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 250VAC, 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 250VAC
	Out 5-8 on 3340 can be used as alarms, 3A at 250VAC 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 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, 1-5Vdc	-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: 500kΩ or more, Close: 10Ω 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, 12Vdc 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, 12Vdc
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.