DICKSON

PR100/PR300/PR500

Pressure Logger Operation

Contents:

Product Applications and Useful Features
Product Specifications
Product Accessories
Frequently Asked Questions
Calibrations
DicksonWare Software Specifications
Operating Instructions / Getting Started
Troubleshooting & Battery
Warranty / Factory Service & Returns
Order Form



Rev. 07/04

Product Applications

Dickson's Pressure Logger records pressure from 0 to 100 PSI, 0 to 300 PSI or 0 to 500 PSI, has a water-resistant stainless steel case and a 5 year battery. Its compact size, smaller than a hockey puck, is perfect for tight locations and outdoor applications. Eliminate changing chart paper and pens. View data in real time or download data when you need it.

User-friendly "DicksonWare™" software makes it simple to integrate recorded pressure data into documents and spreadsheets, giving results a professional, polished look. When fulfillment of regulatory requirements or accurate recording of pressure for quality control is needed, this logger is the perfect instrument.



Useful Features

- Log pressure changes from 0-500 PSI
- Water-resistant stainless steel case
- 5 year battery life
- Compact low profile case
- Helps pinpoint causes of drops, surges and back flows
- features easy to use DicksonWare™ software

Product Specifications



Pressure Range:	PR100: 0 - 100 PSI PR300: 0 - 300 PSI PR500: 0 - 500 PSI
Accuracy:	±1% of full scale
Ambient Operating Conditions:	+32 to +122˚F (0 to +50˚C) 0 to 100% RH
Units of Measure:	PSI, Atm, Bar, milli Bar, in H2O, ft H2O, mm H2O, mm HG, in Hg, Pascal, Kilo Pascal
Approvals:	CE
Battery Type:	Lithium 3.6V (user-replaceable)
Battery Life:	5 years typical at one minute sample intervals
Fitting:	1/4" NPT Thread, 5/8" Hex
Sample Point Storage:	7,936 points
Sample Interval:	User selectable from 10 seconds to 24 hours in 10 second increments
Download Time:	45 seconds
Resolution:	0.1 PSI
Response Time:	10 seconds typical
Enclosure:	316 Stainless Steel
Dimensions:	1.064" x 1.975" diameter (2.70cm x 5.02cm diameter)
Weight:	4.0 oz
Minimum Version Dicksonware Required:	6.0.4.2

Accessories (for current pricing go to www.dicksonweb.com or call 1-800-323-2448)

Software	Order #
DicksonWare™ Software and Serial Download Cable	A015

Calibrations	
NIST Traceable Calibration 3-pt (new unit)	N300
NIST Traceable Calibration 1-pt (new unit)	N100
Certificate of Validation	N520

Cases	
Locking Case	A717

Other	
Pressure Fitting Accessory Kit	A791
Fire Hydrant Adapter Kit	A793
Filter Kit	R022
Steam Pressure Pigtail	A792

*SW400 not for use with DicksonWare SECURE™ (A025)

Frequently Asked Questions

Sample Interval: The Sample Interval determines how frequently the data logger will save a reading. Using DicksonWare™ Software, the user can set a Sample Interval ranging from 10 seconds to 24 hours in 10 second increments. A temperature logger with data storage of 32,512 set at a 10 second Sample Interval will record for 3.75 days, while the same logger set at a 1 minute Sample Interval will record for 22.5 days.

Data Storage: Data Storage is the number of Sample Points a data logger can hold. You will find models that range from 7,680 samples to 32,512. A temperature logger with Data Storage of 32,512 and a sample interval set at 30 seconds would record for 11.25 days, while a temperature logger with Data Storage of 7,680 and the same sample interval would record for only 2.6 days.

Does it have to stay connected to a PC in order for it to work? No. Unless you're viewing data in real-time you only connect the logger to a PC when you want to view / retrieve data.

What happens when all the storage space is taken up? Do I have to throw it away? After you have downloaded the data, you simply "clear" the logger and it is ready to log more data.

