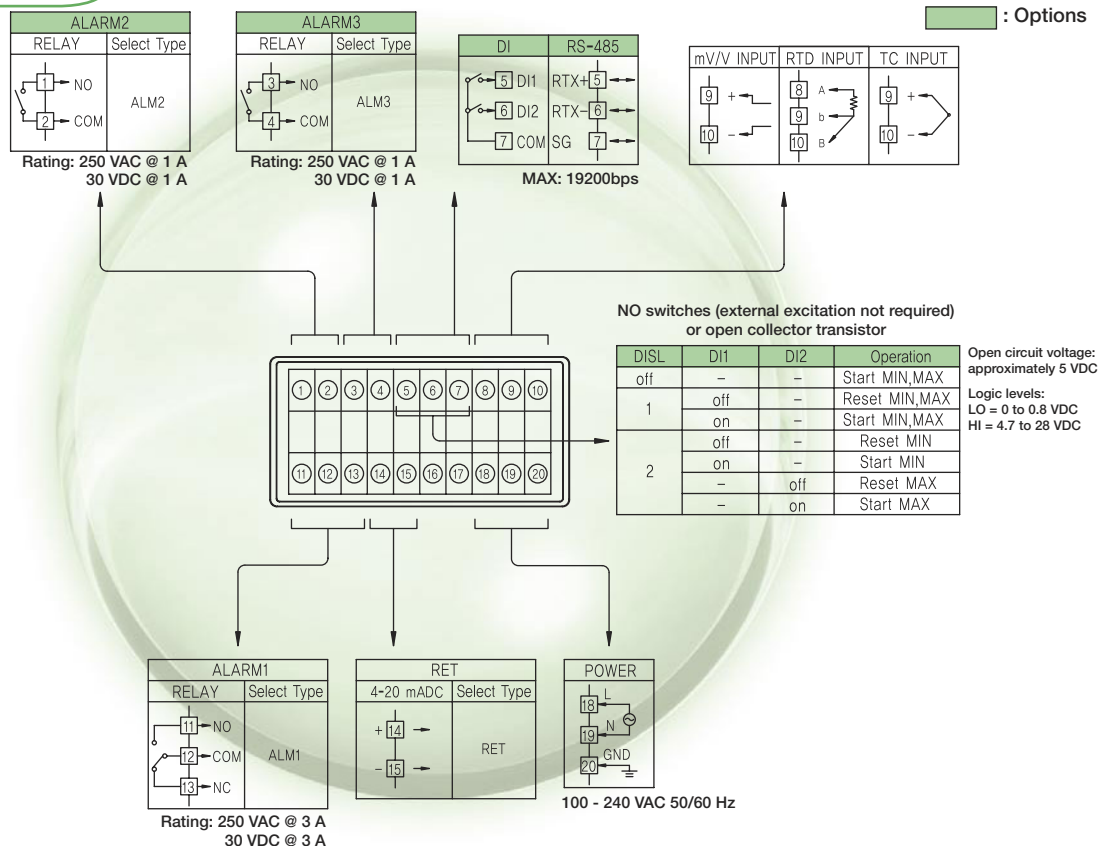


► Display maximum measured value



► Display minimum measured value

Terminal Assignment





Digital Meter PD568

Special Features

- High accuracy ($\pm 0.1\%$)
- Universal input: TC, RTD, VDC
 - Alarm relay outputs, max 3
- Easy to set parameters and alarm values

- Stores and displays max/min temperature values
- 1 retransmitting and 1 alarm output standard
- Reset function through Digital Input option
- Modbus and PC Software communication option
- CE, UL & C-UL

