Data Sheet

0250 Series

Model 0251
Single Channel
Secondary Electronics

Model 0254
Four Channel
Secondary Electronics

Secondary Electronics

Power Supply, Readout and Set Point Controller

Overview

The 0250 Series is a family of secondary electronics providing power supply, readout, and set point control. The innovative, reliable, microcomputer-based controllers are available in two models:
- Model 0251 provides power for one Brooks® mass flow or pressure device
- Model 0254 provides power for up to four Brooks mass flow and/or pressure devices.

Additionally, the 0250 Series can be used to:
- Generate flow set point commands
- Display flow rate or pressure
- Totalize flow for inventory management
- Batch control for single or multi-channel batch recipes
- Support master slave blending configuration and operation

This fully RoHS compliant device has a very user-friendly operation and is offered with multiple mounting options for easy installation into your specific application.

Product Specifications

Performance

|	
Display	0251: 8 line x 20 character back-lit LCD display. 0254: 8 line x 40 character back-lit LCD display.
Controls	Keypad: 8-Key metal dome tactile push buttons with selectable audio beep for setpoint (rate, batch, blend), VOR, emergency stop, full operation and programming.
Date Retention	Non-volatile ram/rom, 100 year retention.
Power Input	Voltage: 12-24 Vdc required, -15 Vdc permitted. Current: 400 mA max. current draw per channel. Instrument power draw: 0.8 Watts. Optional power module: 100-240 Vac, 47-63Hz.
Power Output	+15 V/2.0 A, -15 V/1.0 A or 12-24 Vdc/2.0 A.
Signal Input	0(1)-5 Volts, 0(2)-10 Volts, 0(4)-20 mA.
Signal Output	0(1)-5 Volts, 0(2)-10 Volts, 0(4)-20 mA.
Communications	Full communications capability for remote readout, setpoint, control, programming and data acquisition via RS232.
Enclosure	ABS cycolac resin.
Mounting Options	Panel mount kit, table top kit, rack mount kit, rack mount kit with 19" sub-rack. (Rack mount available for 0254 only)
Dimensions	See product dimensions on pages 4 - 6.
Temperature/Humidity	Operating: 32-122°F (0-50°C), 0-95% non-condensing. Ship/Storage: (-)40-185°F (-)40-85°C, 0-95% non-condensing.
Certifications	CE Mark EMC Directive 2014/30/EU EN:61326-1:2013 Low Voltage Directive 2014/35/EU EN:61010-1-2010 Machinery Directive 2006/42/EC EN/ISO:13849-1:2009, EN:60204-1:2009 RoHS Directive 2011/65/EU FCC Part 15 Class A, part 68 UL-USA & Canada 0254: UL 61010 Electrical Safety for General Purpose Indoor Use.

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Backlit Graphic Display
The 0250 Series features a large, high contrast, backlit graphic display which allows the user to view real-time process variables and the programmed setpoint for each connected device right on the home screen. This enables the user to rapidly identify and make in-process adjustments in seconds. The easy to read display and setable audio indicators provide the user immediate status for rates and diagnostic operating status.

Single or Multi Channel Display
The process variable and setpoint for each of the channels are displayed simultaneously for quick reading and adjustment. The value displayed on each channel can be independently set for percent full scale or engineering units to display flow rate, pressure, density, or temperature.
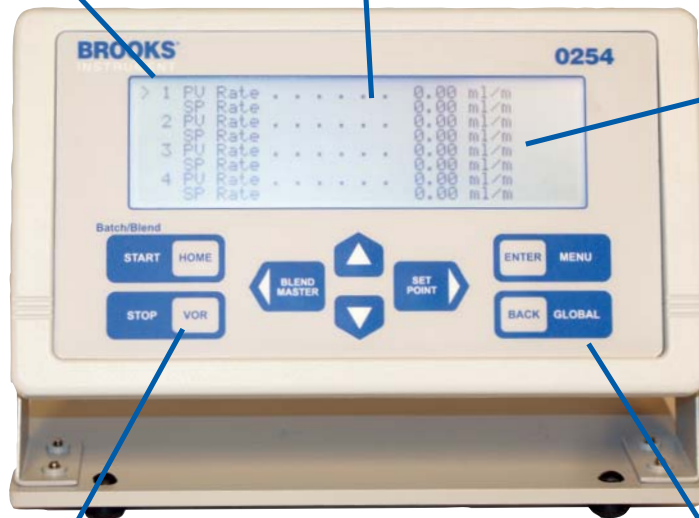
Self-Diagnostics
Powerful automatic built-in diagnostic tests support easy installation and assist in ensuring a long, trouble-free operating life. These tests include overall system operating status, memory conditions, communication adapter status, display functionality, and keypad operation on every power-up.

