C1900

Circular chart recorder/controller

Custom configuration

1 Introduction

ABB can supply custom configurations for the C1900 Circular Chart Recorder /Controller on request.

Enter the required setting or place a check mark (✔) against the relevant parameters in the following tables and return this document to the Global Sales office at Stonehouse.

2 Input Configuration

Referring to Section 3.1 of the Programming Guide (IM/C1900–PGC), enter the settings required for each of the process variables.

2.1 Process Variable 1

Input Type (✔ the input type required)

None	
Millivolt	
Milliamp	
High Resistance	
Low Resistance	
Volts	
Thermocouple	
Resistance Thermometer	

Linearizer Type (✔ the linearizer type required)

None	
THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
RTD (PT100)	
Square root	
3/2	
5/2	

Electrical Input Range (enter the values required)

High	
Low	

Temperature Units (✔ the temperature units required)

Degrees F	
Degrees C	
None	

Engineering Range (enter the values required)

High	
Low	

Decimal Point (✔ the number of decimal places required)

0	
1	
2	
3	
4	

Broken Sensor Protection Drive
(✔ the drive direction required)

None	
Upscale	
Downscale	

Fault Detection Level % (enter the tolerance required)

Programmable Filter (enter the filter time required)

2.2 Process Variable 2

Input Type (✔ the input type required)

None	
Millivolt	
Milliamp	
High Resistance	
Low Resistance	
Volts	
Thermocouple	
Resistance Thermometer	

Linearizer Type (✔ the linearizer type required)

None	
THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
RTD (PT100)	
Square root	
3/2	
5/2	

Electrical Input Range (enter the values required)

High	
Low	

Temperature Units (✔ the temperature units required)

Degrees F	
Degrees C	
None	

Engineering Range (enter the values required)

High	
Low	

Decimal Point (✔ the number of decimal places required)

0	
1	
2	
3	
4	

Broken Sensor Protection Drive
(✔ the drive direction required)

None	
Upscale	
Downscale	

Fault Detection Level % (enter the tolerance required)

Programmable Filter (enter the filter time required)

2.3 Process Variable 3

Input Type (✔ the input type required)

None	
Millivolt	
Milliamp	
High Resistance	
Low Resistance	
Volts	
Thermocouple	
Resistance Thermometer	

Linearizer Type (✔ the linearizer type required)

None	
THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
RTD (PT100)	
Square root	
3/2	
5/2	

Electrical Input Range (enter the values required)

High	
Low	

Temperature Units (✔ the temperature units required)

Degrees F	
Degrees C	
None	

Engineering Range (enter the values required)

High	
Low	

Decimal Point (✔ the number of decimal places required)

0	
1	
2	
3	
4	

Broken Sensor Protection Drive
(✔ the drive direction required)

None	
Upscale	
Downscale	

Fault Detection Level % (enter the tolerance required)

Programmable Filter (enter the filter time required)

2.4 Process Variable 4

Input Type (✔ the input type required)

None	
Millivolt	
Milliamp	
High Resistance	
Low Resistance	
Volts	
Thermocouple	
Resistance Thermometer	

Linearizer Type (✔ the linearizer type required)

None	
THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
RTD (PT100)	
Square root	
3/2	
5/2	

Electrical Input Range (enter the values required)

High	
Low	

Temperature Units (✔ the temperature units required)

Degrees F	
Degrees C	
None	

Engineering Range (enter the values required)

High	
Low	

Decimal Point (✔ the number of decimal places required)

0	
1	
2	
3	
4	

Broken Sensor Protection Drive
(✔ the drive direction required)

None	
Upscale	
Downscale	

Fault Detection Level % (enter the tolerance required)

Programmable Filter (enter the filter time required)

3 Set Up Pen Range

Referring to Section 3.2 of the Programming Guide (IM/C1900–PGC), enter the settings required for each of the pens.

Pen 1 (enter the values required)

High	
Low	

Pen 2 (enter the values required)

High	
Low	

Pen 3 (enter the values required)

High	
Low	

Pen 4 (enter the values required)

High	
Low	

Event Pen (if fitted) (enter the values required)

In Source	
Out Source	

4 Set Up Chart

Referring to Section 3.3 of the Programming Guide (IM/C1900–PGC), enter the settings required for each of the pens.

