

C310

Wall- / Pipe-mount universal process controller

C310 – gives you the control that you need wherever you need it



IP66/NEMA 4X wall- / pipe-mount housing

- no need for an instrument panel

Single output, heat / cool or motorized valve control

- one controller for every PID control application

9 program, 30 segment ramp / soak

- comprehensive set point profiling capabilities

Analog, relay and logic outputs as standard

- extensive control output requirements built-in

Universal process input with 0.1% accuracy

- direct connection of any process signal, simple installation without recalibration

RS485 Modbus serial communications

- SCADA, PLC and open systems integration

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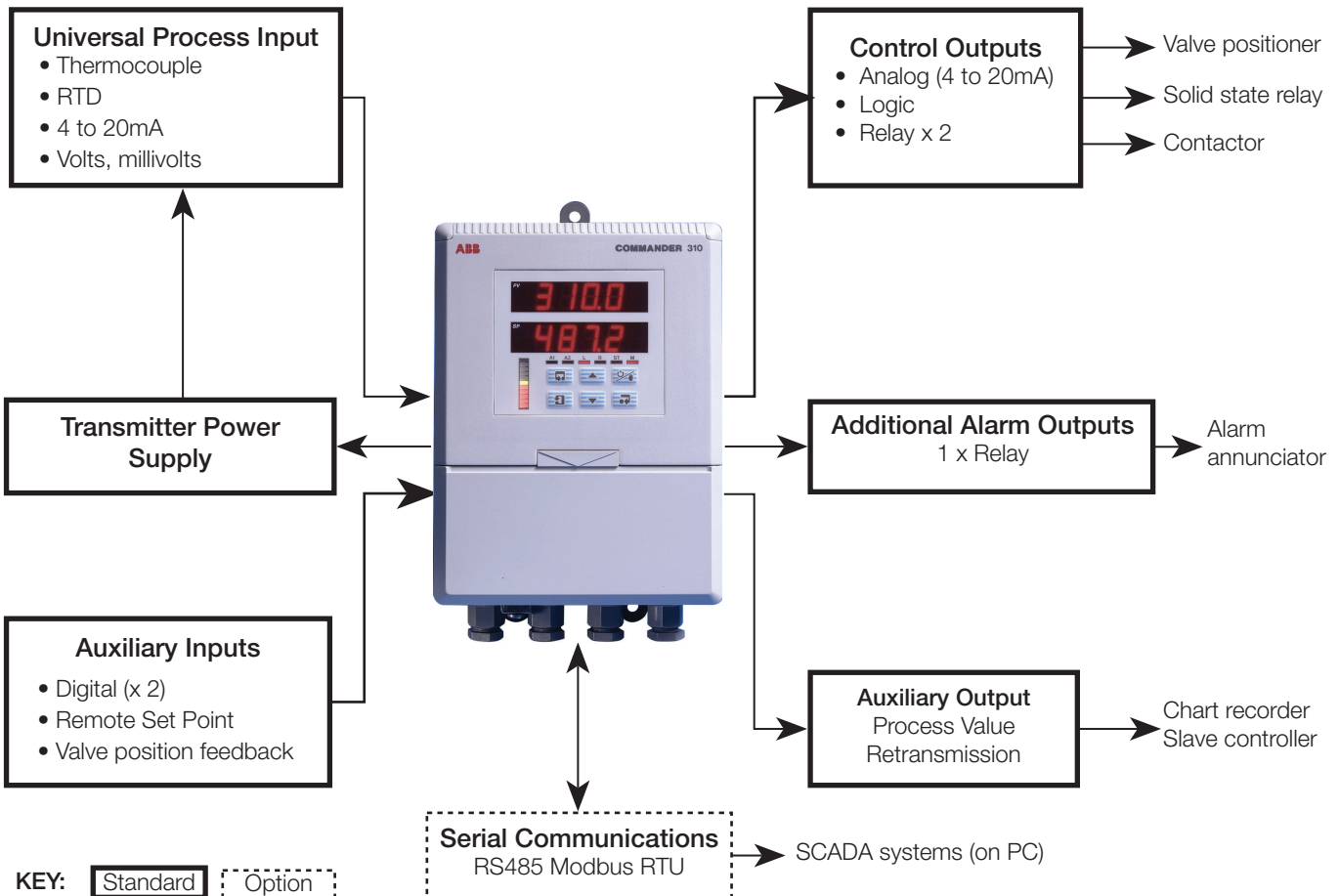
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The C310 wall / pipe-mount universal process controller is a highly versatile single-loop controller packaged in a robust field-mounting housing.

