

Extended Datasheet EQ-I81- Earthquake early warning system

Manufacturer:	EQ Earthquake Ltd
Power:	
Input voltage:	18VDC 1A.
Adapter:	Input: 110~240 VAC, 50/60 Hz, Output: 18VDC 1A.
Battery:	Rechargeable battery, 12V, 3.3Ah (not included with unit).
Operating time (battery only):	> 3 weeks
Enclosure:	
Type:	Wall mount unit.
Material:	4 mm, aluminum enclosure.
Resistance:	Waterproof (IP66).
Dimensions:	190 mm x 245 mm x 92.5 mm (w x h x d).
Environment:	
Operation temperature:	-20~60°C
Storage temperature:	-20~60°C
Connectivity:	
Protocols:	RS232, TCP/IP (Ethernet expansion module)
Telemetry:	theNexus (server), proprietary software
Software:	EQ-I81 Tool, EQ-I81 Monitor
Sensor:	
Type:	Triaxial
Scale:	+2G
Freq. response:	DC-50Hz
Dynamic range:	82dB
Digitizer:	
Type:	ADC
Acquisition:	3 axes (X,Y,Z)
Sample rate:	User adjustable, 5 sps - 500 sps per channel
Resolution:	16 bit
Dynamic range:	96dB
Resolution:	0.06mg
Recordings:	
Memory type:	Internal Flash
Size:	128Mb
Format:	".txt" - detailed event logs with event #, trigger time, date, PGA, output type, length. ".sac" - acceleration recordings*. seed/mseed - by conversion with software
Buffer size:	150 min @ 20 SPS (all 3 components)

EQ Technologies Inc.

Time Synchronization:	NTP
Triggering:	Multiple triggering rules can be defined to run independently. Up to 10 rules in total.
Methods:	- "Earthquake Alert" proprietary algorithm. - Threshold triggering (minimum exceedance time can be defined) - STA/LTA (0.01–15Hz)
Sensor:	
Type:	"Earthquake Alert" detection sensor + MEMS sensor
Sensitivity:	≥ 5 mg @ 0.1 Hz – 15Hz
Indicators:	RED: error; Flashing RED: earthquake warning. GREEN: standby; Flashing GREEN: detection mode, ok. ORANGE: programming mode; Flashing ORANGE: upload/download, change of settings.
Self test:	Automatic periodic self test
Outputs:	
2x30sec recordings/siren:	8Ω, 50W – Siren/Loud Speakers 300mV / 600Ω(Line out)–Public Address System/Amplified speakers.
Continuous/pulse signal:	12V continuous (2.7A), 5V (50mA), Relay NO/NC (10 A, 277 VAC, general use, 40°C)** – control of auxiliary systems.
Approvals and tests:	Laboratory tests at: <ul style="list-style-type: none">▪ SEESL (Buffalo NY), USA▪ UNIVERSIDAD DE GUADALAJARA, Mexico DEPARTAMENTO DE INGENIERIA CIVIL Y TOPOGRAFÍA INSTITUTO DE INGENIERÍA SÍSMICA▪ The Institute for Petroleum Research and Geophysics, Israel▪ Laboratory of the Kandilli observatory, Istanbul, Turkey▪ Laboratory of seismology, University of Athens, Greece+ Many other laboratories <ul style="list-style-type: none"><input type="checkbox"/> IEC 60950-1: 2005, including Amendment A1: 2009<input type="checkbox"/> EN 60950-1: 2006, including Amendments A11: 2009, A1: 2010, A12: 2011, A2: 2013<input type="checkbox"/> SI 60950 Part 1: 2009, including Amendment A1: 2011
EMI & RFI	IS 961 - 6.1, 6.2 ,12.3 ,12.5

Parts and Functions

Power Input

18VDC Adapter

Output and Data Connections

40W – Siren/Loud Speakers
Line out – Public Address System
12V – Activation of Systems
5V – Controllers (Elevators/Trains/etc.)
NO/NC – Dry contact for systems activation
RS232.

Top View



Front View

Status Indication LED

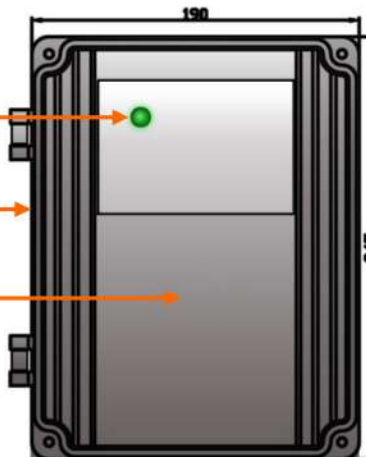
Green - Okay/ Red - Error

Measurements

190 x 245 x 92.5 mm

Enclosure

Heavy duty 4mm - Thick, Waterproof
Enclosure (IP66)



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Inside View

Buzzer

Beeps if There is an Error

Testing and Maintenance Buttons

For Periodic Testing of the System

Battery

12V – Standard rechargeable Battery

Sensor

The Earthquake Detection Sensor