1/4 DIN

Operating Display



► Display input value

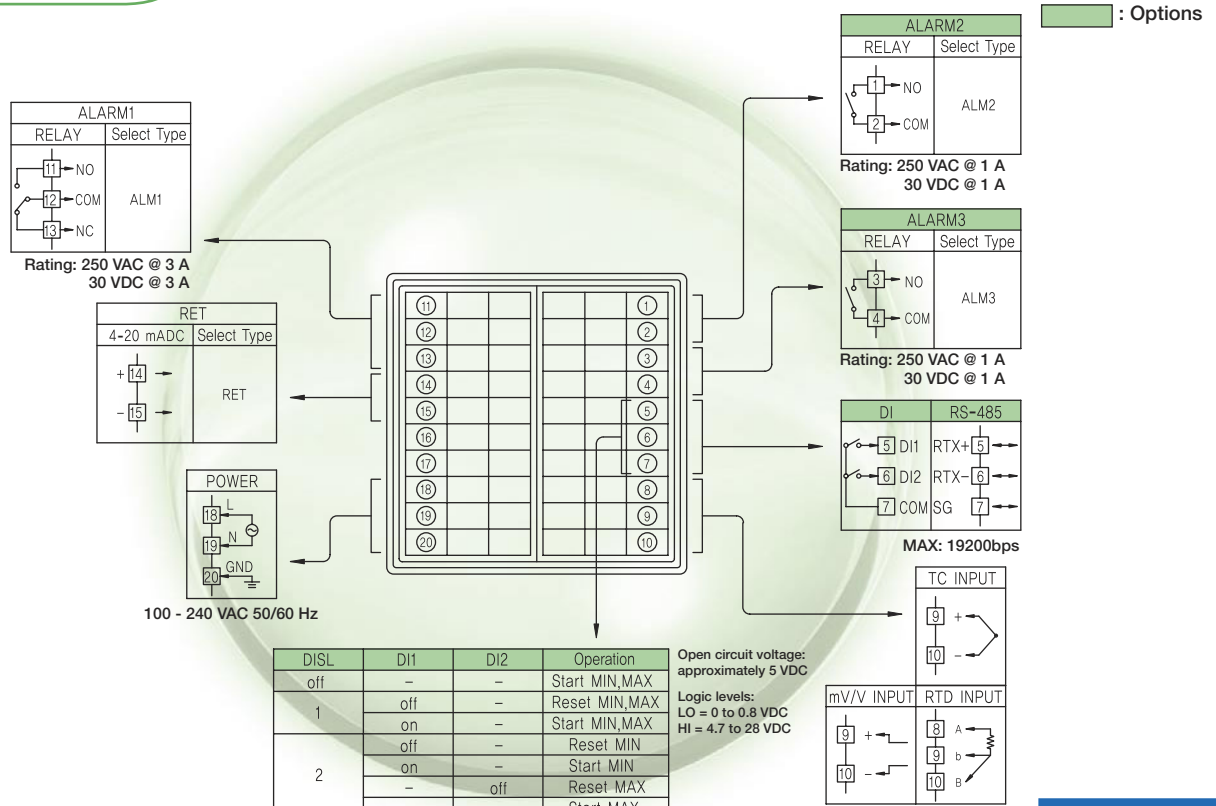


► Display maximum measured value



► Display minimum measured value

Terminal Assignment





Special Features

- High accuracy ($\pm 0.1\%$)
- Universal input: TC, RTD, VDC
- Relay, latching relay, and 4-20 mA outputs
- Easy to set parameters and alarm values



PD570 Limit Controller

- Limit condition activates a latching relay
- Stores and displays max/min temperature values
- Displays time since shutdown
- Modbus and PC Software communication option
- CE, UL & C-UL

