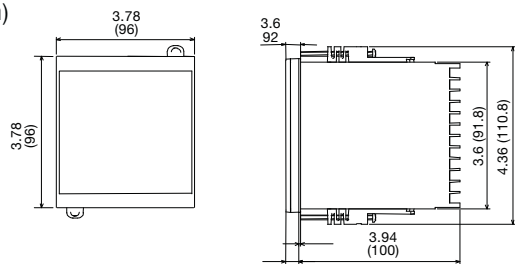
3300 Series
Multiloop Controller

- **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)



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

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 cutouts. 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, pushbuttons, 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.

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.

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(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)

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(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 to999.9	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 to1769	±0.3% of reading + 1 digit or ±2˚C(4˚F) Accuracy 0 to 399C not guaranteed
S	0 to 3216	0 to1769	±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

Controls

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 Communications[2]
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.
[1]Heater 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.

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