

# PDI 410 PID Controller

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- 48x48 mm case, for flush-in panel mounting
- °C/°F unit selectable for temperature probe
- 4 outputs status LEDs, 3 shift index LEDs
- Automatic Control, Bumpless Manual Control or Control OFF mode
- FAST AUTOTUNING, SELFTUNING
- FUZZY OVERSHOOT CONTROL parameter function for PID mode
- Soft Start, Loop-Break Alarm function enable
- Reaching of the set point at controlled speed, rump and dwell function and automatic set point switching function
- Protection compressor function for Neutral Zone control
- Current Transformer Input for Heater Break Alarm
- RS485 serial communication (MODBUS RTU protocol)

## Product Description

Digital microprocessor based controller with single display, 4 red digits and 4 operation buttons, designed for different application such as Plastics Industries, Thermal Equipment, Packaging Machinery, Textile/die processing machinery, generic cooling/heating process, water chillers, eat recovery system, Chemical, etc. Up to 4 configurable set points, a configurable multi input and up to 4 configurable outputs for relay or solid state relay (SSR) driving. Different alarm output configuration available.

The device incorporates different control modes: ON/OFF, single or double (direct and reverse) action PID or NEUTRAL ZONE control. Particular PID control algorithm with TWO DEGREES OF FREEDOM for optimizing instrument's features independently of the event of process disturbances and Set Point variations. Multi-level parameters programming protected by password. Easy parameters configuration and storage by KEY.

## Ordering Key PDI410 H O O R R S H

Model \_\_\_\_\_  
Power Supply \_\_\_\_\_  
Main Output OUT1 \_\_\_\_\_  
Second Output OUT2 \_\_\_\_\_  
Third Output OUT3 \_\_\_\_\_  
Fourth Output OUT4 \_\_\_\_\_  
Serial Communication RS485 \_\_\_\_\_  
Heater Break Alarm HB \_\_\_\_\_

## Approvals



## Type Selection

Power Supply	Main output OUT1	Second output OUT2	Third output OUT3	Fourth output OUT4	Serial Communication RS485	Heater Break Alarm HB
H: 100...240VAC L: 24VAC/DC	R: 5A-AC1, 2A-AC3 / 250VAC Relay O: 7mA/14VDC for SSR	X: No R: 5A-AC1, 2A-AC3 / 250VAC Relay O: 7mA/14VDC for SSR	X: No R: 5A-AC1, 2A-AC3 / 250VAC Relay O: 7mA/14VDC for SSR	X: No R: 5A-AC1, 2A-AC3 / 250VAC Relay O: 7mA/14VDC for SSR	X: No S: RS485	X: No H: CT input

## Input Data

One Universal Input Thermocouples	TC J, K, S - According to IEC 584-2, accuracy class 1 or 2
Infrared Thermocouples	IRS J and K
Thermoresistance	RTD Pt100 - According to IEC 751, accuracy class A or B
Thermistors	PTC KTY81-121 (990 $\Omega$ at 25°C) NTC 103AT-2 (10k $\Omega$ at 25°C)
Normalized analogue signals	0-50 mV, 0-60mV, 12-60 mV 0/4-20 mA 0/1-5 V, 0/2-10 V
Normalized signals input impedance	for 0/4...20 mA input: 51 $\Omega$ for mV and V input: 1M $\Omega$
Current Transformer input	CT (50mA max.)

## Output Data

Up to four Outputs Relay	SPST-NO (5A-AC1, 2A-AC3 / 250VAC)
Relay electric life	100000 operations
Voltage SSR driving for all both outputs	7mA at 14VDC protected against short circuits
Auxiliary power supply Output Note 1:	12VDC / 20mA max OUT1 for SSR can provide 20mA/14VDC if auxiliary output is not used.
Note 2:	OUT3 and OUT4 have to be the same type.
Note 3:	If HB function is available, have to be a relay or SSR output.

Specifications are subject to change without notice. Pictures are just an example. For special features and/or customization, please ask to our sales network.

## Front Panel Description

1. LED SET mode

2. LED AT/ST mode

3. LED Out1 status

4. LED Out2 status

5. LED Out3 status

6. LED Out4 status

7. Key U function

8. Key P function

9. Key Up prog. funct.

10. Key Down prog.funct.

11. LED - shift index

12. LED = shift index

13. LED + shift index

## Connections

[illegible]

The diagram shows a square component with dimensions 45mm by 45mm. It is surrounded by a shaded area representing the recommended cutout. The cutout has a minimum width of 15mm on the top and bottom, and a minimum height of 15mm on the left and right. A label 'RECOMMENDED CUTOUT' is placed within the shaded area.