

Temperature & Process Controller Selection Guide

Controller	4081/4082	4080	6060	40 Series 4040, 8040, 6040	20 Series 8020, 6020
Description	Temperature & Process Controller	Temperature & Process Controller	Temperature & Process Controller	Temperature & Process Controller	Temperature & Process Controller
Control Loops	Single / Dual	Single	Single	Single	Single
Indication/Display	Graphical/Text LCD	Graphical/Text LCD	Upper: 4 digit Low: Hi-Res Text	Dual 4-Digit	Dual 4-Digit
Panel Cutout (DIN)	1/4	1/4	1/16	1/4, 1/8, 1/16	1/8, 1/16
Inputs Thermocouple	J,K,R,S,T,B,C,D,E,L,N,Pt RH 20%:40%	J,K,R,S,T,B,C,D,E,L,N,Pt RH 20%:40%	J,K,R,S,T,B,C,D,E,L,N,Pt RH 20%:40%	J,K,C,E,N,T,R,S,B & Pt RH 20% vs 40%	J,K,C,L,N,T,R,S,B & Pt RH 20% vs 40%
RTD	2 or 3 wire PT100, NI120	2 or 3 wire PT100, NI120	2 or 3 wire PT100, PT1000, KTY 11-6	2 or 3 wire PT100	2 or 3 wire PT100
Current, Voltage	0/4-20 mA, 0/10-50 mV, 0/1-5 V, 0/2-10 V, (0-100 mV and 2K Ω pot also on aux input), scaling -1999 to +9999	0/4-20 mA, 0/10-50 mV, 0/1-5 V, 0/2-10 V, (0-100 mV and 2K Ω pot also on Feature Option B input), scaling -1999 to +9999	0-20 mA, 4-20 mA, 0-5 V, 1-5 V, 0-10 V, 2-10 V, scaling -1999 to +9999	0-20 mA, 4-20 mA, 0-50 mV, 10-50 mV, 0-5 V, 1-5 V, 0-10 V, 2-10 V, scaling -1999 to +9999	0-20 mA, 4-20 mA, 0-50 mV, 10-50 mV, 0-5 V, 1-5 V, 0-10 V, 2-10 V, scaling -1999 to +9999
Digital	9 (+ 4 soft)	2	2 or 4	1	N
Outputs (Maximum)	9	9	6	3/5	3
Relay	Y	Y	Y	Y	Y
SSR Drive	Y	Y	Y	Y	Y
Triac/SSR	Y	Y	Y	Y	N
4-20mA	Y	Y	Y	Y	N
Number of Control Points	3	2	3	2	2
Number of Alarms¹	7	5	5	3	2
Number of Events¹	7	5	5	3	2
Agency Approvals	UL, cUL, CE	UL, cUL, CE	UL, cUL, CE	UL, cUL, CE	UL, cUL, CE
Operating Environment	NEMA 4X, IP66 (IP65 with USB)	NEMA 4X, IP66 (IP65 with USB)	NEMA 4X, IP65	NEMA 4X / IP66	NEMA 4X, IP65
Control Modes Limit	N	N	N	N	N
ON/OFF	Y	Y	Y	Y	Y
Proportional (w/ manual reset)	Y	Y	Y	Y	Y
PID	Y (5 sets)	Y	Y	Y	Y
Auto Tune PID	Y	Y	Y	Y	Y
Valve Drive w/Feedback	Y	Y	Y	Y	N
Ramp and Soak	Y	Y	Y	N	N
Programs X Segments	64 X 255	64 X 255	16 X 16	-	-
Ramp to Set Point	Y	Y	Y	Y	Y
Control Action	Heat, Cool Heat/Cool, Valve Actuator	Heat, Cool Heat/Cool, Valve Actuator	Heat, Cool Heat/Cool	Heat, Cool Heat/Cool	Heat, Cool Heat/Cool
Other	Loop / Heater Break Alarm, Cascade, Ratio, Gain Scheduling, Valve Motor Drive	Loop / Heater Break Alarm, Valve Motor Drive	Loop / Heater Break Alarm	Valve Motor Drive, Heater Break Alarm	-
Remote Setpoint	Y	Y	Y	Y	N
Retransmit Output	Y	Y	Y	Y	N
Communications (Modbus unless otherwise specified)	RTU/RS485 & TCP/Ethernet, USB Data Port	RTU/RS485 & TCP/Ethernet, USB Data Port	RTU/RS485	RTU/RS485	RTU/RS485
See Page					

¹ Some outputs are field selectable as Alarms or Events.

