

ControlMaster CM10

Universal process controller, 1/8 DIN

Custom configuration sheet

1 Application Template

Note. Please select the template required Based on the build of the instrument, i.e. If the build of the instrument is Standard Functionality, the templates available to select are those displayed under Base, Standard. Only 1 template can be selected per instrument.

Base (✓ the box required)

Single Loop	
Single Loop with Remote Set point	

Standard (✓ the box required)

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	
Dual Indicator / Manual Loader	

Output Type Loop 1 (✓ the box required)

Analog	
Time Proportioning	
Split Output	
Motorized Valve with Feedback	
Motorized Valve Boundless	

2 Display

Operator Page 1 (✓ the box required)

PV	
PV, SP	
PV, SP, OP	

Operator Page 2 (✓ the box required)

PV	
PV, SP	
PV, SP, OP	

Operator Page 3 (✓ the box required)

PV	
PV, SP	
PV, SP, OP	

Operator Page 4 (✓ the box required)

PV	
PV, SP	
PV, SP, OP	

Softkey Function (✓ the box required)

Configuration	
Auto/Manual	
Local/Remote	
Scroll View	
Alarm Ack	
Toggle Signal	
Edge Signal	

Auto Manual Enable (✓ the box required)

Enable	
Disable	

Local Remote Enable (✓ the box required)

Enable	
Disable	

Alarm Ack Enable (✓ the box required)

Enable	
Disable	

Setpoint Adjust Enable (✓ the box required)

Enable	
Disable	

3 Inputs/Outputs**Analog Input 1** (✓ the box required)

None	
Millivolts	
Milliamps	
Volts	
Ohms	
Thermocouple	
RTD	
Frequency Input	
Pulse Input	
Volt Free Digital Input	
24 V Digital Input	

Electrical Range (enter value)

Low	
High	

Linearizer (✓ the box required)

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

Engineering Units*	
--------------------	--

*See page 26

Decimal Places (✓ the box required)

0	
1	
2	
3	
4	

Engineering Range (enter values)

Low	
High	

Broken Sensor Drive (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Input Filter Time (0 to 60 seconds)	
--	--

Fault Detect Level (0 to 100%)	
-----------------------------------	--

Analog Input 2 (✓ the box required)

None	
Millivolts	
Milliamps	
Volts	
Thermocouple	
Volt Free Digital Input	
24 V Digital Input	

Electrical Range (enter values)

Low	
High	

Linearizer (✓ the box required)

Type B	
Type E	
Type J	
Type K	
Type L	
Type R	
Type S	
Type T	
Square Root	
Root 3/2	
Root 5/2	

Engineering Units*	
--------------------	--

*See page 26

Decimal Places (✓ the box required)

0	
1	
2	
3	
4	

Engineering Range (enter values)

Low	
High	

Broken Sensor Drive (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Input Filter Time (0 to 60 seconds)	
--	--

Fault Detect Level (0 to 100%)	
-----------------------------------	--

Analog Output 1 Output Type (✓ the box required)

Analog	
Digital	

Analog Source**	
-----------------	--

**See page 25

Auto Engineering Range (✓ the box required)

On	
Off	

Engineering Range (enter values)

Low	
High	

Digital Source***	
-------------------	--

***See page 24

Analog Output 2 Output Type (✓ the box required)

Analog	
Digital	

Analog Source**	
-----------------	--

**See page 25

Auto Engineering Range (✓ the box required)

On	
Off	

Engineering Range (enter values)

Low	
High	

Digital Source***	
-------------------	--

***See page 24

Digital I/O 1 (✓ the box required)

Off	
Output	
Volt Free Input	
24 Volt Input	
TTL	

Output Source***	
------------------	--

***See page 24

Polarity (✓ the box required)

Positive	
Negative	

Digital I/O 2 (✓ the box required)

Off	
Output	
Volt Free Input	
24 Volt Input	
TTL	

Output Source***	
------------------	--

***See page 24

Polarity (✓ the box required)

Positive	
Negative	

Relay 1 (✓ the box required)

Source***	
-----------	--

***See page 24

Polarity (✓ the box required)

Positive	
Negative	

Relay 2 (✓ the box required)

Source***	
-----------	--

***See page 24

Polarity (✓ the box required)

Positive	
Negative	

Relay 3 (✓ the box required)

Source***	
-----------	--

***See page 24

Polarity (✓ the box required)