Chart Duration (enter the value required)

Stop Chart Source
(enter the source required to stop the chart)

Auto Pen Drop (✔ the setting required)

Yes	
No	

Pen Lift Key Enable (✔ the setting required)

Yes	
No	

5 Set Up Alarms

Referring to Section 3.4 of the Programming Guide (IM/C1900–PGC), enter the settings required for each of the alarms.

Alarm Acknowledge Type
(✔ the acknowledge type required)

Latch	
Normal	
None	

Global Alarm Acknowledge Source
(enter a source to acknowledge all alarms)

5.1 Alarm A1

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.2 Alarm B1

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.3 Alarm C1

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.4 Alarm D1

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.5 Alarm A2

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.6 Alarm B2

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.7 Alarm C2

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.8 Alarm D2

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.9 Alarm A3

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.10 Alarm B3

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.11 Alarm C3

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.12 Alarm D3

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.13 Alarm A4

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.14 Alarm B4

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.15 Alarm C4

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

5.16 Alarm D4

Type (✔ the alarm type required)

Off	
High Process	
Low Process	
High Output	
Low Output	
High Deviation	
Low Deviation	
Fast Rate	
Slow Rate	
Delayed High Process	
Delayed Low Process	

Trip Level (enter the trip point value required)

Hysteresis (enter the hysteresis value required)

Time Hysteresis
(enter the time hysteresis value required – 0 to 9999 seconds)

Alarm Delay – *if applicable*
(enter the delay value required – 0 to 250 minutes)

Enable Source
(enter a source to enable/disable the alarm)

6 Set Up Relay Output

Referring to Section 3.5 of the Programming Guide (IM/C1900–PGC), enter the settings required for each of the relays.

Relay 1.1 (Input 1) Source (enter the source required)

Relay 1.1 (Input 1) Polarity (✔ the polarity required)

Positive	
Negative	

Relay 2.1 (Input 2) Source (enter the source required)

Relay 2.1 (Input 2) Polarity (✔ the polarity required)

Positive	
Negative	

Relay 3.1 (Input 3) Source (enter the source required)

Relay 3.1 (Input 3) Polarity (✔ the polarity required)

Positive	
Negative	

Relay 4.1 (Input 4) Source (enter the source required)

Relay 4.1 (Input 4) Polarity (✔ the polarity required)

Positive	
Negative	

Relay Module Type 3 in Position 4 (if fitted)
(for each relay, enter the source and ✔ the polarity required)

Relay 4.1

Source				
Polarity	Positive		Negative	

Relay 4.2

Source				
Polarity	Positive		Negative	

Relay 4.3

Source				
Polarity	Positive		Negative	

Relay 4.4

Source				
Polarity	Positive		Negative	

Relay Module Type 3 in Position 5 (if fitted)
(for each relay, enter the source and ✔ the polarity required)

Relay 5.1

Source				
Polarity	Positive		Negative	

Relay 5.2

Source				
Polarity	Positive		Negative	

Relay 5.3

Source				
Polarity	Positive		Negative	

Relay 5.4

Source				
Polarity	Positive		Negative	

7 Set Up Digital Output

Referring to the Programming Guide (IM/C1900–PGR), enter the settings required for each of the digital outputs.

7.1 Digital Output Module Position 4

Dig OP 4.1

Source	
Polarity	

Dig OP 4.2

Source	
Polarity	

Dig OP 4.3

Source	
Polarity	

Dig OP 4.4

Source	
Polarity	

Dig OP 4.5

Source	
Polarity	

Dig OP 4.6

Source	
Polarity	

Dig OP 4.7

Source	
Polarity	

Dig OP 4.8

Source	
Polarity	

7.2 Digital Output Module Position 5

Dig OP 5.1

Source	
Polarity	

Dig OP 5.2

Source	
Polarity	

Dig OP 5.3

Source	
Polarity	

Dig OP 5.4

Source	
Polarity	

Dig OP 5.5

Source	
Polarity	

Dig OP 5.6

Source	
Polarity	

Dig OP 5.7

Source	
Polarity	

Dig OP 5.8

Source	
Polarity	

7.3 Digital Output Module Position 6

Dig OP 6.1

Source	
Polarity	

Dig OP 6.2

Source	
Polarity	

Dig OP 6.3

Source	
Polarity	

Dig OP 6.4

Source	
Polarity	

Dig OP 6.5

Source	
Polarity	

Dig OP 6.6

Source	
Polarity	

Dig OP 6.7

Source	
Polarity	

Dig OP 6.8

Source	
Polarity	

8 Set Up Analog Output

Referring to Section 3.7 of the Programming Guide (IM/C1900–PGC), enter the settings required for each of the analog outputs.

