

QUAKELOGIC · EARTHQUAKE EARLY WARNING SOFTWARE

QUAKEALARM™

NETWORK EEW & ALERT MANAGEMENT

Combines detections from every sensing node, estimates the shaking expected at each site and sends the warning to sirens, displays, phones and building systems within seconds.

MULTI-NODE ASSOCIATION

EXPECTED PGA & INTENSITY

S-WAVE COUNTDOWN

ROLE-BASED DASHBOARD

REST · MODBUS · BACNET · CAP



ON-PREMISE

Primary + failover QuakeMaster servers



EVERY SITE WARNED AT ONCE.

Central early-warning software for campuses, compounds and multi-site organisations that turns sensor detections into coordinated, site-specific alarms.

QuakeAlarm™ runs on QuakeLogic QuakeMaster servers in a primary and failover pair. It receives P-wave detections and waveforms from QUAKEAI accelerographs, QuakeVault edge servers and QuakeAlert displays, and from an authorised national-network feed where one is available.

It associates detections across nodes to reject non-seismic triggers, estimates magnitude, expected PGA and intensity and S-wave arrival time for each site, and compares them with intensity- and PGA-based thresholds. When a level is reached it drives sirens, displays, relays, SMS, e-mail, mobile notifications and building systems at the same moment, and records every step.



QuakeAlarm™ monitoring view

≤ 2 s

DETECTION

From P-wave arrival at a node (design target)

≤ 5 s

DISSEMINATION

From detection to all channels (design target)

3

ALERT LEVELS

Advisory · Warning · Danger

2

TRIGGER TYPES

Intensity- and PGA-based

STANDARD FEATURES

- Multi-node detection association
- Non-seismic trigger rejection
- Rapid magnitude estimate
- Expected PGA and MMI per site
- S-wave arrival countdown
- Intensity and PGA thresholds
- Three configurable alert levels
- Arm, disarm and test modes

- Role-based web dashboard
- Event log, analytics, PDF reports
- ShakeMap-style ground-motion output
- SMS, e-mail and mobile alerts
- CAP message output
- RESTful API
- Modbus TCP and BACnet/IP
- Primary and failover servers

ONE DECISION, EVERY BUILDING

QuakeAlarm coordinates the response across a whole organisation, so every room, gate and outstation hears the same warning.



SECURITY OPERATIONS CENTRES

Operators see the alert, expected intensity at each site and confirmation of every action taken.



GOVERNMENT & UN COMPOUNDS

One system warns headquarters buildings, gates and outstations, with roles matched to security staff.



CAMPUSES & SCHOOLS

Sirens and voice alarms prompt drop, cover, hold on while staff receive SMS and mobile alerts.



HOSPITALS & CLINICS

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



INDUSTRIAL PLANTS & UTILITIES

Relays and Modbus TCP stop lines, close valves and put cranes and robots in a safe state.



DATA CENTRES

Triggers controlled shutdowns and alerts on-call engineers by SMS, e-mail and mobile app.



TRANSPORT & INFRASTRUCTURE

Slows trains, holds elevators and closes bridges and tunnels before strong shaking arrives.



MULTI-SITE ORGANISATIONS

Scales from one site to many, with each site warned according to its own expected shaking.

FROM FIRST DETECTION TO EVERY ALARM.

QuakeAlarm™ joins the evidence from all nodes, decides what each site should expect, and acts on all channels at once.



01

ASSOCIATE

Detections from nodes and the national feed are combined; triggers seen by only one source and inconsistent with an earthquake are rejected.

02

ESTIMATE

From the first P-wave data QuakeAlarm estimates magnitude, expected PGA and intensity, and S-wave arrival time at each site.

03

ALERT

Sites whose expected shaking crosses a threshold receive the warning on every channel, with a countdown and logged confirmation.

Warning time depends on distance. Sites far from the epicentre can receive several seconds or more of warning; sites close to the source may receive little or none. A reliable hypocentre needs several stations, ideally including a national-network feed.

CALM WHEN QUIET. UNMISSABLE IN ALARM.

The browser dashboard shows network status in normal operation and switches every screen to a full red alert view when shaking is coming.



Alert view and event review, shown with exercise data from waveform playback.

FULL-SCREEN ALERT

S-wave countdown, expected intensity at each site and the status of every action, readable across the room.

EVENT REVIEW

Waveforms and picks, timing against performance targets and ground motion per site, with PDF export.

THRESHOLDS & ACTIONS

Intensity and PGA triggers per level, and the outputs each level fires: sirens, displays, relays, messages.

ROLES & AUDIT

Administrator, supervisor, operator and viewer roles; every acknowledgement and change logged with user and time.

THREE-LEVEL ALERT LOGIC

LEVEL	BEHAVIOUR
Advisory	Dashboard and selected recipients notified; sirens and relays stay idle
Warning	QuakeAlert alarm, SMS, e-mail and mobile alerts; assigned relays energise
Danger	All sirens, relays and safety actions; voice alarm and CAP message
Thresholds	Set per level as intensity (e.g. MMI IV / V / VI) and PGA; either can trigger
Operation	Arm, disarm, test and exercise modes, restricted by role

- SMS
- E-MAIL
- MOBILE APP
- CAP
- REST API
- MODBUS TCP
- BACNET/IP
- TLS 1.2+

WARN PEOPLE. TRIGGER EQUIPMENT.

