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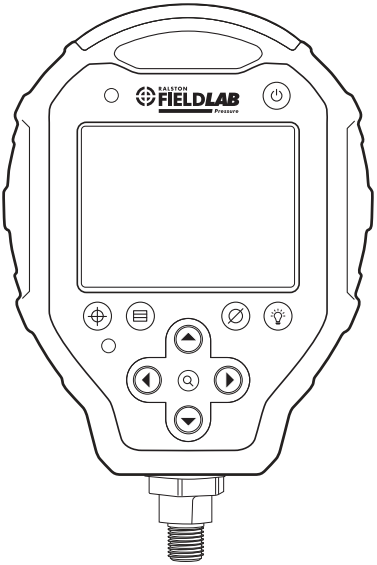
Ralston

Ralston FieldLab Pressure Calibrator
Operation Manual



RALSTON FIELDLAB

For all models of the Ralston FieldLab Pressure Calibrator (FLP1)

Table of Contents

Included Items

Items included in the package. If any items are missing, please contact your Ralston Instruments distributor.

- **FieldLab Pressure Calibrator**
- **AC/DC power adapter with 5 country adapters (Model DGAU-0163)**
- **1 meter USB cable (DGAU-0194)**
- **For gauges with W1 option - USB Dongle (Model DGAU-0050) and USB extension cord (Model DGAU-0192)**

Need Replacement Parts?
Replacement parts and accessories can be found at **ralstoninst.com/fieldlab**

Important Safety Notices

⚠ **WARNING:** Use eye protection while using this product.

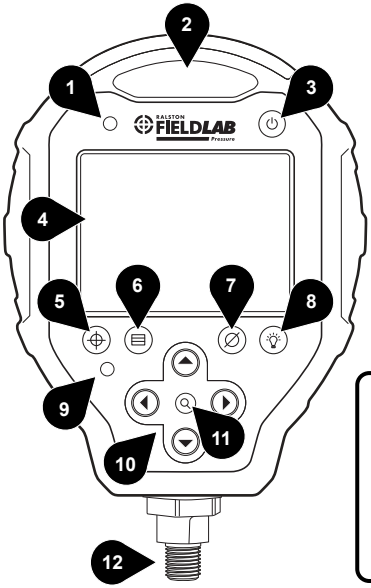
⚠ **WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer, and is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

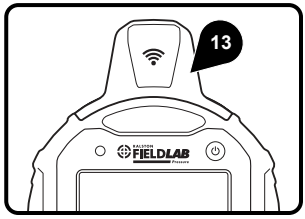
See additional warnings and safety instructions for hazardous locations in the Standards and Agency Approvals section on page 9.

FieldLab Pressure Calibrator Features Overview

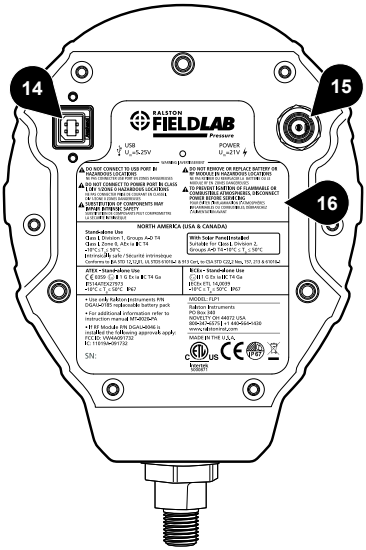
Front

1. Ambient Light Sensor
2. Pressure range label
3. Power
4. LCD display
5. Start/stop logging
6. Menu
7. Zero
8. Backlight
9. Log indicator
10. Arrows
11. Search/enter
12. Process connection
13. Wireless module option
14. USB port
15. Charging Port
16. Warning label





Back



Intrinsically Safe
Intrinsically safe for use in US, Canada, ATEX and IECEx hazardous environments.

Accuracy to 0.1% of Reading
Precision readings accurate to within 0.1% of reading from 20% and above. Below 20% of scale readings are +/-0.02% of full scale.

Power Management
Configure display and power management to maximize battery life in the field using FieldLab Desktop software.

Graphic Pressure Meter
Graphic Pressure meter with zoom in/out for analog style visual pressure/vacuum reading.