Model 0254 Table Front View

Valve Override Control (VOR) open, closed or normal

Valve open allows rapid purge or chamber flooding.

Sensor Factor
Ability to program a gas sensor factor allowing the user to adapt any mass flow device for virtually any fluid application.

Communication
Every 0250 Series comes with an RS232 port, giving users serial communication capability. The RS232 port provides remote readout, setpoint, control, and data acquisition.
Brooks Smart DDE software simplifies the use of this feature in some applications and is available to download free at BrooksInstrument.com

Robust Signal and Power Connectors
The 9-pin D connector for power input and 15-pin D connector(s) for device hook up provide secure vibration and shock resistant connections.

Model 0254 Table Back View

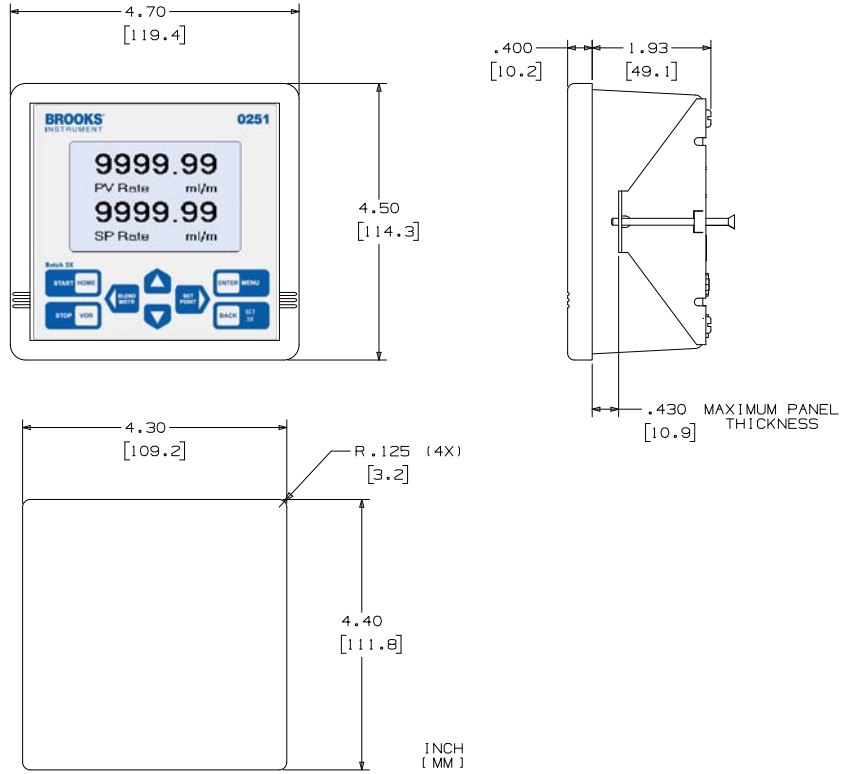# Product Description
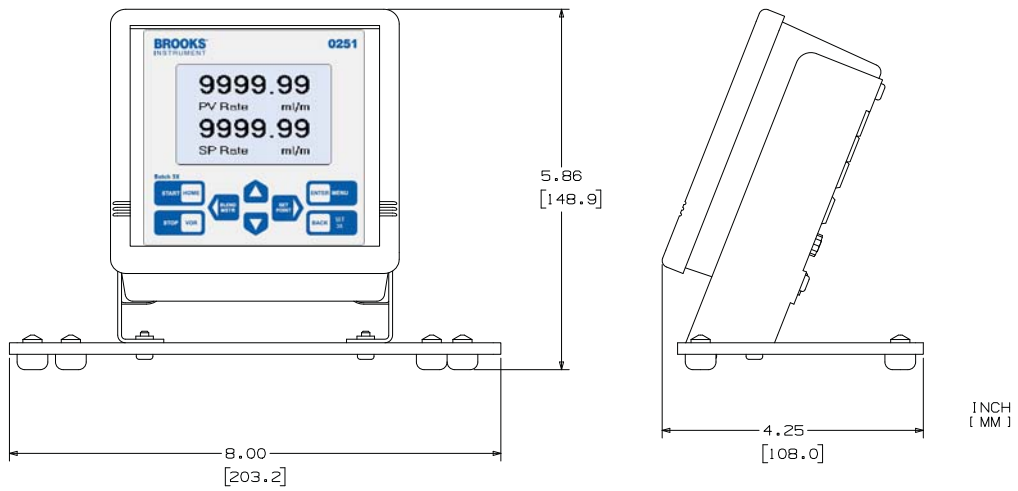

