

GRACE INDUSTRIES

TPASS™ 4

NFPA 1982, 2007ed., COMPLIANT PASS

**MADE IN
USA**



**FLASHING LEDs
When in Alarm**

***The ONLY NFPA Compliant
Two-Way Emergency Signaling
Stand-Alone PASS
with Evacuation Capability***

TPASS™ 4 NFPA 1982, 2007ed., COMPLIANT PASS



Design

TPASS™4 is the only “Two-way Signaling Stand-Alone PASS” that was designed and tested to meet the life safety needs of firefighters. It is third party certified Compliant to NFPA 1982, Standard on Personal Alert Safety Systems (PASS), 2007 Edition.

Meets or exceeds the 2007 Edition Standard Requirements for PASS

- **PASSED!** High Temperature Functionality
Test: 500° F for five minutes and exceeded 95 dBA sound pressure at 9.9 feet
- **PASSED!** Heat and Immersion Leakage
Test: 6 cycles; 15 minutes at 350° F and then immersed in 64° F water, 4.9 feet deep for 15 minutes
- **PASSED!** Tumble - Vibration Test: Three hours at 15 rpm, for a total of 2700 revolutions/drops in a four foot diameter tumbling apparatus
- **PASSED!** Muffle Test: Sound level evaluated in all five testing positions, exceeded 95 dBA sound pressure at all positions at 9.9 feet

Smart Signal Technology

Smart Signal Technology is a patented proprietary high-performance, encrypted two-way radio signaling system that allows every TPASS™4 device to repeat critical distress and evacuate signals. This provides a superior reach and penetration deep into complex building structures assuring these alarm signals are received by the Incident Commander.

Motion Detection

Grace Industries employs a NEW state of the art method of detecting motion. This solid-state, 3-axis accelerometer senses a broad range of motion and is not position sensitive. This results in fewer false alerts which are common in similar motion detectors.

Visibility

Grace Industries specializes in integration of high intensity LEDs that illuminate from inside the case, causing the PASS to glow. These LEDs strobe, flash and pulsate indicating PASS status; Sensing, Pre-alert and Alarm Modes. These colors and patterns include those that are most easily recognized.

Sound Intensity and Sound Discernability

Dual resonating sound cavities produce 95+dBa, making TPASS™ 4 the loudest NFPA Compliant Stand-alone PASS available to the fire service. More important, the sound signature is designed to generate multiple tones that sweep through a range of 500 - 4,000 Hz. This sound signature incorporates a momentary pause every 4 seconds, allowing the PASS to be identified and tracked audibly.

Durability

Grace's new generation of PASS products were re-engineered to meet the rigorous durability requirements of the fire service. The primary function of the protective translucent silicone cover protects the PASS from severe impact, vibration and the adverse effects of high temperature exposure. The Radel plastic enclosure is a high temperature, advanced polymer which protects the PASS from exposure to moisture, chemicals and other hostile agents.

Attachment Methods

Two methods of attachment are provided for ease of use. The time tested wire clip easily captures and securely holds the PASS to SCBA straps. Or use the “SA-clip” that enables the end user to easily attach the PASS to turn-out gear in a stand-alone configuration for use without an SCBA.

Data-Logging

The TPASS™4 automatically records a data-log of all PASS status change events. The data-log is stored in non-volatile memory and can be retrieved via the infrared port on the PASS by utilizing the Grace data-log retrieval software. The required data-log events are time and date stamped down to 1 second resolution. The last 8,192 events are stored.

Integrated Temperature Detector

TPASS™4, Model TP4-H, is available with integrated temperature sensing. This internal sensor monitors thermal inertia exposure. When the firefighter exceeds a predetermined time weighted average temperature threshold, the audible heat alarm is activated.

Approximate response times for optional Integrated Temperature Detector:

350° F	6 Minutes	250° F	9 Minutes
300° F	7 Minutes	200° F	12 Minutes

* Response times listed are approximate due to the variance of environment factors and the thermal heat sensing system.

