

CODA-Series Mass Flow Meters & Controllers

HIGH PRECISION LIQUID AND GAS MEASUREMENTS INDEPENDENT OF FLUID COMPOSITION



*Pressure Ranges
up to 4,000 PSIA*

*High precision at flow
as low as 0.08 g/h*

*Incredibly accurate at
up to $\pm 0.2\%$ of reading*

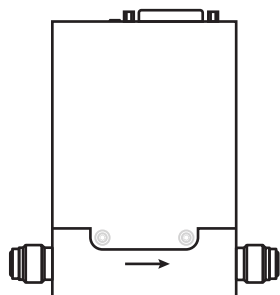
*Accurate measurement
with changing fluids*



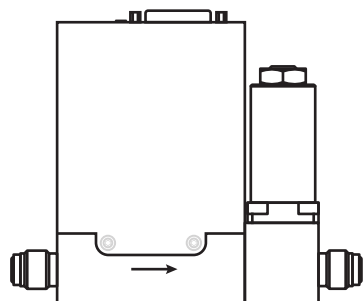
Robust Coriolis Instruments

CODA-Series Mass Flow Meters & Controllers

HIGH PRECISION LIQUID AND GAS MEASUREMENTS INDEPENDENT OF FLUID COMPOSITION



KM-100 CODA-Series Flow Meter



KC-100 CODA-Series Flow Controller

Quick Specifications:

Pressure Ranges:

Up to 4000 psia

Operating Ranges:

0.08 g/h to 100,000 g/h

Liquid Accuracy:

±0.2% of reading,
or ±0.05% of full scale,
whichever is greater

Gas Accuracy:

±0.5% of reading,
or ±0.05% of full scale,
whichever is greater

Repeatability:

±0.05% of reading or
±0.025% of full scale,
whichever is greater

Analog Outputs:

0–5 Vdc, 0–10 Vdc, or 4–20 mA

Digital Communications:

RS-232 or RS-485 serial, Modbus
RTU, EtherCAT, EtherNet/IP

Process Connections:

¼" VCR® Male, ¼" compression

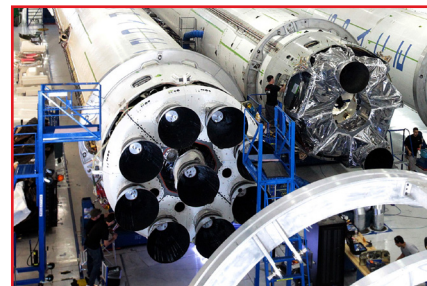
Accuracy and Flexibility

Some of CODA's many applications:



Dosing

Whether it's in catalytic research or food production, precision dosing of an additive is critical. Ultra-low flow capabilities make our coriolis-based devices ideal for measurement and control of components.



High-Pressure Operation

Fuel cell and rocket research place extreme demands on instrumentation. Coriolis devices accurately measure fluids at 4000 PSI, ensuring that your mission-critical projects work on the ground, in the air, and beyond.



Variable Systems

When fluid composition isn't known in a process, accurate measurement is still critical. Coriolis meters allow flexibility in changing environments, such as in bioreactors, variable fluid mixtures, or measuring the outflow in chemical processes.



Aggressive Fluids

From chemical coating to semi-conductors, aggressive fluids pose materials compatibility challenges to many fluid control systems in manufacturing. CODA Coriolis mass flow systems utilize minimal wetted materials, making them more resistant to corrosive fluid environments.

Example Model	Type	Full Scale Range*
KM-40	Meter	40 g/h
KC-3K	Controller	3,000 g/h
KC-100K	Controller	100,000 g/h

*Full scale flow range is defined at 15 PSID (water)



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Technical Data for CODA-Series Mass Flow Controllers

40 to 100,000 grams per hour full scale



Standard specifications. Consult Alicat for available options.