Each alert level is mapped to the channels it uses, so one event reaches the room, the equipment and the control systems together.

CHANNEL	INTERFACE	TYPICAL USE
Sirens & safety actions	Dry-contact relays	Sirens, gas valves, doors, elevators
Alarm displays	QuakeAlert network alert	Full-screen alarm and voice in occupied rooms
Public address	Relay or audio trigger	Pre-recorded voice announcement
SMS & e-mail	SMS gateway; SMTP over TLS	Staff and security teams by level
Mobile app	iOS and Android notifications	Audible alert to registered operators
Building systems	Modbus TCP, BACnet/IP	BMS, SCADA and PLC safe-state actions
Other systems	CAP messages; REST API	Public warning, logging and integration

Secure by design. Links that leave the site use TLS 1.2 or higher, access is signed-in and role-based, and every alert, acknowledgement and setting change is logged.

DEPLOYMENT

- On-premise on QuakeMaster primary and failover servers
- Automatic failover; site nodes keep alerting locally
- Browser dashboard, no client installation
- Multi-language interface
- Scales from one sensor to 1,000+
- Exercise mode with recorded-waveform playback

OPTIONS

NATIONAL NETWORK FEED

Ingests an authorised regional EEW feed to add warning time and improve location.

ADDITIONAL SITES

Adds sensing nodes, displays and dashboard locations under the same license.

SMS GATEWAY SERVICE

Carrier SMS delivery for alert messages, arranged per country.

QUAKEALARM AT A GLANCE

DETECTION & ALERTING	VALUE
Inputs	QUAKEAI, QuakeVault, QuakeAlert; national feed
Association	Multi-node, with trigger rejection
Estimates	Magnitude, PGA, MMI, S-wave arrival
Per-site output	Expected PGA and intensity
Triggers	Intensity-based and PGA-based
Alert levels	3, user-configurable
Detection time	≤ 2 s from P arrival (design target)
Dissemination	≤ 5 s from detection (design target)
False alarm rate	≤ 5%, verified by playback
Ground motion	ShakeMap-style output
Modes	Armed, disarmed, test, exercise

PLATFORM & INTEGRATION	VALUE
Deployment	On-premise, QuakeMaster servers
Redundancy	Primary and failover
Availability	Designed for ≥ 99.5%
Dashboard	Web, role-based access
Notifications	SMS, e-mail, mobile app
Alarm outputs	Relays, QuakeAlert, PA trigger
Protocols	Modbus TCP, BACnet/IP
Public warning	CAP messages
API	RESTful (JSON)
Security	TLS 1.2+; audit log
License	Perpetual

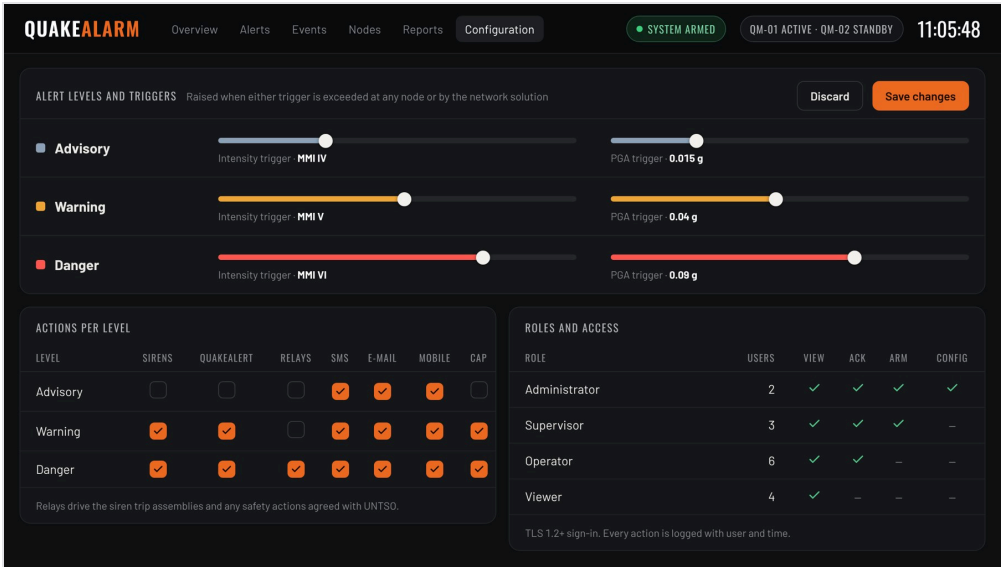
QUALITY & COMPLIANCE

Developed by QuakeLogic Inc. under an ISO 9001:2015 quality management system. QuakeAlarm™ is a trademark of QuakeLogic Inc.

SUPPORT

Delivered configured for the site's thresholds, actions, recipients and roles. QuakeLogic provides commissioning, operator training, software updates and technical support.

Specifications are subject to change without notice. Detection and dissemination times are design targets verified at acceptance testing; they depend on sensor siting, network and carrier performance. Warning time depends on distance to the earthquake.



Configuration: thresholds per level, actions per level, and roles and access.

QUAKEALARM™

NETWORK EEW & ALERT MANAGEMENT

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ABOUT QUAKELOGIC

California-based engineering company delivering seismic monitoring, earthquake early warning, structural health monitoring and testing systems worldwide.



SCAN TO VIEW
QUAKELOGIC EEW ONLINE