1/16 DIN

Operating Display



► Display PV and SP



► Display output status



► Display time since shutdown

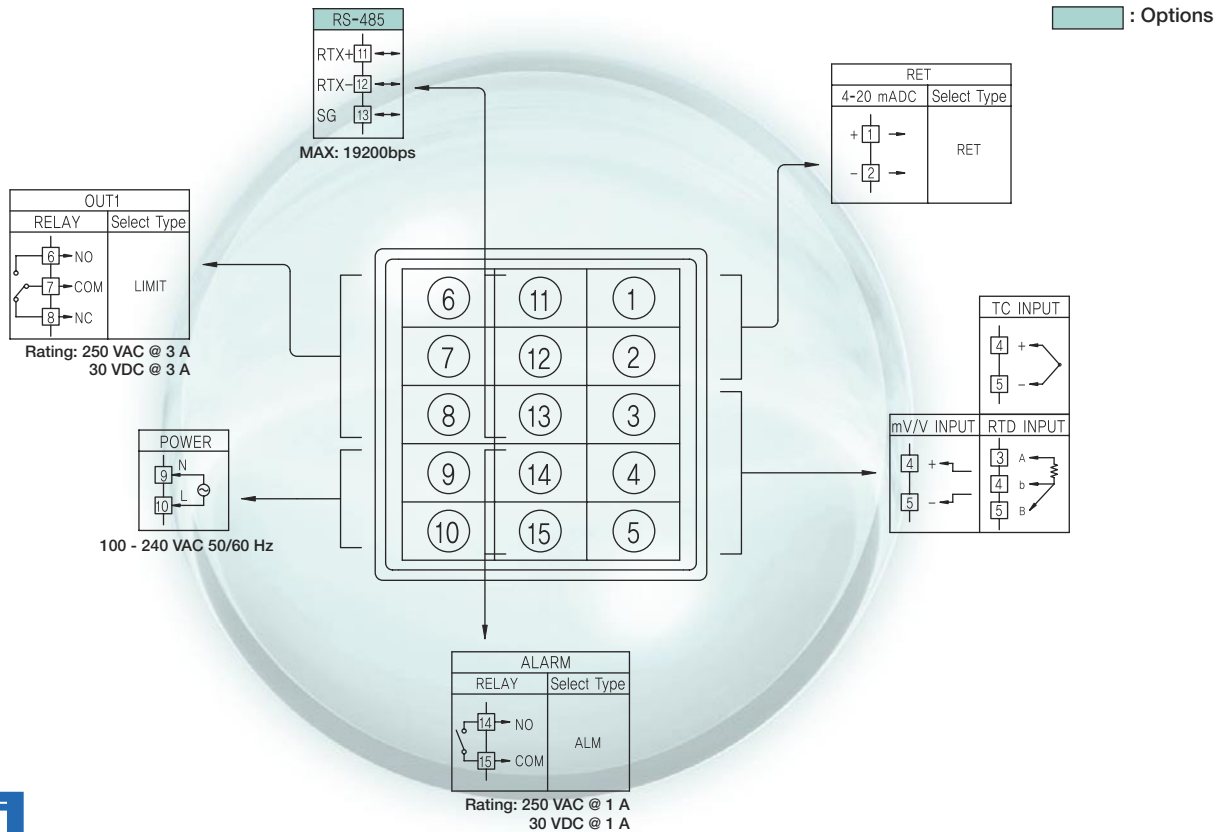


► Display maximum measured input value



► Display minimum measured input value

Terminal Assignment





Special Features

- High accuracy ($\pm 0.1\%$)
- Universal input: TC, RTD, VDC
- Relay, latching relay, and 4-20 mA outputs
- Easy to set parameters and alarm values

PD578 Limit Controller

- Limit condition activates a latching relay
- Stores and displays max/min temperature values
- Displays time since shutdown
- Modbus and PC Software communication option
- CE, UL & C-UL

