MADGETECH
WE BUILD DATA LOGGERS

PR1000Ex

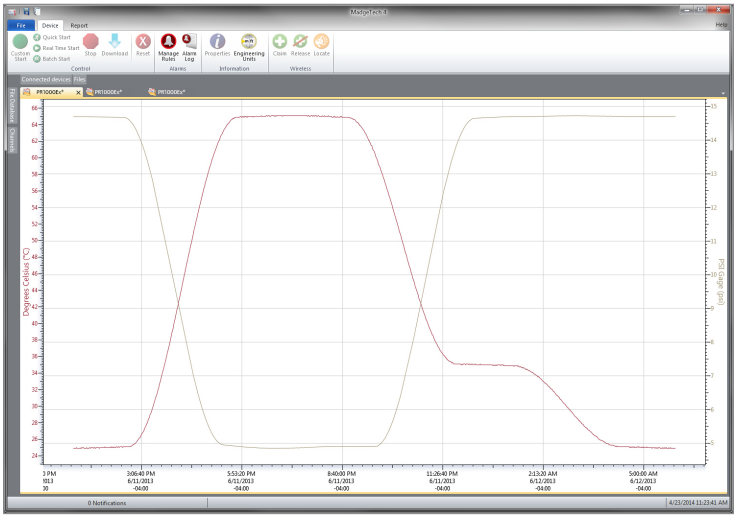
Intrinsically Safe Pressure and Temperature Data Logger

The PR1000Ex is an intrinsically safe pressure and temperature data logger used to accurately monitor and record at user programmable reading intervals. It carries hazardous location, intrinsically safe certification in accordance with the latest issue of IECEx 60079-0, IECEx 60079-11 and Directive 2014/34/EU (known as ATEX). The rugged stainless steel design allows for the device to be placed in harsh environments, which makes it well suited for use with air conditioning systems, chilled water, hot water, air, gas, oil and steam pressure systems.

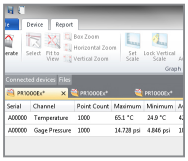
The PR1000Ex can also monitor and record transient pressure through software configuration of user defined trigger thresholds and time periods. The logger can be configured to record measurements at rates as fast as 128Hz or as slow as once every 5 minutes. The non-volatile memory has a capacity of over 2 million readings.

The PR1000Ex uses a stainless steel pressure strain gauge to accurately measure the pressure. The ¼ inch NPT pressure port featured on the device allows for compatibility with a variety of fittings and adapters. The internal temperature sensor provides ambient temperature measurements. The PR1000Ex is also fully submersible. There are many different pressure ranges available to fit most any application.

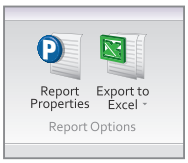
MadgeTech 4 Software Features



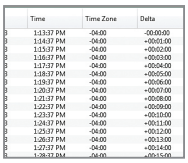
Graph View



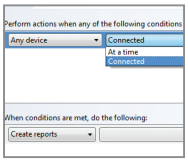
Statistics



Export to Excel



Tabular Data View



Automation

- Multiple graph overlay
- Statistics
- Digital calibration
- Zoom in/ zoom out
- Lethality equations
- Mean Kinetic Temperature
- Full time zone support
- Data annotation
- Min./Max./Average lines
- Summary view

Features

- Rugged
- Reusable
- Submersible
- Programmable start time
- Real-time operation
- User-friendly
- Low cost
- CE compliant

Certified Intrinsically Safe

- Electrical Protection Concepts: IEC: 60079-11 Ex ia – Ex ic, Intrinsic Safety Zones 0-2
- Equipment Protection Level: Ga – Gc, Zones 0-2
- Gas Groups: IIC
- Temperature Class: T4

Applications

- Pneumatics
- Process control systems
- Gas compressors
- Natural gas production
- Lubrication systems
- Chemical processing
- Pulp and paper processing
- Medical instrumentation
- Environmental studies
- Waste water treatment
- HVAC
- Oil & gas industries
- EtO Sterilization

SPECIFICATIONS

Specifications are subject to change without notice. Specific warranty remedy limitations apply. Call (603) 456-2011 or go to **madgetech.com** for details.

