Downhole Long Term Pressure Recorder

The Badger LT comes equipped with a large Sub CC battery for testing applications under 150°C that require long term testing where a traditional AA cell cannot supply enough power. This is useful for multi year tests or where elevated temperatures have reduced the life of the battery from self discharge.

The Badger series of tools are our toughest and most durable memory recorders we make. Deep wells are a difficult environment for a wireline operator to work on. Mistakes happen and the Badger is designed to maximize the chance of its survival.

When the tool does need service you can count on our experienced technicians to quickly diagnose and get the tool back in your hands. Turn around time is typically less than two weeks after we have received the tool at our factory in Canada.

Fault Tolerant Memory Design: The failure of one memory chip or block of memory will not result in the complete loss of a section of data.

Smart Sample: The Badger can be set to sample at a fast sample rate, such as one second, and only store if the pressure has changed by a specified amount or if a set amount of time has passed. This is useful for capturing all the transient pressure information that a reservoir engineer requires, while avoiding running out of memory.

Surface Readout (SRO): The Badger can be configured to communicate via electric line to a Hawk 9000 surface recorder. This allows for quick real-time access of the data without pulling the tool.

High Speed Download: The Badger LT can download at 68000 samples/minute, which is over four times faster than the old Badger.

Calibration: The Badger is calibrated on a primary deadweight, not another pressure sensor. This is the most accurate and repeatable method for calibration. All tools are calibrated starting from 0°C, not room temperature. This allows accurate pressure measurements even in shallow wells where the temperature near surface is below 20°C.

Shock Resistant Design: The housing is made of durable 718 Inconel™ and designed to protect the electronics from downhole impacts.

Seals: The battery barrel uses a triple seal: Two O-rings and an interference thread. The interference thread uses a pipe sealant/lubricant that protects the o-ring against chemical attack as well as reduces the pressure to the o-ring.

Field Reporting: Calwin, our windows interface software allows the operator to make quick field gradient reports and custom graphing with annotation. Graphs can be saved for later editing and can be exported in PDF format.
Badger LT Specifications

Battery
150MR Sub CC Lithium Cell for 0°C to 150°C

Battery Life 150MR
The life on a battery is temperature and sample rate dependent. On long tests it's easy to fill the memory, use smart sampling or reduce the sample rate to ensure you get all the data you need.

Battery self discharge above 120°C is the dominant factor on long term tests.

Memory
Standard Mode: 2 088 960 samples
Smart Sample Mode: 1 392 640 samples

Sample Rate
Minimum Rate at maximum resolution: 1 sample/second
Minimum Rate: 1 sample/0.33 second

Environmental
Temperature Range
Standard: 0°C to 150°C

Sensor Specifications
Pressure
Type: Silicon Crystal, Sapphire, Piezoelectric
Range: 750, 1500, 3500, 6000, 10000, 15000 psig
Accuracy: ± 0.024% Full Scale for Standard Temperature Range
Resolution: ± 0.0003% Full Scale
Resolution during smart sample: ± 0.0012% Full Scale
Drift: Highly dependent on well conditions, downhole temperature and proper tool maintenance

< 0.005 % full scale/year for temperatures < 85°C
< 0.010 % full scale/year for temperatures < 125°C
< 0.024 % full scale/year for temperatures < 150°C
For temperatures above 150°C see the Badger HT

Temperature
Type: Platinum RTD
Accuracy: ± 0.5°C
Repeatability: < ± 0.02°C
Resolution: < 0.001°C
Drift: < 0.1°C/year

Housing
Housing Material: 718 Inconel™ (UNS N07718)
Housing Diameter: 1.25 inches (31.75mm)
Housing Length: 21 inches (533.4) to 24 inches (609.6mm)

Communication:
USB via Interface Box
USB Download Speed: 68000 sample/minute

Programming and Reporting
Calwin for Windows Vista/Win7/Win8

For warranty, calibration, replacement battery, and local distributor information contact:
E-mail: sales@calscan.net
Website: www.calscan.net
Phone: (780) 944-1377
4188 93 Street, Edmonton, Alberta, T6E 5P5

All specifications subject to change without notice rev 1v12
Badger LT Specifications

Dimensions

Part Numbers

Badger LT

Battery Barrel
Electronic Barrel
Base Plug Standard
Base Plug F250
Bullet Nose with Pin End
Bullet Nose with Box End
Crossover Sub
Crossover Sub for Pig Tail
Base Plug Pig Tail Buffer Tube
Base Plug Sensor Screen
Battery 21-97-150MR Sub CC cell
SRO GO E-Line adapter 1 7/16”
SRO TEC Wire Fishneck 1/4”
SRO TEC Wire Fishneck 1/8”
SRO TEC Wire Cablehead
SRO TEC Wire 1/8” fittings
SRO TEC Wire 1/4” fittings
SRO Transmitter

Thread Grease 142g
Thread Grease 454g
Badger Battery Barrel O-ring 50 pack
Badger Base Plug O-ring 50 pack
USB Interface and Battery Tester
Carrying Case

BM-GR-101G-S
BM-GR-101G-L
B-O-V711-75-118-Q50
B-O-V711-75-211-Q50
I-USB-BAT
B-CASE

#211 O-Ring
#118 O-Ring

Badger LT BLT-Pxxxxx-S
Pressure Range: xxxxx in PSI

BW-BRL-BAT Battery Barrel
BHT-BRL-ELE Electronic Barrel with BHT-BP-x Base Plug
BHT-BP-S Base Plug Standard
BHT-BP-F Base Plug F250
B-BN-P Bullet Nose pin end
B-BN-B Bullet Nose box end
B-CR-S Crossover
B-CR-P Crossover for Pig Tail
BW-PIC-125 Pig Tail Buffer Tube
BW-SCR-125 Pressure Sensor Screen

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