Positive	
Negative	

Relay 4 (✓ the box required)

Source***	
-----------	--

***See page 24

Polarity (✓ the box required)

Positive	
Negative	

4 Control

Loop 1 Setpoints

High Limit	
Low Limit	
No. of Local Setpoints	
Local SP 1 Value	
Local SP 2 Value	
Local SP 3 Value	
Local SP 4 Value	

Track Mode (✓ the box required)

Off	
Local	
Remote	
Local and Remote	

Remote SP Bias	
Remote SP Ratio	

Remote Setpoint Fault Action (✓ the box required)

No Action	
Local	
Local Default	

Default Setpoint Value	
------------------------	--

Ramp Mode

On	
Off	

Ramp Rate (Eng/hr)	
--------------------	--

Select Sources

LSP 1/2 Toggle	
LSP 1 Source	
LSP 2 Source	
LSP 3 Source	
LSP 4 Source	
Local Select Source	
Remote Select Source	
Local / Remote Toggle	

Loop 1 Control

Control Type (✓ the box required)

PID	
On/Off	

Control Action (✓ the box required)

Direct	
Reverse	
Unknown	

On/Off Hysteresis	
-------------------	--

PID (✓ the box required)

Proportional Band 1	
Integral Time 1	
Derivative Time 1	
Manual Reset	

Motorized Valve

Ratio	
Bias	
Deadband	
Travel Time	

Loop 1 Time Proportioning

Cycle Time 1	
Cycle Time 2	

Loop 1 Output

Limits (Split output type only)

Limit Action (✓ the box required)

Off	
Auto + Manual	
Auto Only	

Low Limit	
High Limit	

Failure Actions

Power Recovery Action (✓ the box required)

Last Mode	
Manual – Last	
Manual – 0%	
Manual – 100%	
Auto Mode	
Auto – Last	
Timed – Last	
Timed – Default	
Recovery Time (secs.)	

PV Failure Action (✓ the box required)

No Action	
Man – Hold OP	
Man – Default OP	

Default Output	
----------------	--

Auto/Manual Select Sources

Auto Select	
Manual Select	
Auto/Manual Toggle	

Manual Output (✓ the box required)

Last Manual OP	
Manual – 0%	
Manual – 100%	
Config Value	

Auto/Manual Output (✓ the box required)

Last Auto OP	
Manual – 0%	
Manual – 100%	
Config Value	

Slew Rate (✓ the box required)

On	
Off	

Function (✓ the box required)

Off	
Up and Down	
Up	
Down	

Rate	
Disable Source	

Tracking

Signal Source	
Disable Source	

Mode (✓ the box required)

In Auto	
Auto + OP	
When Enabled	
When Enabled + OP	

Split Output

Min Input 1	
Min Output 1	
Min Input 2	
Min Output 2	
Max Input 1	
Max Output 1	
Max Input 2	
Max Output 2	

5 Alarms

Alarm 1 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Alarm 1 Source**	
------------------	--

**See page 25

Alarm 1 Trip	
--------------	--

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 2 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Alarm 2 Source**	
------------------	--

**See page 25

Alarm 2 Trip	
--------------	--

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 3 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Alarm 3 Source**	
------------------	--

**See page 25

Alarm 3 Trip	
--------------	--

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 4 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Alarm 4 Source**	
------------------	--

**See page 25

Alarm 4 Trip	
--------------	--

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 5 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Alarm 5 Source**	
------------------	--

**See page 25

Alarm 5 Trip	
--------------	--

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 7 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Alarm 7 Source**	
------------------	--

**See page 25

Alarm 7 Trip	
--------------	--

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 6 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Alarm 6 Source**	
------------------	--

**See page 25

Alarm 6 Trip	
--------------	--

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 8 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Alarm 8 Source**	
------------------	--

**See page 25

Alarm 8 Trip	
--------------	--

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

6 Functions

Logic Equations

Logic Equation 1 (x if not inverted*)

Operand 1		Invert*
Operator 1		
Operand 2		Invert*
Operator 2		
Operand 3		Invert*
Operator 3		
Operand 4		Invert*
Operator 4		
Operand 5		Invert*
Operator 5		
Operand 6		Invert*
Operator 6		
Operand 7		Invert*
Operator 7		
Operand 8		Invert*

Logic Equation 3 (x if not inverted*)