TEMPERATURE	
Temperature Sensor	Semiconductor
Temperature Range	-40 °C to +80 °C (-40 °F to +176 °F)
Temperature Resolution	1.0 °C (1.8 °F)
Calibrated Accuracy	±2.0 °C (3.6 °F) at 0 °C to +50 °C (+32 °F to +122 °F) ±4.0 °C (7.2 °F) at -40 °C to -1 °C (-40 °F to +30 °F) ±4.0 °C (7.2 °F) at +51 °C to +80 °C (+124 °F to +176 °F)

PRESSURE	
Pressure Sensor	Semiconductor strain gauge
Pressure Range	*See table below
Pressure Resolution	
Calibrated Accuracy	
Pressure Response Time	0.1 ms (10 to 90 %FSR)
Repeatability	±0.5 %FSR; ±0.2 % typical

GENERAL	
Start Modes	Software programmable immediate start or delay start up to six months in advance
Real Time Recording	May be used with PC to monitor and record data in real time
Memory	2,794,837 readings
Wrap Around	Yes
Trigger Mode Readings	762,228

BATTERY WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 80 °C (176 °F).

Reading Rate	1 reading every second up to 1 reading every 5 minutes Up to 128 Hz in transient mode
Calibration	Digital calibration through software
Calibration Date	Automatically recorded within device
Battery Type	3.6 V lithium battery included, user replaceable
Battery Life	1 year typical (1 minute reading rate at 25 °C) 10 days at 128 Hz in transient mode
Data Format	Date and time stamped °C, °F, K, °R ; atm, bar, hPa, inHg, inH2O, kg/cm2, kPa, MPa, mH2O, mbar, mmHg, Pa, psi, Alt in ft, Alt in meters
Time Accuracy	±1 minute/month at 25 °C
Computer Interface	IFC400 or IFC406 USB docking station required
Operating System Compatibility	Windows 7 or later
Software Compatibility	Software version 4.2.21.1 or later
Operating Environment	-40 °C to +80 °C (-40 °F to +176 °F) 0 %RH to 100 %RH
Dimensions	3.6 in x 0.97 in dia. (91.3 mm x 24.6 mm dia.)
Weight	5.5 oz (156 g)
IP Rating	IP68
Material	316 Stainless Steel/Radel
Approvals	CE ATEX Certificate #: SGSNA24ATEX013001 IECEx Certificate #: IECEx SNA 24.0002 Japanese Ex Certificate #: CML21JPN2914X

*Range (PSI)	0-30 PSIA/PSIG	0-100 PSIA/PSIG	0-300 PSIA/PSIG	0-500 PSIA/PSIG	0-1000 PSIA	0-5000 PSIA
Accuracy	2 %FSR, 0.25 % @ 25 °C typical					
Resolution (PSI)	0.0005 PSIA/PSIG	0.002 PSIA/PSIG	0.005 PSIA/PSIG	0.01 PSIA/PSIG	0.02 PSIA	0.1 PSIA

Ordering Information

PR1000Ex-1000A	PN 902264-00	0-1000 PSIA Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-100A	PN 902261-00	0-100 PSIA Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-100G	PN 902267-00	0-100 PSIG Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-300A	PN 902262-00	0-300 PSIA Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-300G	PN 902268-00	0-300 PSIG Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-30A	PN 902260-00	0-30 PSIA Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-30G	PN 902266-00	0-30 PSIG Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-5000A	PN 902265-00	0-5000 PSIA Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-500A	PN 902263-00	0-500 PSIA Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-500G	PN 902269-00	0-500 PSIG Intrinsically Safe Pressure and Temperature Data Logger
PR1000Ex-1000A-KR	PN 902294-00	0-1000 PSIA Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
PR1000Ex-100A-KR	PN 902291-00	0-100 PSIA Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
PR1000Ex-100G-KR	PN 902297-00	0-100 PSIG Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
PR1000Ex-300A-KR	PN 902292-00	0-300 PSIA Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
PR1000Ex-300G-KR	PN 902298-00	0-300 PSIG Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
PR1000Ex-30A-KR	PN 902290-00	0-30 PSIA Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
PR1000Ex-30G-KR	PN 902296-00	0-30 PSIG Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
PR1000Ex-5000A-KR	PN 902295-00	0-5000 PSIA Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
PR1000Ex-500A-KR	PN 902293-00	0-500 PSIA Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
PR1000Ex-500G-KR	PN 902299-00	0-500 PSIG Intrinsically Safe Pressure and Temperature Data Logger with key ring end cap
IFC400	PN 900319-00	Docking station with USB cable
IFC406	PN 900325-00	6-Port multiplexer docking station with USB cable
TL2150/S	PN 901745-00	Replacement battery for the PR1000Ex

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WPLS
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