

QUAKELOGIC

QUAKEALERT™

ON-SITE EARTHQUAKE EARLY WARNING DEVICE

Detects the P-wave on board, verifies it with QUAKEAI, and sounds the alarm before strong shaking arrives – with relay outputs, SMS and email alerts. For homes, schools, and industrial facilities.

● POWERED BY QUAKEAI

MMI

Modified Mercalli
Intensity

JMA

Japan Meteorological
Agency

PEIS

PHIVOLCS Intensity Scale



MADE IN USA

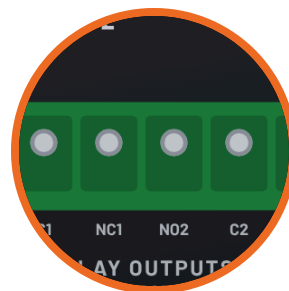
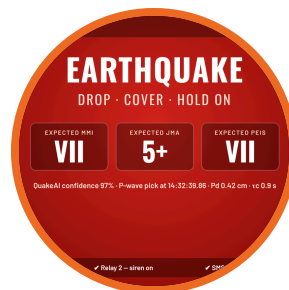
With Globally Sourced Materials



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QUAKEALERT™

ON-SITE EARTHQUAKE EARLY WARNING WITH QUAKEAI



SECONDS OF WARNING, WHERE YOU ARE

QuakeAlert™ is a stand-alone, on-site earthquake early warning device. Its built-in triaxial accelerometer watches the ground continuously; when the first, faster P-wave arrives, the on-board engine and the QUAKEAI neural classifier confirm a real earthquake, estimate the coming intensity on the MMI, JMA and PEIS scales, and trigger alarms, relays, SMS and email – with no dependence on a regional network or internet link.

- Independent, on-site detection: every unit makes its own decision locally, so warnings still work when networks are down.
- QUAKEAI verification rejects door slams, footsteps, passing trucks and machinery that trip simple threshold alarms.
- Reports the expected shaking in the scale your occupants know: MMI, JMA instrumental intensity, or PHIVOLCS PEIS.
- Acts automatically: voice alarm, optional dry-contact relays for valves, sirens and lines, plus SMS and email to your team.

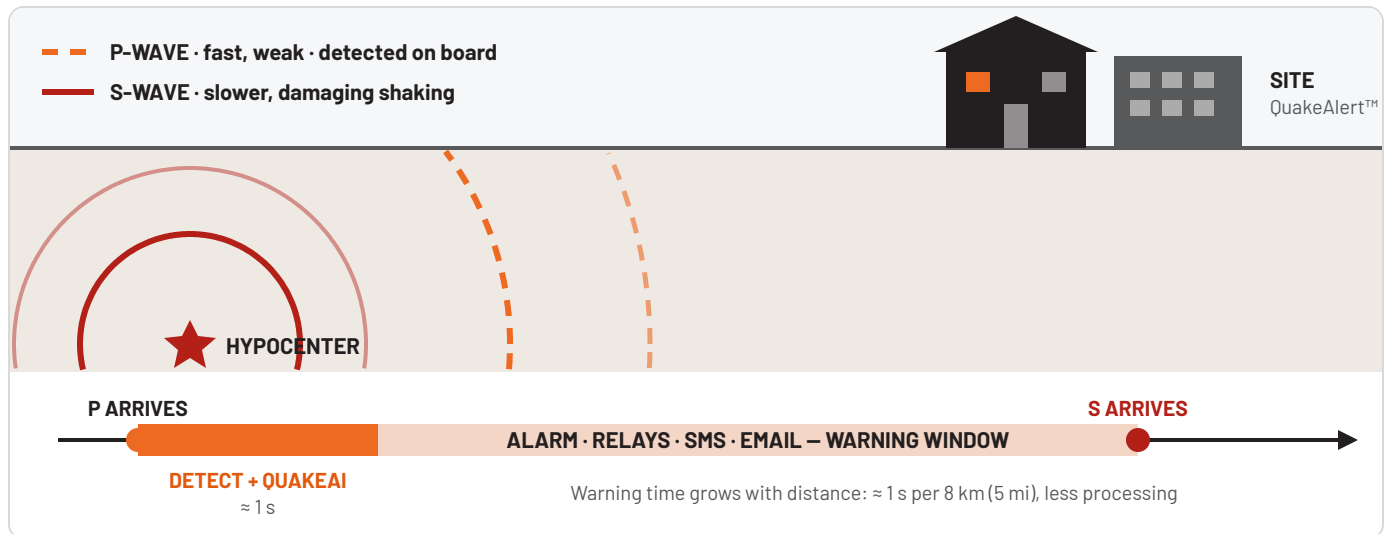
STANDARD FEATURES »

- Triaxial MEMS accelerometer
- On-board P-wave detection
- QUAKEAI neural verification
- MMI, JMA & PEIS intensity
- PGA, PGV, PGD in real time
- 8 in IPS touchscreen
- Dual speakers, voice alarm
- SMS notifications
- Email notifications
- Three-level alarm logic
- Event recording & export
- Daily automatic self-test
- Ethernet + dual-band Wi-Fi
- Network time sync
- Web setup & remote access
- Desk stand + VESA mount
- Sensor anchor plate kit

HOW IT WORKS

CATCH THE P-WAVE. ACT BEFORE THE S-WAVE.