Model 0251 Front View

Model 0251 Back View

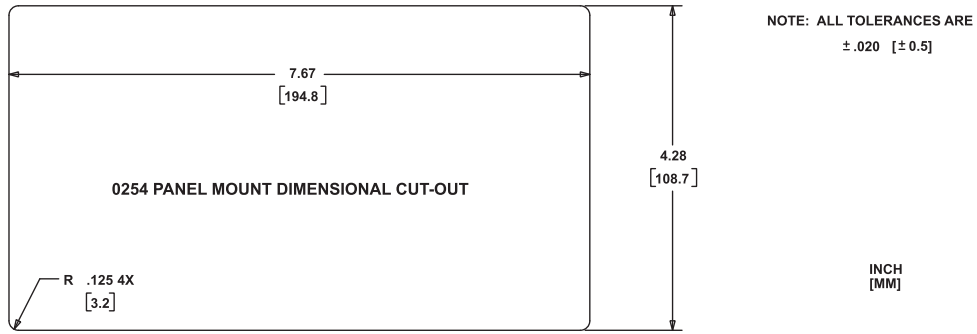

Model 0254 Rack Mount Assembly

Model 0251 Panel Mount Dimensions

Model 0251 Table Top Dimensions

2.254
[57.3]

PANEL MOUNTING
ASSEMBLY
(QTY. 2)

4.466
[113.4]

4.190
[106.4]

0254

Batch/Blend

START HOME

BLEND
MASTER

SET
POINT

ENTER MENU

STOP VOR

BACK GLOBAL

7.859
[199.6]

8.308
[211.0]

.321
[8.2]

1.420
[36.1]

2.316
[58.8]

NOTE: ALL TOLERANCES ARE
± .020   [± 0.5]

7.67
[194.8]

4.28
[108.7]

0254 PANEL MOUNT DIMENSIONAL CUT-OUT

R .125 4X
[3.2]

INCH
[MM]

Model 0254 Panel Mount Dimensions

0254

Batch/Blend

START HOME

BLEND
MASTER

SET
POINT

ENTER MENU

STOP VOR

BACK GLOBAL

5.715
[145.2]

8.000
[203.2]