Temperature & Process Controller Selection Guide

Controller	2110	3204	ETR-3400	300D/300B	1040
Description	Temperature Controller	Temperature & Process Controller	Temperature & Process Controller	Temperature Controller	Temperature & Process Controller
Control Loops	Single	Single	Single	Single	1 - 32 / System
Indication/Display	Single 4-Digit	Single 4-Digit	Single 4-Digit	Set Point Dial/Non Indicating	N/A
Panel Cutout (DIN)	1/4	1/32	1/32	DIN Rail	DIN Rail Mount
Inputs Thermocouple	J,K	J,K,T,E,B,R,S,N	J,K,T,E,B,R,S,N	J,K	J,K,E,L,N,T,R,S,B & Pt RH 20% vs 40%
RTD	PT100	PT100	PT100	PT100	3 wire PT100, NI120
Current, Voltage	-	4-20mV, 0-20mV and 4-20mA*, 0-20mA* *requires 1-Ohm resistor	4-20mA, 0-20mA 0-1, 0-5, 1-5 or 0-10Vdc	-	0/4-20 mA, 0/10 to 50 mV, 0/1-5 V, 0/2-10 V, scaling -32000 to +32000; Heater Current: 0 to 50mA/60mA Scaleable 0.1 to 100AAC
Digital	N	-	1	-	N
Outputs (Maximum)	2	3	3	1	Up to 48
Relay	Y (20 Amps)	Y	Y	Y	Y
SSR Drive	Y (10 Amps)	Y	Y	N	Y
Triac/SSR	Y	Y	Y	N	N
4-20mA	N	Y	Y	N	Y
Number of Control Points	1	2	2	1	
Number of Alarms¹	1	1	2 (1 out Vdc)	N	Up to 16
Number of Events¹	-	-	-	0	Up to 16
Agency Approvals	UL, cUL	UL, cUL, CE	UL, CSA, CE	UL, CUL	UL, cUL, CE
Operating Environment	NEMA 4X	NEMA 4X	NEMA 4X	NEMA 1	IP20
Control Modes Limit	N	Y	N	N	N
ON/OFF	Y	Y	Y	Y	Y
Proportional (w/ manual reset)	Y	Y	Y	Y	N
PID	Y (PI Only)	Y	Y	N	Y
Auto Tune PID	N	Y	Y	N	Y
Valve Drive w/Feedback	N	N	N	N	Y
Ramp and Soak	N	Y	Y	N	N
Programs X Segments	-	1 X 2	2	-	-
Ramp to Set Point	-	Y	Y	-	Y
Control Action	Heat	Heat, Cool Heat/Cool	Heat, Cool Heat/Cool	Heat	Heat, Cool Heat/Cool
Other	High Current Output	-	Differential Input Loop / Heater Break	Sensor Break	Heater Break Alarm
Remote Setpoint	N	N	Y	N	
Retransmit Output	N	N	Y	N	Y
Communications (Modbus unless otherwise specified)	N	RTU/RS485, RS232	RTU/RS485	N	RTU/RS485, TCP/IP, DeviceNet, Ethernet/IP, Profibus
See Page					

¹ Some outputs are field selectable as Alarms or Events.

Temperature & Process Controller Selection Guide

Controller	3340 / 3380	CX224	50 Series 4050, 6050	LIMIT
Description	Temperature & Process Controller	Monitor	High/Low Limit	High Limit
Control Loops	Four / Eight	Twelve	Single	Single
Indication/Display	Dual 4-Digit	LED	Dual 4-Digit	Set Point Dial Non-Indicating
Panel Cutout (DIN)	1/4	Special Front Panel Mount	1/4 & 1/16 (1/8 available)	Back Panel Mount
Inputs Thermocouple	J,K,E,T,R,S,B,N,PLII,U,LW5Re/W26Re	J,K,E,T	J,K,C,L,N,T,R,S,B & Pt RH 20% vs 40%	J,K
RTD	PT100	Pt, Ni, Cu	3 wire PT100	PT100
Current, Voltage	0-5, 0-10, 1-5 Vdc	4-20 mA	0-20 mA, 4-20 mA, 0-50 mV, 10 to 50 mV, 0-5 V, 1-5 V, 0-10 V, 2-10 V, scaling -1999 to +9999	0-20 mA, 4-20 mA, 0-5 V, 1-5 V, 2-10 V, 0-10 V
Digital	Up to 5	0	1	Reset
Outputs (Maximum)	11	5	3	1
Relay	Y	Y	Y	Y
SSR Drive	Y	Y	Y	N
Triac/SSR	Y	N	Y	N
4-20mA	Y	N	Y	N
Number of Control Points	4 / 8	0	1	0
Number of Alarms¹	Up to 7 / Up to 3	12	3	1
Number of Events¹		0	1	0
Agency Approvals	UL, cUL, CE	UL	UL, cUL, CE	UL, cUL, FM
Operating Environment	IP65	NEMA 4	NEMA 4X, IP66	
Control Modes Limit	N	N	Y	Y
ON/OFF	Y	N	N	N
Proportional (w/ manual reset)	Y	N	N	N
PID	Y	N	N	N
Auto Tune PID	Y	N	N	N
Valve Drive w/Feedback	N	N	N	N
Ramp and Soak	N	N	N	N
Programs X Segments	-	-	-	-
Ramp to Set Point	Y	N	N	N
Control Action	Heat, Cool Heat/Cool	Limit/Alarm	Limit/Alarm	-
Other	Heater Break, Multi-Memory Area	Differential Input Heater Break	-	3PH/Heater Break Memory Area
Remote Setpoint	N		N	
Retransmit Output	N	N	Y	
Communications (Modbus unless otherwise specified)	RTU/RS485/422/232	RTU/RS485, RS232	RTU/RS485	N
See Page				

¹ Some outputs are field selectable as Alarms or Events.