No need to fit an expensive instrument panel when installing or upgrading process equipment. The C310 can be rapidly commissioned by simply fixing it to any flat surface or pipe and making the electrical connections via the cable entry glands on the underside of the unit.

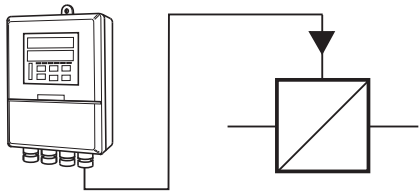
The instrument has extensive control and i/o capabilities fitted as standard, allowing it to be rapidly configured for almost any application.

With IP66/NEMA4X water/dust protection the C310 can be mounted right next to your process, no matter how harsh the environment.



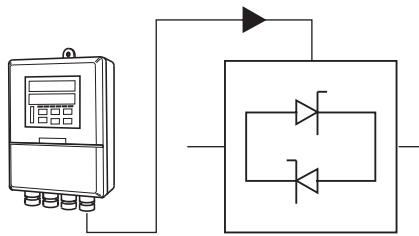
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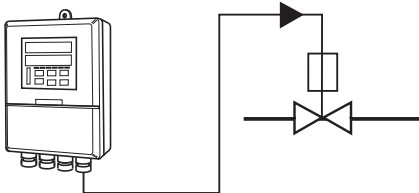
PID control

The C310's isolated analog output provides the standard control output to I/P converters, thyristors etc. Alternatively, built-in relays can be used to generate a time-proportioning control output.



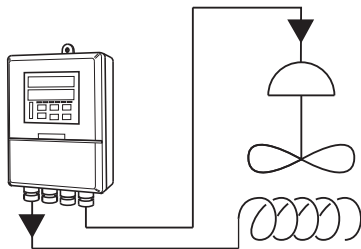
Solid state relay SSR

A 12V time-proportioning logic output on the standard C310 can be used to drive solid state relays (SSRs).



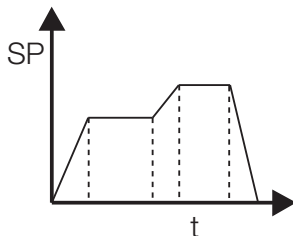
Valve position

The C310 is fitted with twin relays and a valve-position input for closed-loop control of a motorized valve. 'Boundless' control (without position feedback) and analog control (using 4 to 20mA output) are also available in the standard unit.



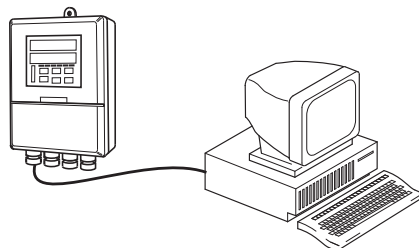
Heat / Cool

Heat/cool control strategies may be implemented on the standard C310, using a combination of the analog control output and one relay.



Ramp / Soak set point profiles

The standard ramp/soak facility provides 30 segments, freely assignable amongst 9 programs. A Segment Event function enables relays to be switched on or off at predetermined points within the program.



Serial communications

Not only does the C310 provide clear process information in the field, it can also communicate plant data to control rooms via an RS485 link, using Modbus protocol.

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Outputs

Control output

Configurable as either:

Analog	in the range of 0 to 20 mA
Max. load	15 V (750 Ω at 20 mA)
Accuracy	≤ 0.1 % of span
Isolation	1 kV AC
Logic	12 V DC (SSR drive)
Max. load	400 Ω
Isolation	1kV AC

Retransmission

0 to 20mA configurable for process variable, set point or position feedback values

Max. load	15 V (750 Ω at 20 mA)
Accuracy	≤ 0.1 % of span

Relay outputs

3 relays, configurable for time proportioning control, valve drive or alarms.