What happens if I leave it monitoring somewhere too long? The Data Loggers have two user selectable modes, Stop and Wrap. In Stop mode, they will quit logging data when the memory is full. In Wrap mode, the Logger will begin to overwrite the oldest data in its memory.

Where can I put them? Depending on the Dickson model, just about anywhere. We have waterproof units, stainless steel models, units with probes, and units that handle extreme temperatures. Our wide selection of instruments should fit about any application.

What is the biggest advantage of a Data Logger? Its data is "logged", stored on a microchip inside the Data Logger. Data in electronic memory takes advantage of the power of a PC and software.
* Store the data as you would store any document on your PC.
* Retrieve archived data as easily as opening a file on your PC.
* Share the data as you would any PC file, email, copy and paste.
* Data can be imported into spreadsheet software and word processing documents.
* Easily import data from multiple data loggers onto a single graph.

How are they mounted? The smallest ones, about the size of a pager, can be wall-mounted with Velcro or simply set anywhere you need to monitor. The larger units have keyhole slots for wall mounting and can also stand on their own.

Calibration Services - New Units

N100 - NIST Traceable Calibration 1-Point: Includes documentation to one Dickson pre-selected point on new units only.

N300 - NIST Traceable Calibration 3-Point: Includes documentation of three Dickson pre-selected points (a high, medium, and low) on new units only.

N400 - Deluxe A2LA Accredited NIST Traceable Calibration 3-Point: ISO Guide 25/A2LA Documentation of 3 pre-selected points of as found data before and after calibration for Dickson temperature and/or humidity instrumentation on new units only.

N995 - NIST User Selected Temperature Points: Documentation of one customer specified point. Should be selected in addition to one of the above calibration options.

The Importance and Benefits of Regular Calibrations

Once you begin to use your precision Dickson instrumentation, regular calibrations are necessary to ensure accurate readings.

The following Calibration Services are available:

N150 - NIST Traceable Calibration 1-Point: Includes documentation to one Dickson pre-selected point after re-calibration.

N350 - NIST Traceable Calibration 3-Point: Includes documentation of three Dickson pre-selected points (a high, medium, and low) after re-calibration.

N450 - Deluxe A2LA Accredited NIST Traceable Calibration 3-Point: ISO Guide 25/A2LA Documentation of 3 pre-selected points of as found data before and after calibration for Dickson temperature and/or humidity instrumentation.

N995 - NIST User Selected Temperature Points: Documentation of one customer specified point. Should be selected in addition to one of the above calibration options.

Why should I recalibrate my instrumentation?
Over time dirt, dust and normal handling can throw your precision instrumentation out of calibration. Regular calibrations ensure that you receive the most accurate readings possible.

How often should I recalibrate my instrumentation?
Depending on the environment your instrument is used in and how often it is handled you will want to recalibrate your instrument every 6 to 12 months. Instruments in environments where there are extreme temperatures, wide temperature ranges, humidity or pressure variations, high condensation, dirt, dust and other debris will require calibration at least every 6 months. Instruments that are frequently moved or in locations with heavy machinery that cause vibrations should also be calibrated at least every 6 months.

Why should I return my instrument to Dickson for calibration?
Dickson calibrates your instrument at the factory using proprietary production/calibration software that guarantees proper calibration.

Our Capabilities
Dickson is the first manufacturer of humidity and temperature instrumentation to receive A2LA accreditation. We are also NIST Traceable; our procedures conform to MIS-STD-45662A, ANSI/NCSL 2540-1-1994, ISO/IEC Guide 25 and ISO10012. We are experts in the manufacture and calibration of humidity and temperature instruments.

Fast Service: Our turnaround time is 3 days or less so you receive not only expert service but fast service as well.

Easy: We make it easy for you! No phone calls for Return Authorization Numbers are required. We remind you when your instrument is due for calibration. You simply send in the completed Calibration Order Form with your unit for calibration with freight prepaid to Dickson.