8.1 Position 1

Output Source (enter the source required)

Retransmission Range
(enter the values required in engineering units)

High	
Low	

Output Range – 2 to 20 mA (enter the values required)

High	
Low	

8.2 Position 2

Output Source (enter the source required)

Retransmission Range
(enter the values required in engineering units)

High	
Low	

Output Range – 2 to 20 mA (enter the values required)

High	
Low	

8.3 Position 3

Output Source (enter the source required)

Retransmission Range
(enter the values required in engineering units)

High	
Low	

Output Range – 2 to 20 mA (enter the values required)

High	
Low	

8.4 Position 4

Output Source (enter the source required)

Retransmission Range
(enter the values required in engineering units)

High	
Low	

Output Range – 2 to 20 mA (enter the values required)

High	
Low	

9 Set Up Digital Inputs

Referring to the Programming Guide (IM/C1900–PGR), enter the settings required for each of the digital outputs.

9.1 Digital Inputs I/O Module 1

Dig IP 1.1

Polarity	

Dig IP 1.2

Polarity	

9.2 Digital Inputs I/O Module 2

Dig IP 2.1

Polarity	

Dig IP 2.2

Polarity	

9.3 Digital Inputs I/O Module 3

Dig IP 3.1

Polarity	

Dig IP 3.2

Polarity	

9.4 Digital Inputs I/O Module 4

Dig IP 4.1

Polarity	

Dig IP 4.2

Polarity	

9.5 Digital Input Module Position 4

Dig IP 4.1

Polarity	

Dig IP 4.2

Polarity	

Dig IP 4.3

Polarity	

Dig IP 4.4

Polarity	

Dig IP 4.5

Polarity	

Dig IP 4.6

Polarity	

Dig OP 4.7

Polarity	

Dig OP 4.8

Polarity	

9.6 Digital Input Module position 5

Dig IP 5.1

Polarity	

Dig IP 5.2

Polarity	

Dig IP 5.3

Polarity	

Dig IP 5.4

Polarity	

Dig IP 5.5

Polarity	

Dig IP 5.6

Polarity	

Dig IP 5.7

Polarity	

Dig IP 5.8

Polarity	

9.7 Digital Input Module position 6

Dig IP 6.1

Polarity	

Dig IP 6.2

Polarity	

Dig IP 6.3

Polarity	

Dig IP 6.4

Polarity	

Dig IP 6.5

Polarity	

Dig IP 6.6

Polarity	

Dig IP 6.7

Polarity	

Dig IP 6.8

Polarity	

10 Access page

Passwords
All passwords to be between 0 and 9999

Configuration Password	
Pen Adjust enable	
Pen adjust Password	
Tune Password 1	
Tune Password 2	

Control Configuration Level

11 Set Points

11.1 Controller 1

Local Setpoint

Local Setpoint High	
Local Setpoint Low	
Local Setpoint Value	

Setpoint Tracking (✔ the box required)

On	
Off	

Second Setpoint Type (✔ the box required)

None	
Dual	
Remote	
Cascade	

Dual Setpoint High	
Dual Setpoint Low	
Dual Setpoint Value	

11.2 Remote Setpoint Only

Remote Setpoint Tracking (✔ the box required)

On	
Off	

Remote Setpoint High	
Remote Setpoint Low	

11.3 Cascade Only

Output Tracking (✔ the box required)

On	
Off	

Cascade Setpoint Tracking (✔ the box required)

On	
Off	

Cascade Setpoint High	
Cascade Setpoint Low	

Cascade and Remote

Bias	
Ratio	

11.4 Controller 2

Local Setpoint

Local Setpoint High	
Local Setpoint Low	
Local Setpoint Value	

Setpoint Tracking (✔ the box required)

On	
Off	

Second Setpoint Type (✔ the box required)

None	
Dual	
Remote	
Cascade	

Dual Setpoint High	
Dual Setpoint Low	
Dual Setpoint Value	

11.5 Remote Setpoint Only

Remote Setpoint Tracking (✔ the box required)