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SENSOR AND CONTROL PERFORMANCE	
Mass Flow Accuracy	Liquid: $\pm 0.2\%$ of reading or $\pm 0.05\%$ of full scale, whichever is greater Gas: $\pm 0.5\%$ of reading or $\pm 0.05\%$ of full scale, whichever is greater
Repeatability	$\pm 0.05\%$ of reading or $\pm 0.025\%$ of full scale, whichever is greater
Steady State Control Range	2%–100% of full scale
Density Accuracy ¹	$\pm 5 \text{ kg/m}^3$
Measurable Density Range	100–2,000 kg/m^3
Viscosity Range	0–200 cP
Zero Stability	$\pm 0.05\%$ of full scale (included in mass flow accuracy)
Temperature Sensitivity	Mass flow zero shift: $\pm 0.01\%$ of full scale per $^{\circ}\text{C}$ from tare temperature ² Mass flow span shift: $\pm 0.005\%$ of reading per $^{\circ}\text{C}$ from 25°C
Valve Function	Normally Closed
Typical Control Response Time	40 g/h–10,000 g/h: <500 ms (T98) 30,000–100,000 g/h: <800 ms (T98)
Typical Indication Response Time	40 g/h–10,000 g/h: <100 ms (T98) 30,000 g/h–100,000 g/h: <200 ms (T98)

¹ Density reading and density accuracy are independent of the mass flow reading and mass flow accuracy.

² Mass flow zero shift for 40 g/h is $\pm 0.025\%$ of full scale per $^{\circ}\text{C}$ from tare temperature.

MECHANICAL	
Operating Temperature Range	Ambient: $0\text{--}60^{\circ}\text{C}$ Fluid: $-35\text{--}70^{\circ}\text{C}$ Consult Alicat for additional options
Ingress Protection	IP40 or IP67
Wetted Materials	316L stainless steel, FKM & FFKM standard; EPDM or PCTFE optional Consult Alicat for additional wetted materials options

COMMUNICATIONS	
Analog I/O Options	0–5 Vdc, 0–10 Vdc, 4–20 mA
Digital I/O Options	Serial (USB-C); RS-232 or RS-485 (DB-15 or M12) Modbus RTU, EtherCAT, EtherNet/IP
Power Requirements	Powered through DB-15 or M12: 40–10,000 g/h: 4 W, 9–30 Vdc 30,000–100,000 g/h: 5 W, 9–30 Vdc
Digital Update Rate	50 Hz at 19200 baud
Analog Update Rate	50 Hz

RANGE-SPECIFIC TECHNICAL DATA					
Full scale flow (g/h)	Process connections	Recommended inlet filter	Nominal pressure drop (H_2O)	Proof Pressure (PSIA) ³	Mounting Options
40	¼" VCR®-compatible male	2 μ	≥ 6 PSID	200	2× M5-0.8 × 10 mm
100–1000	¼" VCR®-compatible male	2 μ	≥ 15 PSID	1500	2× M5-0.8 × 10 mm
3000–10,000	¼" VCR®-compatible male	40 μ	≥ 15 PSID	1500	2× M5-0.8 × 10 mm
30,000–100,000	¼" VCR®-compatible male	120 μ	≥ 15 PSID	1500	2× M5-0.8 × 10 mm

³ 4000 PSIA proof option available for ranges ≥ 100 g/h.