DicksonWare™ Software Specifications

- Microsoft Windows® compatible
- Allows for simple viewing and zooming of logged data
- Easy set-up of Dickson Data Loggers including:
  - User selectable sample intervals from 10 seconds to 24 hours
  - Display temperature in °C or °F
  - Delayed logger start times
  - Logger data capacity can be set to wrap data or stop when full
  - Allow for real time monitoring and graphing with these units: Display Loggers (SR300, TR320, SM101, SM150, SM175, TM121, TM125), Data Loggers (SX100, TX120, SR200, TR300, SP100, SP150, TP120, HT100, HT120, HT125, SK500, TK500), Paperless Recorders (FH121, FH125, FT121), Fax Loggers (FX320, FX430, FX435), Pressure Loggers (PR100, PR300, PR500) Universal, Event and Pulse Loggers (ES120, ES120A, EV100, PS100)
  - Effortless exporting of data and graphs to other software
  - Data can be viewed in tabular (numeric/table) or graphical formats
- Fast downloading of logged data - 30 seconds (typical) from full logger
- Even shows battery power status for battery operated loggers

Specifications:

Compatible With: Microsoft Windows® 95, 98, 2000, NT & XP
PC Requirements: PC with 386 MHz or better microprocessor, 4 M RAM, 1 free COM (serial) port, CD drive
Cable Type/Length: 9 pin male D-shell to male 2.5mm stereo plug, 6' long
Computer Interface: RS-232 COM (serial) port
DicksonWare™ Version Required (minimum): See Specific Model for Version Requirement

Getting Started

- Install the DicksonWare ™ Software.
- Unscrew the logger cover, connect the cable (supplied with the software) to the logger and to a working serial port on your computer. If the port is not COM2, refer to "No Communication " in the Troubleshooting section below. NOTE: Download cable needs to be pressed firmly to make proper connection for downloading.
- Click the "Setup " button and then press the "Clear" button. This will delete all data currently stored.
- The logger is now sampling and ready for use. The default sample interval is 1 minute. Verify that the indicator light is flashing every 10 seconds before putting the cover back on.

NOTE: To conserve battery life when storing the unit, press the "Setup" button and select "Stop When Full."

WARNING
Fire, explosion and severe burn hazard. Do not recharge, disassemble, heat above 85˚C, incinerate or expose internal battery to water.

Software Features

Delayed Start
Program your logger to the date/time to begin logging.

Real Time Monitoring
Monitor and graph your process as it happens and print and save from real time screen.

Customize Graphed Data
DicksonWare™ calculates Min, Max and Average of all data collected. Customize data by highlighting specific data points which will recalculate MIN, MAX and Average for highlighted information.

Export Data
A snapshot of your graph or a real time graph of points can be easily exported to other programs such as Excel™ or PowerPoint™.

***Click on the FEATURES button in the software for* detailed instructions on how to use above features.**

Troubleshooting

No Communication
If you cannot communicate with the logger, verify that you have the correct version of DicksonWare™ installed on your PC. For pressure loggers, version 6.0.4.2 or higher is required. Verify that the correct COM port is selected: From the main DicksonWare™ screen, click on Logger then Communication. A black dot will appear next to the selected COM port. You may need to select a different COM port. You may need to relocate the download cable to another serial port on the back of the PC.

NOTE: Download cable needs to be pressed in firmly to make proper connection for downloading.

Indicator
There is a red indicator located inside the logger next to the battery. This indicator will flash every 10 seconds when the unit is sampling and operating properly. If the indicator is not flashing, please verify the following:

- The logger memory may be full. Download the data and clear the memory.
- Sampling may not be started. Download the data and clear the memory.
- Condensation may have formed on the unit. Unscrew the logger cover and let it sit in a warm dry environment for 24 hours. Download the data, clear the memory and try again.
- The battery may require replacement, see "Battery " section..