On	
Off	

Remote Setpoint High	
Remote Setpoint Low	

11.6 Cascade Only

Output Tracking (✔ the box required)

On	
Off	

Cascade Setpoint Tracking (✔ the box required)

On	
Off	

Cascade Setpoint High	
Cascade Setpoint Low	

Cascade and Remote

Bias	
Ratio	

12 Motorized Valve Control

12.1 Controller 1

Position Proportioning

Ratio	
Bias	
Dead Band	

Boundless

Regulator Travel Time	
Dead Band	

12.2 Controller 2

Position Proportioning

Ratio	
Bias	
Dead Band	

Boundless

Regulator Travel Time	
Dead Band	

13 Set Up Control

13.1 Controller 1

Control Type (✔ the box required)

Standard	
Heat/Cool	
Position/Proportioning	
Boundless	

Power Failure Mode (✔ the box required)

Automatic	
Manual	
Last	

Manual Last	
Manual 0 – 100%	
Auto Last	
Auto 0 – 100%	

Offset (0 or 50%)	

Control Action (✔ the box required)

Reverse	
Direct	

Output Limit High	
Output Limit Low	

13.1.1 Heat/Cool Only

Heat Control Action (✔ the box required)

Reverse	
Direct	

Cool Control Action (✔ the box required)

Reverse	
Direct	

Heat Output High Limit	
Cool Output Limit	

Default PV Action (✔ the box required)

None	
Hold	
Default OP	

Default Setpoint Action (✔ the box required)

None	
Hold	
Default OP	

Default Output	
Default Setpoint	

Default Action (Valve Feedback) (✔ the box required)

None	
Hold	

13.2 Controller 2

Control Type (✔ the box required)

Standard	
Heat/Cool	
Position/Proportioning	
Boundless	

Power Failure Mode (✔ the box required)

Automatic	
Manual	
Last	

Manual Last	
Manual 0 – 100%	
Auto Last	
Auto 0 – 100%	

Offset (0 or 50%)	

Control Action (✔ the box required)

Reverse	
Direct	

Output Limit High	
Output Limit Low	

13.2.1 Heat/Cool Only

Heat Control Action (✔ the box required)

Reverse	
Direct	

Cool Control Action (✔ the box required)

Reverse	
Direct	

Heat Output High Limit	
Cool Output Limit	

Default PV Action (✔ the box required)

None	
Hold	
Default OP	

Default Setpoint Action (✔ the box required)

None	
Hold	
Default OP	

Default Output	
Default Setpoint	

Default Action (Valve Feedback) (✔ the box required)

None	
Hold	

14 Set Up Operating Page

14.1 Controller 1

Bar Graph Increment	

Power Failure Indication (✔ the box required)

Yes	
No	

Auto/Manual Select Enable (✔ the box required)

Enable	
Disable	

Manual Reset Adjustment (✔ the box required)

Enable	
Disable	

Setpoint Select Enable (✔ the box required)

Enable	
Disable	

Setpoint Adjust Enable (✔ the box required)

Enable	
Disable	

Remote (cascade) Setpoint Ratio Adjust Enable (✔ the box required)

Enable	
Disable	

Remote (cascade) Setpoint Bias Enable (✔ the box required)

Enable	
Disable	

14.2 Controller 2

Bar Graph Increment	

Power Failure Indication (✔ the box required)

Yes	
No	

Auto/Manual Select Enable (✔ the box required)

Enable	
Disable	

Manual Reset Adjustment (✔ the box required)

Enable	
Disable	

Setpoint Select Enable (✔ the box required)

Enable	
Disable	

Setpoint Adjust Enable (✔ the box required)

Enable	
Disable	

Remote (cascade) Setpoint Ratio Adjust Enable (✔ the box required)

Enable	
Disable	

Remote (cascade) Setpoint Bias Enable (✔ the box required)

Enable	
Disable	

15 Set Up Digital Page

15.1 Controller 1

Auto/Manual Source	
Manual Select Source	
Configured Output	
Auto Select Source	
Local/Remote Select Source	
Local Setpoint Source	
Remote/Dual Setpoint Source	
Setpoint 1 Source	
Setpoint 1 Value	
Setpoint 2 Source	
Setpoint 2 Value	
Setpoint 3 Source	
Setpoint 3 Value	