High / Low Readings
See continuous Maximum and Minimum pressure or temperature readings over a span of time

Easily Change Engineering Units
Change to any of the 18 standard pressure engineering units on the fly. Manage frequently used units or remove unused units with FieldLab Desktop.

Create Custom Engineering Units
Create custom units and add up to 2 named custom units to each FieldLab.

NIST Traceable Pressure Certificate
Calibration certificate included and reference information appears on all datasets and certificates created.

Manage FieldLab(s) with Desktop Software
Manage all your FieldLabs in the same place with the FieldLab Desktop software.

Calibration Test Modes
Configure calibration test points quickly using ASME or ISO standard grades and permissible error. Get instant feedback with pass/fail confirmation on each test point. Export calibration test reports for inclusion in calibration certificates.

Data Logging Test Modes
Record data runs continuously at any interval for any duration. Monitor pressure in the field and import Data Sets into FieldLab Desktop.

Precision PSV Testing
Pressure safety valve crack tests and seat tightness tests can be performed and logged with precision. Follow Standard ASME Section 8 or create your own tests.

View Live Readings on Your PC
View real-time pressure and/or temperature readings on your PC from your FieldLab gauge using FieldLab Desktop via USB or wirelessly.

Log Data on Your PC
Log pressure data on your PC from your FieldLab gauge using FieldLab Desktop via USB or wirelessly.

Activate Your FieldLab

Before using your FieldLab for the first time, you will need to activate it and link with your PC.

1 Download & Install FieldLab Desktop

Visit **RalstonFieldLab.com** to download and install FieldLab Desktop on your Windows PC*

2 Open & Follow onscreen instructions in FieldLab Desktop software

Follow the onscreen directions closely before connecting your FieldLab. Do not connect your FieldLab until instructed to do so.

3 Activate & Update your FieldLab

Register your product with an email using FieldLab Desktop software. Any updates will be made using the FieldLab Desktop software.

4 You're ready to begin!

Review the **Quick Start Overview** on page 6 to get started putting your FieldLab to work.

* Windows version 7 or greater only. Administrative rights required to install FieldLab Desktop software.

Updating FieldLab and FieldLab Desktop

Updating FieldLab Desktop

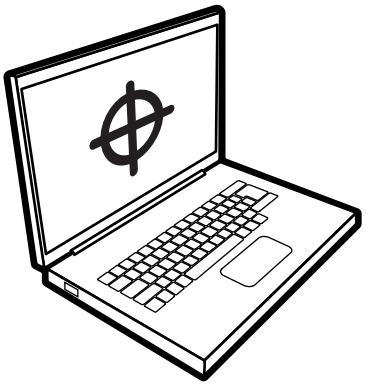
Open FieldLab Desktop on your computer, and select FieldLab > Check for Updates.

Updating your FieldLab

1. Open FieldLab Desktop on the computer you use to manage your FieldLab.
2. Connect the FieldLab using the USB cable.
3. Select the FieldLab from the FieldLab's menu. Any available updates will be displayed.

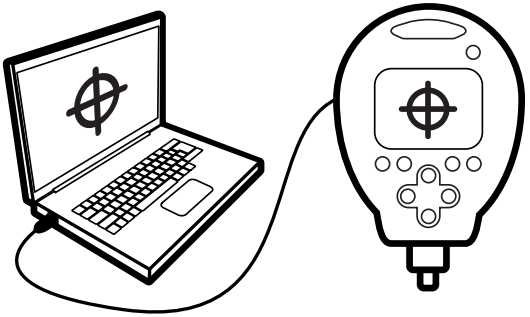
FieldLab Quick Start Overview

1



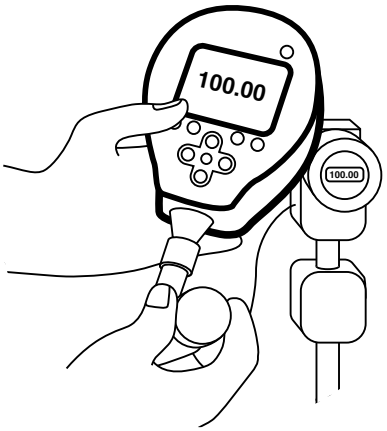
Create Test Modes for common tasks such as Calibration Tests or Data Logging.

