N° **INF08/028 Issue 1** Product **C351 and C355 1/4 DIN Process and Advanced Process Controllers** Manual **IM/C351 Issue 9 and IM/C355 Issue 12 onwards**

C351 and C355 Custom Configuration

1 Introduction

ABB can supply custom configurations for the C351 and C355 Process Controllers 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 Basic Configuration

Referring to Sections 4.2 or 5.2 of the relevant User Guide (IM/C351 or IM/C355 respectively), complete the following tables:

Template Application (✔ the required template on which all other settings will be based)

Single Loop with Local Set Point	
Single Loop with Remote Set Point	
Auto/Manual Station with Low Signal Selection	
Auto/Manual Station with Digital Selection	
Analog Backup with Low Signal Selection	
Analog Backup with Digital Selection	
Single Indicator/Manual Loader	
Double Indicator/Manual Loader	

The following parameters are applicable only to the C355

Single Loop with Feedforward and Local Set Point	
Single Loop with Feedforward and Remote Set Point	
Cascade with Local Set Point	
Cascade with Remote Set Point	
Cascade with Feedforward and Local Set Point	
Ratio Controller	
Ratio Controller with External Ratio	
Ratio Station	
Ratio Station with External Ratio	

Control Output Type (✔ the output type required)

None	
Analog Output	
Relay Output	
Digital Output	
Motorized Valve with Feedback	
Motorized Valve without Feedback	
Heat/Cool (Output 1 = Relay, Output 2 = Relay)	
Heat/Cool (Output 1 = Relay, Output 2 = Digital)	
Heat/Cool (Output 1 = Digital, Output 2 = Relay)	
Heat/Cool (Output 1 = Analog, Output 2 = Relay)	
Heat/Cool (Output 1 = Analog, Output 2 = Analog)	

Control Action Output 1 (✔ the control action required)

Reverse	
Direct	

Control Action Output 2 – *Heat/Cool only*
(✔ the control action required)

Reverse	
Direct	

Mains Rejection Frequency (✔ the frequency required)

50 Hz	
60 Hz	

3 Analog Inputs

Referring to Sections 4.3 or 5.3 of the relevant User Guide (IM/C351 or IM/C355 respectively), enter the settings required for each of the analog inputs:

3.1 Analog Input 1

Input Type (✔ the input type required)

Not Used	
THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type L	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
PT100 RTD	
0 to 20 mA	
4 to 20 mA	
0 to 5 V	
1 to 5 V	
0 to 50 mV	
4 to 20 mA (Square Root)	
4 to 20 mA (Power 3/2)	
4 to 20 mA (Power 5/2)	
Custom	

Input Type – Custom Options (✔ the input type required)

Millivolts	
Milliamps	
Volts	
Resistance	

Linearizer Type (✔ the linearizer type required)

THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type L	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
PT100 RTD	
Square Root	
Power 3/2	
Power 5/2	

Custom Linearizers
(provide details of the curve required)

1	
2	

Electrical Range
(enter the electrical range values required)

Low	
High	

Fault Detect Level
(enter the value of the level of fault detection required)

The following parameters are applicable to all input types:

Engineering Range
(enter the engineering range values required)

Low	
High	

Decimal Places (✔ the number of decimal places required)

0	
1	
2	
3	

Broken Sensor Drive (✔ the direction for the input in the event of a broken sensor)

None	
Up	
Down	

Input Filter Time Constant (enter the time period in seconds over which the input values are to be averaged)

3.2 Analog Input 2

Input Type (✔ the input type required)

Not Used	
THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type L	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
PT100 RTD	
0 to 20 mA	
4 to 20 mA	
0 to 5 V	
1 to 5 V	
0 to 50 mV	
4 to 20 mA (Square Root)	
4 to 20 mA (Power 3/2)	
4 to 20 mA (Power 5/2)	
Custom	

Input Type – Custom Options (✔ the input type required)

Millivolts	
Milliamps	
Volts	
Resistance	

Linearizer Type (✔ the linearizer type required)

THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type L	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
PT100 RTD	
Square Root	
Power 3/2	
Power 5/2	

Custom Linearizers
(provide details of the curve required)

1	
2	

Electrical Range
(enter the electrical range values required)

Low	
High	

Fault Detect Level
(enter the value of the level of fault detection required)

The following parameters are applicable to all input types:

Engineering Range
(enter the engineering range values required)

Low	
High	

Decimal Places (✔ the number of decimal places required)

0	
1	
2	
3	

Broken Sensor Drive (✔ the direction for the input in the event of a broken sensor)

None	
Up	
Down	

Input Filter Time Constant (enter the time period in seconds over which the input values are to be averaged)

3.3 Analog Input 3

Input Type (✔ the input type required)

