

CONTROLLERS - Selection Guide

COST EFFECTIVE FAMILIES (Temperature, PID PWM Output)

NOVUS
We Measure, We Control, We Record



Controller Type	N1030	N1030T	N1040	N1040T	N1020	N480D	N1050	N960
Temperature	Temperature	Temperature	Temperature	Temperature	Temperature	Temperature	Temperature	Temperature
PID Output Control Mode	PWM	PWM	PWM	PWM	PWM	PWM & Analog (Optional)	PWM & Analog (Optional)	PWM & Analog (Optional)
Auto Tune PID	✓	✓	✓	✓	✓	✓	✓	✓
Self-Adaptive PID					✓			
Control Loops	1	1	1	1	1	1	1	1
Control Action	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool
Relay Output	1	1	Up to 3	Up to 3	1	Up to 3	Up to 3	2
Pulse Output	✓	✓	✓	✓	✓	✓	✓	✓
Analog Output						Optional		✓
Ramp to Soak Function					✓	✓	✓	✓
Ramp & Soak Programs/Segments						1 program 9 segments	5 programs 4 segments	1 program 9 segments
Soft-Start Function			✓	✓	✓		✓	
Bumpless Function							✓	
Manual Operation							✓	
Display	Double	Double	Double	Double	Single	Double	Double	Double
Input Type	J, K, T, and Pt100				J, K, T, R, S, E, N, Pt100 and 0-50 mV	J, K, T, R, S, E N and Pt100	J, K, T, S and Pt100	J, K, T, R, S, E, N and Pt100
Input Resolution Levels	32767	32767	32767	32767	32767	32767	32767	32767
Input Sample Rate	5 sps	5 sps	10 sps	10 sps	55 sps	55 sps	10 sps	55 sps
Detection Sensor Break	✓	✓	✓	✓	✓	✓	✓	✓
Detection PID Loop Break			✓	✓	✓		✓	
Detection Heater Break								
Alarm Number	1	1	2	2	2	2	2	2
Alarm Types	Low, High, Dif, DifLo, DifHi and InputErr				Low, High, Dif, DifLo, DifHi, Ton, TEnd and InputErr	Low, High, Dif, DifLo, DifHi, EndSoak, Event and InputErr	Low, High, Dif, DifLo, DifHi, Event and InputErr	Low, High, Dif, DifLo, DifHi, EndSoak, Event and InputErr
Digital Input								
Remote Setpoint Input								
Setpoint Retransmission								
Square Root								
Timer		✓		✓	✓		✓	
Data Logger Function								
Password Protection	✓	✓	✓	✓	✓		✓	
Auxiliary 24V Power Supply								
RS485 Modbus RTU			Optional		Optional		Optional	
Bluetooth								
USB			✓	✓	✓	✓	✓	✓
CE Certification	✓	✓	✓	✓	✓	✓	✓	✓
UL Certification	✓	✓	✓	✓	✓	✓	✓	✓
Frontal IP65	✓	✓	✓	✓	✓	✓	✓	✓
Power Supply	100-240 Vac/dc or 12-24 Vdc (Optional)				100-240 Vac/dc	100-240 Vac/dc or 12-24 Vdc (Optional)		
Panel Format	48 x 48 DIN 1/16	48 x 48 DIN 1/16	48 x 48 DIN 1/16	48 x 48 DIN 1/16	48 x 24 DIN 1/32	48 x 48 DIN 1/16	48 x 48 DIN 1/16	96 x 96 DIN 1/4

ADVANCED FEATURES FAMILIES (Universal Input, RS485 Modbus, Ramp & Soaks, PID Analog Output, 4-20 mA retransmission, Digital Input, Square Root)



Controller Type	N120	N1200	N1200-HC	N20K48	N2000	N2000-S	N3000
Process	Process	Process	Process	Process	Process	Process	Process
PWM	PWM	PWM & Analog	PWM & Analog	PWM & Analog (Optional)	PWM & Analog	PWM & Analog	PWM & Analog (Optional)
✓	✓	✓	✓	✓	✓	✓	✓
2	1	2	1	1	1	1	1
Heat & Cool with Overlap	Heat or Cool	Heat or Cool	Heat & Cool with Overlap	Heat or Cool	Heat or Cool	Servo	Heat or Cool
2	Up to 3	Up to 3	Up to 9*	Up to 4	Up to 4	Up to 4	Up to 4
✓	✓	✓	Up to 25*	✓	✓	✓	✓
	✓	✓	Up to 8*	✓	✓	✓	✓
20 programs 9 segments	20 programs 9 segments	20 programs 9 segments	✓	7 programs 7 segments	7 programs 7 segments	7 programs 7 segments	7 programs 7 segments
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
Double	Double	Double	Double	Double	Double	Double	Double
J, K, T, R, S, E, B, N, Pt100, 4-20 mA, 0-50 mV, 0-5 V and 0-10 V	J, K, T, R, S, E, B, N, Pt100, 4-20 mA, 0-50 mV, 0-5 V and 0-10 V		J, K, T, R, S, E, B, N, Pt100, 0-20 mA, 4-20 mA, 0-50 mV, 0-5 V and 0-10 V	J, K, T, R, S, E, B, N, Pt100, 4-20 mA, 0-50 mV and 0-5 V	J, K, T, R, S, E, B, N, Pt100, 4-20 mA, 0-50 mV and 0-5 V	J, K, T, R, S, N, Pt100, 4-20 mA, 0-50 mV and 0-5 V	J, K, T, R, S, E, B, N, Pt100, 4-20 mA, 0-50 mV and 0-5 V
32767 55 sps	32767 55 sps	32767 55 sps	32767 55 sps	32767 10 sps	20000 5 sps	32767 10 sps	32767 10 sps
✓	✓	✓	✓	✓	✓	✓	✓
✓	Optional	4	4	4	4	2	4
Low, High, Dif, DifLo, DifHi, Event and InputErr	Low, High, Dif, DifLo, DifHi, ResistFail, Event and Input Error		Low, High, Dif, DifLo, DifHi, EndSoak, Event and InputErr	Low, High, Dif, DifLo, DifHi, Event and InputErr	Low, High, Dif, DifLo, DifHi, Event and InputErr	Low, High, Dif, DifLo, DifHi, ResistFail, Event and Input Error	Low, High, Dif, DifLo, DifHi, Event and InputErr
✓	✓	✓	Up to 24*	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓
Optional			✓				
✓	✓	✓	✓	✓	✓	✓	✓
✓	Optional	Optional	Optional	Optional	Optional	Optional	Optional
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
n/a	✓	✓	✓	✓	✓	✓	✓
100-240 Vac/dc	100-240 Vac/dc or 12-24 Vdc (Optional)						
Board only Dual Display	48 x 48 DIN 1/16	48 x 48 DIN 1/16	48 x 48 DIN 1/16	96x48 DIN 1/8	96x48 DIN 1/8	96 x 96 DIN 1/4	

*Using the micromodules