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PID Controllers

Carlo Gavazzi



PID Controller – PDI series

Types

PDI 20

PDI 380

PDI 390



Dimensions (mm) W x H x D
Function

48 x 24 x 100
Digital Temperature controller with 1 or 2 set points. ON/OFF, PID or Neutral Zone control. Autotuning for PID mode, Dynamic Set Point function. Up to 2 configurable outputs, relay and solid state relay (SSR) driving, 1 input for PTC, RTD, Thermocouple, analogue signal input.

75 x 33 x 64
Single display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 2 configurable outputs (relay, SSR). Soft Start and LbA functions. Led shift index. Multi-level parameters programming, password protected. Programming KEY.

75 x 33 x 64
Dual display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 2 configurable outputs (relay, SSR). Soft Start and LbA functions. Multi-level parameters programming, password protected. Programming KEY.

Input characteristics

Overall accuracy
Input signal

± 0.5% f.s.
Pt100, Ni100 [D], PTC [E]
TC (J, K, S) [C]
4-20 mA [F], 0-20 mA [A]
0-10 VDC [V]

± 0.5% f.s., ± 1% TC-S
TC (J, K, S, I R), Pt100, mV [C]
TC (J, K, S, I R), PTC, NTC, mV [E]
0/4-20 mA [I]
0/1-5 0/2-10 VDC [V]

± 0.5% f.s., ± 1% TC-S
TC (J, K, S, I R), Pt100, mV [C]
TC (J, K, S, I R), PTC, NTC, mV [E]
0/4-20 mA [I]
0/1-5 0/2-10 VDC [V]

Sampling rate
Display

1 per second
4 digit 7-segment LED, h 12mm

8 per second
4 digit 7-segment LED, h 12mm

8 per second
4+4 digit 7-segment LED, h 7mm

Output characteristics

Output 1
Output 2

Out 1
Relays [RX], 15mA/6VDC SSR [OX]
Out 1 + Out 2
Out 1 Relay / Out 2 SSR [RO]
Out 1 SSR / Out 2 Relay [OR]

Relay [R], 8mA/8VDC for SSR [O]
No [X]
Relay [R], 8mA/8VDC for SSR [O]

Relay [R], 8mA/8VDC for SSR [O]
No [X]
Relay [R], 8mA/8VDC for SSR [O]

Others

Power supply

24VAC / DC [L]
90-240VAC [H]

12VAC / DC [F]
24VAC / DC [L]
100-240VAC [H]

12VAC / DC [F]
24VAC / DC [L]
100-240VAC [H]

Approvals

CE

CE, cURus

CE, cURus

Ordering References

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Control



PID Controller – PDI series

Types

PDI 408



PDI 409



PDI 410



Dimensions (mm)

W x H x D

Function

48 x 48 x 98

Single display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 3 configurable outputs (relay, SSR). Soft Start and LbA functions. Led shift index. Multi-level parameters programming, password protected. Programming KEY.

48 x 48 x 98

Dual display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 3 configurable outputs (relay, SSR). Soft Start and LbA functions. Multi-level parameters programming, password protected. Programming KEY.

48 x 48 x 98

Single display digital controller. Up to 4 configurable set points. Universal input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 4 configurable outputs (relay, SSR). Soft Start and LbA functions. Led shift index. RS485 communication. CT input for HB alarm. Multi-level parameters programming, password protected. Programming KEY.

Input characteristics

Overall accuracy

Input signal

$\pm 0.5\%$ f.s, $\pm 1\%$ TC-S

TC (J, K, S, IR), PTC, NTC, mV [E]

TC (J, K, S, IR), PT100, mV [C]

0/4-20 mA [I]

0-1V, 0/1-5V, 0/2-10V [V]

$\pm 0.5\%$ f.s, $\pm 1\%$ TC-S

TC (J, K, S, I R), PTC, NTC, mV [E]

TC (J, K, S, I R), PT100, mV [C]

0/4-20 mA [I]

0-1V, 0/1-5V, 0/2-10V [V]

$\pm 0.15\%$ f.s.

PT100, TC (J, K, S, IR),

PTC, NTC, mv, V, mA

Sampling rate

Display

8 per second

4 digit 7-segment LED, h 12mm

8 per second

4+4 digit 7-segment LED, h 7mm

8 per second

4 digit 7-segment LED, h 12mm

Output characteristics

Output 1

Output 2

Output 3

Output 4

Relay [R], 8mA/8VDC for SSR [O]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

Relay [R], 8mA/8VDC for SSR [O]

Relay [R], 8mA/8VDC for SSR [O]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

Relay [R], 8mA/8VDC for SSR [O]

Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]

Options

Serial Communication

Heater Break Alarm

No [X]

RS485 [S]

No [X]

CT input [H]

Others

Power supply

Approvals

24VAC / DC [L]

100-240VAC [H]

CE, cURus

24VAC / DC [L]

100-240VAC [H]

CE, cURus

24VAC / DC [L]

100-240VAC [H]

CE, cURus

Ordering References

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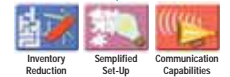
PID Controller – PDI series

Types

PDI 420

PDI 430

PDI 720



Dimensions (mm) W x H x D
Function

48 x 48 x 98
Dual display digital controller. Up to 4 configurable set points. Universal input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 4 configurable outputs (relay, SSR). Soft Start and LbA functions. RS485 communication. CT input for HB alarm. Multi-level parameters programming, password protected. Programming KEY.

