

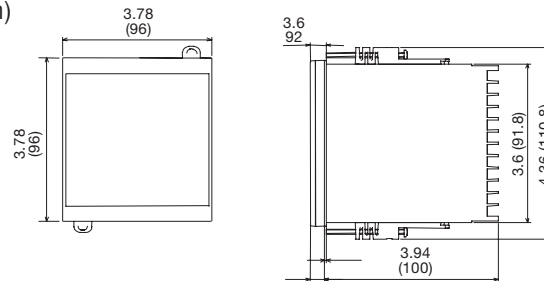
3300 Series Multiloop Controller

- 3340: 4 Loops of Autotuning PID Heat, Cool or Heat/Cool Control
- 3380: 8 Loops of Autotuning PID Heat or Cool Control
- Up to 11 Total Outputs, 4 or 8 for Control, Others for Alarm
- Thermocouple, RTD or Analog Inputs
- Outputs, Relay, SSR Drive, Triac or Analog
- Heater Breakdown Option with CT Inputs
- Communications Option with MODBUS Protocol Compatible with SpecView Software
- IP65



Dimensions

Units Inches (mm)



Features

Space and Time Savings:

The 3340/3380 can control up to a maximum of 8 channels in a compact 1/4 DIN package. The 1/4 DIN controller reduces panel size and panel cut-outs. By increasing zone density, the 3340/3380 can now make PID temperature control for 3 to 8 zones affordable in a multi-loop form factor, aiding designers of control equipment to save labor costs, installation costs, electric panel size, and operation cost.

In comparison to other multi-loop packages, the 3340/3380 has a straight forward user interface that does not require a PLC programmer or other support hardware to operate. The display, push-buttons, outputs and software are integrated in this single multi-loop package.

Although all inputs are scanned at least once per second, the display of the 3340/3380 will display the temperatures of each channel on an adjustable scan rate so the operator can view all channels without touching any pushbuttons.

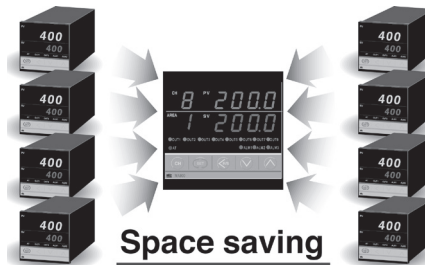
Stocked Items

3340

Part Number	PCN
3340-1R04100000	317884
3340-1V04100000	317905

3380

Part Number	PCN
3380-1RR4100000	317770
3380-4RR4100000	317788
3380-1TT4100000	317809
3380-4TT4100000	317817
3380-1VV4100000	317825
3380-1VV4111000	317841
3380-1VV4100060	317868



Heater Break Alarm:

Alarm 2 can be ordered as a Heater Break Alarm. For loads with multiple heaters this feature alarms when individual heaters fail. This provides maintenance of a process before the problem becomes critical.

Multi-Memory Area:

Temperature set point, PID constants, alarm set point, ramp to set point rate, channel used/unused for each loop can be stored in a "memory area". The eight memory area allows for quick changes to alternate processes or products. The memory area can be selected via the front faceplate or digital inputs.

MULTI-LOOP CONTROLLERS

3300 Series Multiloop Controller *(cont'd.)*

Specifications

Control Modes: PID with Autotuning, PID Heat/Cool with Autotuning (3340 only), Air or water cooling selectable, PI, PD, P or On/Off Selectable

Control Adjustments:

Control Set Point	Input Span
Set Point Limits	Within Span High and Low
Dead band	2 degrees or .2% factory setting (default), Adjustable up to full span
Proportional Band (P)	Input Span (PB=0 selects On/Off control)
Cool Proportional Band	1-1000% of the Heat Proportional Band
Integral (I)	1 to 3600sec (0= Off)
Derivative (D)	1 to 3600 sec (0=Off)
Anti reset windup	1 to 100% of Proportional Band (0 turns off Integral)
Heat Cycle Time	1-100 sec (no setting for current output)
Cool Cycle Time	1-100 sec (no setting for current output)
H/C Overlap Deadzone	-Span to +Span (within -1999 to +1999), Minus setting Overlap
Ramp Rate	0 to span/minute (0=off)
PV bias	-span to +span (within -1999 to 9999)