Operand 1		Invert*
Operator 1		
Operand 2		Invert*
Operator 2		
Operand 3		Invert*
Operator 3		
Operand 4		Invert*
Operator 4		
Operand 5		Invert*
Operator 5		
Operand 6		Invert*
Operator 6		
Operand 7		Invert*
Operator 7		
Operand 8		Invert*

Logic Equation 2 (x if not inverted*)

Operand 1		Invert*
Operator 1		
Operand 2		Invert*
Operator 2		
Operand 3		Invert*
Operator 3		
Operand 4		Invert*
Operator 4		
Operand 5		Invert*
Operator 5		
Operand 6		Invert*
Operator 6		
Operand 7		Invert*
Operator 7		
Operand 8		Invert*

Logic Equation 4 (x if not inverted*)

Operand 1		Invert*
Operator 1		
Operand 2		Invert*
Operator 2		
Operand 3		Invert*
Operator 3		
Operand 4		Invert*
Operator 4		
Operand 5		Invert*
Operator 5		
Operand 6		Invert*
Operator 6		
Operand 7		Invert*
Operator 7		
Operand 8		Invert*

Logic Equation 5 (x if not inverted*)

Operand 1		Invert*
Operator 1		
Operand 2		Invert*
Operator 2		
Operand 3		Invert*
Operator 3		
Operand 4		Invert*
Operator 4		
Operand 5		Invert*
Operator 5		
Operand 6		Invert*
Operator 6		
Operand 7		Invert*
Operator 7		
Operand 8		Invert*

Logic Equation 7 (x if not inverted*)

Operand 1		Invert*
Operator 1		
Operand 2		Invert*
Operator 2		
Operand 3		Invert*
Operator 3		
Operand 4		Invert*
Operator 4		
Operand 5		Invert*
Operator 5		
Operand 6		Invert*
Operator 6		
Operand 7		Invert*
Operator 7		
Operand 8		Invert*

Logic Equation 6 (x if not inverted*)

Operand 1		Invert*
Operator 1		
Operand 2		Invert*
Operator 2		
Operand 3		Invert*
Operator 3		
Operand 4		Invert*
Operator 4		
Operand 5		Invert*
Operator 5		
Operand 6		Invert*
Operator 6		
Operand 7		Invert*
Operator 7		
Operand 8		Invert*

Logic Equation 8 (x if not inverted*)

Operand 1		Invert*
Operator 1		
Operand 2		Invert*
Operator 2		
Operand 3		Invert*
Operator 3		
Operand 4		Invert*
Operator 4		
Operand 5		Invert*
Operator 5		
Operand 6		Invert*
Operator 6		
Operand 7		Invert*
Operator 7		
Operand 8		Invert*

Math Blocks

Math Block 1

Math Block Type (✓ the box required)

Equation	
Real Time Average	
Max Hold	
Min Hold	
Multiplexer	
Square Root	

For all Math Block Types

Eng. Decimal Places	
Engineering Low	
Engineering High	
Engineering Units	

Fault Action (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Equation Type Setup

Operand 1	
Operator 1	
Operand 2	
Operator 2	
Operand 3	
Operator 3	
Operand 4	

Selectable Operators

End	Subtract	Divide	High Select
Add	Multiply	Low Select	Median

Real Time Average Setup

Operand 1	
Reset Source	
Average Duration	

Max/Min Hold Setup

Operand 1	
Reset Source	

Multiplexer Setup

Operand 1 (A)	
Operand 1 Constant	
Operand 2 (B)	
Operand 2 Constant	
Mux Selector Source	

Square Root Setup

Operand 1	
-----------	--

...Math Blocks (continued)

Math Block 2

Math Block Type (✓ the box required)

Equation	
Real Time Average	
Max Hold	
Min Hold	
Multiplexer	
Square Root	

For all Math Block Types

Eng. Decimal Places	
Engineering Low	
Engineering High	
Engineering Units	

Fault Action (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Equation Type Setup

Operand 1	
Operator 1	
Operand 2	
Operator 2	
Operand 3	
Operator 3	
Operand 4	

Selectable Operators

End	Subtract	Divide	High Select
Add	Multiply	Low Select	Median

Real Time Average Setup

Operand 1	
Reset Source	
Average Duration	

Max/Min Hold Setup

Operand 1	
Reset Source	

Multiplexer Setup

Operand 1 (A)	
Operand 1 Constant	
Operand 2 (B)	
Operand 2 Constant	
Mux Selector Source	