2



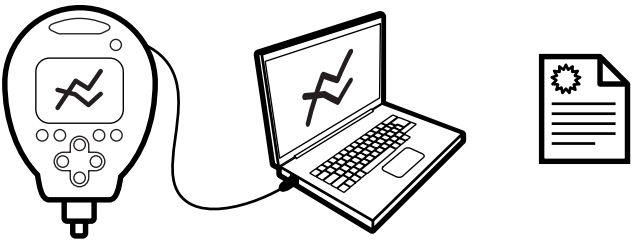
Add the Test Modes you need to do your work onto the FieldLab pressure gauge.

3



Connect your FieldLab to a pressure source and your Device Under Test (DUT) and run your Test Modes as needed. Log results of Calibration Tests or perform Pressure Monitoring Logging. All results are stored in Data Sets on the FieldLab.

4



Transfer Data Sets back to your Windows PC into FieldLab Desktop. Export the Data Sets for use in Calibration Certificates, As Found/As Left reports, or simple data runs. Run the tests on your PC with the FieldLab connected via USB or wirelessly.

For detailed tutorials on creating and managing Test Modes and Data Sets, visit RalstonFieldLab.com

Battery Replacement

To maintain an Intrinsic Safety rating you must return the FieldLab to Ralston Instruments to replace the main battery or clock battery. For return instructions please go to **ralstonfieldlab.com/batteries**

Calibration

- Download PC software at **RalstonFieldLab.com**
- Follow instructions in software on how to calibrate pressure or temperature

Specifications

Weight	2.56 lbs / 1.16 kg
Dimensions	7.5 in x 5 in x 1.5 in (20 cm x 13 cm x 39 mm) / 9 in x 5 in x 2.5 in (23 cm x 13 cm x 64 mm) with wireless module
Burst Pressure	4X Working Pressure
Datalogging	2 million points
Ingress Protection	IP67 (1 meter water submersion for 30 minutes)
LCD Display	3.5 in / 90mm Color TFT LCD Display
Materials	316 Stainless Steel, Reinforced Polyamide
Operating Temperature Range	14 °F to 122 °F (-10 °C to 50 °C)
Storage Temperature Range	-20 °F to 167 °F (-29 °C to 75 °C)
Measurement Type	Gauge Pressure
Media Compatibility	Air, Inert Gas, Natural Gas, Petroleum Based Oil, Water
Mounting Holes	3 x M5 Inserts (10 mm deep)
Power Input	90-264 VAC, 50-60 Hz, 12 VDC, 5 Amps
Process Connection	¼" Male BSPP / ¼" Male NPT / Female Quick-test / G ¼ Male BSPP (ISO 228) / Male Quick-test / Male Quick-test XT
Relative Humidity	0% to 90% (-10 to 35°C), 0% to 70% (35 to 50°C)
Seal Materials	Teflon, Viton
Sensor Type	High Precision MEMS
USB Connection	USB (Type B)
Wetted Materials	316 Stainless Steel
Process Media Temperature Range	14 °F to 122 °F (-10 °C to 50 °C)
Pressure Units	atm, bar, cmH2O @4°C, inH2O @39°C, kPa, MPa, mbar, psi, inHg @39°F, kgf / cm^2, mmHg @0°C, Torr, Pa, mmH2O @4°C, ftH2O @39°F, cmHg @ 0°C, oz / in^2

Hazardous Locations

Specifications

Model	FLP1
Temperature	Operating: -10 to 50°C, Process Media: -10 to 50°C, Storage: -40 to 75 °C
Electrical Connections	USB Connection Um=5.25V, External Power Um=21V
Ingress Protection	IP67 (With both USB port and charging port cover installed)
Electromagnetic Compatibility	In the presence of an RF field ≥ 3 V/m on all pressure ranges an acceptable level of reduction in performance may be experienced
Dielectric Strength Conformance LCD Display	Conforms to the dielectric strength requirements of IEC 60079-0
Manufacturer	Ralston Instruments 15035 Cross Creek Parkway Newbury, OH 44065 USA www.ralstoninst.com

Approved Battery

Replace battery only with Ralston Instruments P/N: DGAU-0185 Lithium-Ion Battery Pack

Nominal Voltage: 3.75 Volts

Rated Capacity: 4.8 Ah

Charging Temperature Range: -20°C to 60°C

Discharging Temperature Range: -10°C to 50°C

Standards

This product complies with the following standards. Refer to EC declaration of Conformity for specific details.

