

ControlMaster CM10

Universal process controller, 1/8 DIN

Custom configuration sheet

1 Application Template

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 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*	
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*See page 10

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 10

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**	
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**See page 9

Auto Engineering Range (✓ the box required)

On	
Off	

Engineering Range (enter values)

Low	
High	

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

***See page 8

Analog Output 2 Output Type (✓ the box required)

Analog	
Digital	

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

**See page 9

Auto Engineering Range (✓ the box required)

On	
Off	

Engineering Range (enter values)

Low	
High	

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

***See page 8

Digital I/O 1 (✓ the box required)

Off	
Output	
Volt Free Input	
24 Volt Input	
TTL	

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

***See page 8

Polarity (✓ the box required)

Positive	
Negative	

Digital I/O 2 (✓ the box required)

Off	
Output	
Volt Free Input	
24 Volt Input	
TTL	

Output Source***	
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***See page 8

Polarity (✓ the box required)

Positive	
Negative	

Relay 1 (✓ the box required)

Source***	
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***See page 8

Polarity (✓ the box required)

Positive	
Negative	

Relay 2 (✓ the box required)

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

***See page 8

Polarity (✓ the box required)

Positive	
Negative	

Relay 3 (✓ the box required)

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

***See page 8

Polarity (✓ the box required)

Positive	
Negative	

Relay 4 (✓ the box required)

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

***See page 8

Polarity (✓ the box required)

Positive	
Negative	

3 Alarms

Alarm 1 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Alarm 1 Source**	
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**See page 9

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 9

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

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 3 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
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Alarm 3 Source**	
------------------	--

**See page 9

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**	
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**See page 9

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

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 5 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
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Alarm 5 Source**	
------------------	--

**See page 9

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

Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 7 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
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Alarm 7 Source**	
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**See page 9

Alarm 7 Trip	
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Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 6 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
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Alarm 6 Source**	
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**See page 9

Alarm 6 Trip	
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Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

Alarm 8 (✓ the box required)

Off	
High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
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Alarm 8 Source**	
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**See page 9

Alarm 8 Trip	
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Hysteresis (Eng Units)	
Time Hysteresis (seconds)	

4 Non-standard Customization Details

5 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

6 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

7 – 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

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