15.2 Controller 2

Auto/Manual Source	
Manual Select Source	
Configured Output	
Auto Select Source	
Local/Remote Select Source	
Local Setpoint Source	
Remote/Dual Setpoint Source	
Setpoint 1 Source	
Setpoint 1 Value	
Setpoint 2 Source	
Setpoint 2 Value	
Setpoint 3 Source	
Setpoint 3 Value	

Advanced Configuration Level

16 Set Up Function Keys

Function Key 1 (✔ the box required)

Home	
Alarm Acknowledge	
Profile	
Local Remote	
Autotune	
Penlift	

Function Key 2 (✔ the box required)

Home	
Alarm Acknowledge	
Profile	
Local Remote	
Autotune	
Penlift	

Function Key 3 (✔ the box required)

Home	
Alarm Acknowledge	
Profile	
Local Remote	
Autotune	
Penlift	

17 Set Up Logic

Logic Equation 1 (Equations use OR/AND operators only)

EQN 1.1 (operand)	
EQN 1.2 (operator)	
EQN 1.3 (operand)	
EQN 1.4 (operator)	
EQN 1.5 (operand)	
EQN 1.6 (operator)	
EQN 1.7 (operand)	

Logic Equation 2 (Equations use OR/AND operators only)

EQN 2.1 (operand)	
EQN 2.2 (operator)	
EQN 2.3 (operand)	
EQN 2.4 (operator)	
EQN 2.5 (operand)	
EQN 2.6 (operator)	
EQN 2.7 (operand)	

Logic Equation 3 (Equations use OR/AND operators only)

EQN 3.1 (operand)	
EQN 3.2 (operator)	
EQN 3.3 (operand)	
EQN 3.4 (operator)	
EQN 3.5 (operand)	
EQN 3.6 (operator)	
EQN 3.7 (operand)	

Logic Equation 4 (Equations use OR/AND operators only)

EQN 4.1 (operand)	
EQN 4.2 (operator)	
EQN 4.3 (operand)	
EQN 4.4 (operator)	
EQN 4.5 (operand)	
EQN 4.6 (operator)	
EQN 4.7 (operand)	

Logic Equation 5 (Equations use OR/AND operators only)

EQN 5.1 (operand)	
EQN 5.2 (operator)	
EQN 5.3 (operand)	
EQN 5.4 (operator)	
EQN 5.5 (operand)	
EQN 5.6 (operator)	
EQN 5.7 (operand)	

Logic Equation 6 (Equations use OR/AND operators only)

EQN 6.1 (operand)	
EQN 6.2 (operator)	
EQN 6.3 (operand)	
EQN 6.4 (operator)	
EQN 6.5 (operand)	
EQN 6.6 (operator)	
EQN 6.7 (operand)	

Logic Equation 7 (Equations use OR/AND operators only)

EQN 7.1 (operand)	
EQN 7.2 (operator)	
EQN 7.3 (operand)	
EQN 7.4 (operator)	
EQN 7.5 (operand)	
EQN 7.6 (operator)	
EQN 7.7 (operand)	

Logic Equation 8 (Equations use OR/AND operators only)

EQN 8.1 (operand)	
EQN 8.2 (operator)	
EQN 8.3 (operand)	
EQN 8.4 (operator)	
EQN 8.5 (operand)	
EQN 8.6 (operator)	
EQN 8.7 (operand)	

18 Pen Functions

Pen 1 (✔ the box required)

Trend	
Event	

Pen 2 (✔ the box required)

Trend	
Event	

Pen 3 (✔ the box required)

Trend	
Event	

Pen 4 (✔ the box required)

Trend	
Event	

19 Input Assignment

PV1	
PV2	
PV3	
PV4	
Remote SP 1	
Position Feedback 1	
Remote SP 2	
Position Feedback 2	

20 Control Page

20.1 Controller 1

Standard Control

Cycle Time	
Hysteresis	
Proportional Band	
Integral Action Time	
Manual Reset	
Derivative Action Time	
Approach Band	

Heat/Cool

Cycle Time (Heat)	
Proportional Band (Heat)	
Integral Action Time (Heat)	
Manual Reset (Heat)	
Cycle Time (Cool)	
Proportional Band (Cool)	
Integral Action Time (Cool)	
Manual Reset (Cool)	
Derivative	
Approach Band	
Crossover Output Value	
Transition Bandwidth	
Output Hysteresis Band	