Every earthquake sends out two main waves. The P-wave travels fastest but carries little damaging energy; the S-wave and surface waves arrive later and do the shaking that hurts people and equipment. QuakeAlert™ detects the P-wave the moment it reaches your building and uses the gap before strong shaking to warn and protect.



01

SENSE

Triaxial accelerometer samples ground motion continuously at up to 200 samples per second.

02

DETECT

STA/LTA trigger and the τ_c / P_d parameters identify a P-wave onset on board.

03

VERIFY

QUAKEAI classifies the waveform as earthquake or local noise before alarming.

04

ACT

Voice alarm, relay outputs, SMS and email fire at your configured intensity level.

QUAKEAI

On-device neural P-wave engine. Runs locally; no cloud round-trip in the alarm path.

- Deep-learning P-wave picker refines onset time beyond a simple threshold trigger
- Confidence score shown on screen and logged with every event
- Learns site noise: rejected events are logged for review
- Classifies earthquake vs. door slam, footsteps, traffic and machinery
- Optional "require QUAKEAI confirmation" gate before relays fire
- Model updates delivered by QuakeLogic over the network

On-site warning time depends on the distance to the earthquake. Sites very close to the source may receive little or no warning before strong shaking; QuakeAlert™ still detects, alarms, records and notifies as shaking begins.

THREE INTENSITY SCALES, ONE DEVICE

MMI · JMA · PEIS

QuakeAlert™ computes intensity in real time on three scales, each from its own definition — JMA instrumental intensity from filtered three-component acceleration, MMI from ground-motion-to-intensity relations, and PEIS following the PHIVOLCS scale used across the Philippines. Choose the scale your site uses for alarm thresholds and on-screen display.

PERCEIVED SHAKING	MMI	JMA	PEIS	APPROX. PGA (%G)
 Not felt	I	0	I	< 0.17
 Weak	II–III	1–2	II–III	0.17 – 1.4
 Light	IV	3	IV	1.4 – 3.9
 Moderate	V	4	V	3.9 – 9.2
 Strong	VI	5–	VI	9.2 – 18
 Very strong	VII	5+	VII	18 – 34
 Severe	VIII	6–	VIII	34 – 65
 Violent	IX	6+	IX	65 – 124
 Extreme	X+	7	X	> 124

Cross-scale correspondence and PGA ranges are approximate and shown for orientation only. QuakeAlert™ computes and logs each scale independently.

THREE-LEVEL ALARM LOGIC

PRE-ALERT	ALARM	CRITICAL
Chime and on-screen notice for light shaking. Optional SMS/email to selected recipients. Relays stay idle.	Voice alarm, full-screen warning, assigned relays energize, SMS and email to all alarm-level recipients.	All relay outputs and external sirens activate; continuous alarm until manual or timed reset.

Thresholds for each level are set independently on the selected scale (e.g. JMA 3 / 4 / 5– or MMI IV / V / VI) from the touchscreen or web interface.

KEY FEATURES

- On-board P-wave detection with STA/LTA triggering and τ_c / Pd on-site parameters; no external network needed to alarm.
- QUAKEAI neural classifier verifies each trigger on the device, cutting nuisance alarms from doors, footsteps, traffic and machinery.
- Real-time intensity on three scales – MMI, JMA instrumental intensity, and PHIVOLCS PEIS – selectable for display and thresholds.
- 8 in 1280 × 800 IPS touchscreen with 5-point touch shows live state, intensity, waveforms and full-screen alarms.
- Dual built-in speakers deliver tone and voice alarm (“Drop, cover, hold on”) in the language you configure.
- SMS and email notifications to unlimited recipient lists, grouped by alarm level, with event summary and intensity.
- Optional dry-contact relays close gas valves, start sirens and strobes, recall elevators or stop production lines.
- Optional battery backup keeps detection, alarm and notification running through a power outage.
- Continuous ring-buffer recording with pre- and post-event waveform files exported as CSV or MiniSEED.