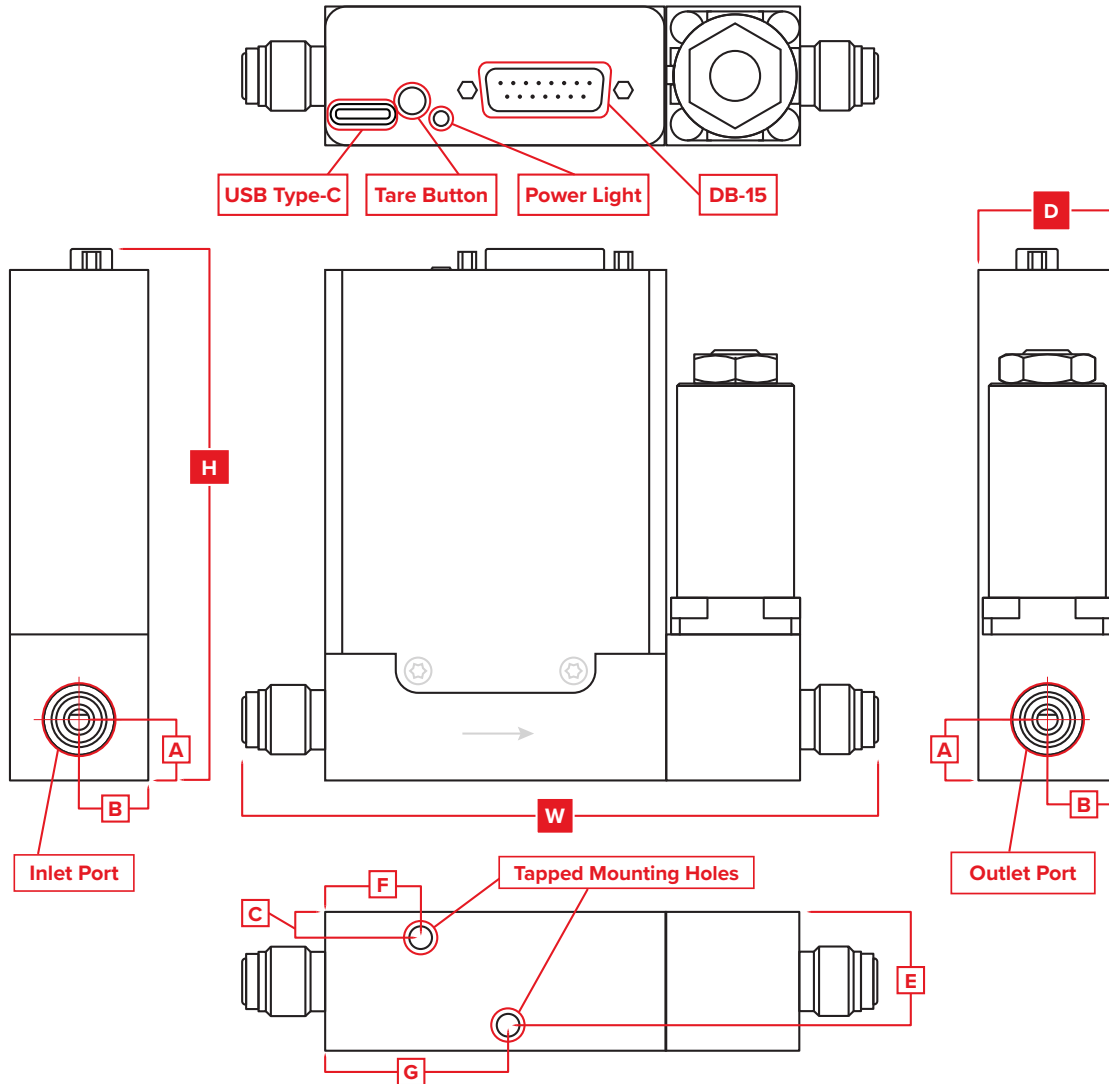
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40 to 100,000 grams per hour full scale

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DIMENSIONS										WEIGHT
Full Scale Flow	Height	Width	Depth	A	B	C	E	F	G	
40–10,000 g/h	4.318 in	5.138 in	1.122 in	0.492 in	0.561 in	0.207 in	0.915 in	1.024 in	1.732 in	≈ 2.0 lb
	109.68 mm	130.51 mm	28.50 mm	12.50 mm	14.25 mm	5.26 mm	23.24 mm	26.01 mm	43.99 mm	≈ 0.9 kg
30,000–100,000 g/h	5.304 in	5.945 in	1.575 in	0.630 in	0.787 in	0.434 in	1.141 in	1.211 in	1.919 in	≈ 3.0 lb
	134.72 mm	151.00 mm	40.01 mm	16.00 mm	19.99 mm	11.02 mm	28.98 mm	30.76 mm	48.73 mm	≈ 1.4 kg

1

Use a Micro-USB cable to connect power to the display, and wait for the device to initialize. You may see a “device not found” error, which is not a problem at this point.