20.2 Controller 2

Standard Control

Cycle Time	
Hysteresis	
Proportional Band	
Integral Action Time	
Manual Reset	
Derivative Action Time	
Approach Band	

Heat/Cool

Cycle Time (Heat)	
Proportional Band (Heat)	
Integral Action Time (Heat)	
Manual Reset (Heat)	
Cycle Time (Cool)	
Proportional Band (Cool)	
Integral Action Time (Cool)	
Manual Reset (Cool)	
Derivative	
Approach Band	
Crossover Output Value	
Transition Bandwidth	
Output Hysteresis Band	

21 Ramp/Soak Profile Conrol

21.1 Controller 1

Profile Enable (✔ the box required)

On	
Off	

Power Down Recovery(✔ the box required)

A	
B	
C	

Program Time Units (✔ the box required)

Minutes	
Hours	

Power Down Time Period	

Run/Hold Source	
Run Source	
Hold Source	
Segment Skip Forward Source	
Segment Skip Back Source	
Reset Source	
Soak Time Increment Source	
Soak Time Decrement Source	
Soak Time Adjust	

Reset Enable (✔ the box required)

Enable	
Disable	

Skip Enable (✔ the box required)

Enable	
Disable	

Self Seeking Setpoint (✔ the box required)

On	
Off	

Retort (✔ the box required)

Off	
A	
B	

22 Ramp Soak Profile Program

Print out for each required program.

Program	
Program Begin Segment	
Program End Segment	

Segments (Copy for each segment)

Segment	
Segment Start Value	
Segment End Value	
Hold Time	
Ramp Rate	

Repeat Program Profile	
Hysteresis	
Program Source	

23 Set Up Totalizer

23.1 Totalizer 1 set up

Totalizer 1 (✔ the box required)

On	
Off	

Count Direction (✔ the box required)

Up	
Down	

Count Rate High	
Count Rate Low	
Cut off	
Preset Total	
Predetermined Total	

Wrap (✔ the box required)

On	
Off	

Reset Enable (✔ the box required)

Yes	
No	

Reset Source	

Stop/Go Enable (✔ the box required)

Yes	
No	

Stop/Go Source	

23.2 Totalizer 2 set up

Totalizer 2 (✔ the box required)

On	
Off	

Count Direction (✔ the box required)

Up	
Down	

Count Rate High	
Count Rate Low	
Cut off	
Preset Total	
Predetermined Total	

Wrap (✔ the box required)

On	
Off	

Reset Enable (✔ the box required)

Yes	
No	

Reset Source	

Stop/Go Enable (✔ the box required)

Yes	
No	

Stop/Go Source	

23.3 Totalizer 3 set up

Totalizer 3 (✔ the box required)

On	
Off	

Count Direction (✔ the box required)

Up	
Down	

Count Rate High	
Count Rate Low	
Cut off	
Preset Total	
Predetermined Total	

Wrap (✔ the box required)

On	
Off	

Reset Enable (✔ the box required)

Yes	
No	

Reset Source	

Stop/Go Enable (✔ the box required)

Yes	
No	

Stop/Go Source	

23.4 Totalizer 4 set up

Totalizer 4 (✔ the box required)

On	
Off	

Count Direction (✔ the box required)

Up	
Down	

Count Rate High	
Count Rate Low	
Cut off	
Preset Total	
Predetermined Total	

Wrap (✔ the box required)

On	
Off	

Reset Enable (✔ the box required)

Yes	
No	

Reset Source	

Stop/Go Enable (✔ the box required)

Yes	
No	

Stop/Go Source	

24 Set Up Maths

24.1 Math Block 1

Math Block Type (✔ the box required)

Standard Equation	
Relative Humidity	
Mass Flow 1	
Mass Flow 2	
High Value	
Low Value	
Real Time Average	

Standard Math Block

Element 1 (Operand)	
Element 2 (Operator)	
Element 3 (Operand)	
Element 4 (Operator)	
Element 5 (Operand)	
Element 6 (Operator)	
Element 7 (Operand)	

Available Operators

Median	
Low Select	
High Select	
Divide	
Multiply	
Subtract	
Add	
End	

Mass Flow 1 Math Block

Input A	
Input t	
Temp Units	
Temp Reference	
Input P	
Pressure Reference	
Scaling Constant	