PRODUCT FEATURES

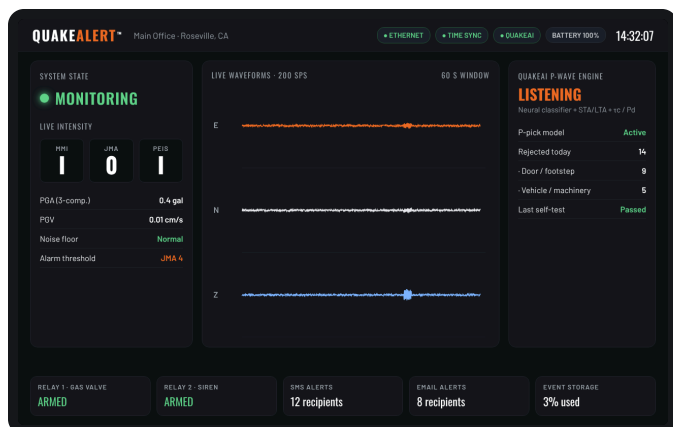
- Sensing**
Triaxial MEMS accelerometer, up to 200 sps, selectable full-scale range
- Detection**
STA/LTA, τ_c / Pd, QUAKEAI P-pick and event classification
- Intensity**
MMI, JMA, PEIS; PGA, PGV, PGD in real time
- Alarm Outputs**
Screen, tone, voice; optional relays and external siren / strobe
- Notifications**
SMS, email; daily heartbeat and self-test reports
- Connectivity**
Gigabit Ethernet, dual-band Wi-Fi, Bluetooth; optional 4G LTE
- Integration**
Web interface, REST API, MQTT, Modbus TCP
- Power**
5 VDC USB-C with universal AC adapter; optional battery backup
- For more information about the features, specifications, and available configurations of QuakeAlert™, please contact QuakeLogic.

WHAT'S INCLUDED »

- | | | |
|--|----------------------------|---------------------------|
| ● QuakeAlert™ unit with 8 in touchscreen | ● Detachable desk stand | ● Sensor anchor plate kit |
| ● Universal AC power adapter | ● VESA wall-mount hardware | ● Quick-start guide |

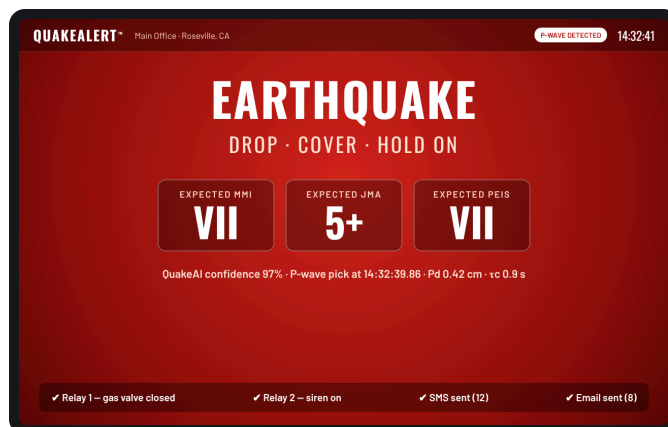
ON-DEVICE SOFTWARE

CLEAR AT A GLANCE. LOUD WHEN IT MATTERS.



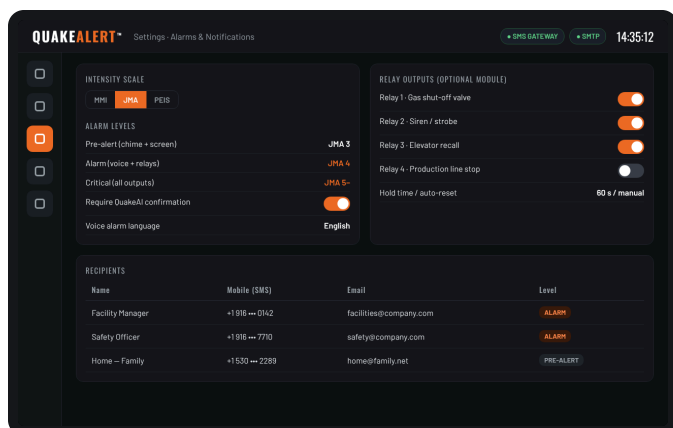
MONITORING DASHBOARD

System state, live intensity on all three scales, PGA/PGV, three-component waveforms and QUAKEAI status.



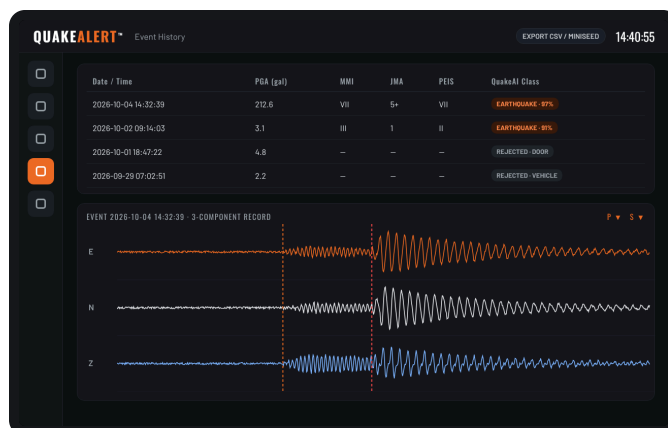
FULL-SCREEN ALARM

Expected MMI, JMA and PEIS intensity with protective-action guidance and confirmation of every output fired.