4.301
[109.2]
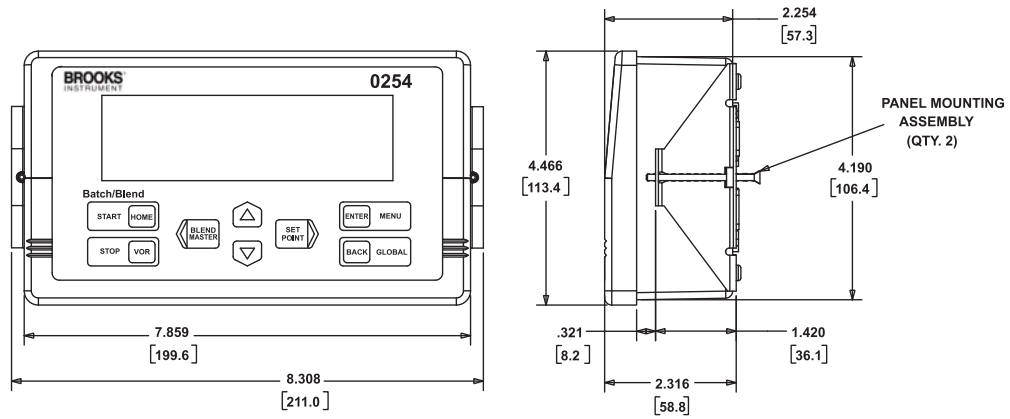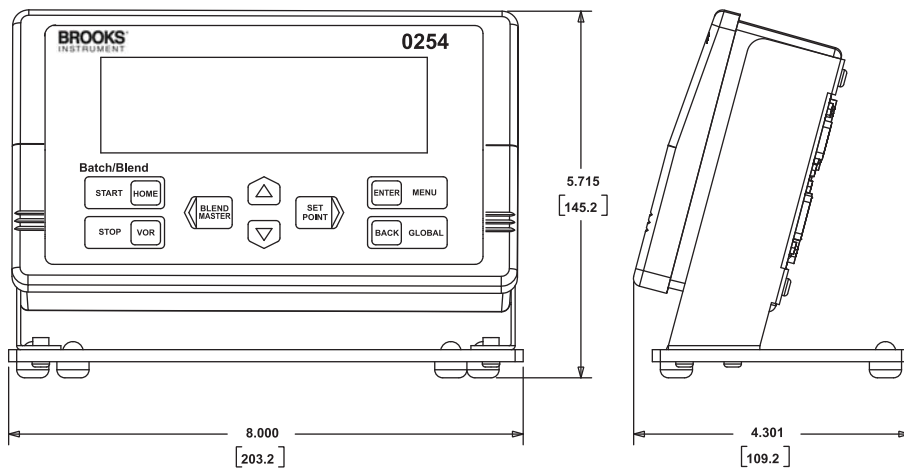
NOTE: ALL TOLERANCES ARE
± .020   [± 0.5]

INCH
[MM]

Model 0254 Table Top Dimensions

8.380
[212.9]

INCH
[MM]

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0254

5.046
[128.2]

Batch/Blend

START HOME
BLEND MASTER
STOP VOR
SET POINT
ENTER MENU
BACK GLOBAL

NOTE: ALL TOLERANCES ARE
±.020 [± 0.5]

.563
[14.3]

8.966
[227.7]