SPDT 5A 120/240V AC normally open or normally closed

Option

Serial communications

Connections	RS485, 4-wire, 1.2k to 9.6k baud rate
Protocol	Modbus RTU

Electrical

Voltage

115 V $\pm 15\%$ or 230V $\pm 15\%$ 50/60Hz (link selectable)

Power consumption

<10 VA

Power interruption protection

<60 ms/<3 cycles, no effect

>60 ms/>3 cycles, controlled reset

Line interference

Meets IEC 801 Pt IV level 3 (>2kV spikes)

Environmental

Operating limits

-10 to 55 $^{\circ}\text{C}$ (14 to 131 $^{\circ}\text{F}$), 0 to 95 %RH non-condensing

Temperature stability

<0.02 % of reading or 1 $\mu\text{V} / ^{\circ}\text{C}$ (0.5 $\mu\text{V} / \text{L}^{\circ}\text{F}$)

Housing dust/water protection

IP66 (NEMA 4X)

RF protection

Meets IEC 801 Pt. III level 3

EMC

Emissions and Immunity

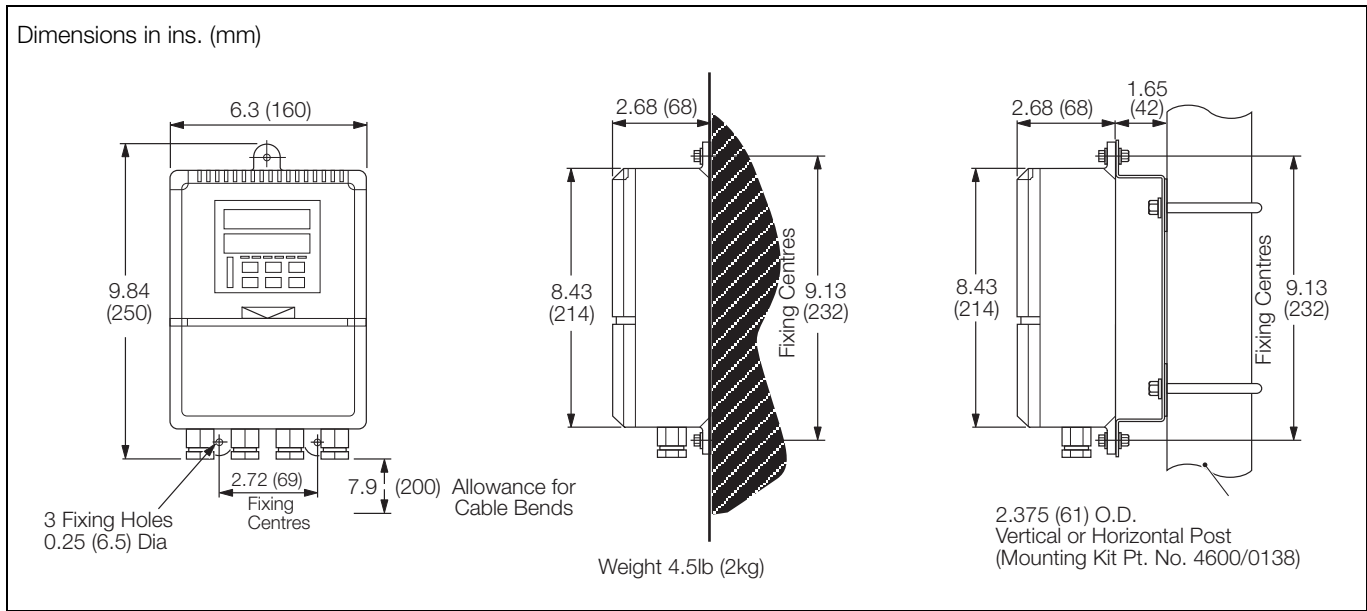
Meets requirements of IEC 61326 for an Industrial Environment

