TOKU

T1000
STANDALONE
MONITORING

T1000 STANDALONE PRESSURE MONITORING DEVICE & ILLUMASS WEB APPLICATION

HIGH RESOLUTION PRESSURE DATA

Capturing high resolution pressure data is the new measure that not only determines if the asset is working, but whether it is operating in an efficient and effective manner.

PINHOLE LEAK DETECTION

We have proven with a notable Canadian producer that a small diameter leak in a pipeline segment can be detected using high-resolution pressure data captured by T1000s installed on a pipeline.

ALARM SETTINGS ON MULTIPHASE PIPELINES

Multi-product (Oil, Water, Gas and Liquid) pipelines have a complex pressure structure. To address the issues, we have developed an analytical tool that significantly reduces the variance in the baseline pressure making it easier to set alarm thresholds.

PIPELINES

INJECTION WELLS

PRODUCTION WELLS

TANKS (FUTURE)

ADVANTAGES OF MONITORING OPERATING CONDITIONS

- ✅ Detects weak plunger pump valves
- ✅ Analyzes operating conditions on pumping equipment
- ✅ Immediately detects incorrect valve positioning
- ✅ Monitors operating conditions on downhole pumps for run status, SPM, and pump efficiency
- ✅ Continuously compares tubing and casing pressure on new drills
- ✅ Monitors line pressure for Emergency Shutdown Device closure
- ✅ Reports on Maximum Well Head Injection Pressure (MWHIP) for regulatory compliance
- ✅ Comparable to a Dead Weight, but with a Web Application!

IoT AND BIG DATA

TOKU's T1000 device and Cloud Interface directly enhances the application of (Industrial) IoT and interface to BIG DATA analytics at an unprecedented economic scale.

FUNCTIONALITY

- ✓ Captures second by second pressure data and transmits 3,600 data points every hour

- ✓ Allows two-way communication between the T1000 Standalone Monitoring Device and Illumass Cloud

- ✓ Provides remotely set alarm thresholds from Illumass Web Application

- ✓ Alarm cry-out capabilities from the T1000 triggers SMS text messages, and email notifications from Illumass Cloud, within seconds of pressure exceeding alarm thresholds

- ✓ Tracks health of the T1000 device from Illumass Cloud for proactive support

- ✓ Updates operating system in the T1000 from Illumass Cloud

- ✓ Provides map location and graphical pressure views of devices and/or pipeline devices through Illumass Web Application

- ✓ Displays alarm conditions on Illumass map within minutes of cry-out alarm using the Illumass Web Application

- ✓ Smart phone application (Available in 2017)

- ✓ Bluetooth Walk Up feature (Available in 2017)

STRUCTURE

- ✓ The T1000 polycarbonate enclosure includes a 360 degree Solar Panel, Cell Modem, Cell Antenna, Operating Platform, Batteries and Fully Temperature Compensated Pressure Sensor

- ✓ Light-weight body means: No metal frame required to mount the device... No cables or conduits… No Certified Installer

- ✓ CSA Certified Class I Div I and Class I Zone 0 Intrinsically Safe, -40°C to 80°C (-40°F to 175°F)

- ✓ ABSA Certified
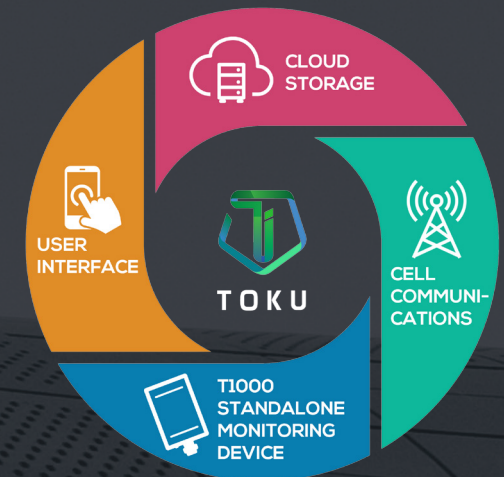
- ✓ Patent Pending

EASY INSTALLATION

SIMPLE TO:
BUY · INSTALL · OPERATE · SUPPORT

PRICING

- ✓ Low purchase price

- ✓ Low monthly fee includes all cell network charges, cloud storage, Illumass Web Application, analytical tools and phone support.

TOKU Inc. looks forward to showing you the next generation of standalone monitoring technology.

CLOUD STORAGE

USER INTERFACE

TOKU

CELL COMMUNICATIONS

T1000 STANDALONE MONITORING DEVICE

T1000 SPECIFICATIONS

PARAMETER DESCRIPTION	T1000 STANDALONE MONITORING DEVICE
Classification	**CSA Certification:** Class I, Division 1, Groups C, D: T3 Ex ia IIB T3 GA Class I, Zone 0, AEx ia IIB T3 Ga IP 66, Type 4 ANSI/ISA 12.27.01-2003 Single Seal **ABSA Pressure Certification:** Standard Pressure Sensor, 5-40 MPa Style <table><tr><td>CRN</td><td>0F17353.2</td></tr><tr><td>MAWP</td><td>8,000 psi (55 MPa)</td></tr><tr><td>Construction Code</td><td>ASME B31.3</td></tr></table> Standard Pressure Adapter, G1/2-14 BSPP to 1/2-14 NPT <table><tr><td>CRN</td><td>0A16548.5</td></tr><tr><td>MAWP</td><td>5,000 psi (34.5 MPa)</td></tr></table>
Operating Temperature	-40° to 80°C (-40° to 176°F)
Sensor	Static Pressure
Sensor Material	316L Stainless Steel
Max Working Pressure	40 MPa (5,800 psi)
Calibrated Pressure Range	14.5 psi, 750 psi, 1,500 psi, 3,000 psi, 6,000 psi 100 kPa, 5 MPa, 10 MPa, 20 MPa, 40 MPa
Accuracy	+/- 0.5% of FS
Battery	6V, 2.5Ah sealed lead acid, Air-transportable DOT 49 CFR 173.159(d) exempt
Solar Panel	Integrated, 2.4W
Modem	Integrated, HSPA, 850/1,900 MHz
Antenna	Integrated, Omnidirectional
Enclosure Size	10.1 cm diameter, 23.2 cm length including sensor 4.0 inch diameter, 9.1 inch long including sensor
Weight	1.3 kg (2.9 lbs)

TOKU

217, 9650-20 Avenue NW
Edmonton, Alberta, Canada, T6N 1G1

1-855-GO2-TOKU

support@illumass.com

www.tokuindustry.com