TPASS™4 Accountability Key



The Accountability Storage Key is an added benefit of Grace Industries' TPASS™4. The clear Identification Window provides the opportunity to specifically identify the user through the ability to personalize the keys with photos, names, numbers, department ID, bar-codes, etc. The clear access window easily snaps into place to protect the enclosed information and provide instant access for rapid identification.

When the Accountability Key is removed, TPASS™4 turns "On", and the operational signal is heard. A visual green LED wig-wag display indicates that the TPASS™4 unit is in the "Sensing" mode.

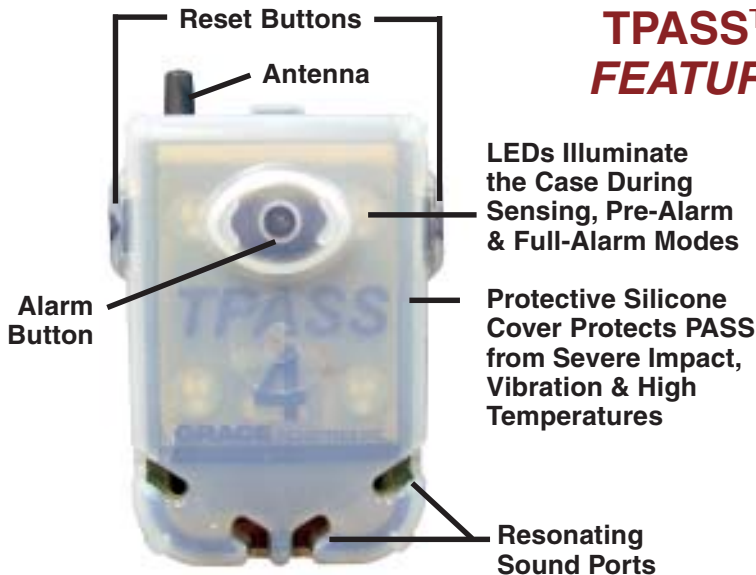
Manual Alarm

While in the "Sensing" mode, TPASS™4 may be put into "Alarm" at any time by manually pressing the "Alarm" button located on the front surface of the unit.

Battery Life

Re-engineered electronics and power supply, using four AA batteries triples previous PASS battery life. Expect over 70 hours in Sensing Mode and 2 to 4 hours in Alarm.

TPASS™4 FEATURES



TPASS™4 SPECIFICATIONS

Telemetry: Two-way signaling, License free, Frequency hopping 902 – 928MHz Spread Spectrum, Complies with FCC part 15 rules

Smart Signaling: Each TPASS™4 functions as a repeater for critical signals, providing superior performance in complex building structures

Motion Sensor: 3-axis, solid-state, accelerometer enhanced durability

Activation: Auto-on with Proprietary Accountability Key

Case: Rugged, High Temperature, Impact Resistant, Translucent Yellow Radel polymer, encapsulated in a protective silicone cover

Attachments: Two methods - Wire clip and universal "SA-clip"

Silicone Cover: Rugged, Durable, High Temperature, Impact Resistant, Translucent, Protective Silicone Cover. Field replaceable.

Alarm Audio Output: Dual resonating sound cavities produce 95+ dBA @ 10ft with Sound Discernability 6 dBA against given background noise

Real Time Clock: Records accurate date and time information

Data Logging: Records over 8,000 PASS status changes in a non-volatile memory with date and time log. Data is downloadable to any PC

Switching: Solid-state magnetic activation

Batteries: 4 Duracell MN1500, AA, 1.5 Volt Alkaline

Battery Life: Over 70 hours in Sensing Mode and 2 to 4 hours in Alarm

Product Life: 3 to 5 years depending on frequency of use

Dimensions: 3" wide, 4-9/16" high, 2-5/16" deep

Weight: 16 ounces with batteries (without Accountability Key)

Certifications:

- Certified Compliant: to NFPA 1982, 2007 edition
- Certified Intrinsically Safe to ANSI/UL 913: Class 1, Groups C and D; and Class II, Groups E, F and G; Division 1 hazardous locations
- CSA Compliant: CSA C22.2 No.157
- Ingress Protection: Rated equivalent to IP67 (dust tight, effects of immersion)

Warranty - 1 year from date of purchase

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QUALITY SYSTEM
REGISTERED TO
ISO 9001-2000