

ControlMaster CM15

Universal process indicator 1/8 DIN

Custom configuration sheet

1 Application Template

Base (✓ the box required)

Single PV indication	
Single PV with Totalizer	
Single Totalizer	
Single Level with Volume	

Dual (✓ the box required)

Dual PV indication	
Dual PV with totalizer	
Dual Totalizer	
Dual Level with Volume	

Instrument Tag:	
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Mains Frequency (✓ the box required)

50 Hz	
60 Hz	

2 Level Indication Only

Level 1 (✓ the box required)

Specific gravity	
Volume Constant	
Volume Units	
Decimal Places (0, 1, 2, 3 or 4)	

Level 2 (✓ the box required)

Specific gravity	
Volume Constant	
Volume Units	
Decimal Places (0, 1, 2, 3 or 4)	

3 Input/Output

Analog Input 1 – Type (✓ the box required)

Off	
Millivolts	
Milliamps	
Volts	
Ohms	
Thermocouple	
RTD	
Volt Free Digital Input	
24 V Digital Input	
Frequency Input	
Pulse Input	

Electrical Low	
Electrical High	

Linearizer (✓ the box required)

None	
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 “Analog Input Engineering Units” on page 11.

Decimal Places

0	
1	
2	
3	
4	

Electrical Low	
Electrical High	

Broken Sensor Direction (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Filter Time	
-------------	--

Fault Detect Level	
--------------------	--

Analog Input 2– Type (✓ the box required)

Off	
Millivolts	
Milliamps	
Volts	
Thermocouple	
Volt Free Digital Input	
24 V Digital Input	

Electrical Low	
Electrical High	

Linearizer (✓ the box required)

None	
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 "Analog Input Engineering Units" on page 11.

Decimal Places

0	
1	
2	
3	
4	

Electrical Low	
Electrical High	

Broken Sensor Direction (✓ the box required)

None	
Automatic	
Upscale	
Downscale	

Filter Time	
-------------	--

Fault Detect Level	
--------------------	--

Analog Output 1 – Type (✓ the box required)

Analog	
Digital	

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

* See "Analog Sources" on page 10.

Electrical Low*	
Electrical High*	

*Analog Output only

Auto Engineering Range* (✓ the box required)

On	
Off	

Engineering Low*	
Engineering High*	

*Analog Output only

Polarity** (✓ the box required)

Positive	
Negative	

**Digital Output only

Analog Output 2 – Type (✓ the box required)

Analog	
Digital	

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

* See "Analog Sources" on page 10.

Electrical Low*	
Electrical High*	

*Analog Output only

Auto Engineering Range* (✓ the box required)

On	
Off	

*Analog Output only

Engineering Low*	
Engineering High*	

*Analog Output only

Polarity** (✓ the box required)

Positive	
Negative	

**Digital Output only

Digital I/O 1 – Type (✓ the box required)

Off	
Output	
Volt Free Digital Input	
24 V Input	
TTL	

Digital Output Source**	
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** See “Digital Sources” on page 9.

Polarity (✓ the box required)

Positive	
Negative	

Digital I/O 2 – Type (✓ the box required)

Off	
Output	
Volt Free Digital Input	
24 V Input	
TTL	

Digital Output Source**	
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** See “Digital Sources” on page 9.

Polarity (✓ the box required)

Positive	
Negative	

4 Relays

Relay 1

Source**	
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** See “Digital Sources” on page 9.

Polarity (✓ the box required)

Positive	
Negative	

Relay 2

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

** See “Digital Sources” on page 9.

Polarity (✓ the box required)

Positive	
Negative	

Relay 3

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

** See “Digital Sources” on page 9.

Polarity (✓ the box required)

Positive	
Negative	

Relay 4

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

** See “Digital Sources” on page 9.

Polarity (✓ the box required)

Positive	
Negative	

5 Process Alarms

Alarm 1 – Type (✓ the box required)

High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

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

* See “Analog Sources” on page 10.

Trip	
------	--

Hysteresis	
Time Hysteresis	

Alarm 2 – Type (✓ the box required)

High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

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

* See “Analog Sources” on page 10.

Trip	
------	--

Hysteresis	
Time Hysteresis	

Alarm 3 – Type (✓ the box required)

High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

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

* See “Analog Sources” on page 10.

Trip	
------	--

Hysteresis	
Time Hysteresis	

Alarm 4 – Type (✓ the box required)

High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

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

* See “Analog Sources” on page 10.

Trip	
------	--

Hysteresis	
Time Hysteresis	

Alarm 5 – Type (✓ the box required)

High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

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

* See “Analog Sources” on page 10.

Trip	
------	--

Hysteresis	
Time Hysteresis	

Alarm 6 – Type (✓ the box required)

High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

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

* See “Analog Sources” on page 10.

Trip	
------	--

Hysteresis	
Time Hysteresis	

Alarm 7 – Type (4 the box required)

High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Source*	
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* See “Analog Sources” on page 10.

Trip	
------	--

Hysteresis	
Time Hysteresis	

Alarm 8 – Type (✓ the box required)

High Process	
Low Process	
High Latch	
Low Latch	

Tag:	
------	--

Source*	
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* See “Analog Sources” on page 10.

Trip	
------	--

Hysteresis	
Time Hysteresis	

6 Totalizer Configuration

Totalizer 1 – Mode (✓ the box required)

Off	
Analog	
Digital	
Frequency	
Pulse	

Source**	
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** Set source from “Digital Sources” on page 9 and “Analog Sources” on page 10.

Count Direction (✓ the box required)

Up	
Down	

Units	
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Count Rate	
Cut off	
Stop/Go Source	
Decimal Places (0, 1, 2, 3 or 4)	
Wrap (On or Off)	
Reset Source	

Totalizer 2 – Mode (✓ the box required)

Off	
Analog	
Digital	
Frequency	
Pulse	

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

** Set source from “Digital Sources” on page 9 and “Analog Sources” on page 10.

Count Direction (✓ the box required)

Up	
Down	

Units	
-------	--

Count Rate (if known)	
Cut off	
Stop/Go Source	
Decimal Places (0, 1, 2, 3 or 4)	
Wrap (On or Off)	
Reset Source	

7 Other Configuration Details

Please note any further configuration details here.

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 Feedforward	Loop 1 (2) output of feedforward block
Loop 1 LSP	Local setpoint loop
Loop 1 PV	Loop 1 (2) process variable
Loop 1 Ration	Loop 1 (2) desired ratio Loop
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
PV1 (2) Average	Process variable average
PV1 (2) Max	Maximum value of process variable 1 (2)
PV1 (2) Min	Minimum value of process variable 1 (2)
T1 (2) Batch Total	Totalizer batch total
T1 (2) Secure Total	Totalizer secure total
User Value 1 (2)	(Profile only)
Volume 1 (2)	(Indicator only)

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.
lb/d, lb/h, lb/m, lb/s	pounds per day, hour, minute, second.

Unit	Description
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

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