ATEX	Ex II 1 G Ex ia IIC T4 Ga -10 °C ≤ Ta ≤ 50 °C IP67
IECEx	Ex ia IIC T4 Ga -10 °C ≤ Ta ≤ 50 °C IP67
North America:	Class I, Division 1, Groups A-D, T4 Class I, Zone 0, AEx ia IIC T4 -10 °C ≤ Ta ≤ 50 °C
North America (With Solar Panel installed):	Class I, Division 2, Groups A-D, T4 -10 °C ≤ Ta ≤ 50 °C

This product conforms to the following standards:	EN 60079-0:2009/08/01 EN 60079-11:2007 EN 60079-26:2007 IEC 60079-0, 2011/06/22 Ed: 6 IEC 60079-11, 2010/01/28 Ed: 4 IEC 60079-26:2009
This product conforms to the following standards:	ISA 12.12.01 UL 61010-1 UL 913
This product is certified to the following standards:	CSA C22.2 No 157 CSA C22.2 No 213 CSA 61010-1

WARNINGS:

⚠ **WARNING:** DO NOT CHARGE BATTERY IN CLASS I, DIV 1/ZONE 0 HAZARDOUS LOCATIONS.

⚠ **WARNING:** DO NOT CONNECT TO POWER PORT IN CLASS I, DIV 1/ZONE 0 HAZARDOUS LOCATIONS.

⚠ **WARNING:** EXPLOSION HAZARD. IN DIVISION 2 LOCATIONS DO NOT DISCONNECT POWER PORT WHILE THE CIRCUIT IS LIVE UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITABLE CONCENTRATIONS.

⚠ **WARNING:** DO NOT REMOVE OR REPLACE BATTERY OR RF MODULE IN HAZARDOUS LOCATIONS.

⚠ **WARNING:** SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.

⚠ **WARNING:** TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTIBLE ATMOSPHERES, DISCONNECT POWER BEFORE SERVICING.

Safety Instructions for Hazardous Locations

- Do not use FieldLab until you have read and fully understand the instructions and hazards of the product.
- Any modifications to this product with custom parts can result in hazardous operation of the product.
- Use eye protection while using this product.
- The installation of FLP1 must be in accordance with Ralston Instruments installation instructions.
- The installation must be in accordance with applicable national or International standards.

Certifications

If RF Module P/N DGAU-0046 is installed the following approvals apply:

RF Module Agency Certifications

United States (FCC)

Contains FCC ID : VW4A091732.

This equipment complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation (FCC 15.19).

Modifications not expressly approved by this company could void the user's authority to operate this equipment (FCC section 15.21).

IMPORTANT:
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense (FCC section 15.105).

Industry Canada (IC)

Contains IC: 11019A-091732

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with radio frequency exposure limits set forth by Industry Canada for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the device and the user or bystanders.

European Union (ETSI)

The RF Module Radio has been certified for use in the European Union countries and conforms to the low voltage directives and safety directives.

A declaration of conformity is maintained on file as described in Annex II of the R&TTE Directive. Conformity is indicated on the back nameplate with the "CE" marking.

Support

Online Support

For step-by-step instructions about how to use FieldLab, install accessories, and troubleshooting, go to: **ralstonfieldlab.com/support**

Customer Service

Contact Customer service directly

Hours: **Monday–Friday 8:30am-5:00pm EST**
Phone: **+1 440-564-1430 | +1 800-347-6575 (US and Canada)**
Email: **support@ralstoninst.com**

Notes

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ralstoninst.com

Hours: **8:30 am – 5:00 pm EST**
Phone: **1 440-564-1430**
Toll Free: **1 800-347-6575 (US and Canada)**
Support: **ralstoninst.com/support** • Parts and Service: **ralstoninst.com/fieldlab**
Email: **support@ralstoninst.com**

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