Square Root Setup

Operand 1	
-----------	--

...Math Blocks (continued)

Math Block 3

Math Block Type (✓ the box required)

Equation	
Real Time Average	
Max Hold	
Min Hold	
Multiplexer	
Square Root	

For all Math Block Types

Eng. Decimal Places	
Engineering Low	
Engineering High	
Engineering Units	

Fault Action (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Equation Type Setup

Operand 1	
Operator 1	
Operand 2	
Operator 2	
Operand 3	
Operator 3	
Operand 4	

Selectable Operators

End	Subtract	Divide	High Select
Add	Multiply	Low Select	Median

Real Time Average Setup

Operand 1	
Reset Source	
Average Duration	

Max/Min Hold Setup

Operand 1	
Reset Source	

Multiplexer Setup

Operand 1 (A)	
Operand 1 Constant	
Operand 2 (B)	
Operand 2 Constant	
Mux Selector Source	

Square Root Setup

Operand 1	
-----------	--

...Math Blocks (continued)

Math Block 4

Math Block Type (✓ the box required)

Equation	
Real Time Average	
Max Hold	
Min Hold	
Multiplexer	
Square Root	

For all Math Block Types

Eng. Decimal Places	
Engineering Low	
Engineering High	
Engineering Units	

Fault Action (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Equation Type Setup

Operand 1	
Operator 1	
Operand 2	
Operator 2	
Operand 3	
Operator 3	
Operand 4	

Selectable Operators

End	Subtract	Divide	High Select
Add	Multiply	Low Select	Median

Real Time Average Setup

Operand 1	
Reset Source	
Average Duration	

Max/Min Hold Setup

Operand 1	
Reset Source	

Multiplexer Setup

Operand 1 (A)	
Operand 1 Constant	
Operand 2 (B)	
Operand 2 Constant	
Mux Selector Source	

Square Root Setup

Operand 1	
-----------	--

...Math Blocks (continued)

Math Block 5

Math Block Type (✓ the box required)

Equation	
Real Time Average	
Max Hold	
Min Hold	
Multiplexer	
Square Root	

For all Math Block Types

Eng. Decimal Places	
Engineering Low	
Engineering High	
Engineering Units	

Fault Action (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Equation Type Setup

Operand 1	
Operator 1	
Operand 2	
Operator 2	
Operand 3	
Operator 3	
Operand 4	

Selectable Operators

End	Subtract	Divide	High Select
Add	Multiply	Low Select	Median

Real Time Average Setup

Operand 1	
Reset Source	
Average Duration	

Max/Min Hold Setup

Operand 1	
Reset Source	

Multiplexer Setup

Operand 1 (A)	
Operand 1 Constant	
Operand 2 (B)	
Operand 2 Constant	
Mux Selector Source	

Square Root Setup

Operand 1	
-----------	--

...Math Blocks (continued)

Math Block 6

Math Block Type (✓ the box required)

Equation	
Real Time Average	
Max Hold	
Min Hold	
Multiplexer	
Square Root	

For all Math Block Types

Eng. Decimal Places	
Engineering Low	
Engineering High	
Engineering Units	

Fault Action (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Equation Type Setup

Operand 1	
Operator 1	
Operand 2	
Operator 2	
Operand 3	
Operator 3	
Operand 4	

Selectable Operators

End	Subtract	Divide	High Select
Add	Multiply	Low Select	Median

Real Time Average Setup

Operand 1	
Reset Source	
Average Duration	

Max/Min Hold Setup

Operand 1	
Reset Source	

Multiplexer Setup

Operand 1 (A)	
Operand 1 Constant	
Operand 2 (B)	
Operand 2 Constant	
Mux Selector Source	

Square Root Setup

Operand 1	
-----------	--

...Math Blocks (continued)

Math Block 7

Math Block Type (✓ the box required)

Equation	
Real Time Average	
Max Hold	
Min Hold	
Multiplexer	
Square Root	

For all Math Block Types

Eng. Decimal Places	
Engineering Low	
Engineering High	
Engineering Units	

Fault Action (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Equation Type Setup