Mass Flow 2 Math Block

Input A	
Input t	
Temp Units	
Temp Reference	
Input P	
Pressure Reference	
Scaling Constant	

High Value Math Block

Source	
Reset Source	

Low Value Math Block

Source	
Reset Source	

Relative Humidity Math Block

Bulb 1 Source	
Bulb 2 Source	

Average Math Block

Input	
Time	
Reset Source	

24.2 Math Block 2

Math Block Type (✔ the box required)

Standard Equation	
Relative Humidity	
Mass Flow 1	
Mass Flow 2	
High Value	
Low Value	
Real Time Average	

Standard Math Block

Element 1 (Operand)	
Element 2 (Operator)	
Element 3 (Operand)	
Element 4 (Operator)	
Element 5 (Operand)	
Element 6 (Operator)	
Element 7 (Operand)	

Available Operators

Median	
Low Select	
High Select	
Divide	
Multiply	
Subtract	
Add	
End	

Mass Flow 1 Math Block

Input A	
Input t	
Temp Units	
Temp Reference	
Input P	
Pressure Reference	
Scaling Constant	

Mass Flow 2 Math Block

Input A	
Input t	
Temp Units	
Temp Reference	
Input P	
Pressure Reference	
Scaling Constant	

High Value Math Block

Source	
Reset Source	

Low Value Math Block

Source	
Reset Source	

Relative Humidity Math Block

Bulb 1 Source	
Bulb 2 Source	

Average Math Block

Input	
Time	
Reset Source	

24.3 Math Block 3

Math Block Type (✔ the box required)

Standard Equation	
Relative Humidity	
Mass Flow 1	
Mass Flow 2	
High Value	
Low Value	
Real Time Average	

Standard Math Block

Element 1 (Operand)	
Element 2 (Operator)	
Element 3 (Operand)	
Element 4 (Operator)	
Element 5 (Operand)	
Element 6 (Operator)	
Element 7 (Operand)	

Available Operators

Median	
Low Select	
High Select	
Divide	
Multiply	
Subtract	
Add	
End	

Mass Flow 1 Math Block

Input A	
Input t	
Temp Units	
Temp Reference	
Input P	
Pressure Reference	
Scaling Constant	

Mass Flow 2 Math Block

Input A	
Input t	
Temp Units	
Temp Reference	
Input P	
Pressure Reference	
Scaling Constant	

High Value Math Block

Source	
Reset Source	

Low Value Math Block

Source	
Reset Source	

Relative Humidity Math Block

Bulb 1 Source	
Bulb 2 Source	

Average Math Block

Input	
Time	
Reset Source	

24.4 Math Block 4

Math Block Type (✔ the box required)

Standard Equation	
Relative Humidity	
Mass Flow 1	
Mass Flow 2	
High Value	
Low Value	
Real Time Average	

Standard Math Block

Element 1 (Operand)	
Element 2 (Operator)	
Element 3 (Operand)	
Element 4 (Operator)	
Element 5 (Operand)	
Element 6 (Operator)	
Element 7 (Operand)	

Available Operators

Median	
Low Select	
High Select	
Divide	
Multiply	
Subtract	
Add	
End	

Mass Flow 1 Math Block

Input A	
Input t	
Temp Units	
Temp Reference	
Input P	
Pressure Reference	
Scaling Constant	

Mass Flow 2 Math Block

Input A	
Input t	
Temp Units	
Temp Reference	
Input P	
Pressure Reference	
Scaling Constant	

High Value Math Block

Source	
Reset Source	

Low Value Math Block

Source	
Reset Source	

Relative Humidity Math Block

Bulb 1 Source	
Bulb 2 Source	

Average Math Block

Input	
Time	
Reset Source	

25 Set Up Timer

25.1 Timer 1 set up

Timer 1 (✔ the box required)

On	
Off	

Day Enable (✔ the box required)

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

On Hour (✔ the box required)

00	
01	
02	
03	
04	
05	
06	
07	
08	
09	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
ALL	

On Minute	

Timer Duration

Hours	
Minutes	

25.2 Timer 2 set up

Timer 2 (✔ the box required)

On	
Off	

Day Enable (✔ the box required)

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

On Hour (✔ the box required)

00	
01	
02	
03	
04	
05	
06	
07	
08	
09	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

21	
22	
23	
24	
ALL	

On Minute	

Timer Duration

Hours	
Minutes	

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