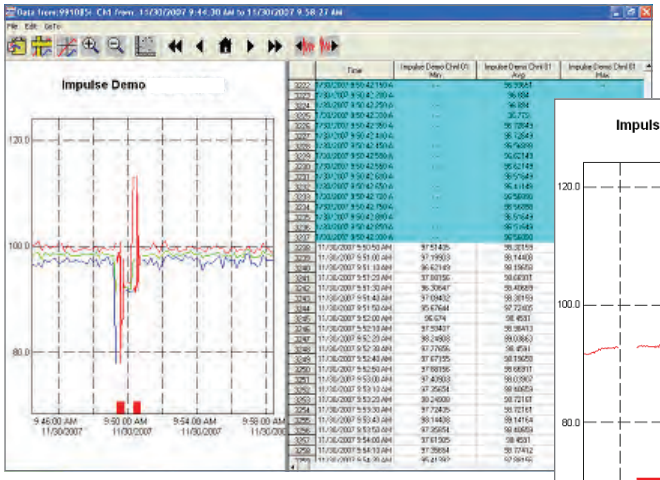
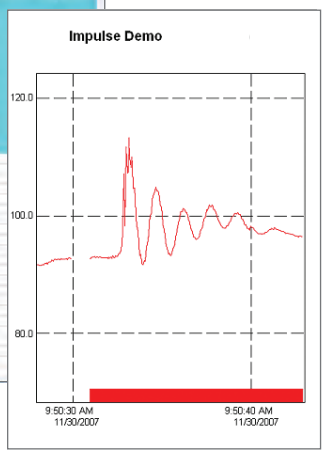
Telog 31i Pressure Impulse Recorders

Capture Water Hammer and Negative Pressure Events



Interval Data Indicating Transient

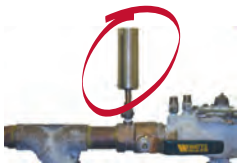


Transient Event

The **HPR-31i** is compact, battery-powered and easy to use. The HPR-31i attaches onto the 2.5 inch hose nozzle outlet of a common fire hydrant. The rugged enclosure is low profile and an optional security cover is available from Telog.

Applications/features of the HPR-31i inlcude:

- **Water hammer event capture**
- **Negative pressure event capture**
- **Routine pressure monitoring**
- **Fire flow testing**
- **Calibrating hydraulic models**
- **Pressure complaint investigations**
- **High speed sampling to 20 s/s**
- **User selectable event trigger setup**



The **LPR-31i** is used for temporary or permanent installation on water or gas utility distribution system lines. It is packaged within a submersible stainless steel enclosure rated NEMA 6 (IP-67). The recorder attaches to a standard 1/4" NPT fitting on gas or water lines.

Applications/features of the LPR-31i include:

- **Water hammer event capture**
- **Negative pressure event capture**
- **Routine pressure monitoring**
- **Pressure complaint investigations**
- **High speed sampling to 20 s/s**
- **User selectable event trigger setup**
- **Long term on-site monitoring**

Telog's Pressure Impulse Recorders monitor water pressure throughout a water distribution system and capture the waveform of water hammer and negative pressure transient events.

In addition to performing the measurement and recording functions of the standard HPR-31 and LPR-31 products, the 31i units store the waveform of captured transients. The HPR-31i can store up to 450 events of variable duration that may occur over many months of on-site monitoring.

The 31i recorders measure water pressure at user programmable rates up to 20 samples per second with internal pressure transducers. The recorder then computes any combination of the minimum, average and maximum values according to your selection of statistics and recording intervals. For example you can measure and store the maximum, minimum and average pressure at 5 minute intervals for more than 90 days.

In addition to trend data recording, the waveform of transient events ranging in duration from a few seconds to many minutes is stored in memory. The waveform of each transient may be viewed on Telog's host application software, Telogers for Windows.

Data may be collected from the 31i recorders in the field by a portable PC or Telog's Data Transfer Unit (DTU-R).

For more information on this product or other Telog data recording products, call us at **585.742.3000**, email **TelogSales@telog.com**, or visit us at **www.telog.com**.