Alarm Adjustments:

Alarm Type	High Process, Low Process, Deviation Low, High, High-Low, Band; Loop Break Alarm, Heater Break Alarm FAIL – Automatic alarm on controller failure
Alarm Inhibit/Hold	Inhibit on: Power Up, From STOP to RUN, Set point Changes, Memory area changes
Ranges	Process Alarm: Input span, Deviation Alarm: -span to +span
Alarm Differential	2 degrees (temperature input), 0.2%(Voltage input)default, Adjustable to span
Loop Break Alarm	Off, 0.1 to 200.0 minutes, dead band: 0 to span, LBA output is allocated to Alarm 1
Heater Break Alarm	Requires external current transformers (CT) Input Range 0-30A or 0-100A Display Range 0.0 to 100.0A Accuracy ±5% of input value or ±2A HBA is allocated to Alarm 2

Control Outputs (up to 8)

Relay	NO Form A contact, 3A (resistive) at 250 VAC, 300,000 cycles or more at rated load
SSR drive(Voltage Pulse)	12VDC, 20mA max
Triac	0.5A @ 40C or less
Current	0 to 20mA into 0 to 600Ω 4 to 20mA into 0 to 600Ω

Alarm Outputs

Relay	3 Relays, NO Form A contact, 1A (resistive) at 250 VAC Out 5-8 on 3340 can be used as alarms, 3A at 250 VAC via Alarm 3 settings
Electrical Life	300,000 cycles or more at rated load

General

Environment	IP65 Protection (Optional)
Power Consumption	Up to 20VA
Ambient temperature	0° to 50°C (32° to 122°F)
Ambient Humidity	45 to 85% non-condensing
Weight	1.2 lb. (560g)

3300 Series Multiloop Controller (cont'd.)

Sensor Inputs:	Thermocouple, RTD or Voltage
Input Update Rate	0.5sec (3340), 1 sec (3380)
Input Break Action	Upscale: Thermocouple and RTD, Downscale: Voltage input
Input Filter	1-100 sec. Time constant 0=off, First order digital filter

Thermocouple

Type	Max Range °F	Max Range °C	Accuracy
J	0 to 2192 -199.9 to 999.9	0-1200 -199.9 to 999.9	±0.3% of reading + 1 digit or ±2°C(4°F) Accuracy under -100C not guaranteed
K	0 to 2502 -199.9 to 999.9	0 to 1372 -199.9 to 800.0	±0.3% of reading + 1 digit or ±2°C(4°F) Accuracy under -100C not guaranteed
E	0 to 1820	0 to 1000	±0.3% of reading + 1 digit or ±2°C(4°F)
T	-199.9 to 752.0	-199.9 to 400.0	±0.3% of reading + 1 digit or ±2°C(4°F) Accuracy under -100C not guaranteed
R	0 to 3216	0 to 1769	±0.3% of reading + 1 digit or ±2°C(4°F) Accuracy 0 to 399C not guaranteed
S	0 to 3216	0 to 1769	±0.3% of reading + 1 digit or ±2°C(4°F) Accuracy 0 to 399C not guaranteed
B	0 to 3308	0 to 1820	±0.3% of reading + 1 digit or ±2°C(4°F) Accuracy 0 to 399C not guaranteed
N	0 to 2372 0.0 to 999.9	0 to 1300 0.0 to 800.0	±0.3% of reading + 1 digit or ±2°C(4°F)
PLII	0 to 1390	0 to 2534	±0.3% of reading + 1 digit or ±2°C(4°F)
W5Re/W26Re	0 to 4000	0 to 2320	±0.3% of reading + 1 digit or ±2°C(4°F)
U	-199.9 to 999.9	-199.9 TO 600.0	±0.3% of reading + 1 digit or ±2°C(4°F) Accuracy under -100C not guaranteed
L	0 to 1600	0 to 800	±0.3% of reading + 1 digit or ±2°C(4°F)