1/4 DIN

Operating Display



► Display PV and SP



► Display output status



► Display time since shutdown



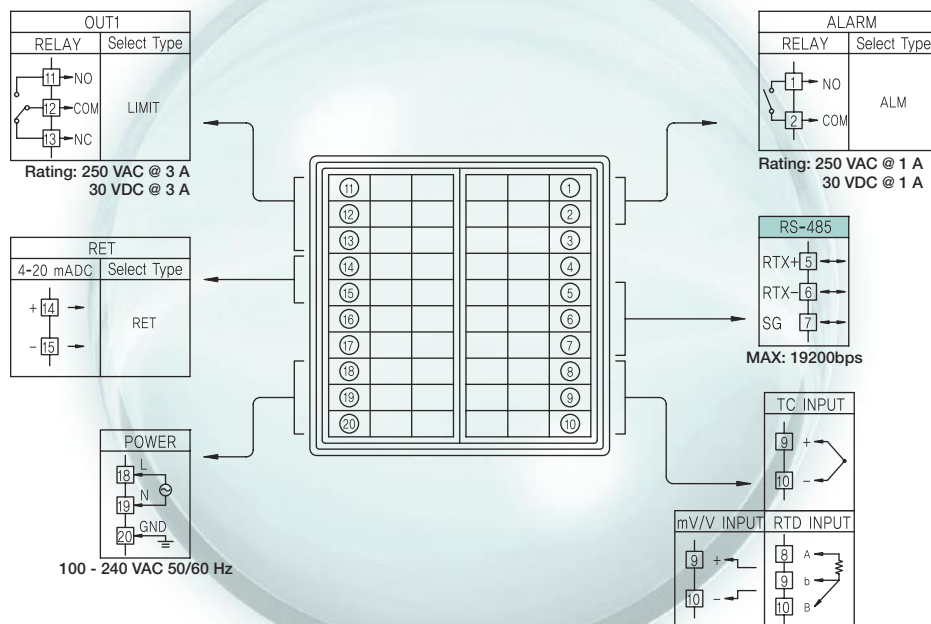
► Display maximum measured input value



► Display minimum measured input value