Operand 1	
Operator 1	
Operand 2	
Operator 2	
Operand 3	
Operator 3	
Operand 4	

Selectable Operators

End	Subtract	Divide	High Select
Add	Multiply	Low Select	Median

Real Time Average Setup

Operand 1	
Reset Source	
Average Duration	

Max/Min Hold Setup

Operand 1	
Reset Source	

Multiplexer Setup

Operand 1 (A)	
Operand 1 Constant	
Operand 2 (B)	
Operand 2 Constant	
Mux Selector Source	

Square Root Setup

Operand 1	
-----------	--

...Math Blocks (continued)

Math Block 8

Math Block Type (✓ the box required)

Equation	
Real Time Average	
Max Hold	
Min Hold	
Multiplexer	
Square Root	

For all Math Block Types

Eng. Decimal Places	
Engineering Low	
Engineering High	
Engineering Units	

Fault Action (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Equation Type Setup

Operand 1	
Operator 1	
Operand 2	
Operator 2	
Operand 3	
Operator 3	
Operand 4	

Selectable Operators

End	Subtract	Divide	High Select
Add	Multiply	Low Select	Median

Real Time Average Setup

Operand 1	
Reset Source	
Average Duration	

Max/Min Hold Setup

Operand 1	
Reset Source	

Multiplexer Setup

Operand 1 (A)	
Operand 1 Constant	
Operand 2 (B)	
Operand 2 Constant	
Mux Selector Source	

Square Root Setup

Operand 1	
-----------	--

Custom Linearizer

Custom Linearizer 1

Source	
--------	--

Break Points

(If % known please complete if not completed by factory)

Number	Eng. Range	%	Elect. Range	%
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Custom Linearizer 2

Source	
--------	--

Break Points

(If % known please complete if not completed by factory)

Number	Eng. Range	%	Elect. Range	%
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Delay Timers**Delay Timer 1**

Source	
Delay Time	
On Time	

Delay Timer 2

Source	
Delay Time	
On Time	

Real Time Alarms**Real Time Alarm 1**

Monday (✓)	
Tuesday (✓)	
Wednesday (✓)	
THursday (✓)	
Friday (✓)	
Saturday (✓)	
Sunday (✓)	
Month Enable	
Every Hour	
On Hour	
On Minute	
Duration	
Display Enable	
Tag	

Real Time Alarm 2

Monday (✓)	
Tuesday (✓)	
Wednesday (✓)	
THursday (✓)	
Friday (✓)	
Saturday (✓)	
Sunday (✓)	
Month Enable	
Every Hour	
On Hour	
On Minute	
Duration	
Display Enable	
Tag	

Communications

RS485

Mode (✓ the box required)

Off	
2-Wire	
4-Wire	
Baud Rate	
Parity	
Tx Delay	

7 Communications

Ethernet

DHCP Implementation (✓ the box required)

On	
Off	

IP Address	
Subnet Mask	
Default Gateway	

Email

SMTP Server	
Email 1	
Email 2	
Email 3	

Tag 1		
Trigger 1		Invert
Tag 2		
Trigger 2		Invert
Tag 3		
Trigger 3		Invert
Tag 4		
Trigger 4		Invert

Modbus TCP

Implementation

On	
Off	

Connections (✓ the box required)

1	
2	
3	

Client Authority

Unrestricted	
Authorised 1	
Authorised 2	
Authorised 3	

RS485

Mode (✓ the box required)

Off	
2-Wire	
4-Wire	
Baud Rate	
Parity	
Tx Delay	

8 Digital Sources

Source Name	Description [Comment]
Alarm 1 (8) Ack. State	Acknowledged alarm = 0 Unacknowledged alarm = 1
Alarm 1 (8) State	Alarm state
Anlg IP 1 (4) Fail	Analog Input Failure (active when the signal detected at the analog input is outside the fault detect level specified during configuration).
AO1 (2) Loop Break	Analog output
Delay Timer 1 (2)	Delay timer state
IP 1 (4) Digital State	Input 1 (4) digital state
Linearizer 1 (2) Fail	Custom linearizer failure
Logic Equation 1 (8)	Logic equation result
Loop 1 SP Mode	Setpoint mode selected 0 = Local, 1 = Remote
Loop 1 Auto Mode	Automatic control mode
Loop 1 Close Relay	Motorized valve close relay state
Loop 1 LSP 1 (4) State	Local setpoint state 1 = setpoint selected
Loop 1 Manual Mode	Manual control mode 1 = Manual