RTD non-isolated

Type	Max Range °F	Max Range °C	Accuracy
100Ω PLT IEC or JIS	-199.9 to 999.9	-199.9 to 649.0	±0.3% of reading + 1 digit or ±0.8°C(1.6°F)

Voltage non-isolated

Type	Adjustable Range	Accuracy
0-10, 0-5, 1-5 VDC	-1999 to 9999 (0.0 to 100.0 default) Decimal Point in 1/10, 1/100, 1/1000	±0.3% of reading + 1 digit

Digital Input (Optional)

Number of input	5 inputs
Rating	Non-voltage contact input, Open: 500k or more, Close: 10 or less
Function	Run (close) Stop(open), Memory area selection, 3 inputs binary (0-7), Data Set

Communications (Optional)

Hardware	RS232C 3 wire single drop RS-422 4 wire multi-drop, up to 31 units RS-485 2 wire multi-drop, up to 31 units
Protocol	Modbus
Baud Rate	2400,4800,9600,19200 bps
Software	Compatible with ChromaSoft SpecView

Accessories

Part Number	PCN	Description
700462222	339135	Current Transformer, 0-30.0Aac for Heater Break Option
700462223	339143	Current Transformer, 0-100.0Aac for Heater Break Option
700562224	339151	Control Relay module for outputs 1-8
700462225	339160	SSR driver module for outputs 1-8
0149-01305	314448	Snubber

3300 Series

Multiloop Controller *(cont'd.)*

Ordering Information

Model											
3340 Four Loop Autotuning PID Controller											
3380 Eight Loop Autotuning PID Controller											
Code	Input										
1	Thermocouple J, K, R, S, B, E, PLII, N, T, U, L										
3	Analog VDC 0-5, 0-10, 1-5 VDC										
4	RTD, 100 ohm Plt										
Code	Control Output 1-4, Heat or Cool										
R	Relay 3 amp, 250 VAC										
V	SSR drive, 12 VDC at 20mA										
T	Triac, 0.5 A										
7	0-20mA up to 600ohms										
8	4-20mA up to 600ohms										
Code	Output 5-8, Alarm or Cooling Control (3340), Heat or Cool (3380)										
0	No outputs (3340 only)										
R	Relay 3 amp, 250 VAC										
V	SSR drive, 12 VDC										
T	Triac, 0.5 A										
7	0-20mA up to 600ohms										
8	4-20mA up to 600ohms										
Code	Instrument Power										
3	24 VAC/VDC										
4	100-240 VAC										
Code	Alarm 1										
1	Relay, 1A, 250 VAC										
Code	Alarm 2										
0	No alarm										
1	Relay, 1A, 250 VAC										
2	Heater Break Alarm, 0-30A Single Phase Input ¹										
3	Heater Break Alarm, 0-100A Single Phase Input ¹										
4	Heater Break Alarm, 0-30A Three Phase Input (3340 only) ¹										
5	Heater Break Alarm, 0-100A Three Phase Input (3340 only) ¹										
Code	Alarm 3										
0	No alarm										
1	Relay, 1A, 250 VAC										
Code	Contact In										
0	None										
1	5 Digital Inputs ²										
Code	Digital Communications²										
0	None										
6	RS-485/RS-422 Modbus										
8	RS 232 - Modbus										
Code	None										
0	None										
3340-	1	V	R	4	1	0-	0	0	6	0	Typical Model Number

NOTE: Each alarm output is common to all channels.

¹Heater break is not available when the control output is 0-20mA or 4-20 mA.

² On 3380 heater break alarm and communications/contact input cannot be specified on the same 3380 controller.