Not Used	
THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type L	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
PT100 RTD	
0 to 20 mA	
4 to 20 mA	
0 to 5 V	
1 to 5 V	
0 to 50 mV	
4 to 20 mA (Square Root)	
4 to 20 mA (Power 3/2)	
4 to 20 mA (Power 5/2)	
Custom	

Input Type – Custom Options (✔ the input type required)

Millivolts	
Milliamps	
Volts	
Resistance	

Linearizer Type (✔ the linearizer type required)

THC Type B	
THC Type E	
THC Type J	
THC Type K	
THC Type L	
THC Type N	
THC Type R	
THC Type S	
THC Type T	
PT100 RTD	
Square Root	
Power 3/2	
Power 5/2	

Custom Linearizers
(provide details of the curve required)

1	
2	

Electrical Range
(enter the electrical range values required)

Low	
High	

Fault Detect Level
(enter the value of the level of fault detection required)

The following parameters are applicable to all input types:

Engineering Range
(enter the engineering range values required)

Low	
High	

Decimal Places (✔ the number of decimal places required)

0	
1	
2	
3	

Broken Sensor Drive (✔ the direction for the input in the event of a broken sensor)

None	
Up	
Down	

Input Filter Time Constant (enter the time period in seconds over which the input values are to be averaged)

4 Alarm Configuration

Referring to Sections 4.4 or 5.4 of the relevant User Guide (IM/C351 or IM/C355 respectively), enter the settings required for each of the alarms.

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

4.1 Alarm 1

Alarm Type (✔ the alarm type required)

None	
High Process PV	
Low Process PV	
High Latch PV	
Low Latch PV	
High Deviation	
Low Deviation	
High Process Input 1	
Low Process Input 1	
High Process Input 2	
Low Process Input 2	
High Process Input 3	
Low Process Input 3	
High Output	
Low Output	
Math Block 1 High	
Math Block 1 Low	
Math Block 2 High	
Math Block 2 Low	
Math Block 3 High	
Math Block 3 Low	
Math Block 4 High	
Math Block 4 Low	

Alarm Trip (enter the alarm trip point value)

Alarm 1 Trip	

Alarm Hysteresis (enter the alarm hysteresis value)

Alarm Hysteresis	

4.2 Alarm 2

Alarm Type (✔ the alarm type required)

None	
High Process PV	
Low Process PV	
High Latch PV	
Low Latch PV	
High Deviation	
Low Deviation	
High Process Input 1	
Low Process Input 1	
High Process Input 2	
Low Process Input 2	
High Process Input 3	
Low Process Input 3	
High Output	
Low Output	
Math Block 1 High	
Math Block 1 Low	
Math Block 2 High	
Math Block 2 Low	
Math Block 3 High	
Math Block 3 Low	
Math Block 4 High	
Math Block 4 Low	

Alarm Trip (enter the alarm trip point value)

Alarm 2 Trip	

Alarm Hysteresis (enter the alarm hysteresis value)

Alarm Hysteresis	

4.3 Alarm 3

Alarm Type (✔ the alarm type required)

None	
High Process PV	
Low Process PV	
High Latch PV	
Low Latch PV	
High Deviation	
Low Deviation	
High Process Input 1	
Low Process Input 1	
High Process Input 2	
Low Process Input 2	
High Process Input 3	
Low Process Input 3	
High Output	
Low Output	
Math Block 1 High	
Math Block 1 Low	
Math Block 2 High	
Math Block 2 Low	
Math Block 3 High	
Math Block 3 Low	
Math Block 4 High	
Math Block 4 Low	

Alarm Trip (enter the alarm trip point value)

Alarm 3 Trip	

Alarm Hysteresis (enter the alarm hysteresis value)

Alarm Hysteresis	

4.4 Alarm 4

Alarm Type (✔ the alarm type required)

None	
High Process PV	
Low Process PV	
High Latch PV	
Low Latch PV	
High Deviation	
Low Deviation	
High Process Input 1	
Low Process Input 1	
High Process Input 2	
Low Process Input 2	
High Process Input 3	
Low Process Input 3	
High Output	
Low Output	
Math Block 1 High	
Math Block 1 Low	
Math Block 2 High	
Math Block 2 Low	
Math Block 3 High	
Math Block 3 Low	
Math Block 4 High	
Math Block 4 Low	

Alarm Trip (enter the alarm trip point value)

Alarm 4 Trip	

Alarm Hysteresis (enter the alarm hysteresis value)

Alarm Hysteresis	

4.5 Alarm 5

Alarm Type (✔ the alarm type required)

None	
High Process PV	
Low Process PV	
High Latch PV	
Low Latch PV	
High Deviation	
Low Deviation	
High Process Input 1	
Low Process Input 1	
High Process Input 2	
Low Process Input 2	
High Process Input 3	
Low Process Input 3	
High Output	
Low Output	
Math Block 1 High	
Math Block 1 Low	
Math Block 2 High	
Math Block 2 Low	
Math Block 3 High	
Math Block 3 Low	
Math Block 4 High	
Math Block 4 Low	