Design and manufacturing standards

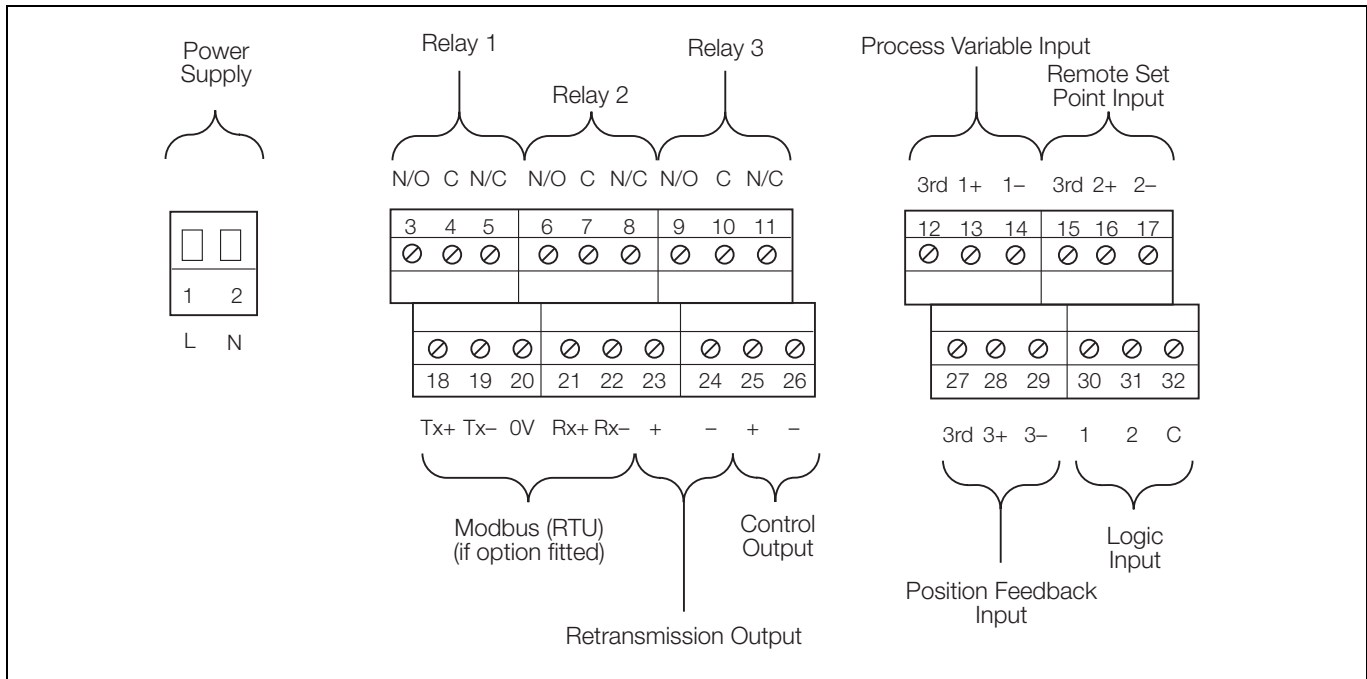
CE

CSA/FM Class 1 Div.2 Hazardous Area

Dimensions



Electrical connections



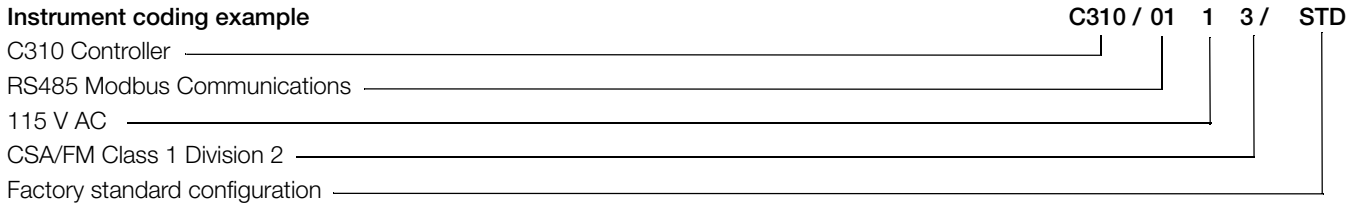
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Ordering information

C310 wall- / pipe-mount universal process controller	C310 /X	X	X	X/	XXXX
Option board					
None	0	0			
RS485 Modbus communications	0	1			
Power supply					
115V AC (NPT fitted with blanking plugs)				1	
230V AC (M20 fitted with cable glands)				2	
115V AC (M20 fitted with cable glands)				4	
230V AC (NPT fitted with blanking plugs)				5	
Build					
Standard					0
CSA/FM Class 1 Division 2					3
Programming / Special features					
Configured to factory standard					STD
Configured to customer requirements (customer to complete and supply C310 custom configuration sheet – INF12/111-EN)					CUS
Agreed special features					SXX
Engineered configuration (customer to supply configuration details required)					ENG

Instrument coding example



Accessories

Pipe mount kit 4600/0138
 After-sales engineered configuration service ENG/CON