19
[482.6]
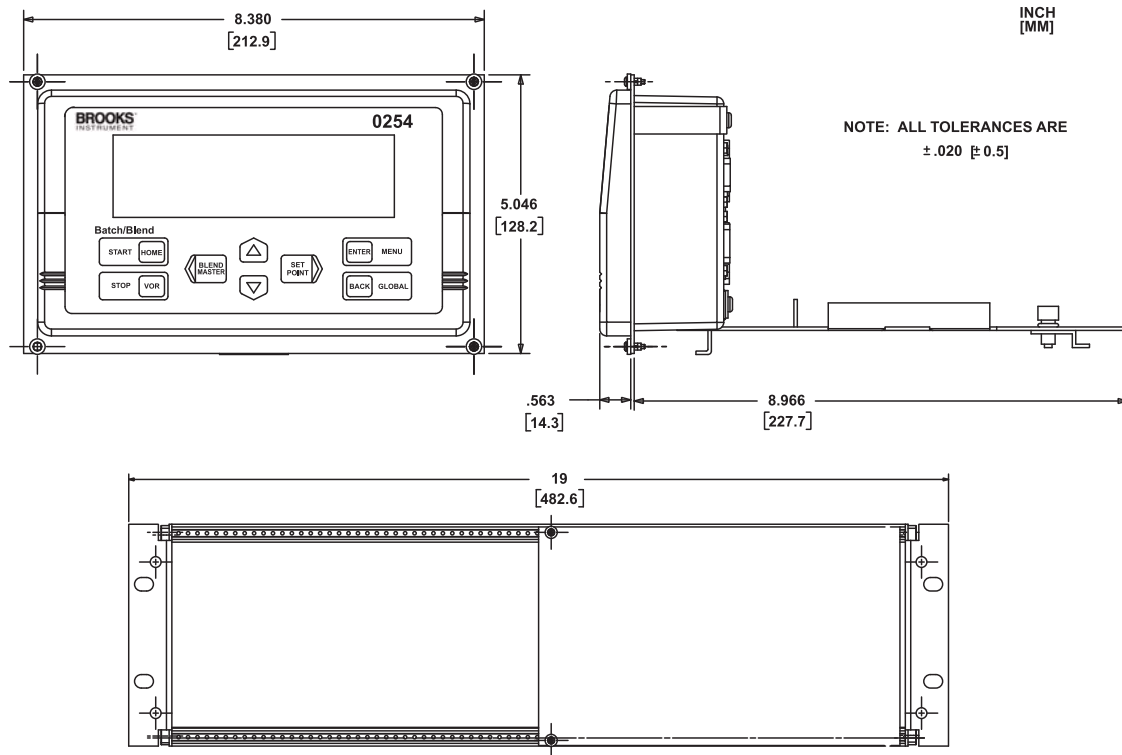
Rack Mount Dimensions

Model Code

Code	Description	Code Option	Option Description
I.	Base Model Code	0251A	Single channel secondary electronics
		0254A	Four channel secondary electronics
II.	Mounting	A	Panel mount kit
		B	Table top kit
		C	Rack mount kit (0254 only, can be used to retrofit 0254 into 0152/54 installations)
		D	Rack mount kit with 19" rack (0254 only)
III.	Power Cord for Power Supply Module 100-240 Vdc	1	North American power cord for 120 Vac
		2	European power cord for 220 Vac
		3	None
		4	United Kingdom power cord for 220 Vac
IV.	Power Supply Output Voltage	A	+/- 15 Vdc
		B	+ 24 Vdc
		C	No power supply
V.	Input / Output Pinout and Signal Adapters	1	Current Pinout (pin compatible with standard Brooks 0(4)-20 mA cables)
		2	Current Pinout / Voltage Pinout Adapter Set (four adapters for use with 0254 and standard Brooks 0(1)-5 Vdc cables; one adapter for 0251)
VI.	Options	1	None
		3	RS232 communication cable (3m 10ft., 9 pin female 'D' to 9 pin female 'D')
VII.	OEM Code	A	Standard Brooks labeling
		N	No logo front labeling

Sample Model Code

I	II	III	IV	V	VI	VII
0254A	B	1	B	2	1	A

Brooks Service and Support

Brooks is committed to assuring all of our customers receive the ideal flow solution for their application, along with outstanding service and support to back it up. We operate first class repair facilities located around the world to provide rapid response and support. Each location utilizes primary standard calibration equipment to ensure accuracy and reliability for repairs and recalibration and is certified by our local weights and measures authorities and traceable to the relevant international standards.

Visit www.BrooksInstrument.com to locate the service location nearest to you.

START-UP SERVICE AND IN-SITU CALIBRATION

Brooks Instrument can provide start-up service prior to operation when required. For some process applications, where ISO-9001 quality certification is important, it is mandatory to verify and/or (re)calibrate the products periodically. In many cases this service can be provided under in-situ conditions, and the results will be traceable to the relevant international quality standards.

SEMINARS AND TRAINING

Brooks Instrument can provide seminars and dedicated training to engineers, end users and maintenance persons.

Please contact your nearest sales representative for more details.

Due to Brooks Instrument's commitment to continuous improvement of our products, all specifications are subject to change without notice.

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