48 x 48 x 98
Dual display digital controller. Up to 4 configurable set points. Universal input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 4 configurable outputs (relay, SSR or 2 normalized analogue signal outputs). Input signal retransmission. Motorized actuators control. Soft Start and LbA functions. RS485 communication. CT input for HB alarm. Additional dig. in. Multi-level parameters programming, password protected. Programming KEY.

72 x 72 x 97
Single display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 3 configurable outputs (relay, SSR). Soft Start and LbA functions. Led shift index. RS485 communication. Additional digital input. Multi-level parameters programming, password protected. Programming KEY.

Input characteristics

Overall accuracy
Input signal

± 0.15% f.s.
Pt100, TC (J, K, S, IR),
PTC, NTC, mv, V, mA

± 0.15% f.s.
Pt100, TC (J, K, S, B, C, E, L, N, R, T, IR),
PTC, NTC, mv, V, mA
(1 Programmable digital input)

± 0.5% f.s., ± 1% TC-S
Pt100, TC (J, K, S, IR), mV [C]
PTC, NTC, mV, TC (J, K, S, IR) [E]
0/4-20 mA [I], 0/1-5V, 0/2-10V [V]

Sampling rate
Display

8 x per second
4+4 digit 7-segment LED, h 7mm

8 x per second
4+4 digit 7-segment LED, h 7mm

8 x per second
4 digit 7-segment LED, h 14mm

Output characteristics

Output 1

Relay [R], 7mA/14VDC for SSR [O]

Relay [R], 7mA/14VDC for SSR [O]
0/4-20mA [C], 0/2-10V [V]

Relay [R], 8mA/8VDC for SSR [O]

Output 2

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]
0/4-20mA [C], 0/2-10V [V]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

Output 3

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

Output 4

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]

Options

Serial Communication

No [X]
RS485 [S]

No [X]
RS485 [S]
RS485 + DI [I]

No [X]
RS485 [S]

Serial Communication and/or digital input

No [X]
CT input [H]

No [X]
CT input [H]

No [X]
DI [I]

Heater Break Alarm

Others

Power supply

24 VAC / DC [L]
100-240 VAC [H]

24 VAC / DC [L]
100-240 VAC [H]

24 VAC / DC [L]
100-240 VAC [H]

Approvals

CE, cURus

CE, cURus

CE, cURus

Ordering References

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Control



PID Controllers

PID Controller – PDI series

Types

PDI 92



PDI 95



Dimensions (mm) W x H x D	48 x 96 x 100
Function	Dual display digital controller. Programmable input for TC and RTD. Additional CT input for Heater Break alarm. ON/OFF, single/double action PID control. Autotuning function for PID mode. Up to 5 configurable outputs (relay, SSR): 1 or 2 regulation outputs, 1 or 2 alarm outputs and 1 HB alarm output. Parameters programming protected by password.

Dimensions (mm) W x H x D	48 x 96 x 100
Function	Dual display digital controller. Multi set points. Programmable input for TC, RTD, analogue signals. Additional CT input for Heater Break alarm. ON/OFF, single/double action PID control. Autotuning and Selftuning. Up to 5 configurable outputs (relay, SSR or normalized analogue signal out): up to 2 regulation outputs, up to 4 alarm outputs, 1 HB alarm out. Motorized actuators control. RS485 communication. Additional digital input. Parameters programming protected by password.

Input characteristics

Overall accuracy	± 0.25% f.s.
Input signal	Pt100, TC (J, K, S, R, T) [T]
Sampling rate	1 per second
Display	4+4 digit 7-segment LED, h 7mm

Overall accuracy	± 0.15% f.s. TC and RTD, ± 0.05% f.s. analog. input
Input signal	TC, Pt100, 0-50mV [T], 0/4-20mA [I] 0/1-5V [V], 0/2-10V [W]
Sampling rate	5 per second
Display	4+4 digit 7-segment LED, h 7mm

Output characteristics

Output A)	Heater Break alarm output (HB) No [XX] Relay [HR], 24VDC for SSR [HO]
Output B)	1 Alarm Output (AI1) No [XX] Relay [1R], 24VDC for SSR [1O]
Output C)	2 Alarm Outputs (AI1 + AI2) No [XX] Relay [2R], 24VDC for SSR [2O]
Output D)	Main Out (C1) [R] Relay or 24VDC for SSR
Output E)	Cooling output (C2) No [X] Relay [R], 24VDC SSR [O]
Output F)	

Output A)	Main output or for motorized actuators (C1) 0/2-10V [V], 0/4-20mA [C] Relay + 24VDC for SSR [R]
Output B)	Cool. output or motorized actuators (C2) or Alarm (AI4) (C2 only) 0/2-10V [V], (C2 only) 0/4-20mA [C] Relay [R], 24VDC for SSR [O]
Output C)	Alarm Output (AI1) No [X] Relay [R], 24VDC for SSR [O]
Output D)	Alarm Output (AI2) No [X] Relay [R], 24VDC for SSR [O]
Output E)	Alarm Output (AI3) or Hether Break (HB) No [X] Relay [R], 24VDC for SSR [O]
Output F)	Motorized Actuators Control (C1 + C2 relays) No [X] Yes [M]

Options

Serial Communication or auxiliary input	
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Serial Communication or auxiliary input	No [X] RS485 [S] Auxiliary Input [I]
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Others

Power supply	24VAC / DC [L] 90-240VAC [H]
Approvals	CE, cURus

Power supply	24 VAC / DC [L] 90-240 VAC [H]
Approvals	CE, cURus

Ordering References

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