Alarm Trip (enter the alarm trip point value)

Alarm 5 Trip	

Alarm Hysteresis (enter the Alarm 1 hysteresis value)

Alarm Hysteresis	

4.6 Alarm 6

Alarm Type (✔ the alarm type required)

None	
High Process PV	
Low Process PV	
High Latch PV	
Low Latch PV	
High Deviation	
Low Deviation	
High Process Input 1	
Low Process Input 1	
High Process Input 2	
Low Process Input 2	
High Process Input 3	
Low Process Input 3	
High Output	
Low Output	
Math Block 1 High	
Math Block 1 Low	
Math Block 2 High	
Math Block 2 Low	
Math Block 3 High	
Math Block 3 Low	
Math Block 4 High	
Math Block 4 Low	

Alarm Trip (enter the alarm trip point value)

Alarm 6 Trip	

Alarm Hysteresis (enter the Alarm 1 hysteresis value)

Alarm Hysteresis	

4.7 Alarm 7

Alarm Type (✔ the alarm type required)

None	
High Process PV	
Low Process PV	
High Latch PV	
Low Latch PV	
High Deviation	
Low Deviation	
High Process Input 1	
Low Process Input 1	
High Process Input 2	
Low Process Input 2	
High Process Input 3	
Low Process Input 3	
High Output	
Low Output	
Math Block 1 High	
Math Block 1 Low	
Math Block 2 High	
Math Block 2 Low	
Math Block 3 High	
Math Block 3 Low	
Math Block 4 High	
Math Block 4 Low	

Alarm Trip (enter the alarm trip point value)

Alarm 7 Trip	

Alarm Hysteresis (enter the alarm hysteresis value)

Alarm Hysteresis	

4.8 Alarm 8

Alarm Type (✔ the alarm type required)

None	
High Process PV	
Low Process PV	
High Latch PV	
Low Latch PV	
High Deviation	
Low Deviation	
High Process Input 1	
Low Process Input 1	
High Process Input 2	
Low Process Input 2	
High Process Input 3	
Low Process Input 3	
High Output	
Low Output	
Math Block 1 High	
Math Block 1 Low	
Math Block 2 High	
Math Block 2 Low	
Math Block 3 High	
Math Block 3 Low	
Math Block 4 High	
Math Block 4 Low	

Alarm Trip (enter the alarm trip point value)

Alarm 8 Trip	

Alarm Hysteresis (enter the alarm hysteresis value)

Alarm Hysteresis	

5 Set Point Configuration

Referring to Sections 4.5 or 5.5 of the relevant User Guide (IM/C351 or IM/C355 respectively), enter the settings required for each of the following parameters:

Set Point Tracking (✔ the mode required)

Off	
Local	
Remote	
Local and Remote	

Set Point Limits (enter the values required)

High	
Low	

Multiple Local Set Points (enter each set point value and its respective source as required)

Local Set Point 1		**Source**	
Local Set Point 2		**Source**	
Local Set Point 3		**Source**	
Local Set Point 4		**Source**	

Local/Remote Set Point Source (enter the source required)

6 Output Assignment Configuration

Referring to Sections 4.8 or 5.8 of the relevant User Guide (IM/C351 or IM/C355 respectively), enter the settings required for each of the following parameters:

Digital Output 1 Polarity (✔ the required polarity)

Positive	
Negative	

Analog Output 1 Electrical Range
(enter the electrical range values required)

High	
Low	

Analog Output 1 Retransmission Engineering Range
(enter the engineering range values required)

High	
Low	

Analog Output 2 Electrical Range
(enter the electrical range values required)

High	
Low	

Analog Output 2 Retransmission Engineering Range
(enter the engineering range values required)

High	
Low	

Relay Outputs (enter each source and ✔ required polarity)

Output 1 Source				
Output 1 Polarity	Positive		Negative	
Output 2 Source				
Output 2 Polarity	Positive		Negative	
Output 3 Source				
Output 3 Polarity	Positive		Negative	
Output 4 Source				
Output 4 Polarity	Positive		Negative	

7 Serial Communications Configuration

Referring to Sections 4.9 or 5.9 of the relevant User Guide (IM/C351 or IM/C355 respectively), enter the settings required for each of the following parameters:

Serial Configuration (✔ the connection type required)

Off	
2 Wire, 2400 Baud Rate	
4 Wire, 2400 Baud Rate	
2 Wire, 9600 Baud Rate	
4 Wire, 9600 Baud Rate	
2 Wire, 19200 Baud Rate	
4 Wire, 19200 Baud Rate	

Parity (✔ the parity required)

None	
Odd	
Even	

Modbus Address (enter a value between 1 and 99 to identify the controller on a Modbus link)

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