ALARMS & NOTIFICATIONS

Pick the scale, set three alarm levels, map relays to equipment, and manage SMS and email recipients.



EVENT HISTORY

Every trigger logged with intensity and QUAKEAI class; records exportable as CSV or MiniSEED.

WEB & REMOTE ACCESS

Configure and monitor from any browser on the local network or securely over the internet.

MULTI-LANGUAGE ALARM

Voice prompts and on-screen text in the language of the occupants.

NETWORK UPDATES

Software and QUAKEAI model updates delivered by QuakeLogic, no site visit needed.

APPLICATIONS



HOMES & APARTMENTS

Wall- or desk-mounted alarm that wakes the household and texts family members anywhere.



INDUSTRIAL PLANTS

Relays stop lines, close gas and chemical valves, and put robots and cranes in a safe state.



SCHOOLS & CAMPUSES

Voice alarm prompts drop, cover, hold on in classrooms; staff receive SMS instantly.



HOSPITALS & CLINICS

Seconds to pause procedures, secure patients and protect sensitive equipment.



DATA CENTERS

Triggers controlled shutdown and alerts on-call engineers by SMS and email.



ELEVATORS & UTILITIES

Recalls elevators to the nearest floor and shuts gas service through relay outputs.

OPTIONAL FEATURES & ACCESSORIES

RELAY OUTPUT MODULE

Two Form C dry-contact relays, expandable to four, for valves, sirens, elevators and line stops.

BATTERY BACKUP (UPS)

Internal battery keeps detection, alarm and notifications running through mains power loss.

4G LTE CELLULAR MODEM

Sends SMS directly over cellular, independent of building internet, with automatic failover.

EXTERNAL SIREN / STROBE

High-output siren with integrated strobe, driven by a relay output, for large or noisy areas.

POWER OVER ETHERNET

Single-cable installation from a PoE switch for power and network.

MULTI-SITE MONITORING

Connect several QuakeAlert™ units to one dashboard for campus-wide status and alerts.

TECHNICAL SPECIFICATIONS

SPECIFICATION	DESCRIPTION
SENSOR & ACQUISITION	
Sensor	Triaxial MEMS accelerometer
Full-Scale Range	± 2 g (selectable ± 4 / ± 8 / ± 16 g)
Resolution	16-bit
Sampling Rate	100 / 200 sps
DETECTION & INTENSITY	
P-Wave Trigger	STA/LTA, t_c / P_d
AI Verification	QUAKEAI neural P-pick + classifier, on device
Detection Latency	≈ 1 s after P onset (typical)
Intensity Scales	MMI, JMA, PEIS
Ground Motion	PGA, PGV, PGD
Alarm Levels	3, user-set per scale
COMPUTING & STORAGE	
Processor	Quad-core 64-bit ARM, 2.4 GHz
Memory	4 GB (8 GB optional)
Storage	64 GB industrial-grade
Data Formats	CSV, MiniSEED

SPECIFICATION	DESCRIPTION
DISPLAY & ALARM	
Display	8 in IPS, 1280 × 800, 16:10
Touch	5-point capacitive
Audio	Dual speakers; tone + voice alarm
Relays (Optional)	2 × Form C, 2 A @ 30 VDC; up to 4
COMMUNICATIONS	
Network	Gigabit Ethernet; Wi-Fi 802.11ac; BT 5.0
Cellular (Optional)	4G LTE modem
Notifications	SMS, email (SMTP/TLS)
Protocols	REST API, MQTT, Modbus TCP
Timing	NTP network time sync
POWER & PHYSICAL	
Power Input	5 VDC, USB-C; 100–240 VAC adapter
Battery (Optional)	Internal UPS module
Mounting	Desk stand; VESA 75 / 100; anchor plate
Operating Temp.	32 – 104 °F (0 – 40 °C)
Humidity	10 – 90 % RH, non-condensing

Specifications subject to change without notice. For best detection performance the unit, or its sensor, should be rigidly anchored to a floor slab or structural wall using the supplied anchor plate.

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About QuakeLogic:

QuakeLogic Inc. is a California-based engineering and technology company providing innovative, reliable, high-quality solutions to customers worldwide.

Our Commitment

We are committed to quality, innovation, and customer satisfaction – building lasting partnerships through reliable solutions and dependable support.

Scan to View Product:



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ON-SITE EARTHQUAKE EARLY WARNING



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