Display Power Connection USB Type Micro-A

1.4 W, 9–30 Vdc



Power and Communication Connection

DB-15

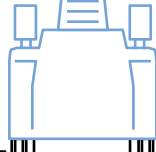
40–10,000 g/h:
4 W, 9–30 Vdc

30,000–100,000 g/h:
5 W, 9–30 Vdc

Data Connection USB Type-A to USB-C

2

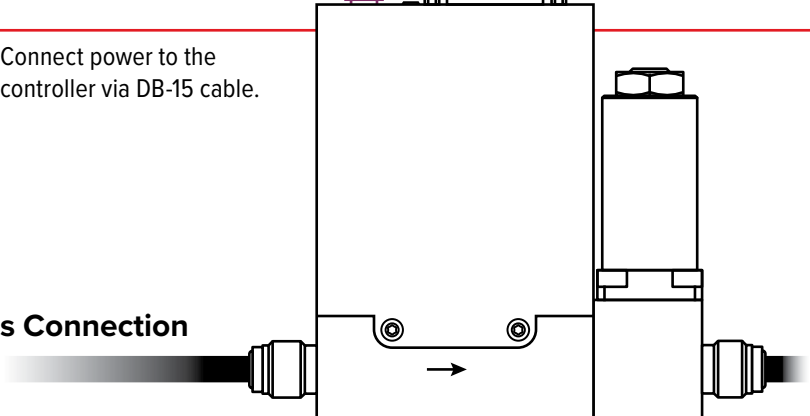
Connect a USB-A to USB-C cable between the display and the controller or meter.



3

Connect power to the controller via DB-15 cable.

Process Connection



Download the full manual: alicat.com/coda

Troubleshooting • Questions:

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CODA Touchscreen Interface

Quick Start Guide: Meters



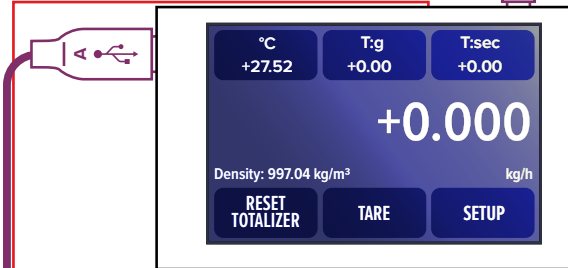
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1

Use a Micro-USB cable to connect power to the display, and wait for the device to initialize. You may see a “device not found” error, which is not a problem at this point.

Display Power Connection USB Type Micro-A

1.4 W, 9–30 Vdc



Data and Power Connection USB Type-A to USB-C

OPTIONAL:

Power (when supplied)
**and Communication
Connection**

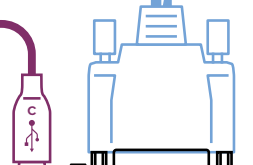
DB-15

40–10,000 g/h:
4 W, 9–30 Vdc

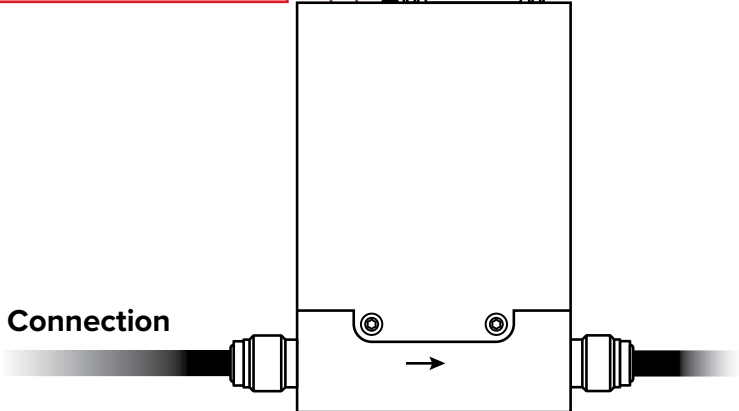
30,000–100,000 g/h:
5 W, 9–30 Vdc

2

Connect a USB-A to USB-C cable between the display and the controller or meter.



Process Connection



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