Additional troubleshooting support may be found at www.dicksonweb.com

Battery

The battery will operate the logger for 5 years at room temperatures. Operation of the logger at the temperature extremes, in real time mode for prolonged periods, or sample intervals of less than a minute, will significantly reduce battery life. The Battery Level Monitor on the Setup screen displays the battery voltage and a Low Battery Warning when replacement is needed. The battery is user replaceable and MUST be replaced with one of the same type. A Tadiran TL-2155/SBP or equivalent is required. Dickson sells replacement batteries. **IMPORTANT:** Be sure to observe correct polarity when installing the new battery.

Warranty

Dickson warrants that the products it sells will be free from defects in material and workmanship under normal use and service for a period of twelve months after delivery. In the event of a claim under this warranty, the product or part must be returned to the factory for repair or replacement (shipping pre-paid) with a Return Authorization Number (see Return Information above). It will be repaired at Dickson's option without charge. This warranty DOES NOT cover routine calibration, pen, chart and battery replacement. The foregoing warranty and remedy are exclusive and in lieu of all other warranties either expressed or implied. Dickson shall not be liable for consequential or incidental damages resulting from failure or malfunction of its products. Dickson makes no warranty for products not manufactured by it or for any products modified by buyer, or subject to misuse or neglect.

Factory Service & Returns

Contact the factory (630-543-3747) for a Return Authorization (RA) Number before returning any instrument. The model number, serial number and a purchase order number will be requested before an RA number is issued.

- Carefully repack the instrument, label the outside of the box with the RA# and return the instrument (freight pre-paid) to Dickson.
- All instruments that do not have the RA# clearly marked on the outside of the box will be refused. When returning instruments for credit, please include all accessories in shipment.
- Calibration/Freight charges are non-refundable.

NOTE: Dickson shall not be liable for consequential or incidental damages resulting from failure or malfunction of its products.

Customer Satisfaction
Dickson takes pride in providing you, the customer, with the highest quality instrumentation. We welcome the opportunity to help you in any way possible. Whether it be a question or a new idea in documentation, the Dickson Company would like to hear your response. Please call our Customer Service Department at 1-800-323-2448 or (630) 543-3747 (in Illinois).

Software Return Policy
IMPORTANT-Read your Software License Agreement carefully before installing software. DIckson will accept returns for replacement of defective disks and CDs only.

DICKSON
930 South Westwood Avenue
Addison, Illinois 60101
Phone: (630) 543-3747 • E-mail: DicksonCSR@dicksonweb.com

Rev. 07/04

Fax to: 1-800-676-0498 Mail to: Dickson, 930 S. Westwood Ave, Addison, IL 60101

Step 1 - Bill To:

Name

Company

Address

City

State Zip

Phone ( ) –

Email

Step 2 - Ship To (if different than above)

Name

Company

Address

City

State Zip

Phone ( ) –

Email

Step 3 - Ordering Information

Order #	Quantity	Price/Unit	Total
		$ /each	$
		$ /each	$
		$ /each	$
		$ /each	$
		Subtotal:	$
	In Illinois, add 7.5% sales tax ▸	Tax:	$
		Freight:	$
	All Prices in U.S. Dollars ▸	**Total:**	$

Step 4 - Payment Method

☐ Check: Check # _____

☐ Money Order

☐ Credit Card: ☐ ☐ ☐

Credit Card Number: Expires: (mm/yy)

☐☐☐☐-☐☐☐☐-☐☐☐☐-☐☐☐☐ ☐☐/☐☐

_____

Signature

☐ Purchase Order: P.O.# _____ (Net 15 days for established customers)

Customer #: _____

U.S.A. Freight Charges

Total Order	UPS 2nd Day	UPS Next	UPSGround
$0-100	$16	$33	$10
$101-400	$20	$42	$15
$401-700	$28	$57	$18
$701-1,000	$37	$60	$26
$1,001-1,500	$56	$77	$39
$1,501-2,000	$74	$97	$46

$2,001-over Please call Dickson Customer Service

All shipments UPS 2nd day unless otherwise requested.