Negative Pressure Event Recording

Water Hammer Event Recording

Stores > 450 Transient Events

Stores > 3 Hours of Transient Data

Easy Data Collection

Decreased Maintenance Costs

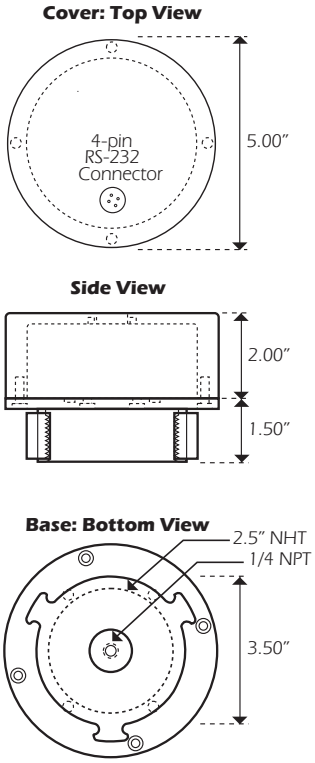
Five Year Battery Life

Low Profile Results in Decreased Vandalism

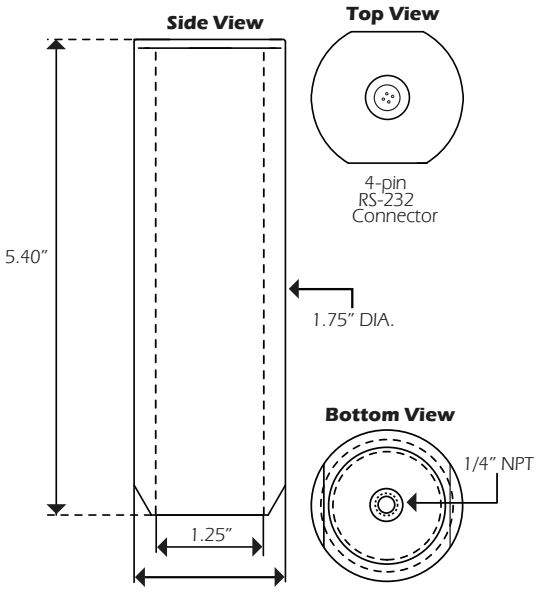
Windows® Software Support

31i Specifications

HPR-31i Dimensions



LPR-31i Dimensions



Input

Type	Strain gauge, isolated pressure sensor		
	31i-100	**31i-200**	**31i-300**
Range (psig)	-15 to 100	-15 to 200	-15 to 300
Over Pressure (psi)	300	600	600
Burst Pressure	850	1000	1000
	(contact Telog for other ranges)		
Resolution	0.025% of full scale, 12-bit		
Accuracy	±0.25% of full scale at constant temperature		
Temperature effect	±0.01% of full scale per ºF		

Recording

Normal Mode (Impulse Off)	
Sample Rate	Programmable from 20/sec to once every 8 hours
Values Recorded	Selectable min, max, and average per interval
Interval Period	Programmable from 1 second to every 8 hours
Memory	128 Kbytes (~ 80,000 data values)
Impulse On	Note: Normal mode interval data also stored during Impulse recording in separate memory
Sample rate	Programmable from 20/sec up to 8 hours
Data interval	Programmable from 1/sec up to 8 hours
Values saved	Selectable min, avg & max per interval
Memory	128 Kbytes (~80,000 data values) interval data memory Plus 250 impulse events

Interface

Type	RS-232; 300 to 19.2 Kbaud
Connector	Circular 4 pin watertight

Battery

Type	Single AA Lithium (Saft LS 14500 or equal)
Life	Sample rate dependent: e.g. 5 years at 1 sample/sec; 18 months at 20 samples/sec.

Support Software

S-3PC	Telogers for Windows v4.x or newer
S-3PCL	Telogers for Windows Lite
Telog Model DTU-R	Data Transfer Unit; IP-67 rated PDA running Palm OS and Telog application program

Computer Requirements

For S-3 PC or S-3PCL	IBM compatible computer with a 586/133 MHz or higher processor running on Microsoft Windows 95/98/NT/2000/XP, at least 32 MB of RAM, a hard disk with at least 200 MB of free space and a pointing device.

HPR-31i Environmental and Mechanical

Temperature	
Operating	14° to 149° F
Storage	-40° to 149° F
Humidity	0-100% relative humidity
Enclosure	NEMA 4/IEC IP65
Pressure vent	0.2 micron Gore-Tex filter
Size	5" diameter x 3.5"
Thread*	Hydrant mount: 2.50" NHT standard,
(see side view)	Contact Telog for non standard thread
	Internal mount: 1/4" NPT
Weight	5 lbs

LPR-31i Environmental and Mechanical

Temperature	
Operating	14° to 149° F
Storage	-40° to 149° F
Enclosure	NEMA 6/IP67 316 stainless steel
Pressure vent	0.2 micron Gore-Tex filter
Size	5.5" long x 1.75" diameter"
Weight	2.2 lbs

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