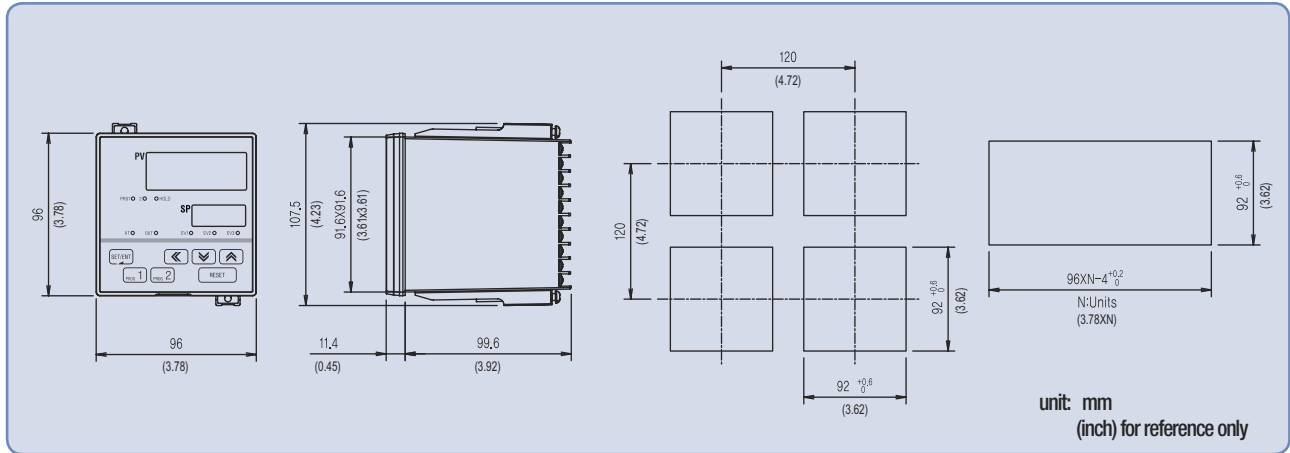
Terminal Assignment

 : Options

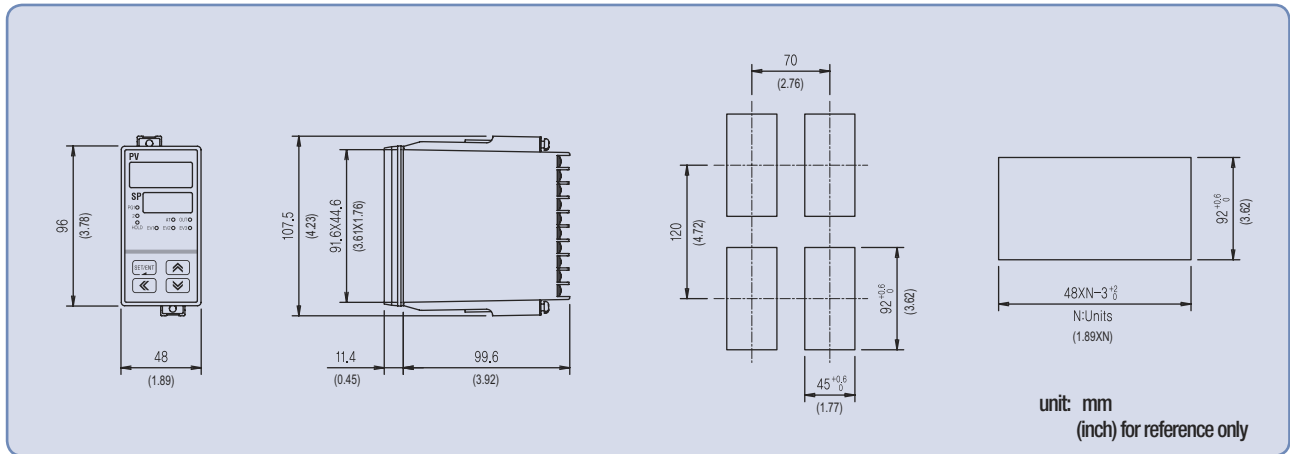


Dimensions and Panel Cutouts

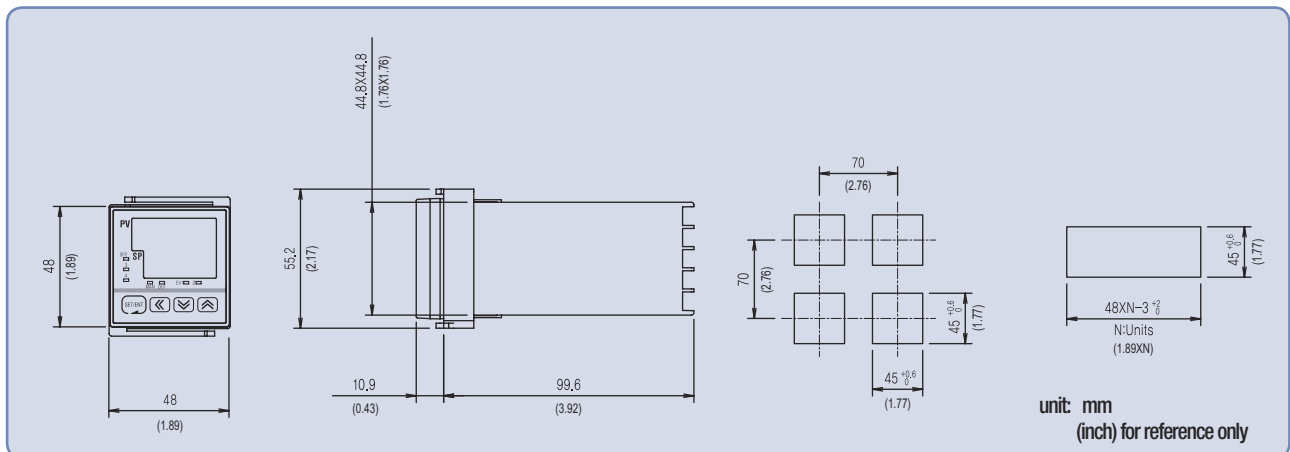
96 X 96 Dimensions and Panel Cutout Size