Source Name	Description [Comment]
Loop 1 Open Relay	Motorized valve open relay state
Loop 1 TP OP1	Time proportioning output
Loop 1 Valve State	Motorized valve state
Loop 1 Valve Stuck	Motorized valve stuck state
Loop 1 Ctrl Track	Control track state
Math Block 1 (8) Fail	Maths failure
RTA 1 (2) State	Real time alarm state
Softkey Toggle	Front panel soft key toggles the source's state
Softkey Edge	Front panel soft key sets the source active on key press
T1 (2) Int Pulse	Totalizer intermediate pulse – active for 1 second when the intermediate count is reached
T1 (2) Run State	Totalizer run state 1 = Totalizer running
T1 (2) Wrap Pulse	Totalizer wrap pulse If <i>Wrap Enable</i> is <i>On</i> – active for 1 second when the predetermined count is reached <i>Off</i> – active when the predetermined count has been reached and remains active until the totalizer is reset

9 Analog Sources

Source Name	Description
Anlg IP 1 (4)	Analog input
Constant 1 (8)	Math block constant
Linearizer 1 (2)	Custom linearizer
Loop 1 Actual Ratio	Loop 1 (2) actual ratio. Applies to ratio application templates only
Loop 1 Control OP	Control output value
Loop 1 Deviation	Loop 1 (2) deviation
Loop 1 LSP	Local setpoint loop
Loop 1 PV	Loop 1 (2) process variable
Loop 1 SP	Loop control setpoint
Loop 1 Split OP1	Loop 1 split output
Loop 1 Valve Pos	Motorized valve position
Loop Bias 1	Loop 1 desired bias
Math Block 1 (8)	Math block

10 – Analog Input Engineering Units

Unit	Description
%	%
% sat	% saturation
%dO2	% dissolved oxygen
%HCl	% hydrochloric acid
%N2	% nitrogen
%O2	% oxygen
%OBS	% obscuration
%RH	% relative humidity
A	amps
bar	bar
CUMEC	cubic metre per second
deg C / F	degrees Celsius / Fahrenheit
Feet	imperial feet
ft ³ /d, ft ³ /h, ft ³ /m, ft ³ /s	cubic feet per day, hour, minute, second.
FTU	formazine turbidity units
g/d, g/h, g/l	grams per day, hour, liter
gal/d (UK)	imperial gallons per day
gal/d (US)	US gallons per day
gal/h (UK) / (US)	imperial / US gallons per hour
gal/m, s (UK) / (US)	imperial / US gallons per minute, second.
Hz	hertz
Inches	imperial inches
Kelvin	degrees Kelvin
kg/d, kg/h, kg/m	kilograms per day, hr., min.
kg/s	kilograms per sec.
kHz	kilohertz
l/d, l/h, l/m, l/s	liters per day, hour, min., sec.

Unit	Description
lb/d, lb/h, lb/m, lb/s	pounds per day, hour, minute, second.
m WG	meters water gauge
m ³ /d, m ³ /h, m ³ /m, m ³ /s	cubic meters per day, hour, minute, second..
mbar	millibar
mg/kg	milligrams per kilogram
Mgal/d (UK)	imperial mega gallons per day
Mgal/d (US)	US mega gallons per day
mho	conductance
MI/d, MI/h	megaliters per day, hour.
ml/h, ml/m	millilitres per hour, minute.
MI/s	megaliters per second
mS/cm, mS/m	milliSiemens per centimeter, meter
mV	millivolts
MV	megavolts
NTU	nephelometric turbidity units
pb	parts per billion
pH	potential Hydrogen
pm	parts per million
psi	pounds per square inch
S	Siemens
SCFM	standard cubic feet per minute
T/d, T/h, T/m	metric tonnes per day, hour, minute.
T/s	metric tonnes per second
ton/d, ton/h, ton/m, ton/s	imperial tons per day, hour, minute, second.
ug/kg	micrograms per kilogram
uS/cm, uS/m	microSiemens per centimeter / meter
uV	microvolts

Notes

ABB Limited**Measurement & Analytics**

Howard Road

St. Neots

Cambridgeshire

PE19 8EU

UK

Tel: +44 (0)1480 475 321

Fax: +44 (0)1480 217 948

Email: instrumentation@gb.abb.com

ABB Inc.**Measurement & Analytics**

125 E. County Line Road

Warminster

PA 18974

USA

Tel: +1 215 674 6000

Fax: +1 215 674 7183

abb.com/measurement

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

© ABB 2018