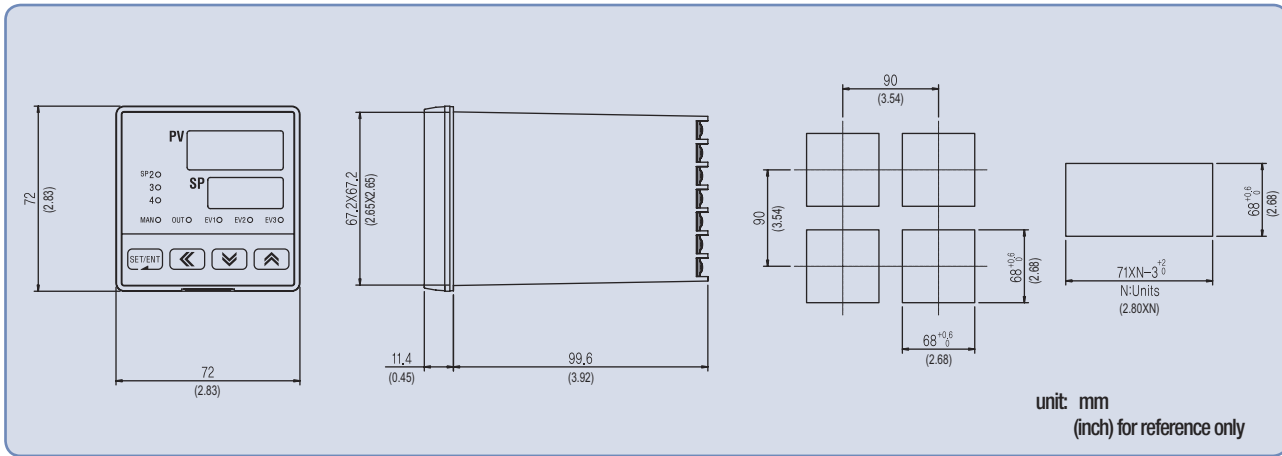
48 X 96 Dimensions and Panel Cutout Size



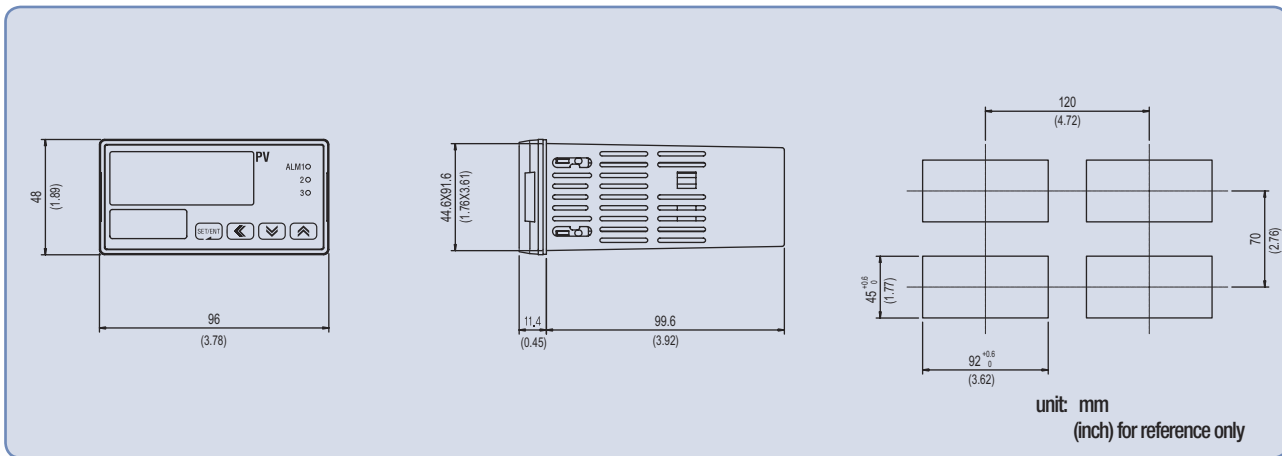
48 X 48 Dimensions and Panel Cutout Size



72 x 72 Dimensions and Panel Cutout Size



96 x 48 Dimensions and Panel Cutout Size



Precision Digital Custom Enclosures

- Plastic, steel, and stainless steel enclosures
- Explosion-proof enclosures available
- Combine Nova Temperature Controllers with other Precision Digital products in one enclosure
- Labels, tags, and mounting kits also available
- Contact Precision Digital or your local distributor for more information on these and other Precision Digital products



Accuracy • Reliability • Convenience

PRECISION DIGITAL

www.predig.com

WWW.PREDIG.COM

**PRECISION
DIGITAL** ÷

Precision Digital Corporation
19 Strathmore Road
Natick MA 01760 USA
Phone: (800) 343-1001
Fax: (508) 655-8990