

# Specifications

SW-54

<b>Display Element</b>	STN monochrome LCD with touch switch back light color : green/orange/red (replacement unnecessary) indicated content switching (acceleration+seismic intensity scale/instrumental seismic intensity/ SI value by internal setting)
<b>Display Contents</b>	Earthquake monitor screen present time Earthquake generation screen earthquake generation time,maximum value Alarm hold screen avobe+reset button (whole reset of alarm/buzzer) Each setting screen trigger, alarm, date/time Maintenance screen pickup test, earthquake history
<b>Alarm &amp; Buzzer</b>	upper limit 3-step (ALM1-3), individual setting, buzzer 1 point alarm setting value: 0.1-999.9 (Gal/seismic intensity scale/ Kine) setting interval : 0.1step,0.0 is alarm operation OFF (seismic intensity scale alarm is set by instrumental seismic intensity value)
<b>Extra Alarm</b>	Alarm step upper limit 7-step (ALM4-10), individual setting (acceleration/seismic intensity scale/SI value/any setting is possible) Alarm setting value 0.1-999.9 (Gal/seismic intensity scale/ Kine) setting interval 0.1step,0.0 is alarm operation OFF (seismic intensity scale alarm is set by instrumental seismic intensity value) Alarm contact 1a contact (photo MOS relay) independent COM 2-point (ALM 1-5, ALM 6-10, each 1 point) Contact rating 200V-0.65A (AC/DC, peak value)
<b>Alarm &amp; Buzzer Reset Method</b>	a. external reset terminals (all steps reset by no-voltage a contact) b. automatic reset by an internal timer 1-9999 sec. (setting interval : 1 sec., 0 is automatic reset OFF) c. reset button on the touch panel (effective on earthquake hold screen)
<b>Fault Alarm</b>	(power failure/system abnormal) 1a/1b contact switching type contact rating: 2A 30VDC (Max.allowable voltage/current : 220VDC/2A)
<b>Serial Output</b>	for maintenance (conforms to RS232C) : MC1 (switch over) for external display (conforms to RS422) : MC2 for printer (conforms to RS232C) : MC2
<b>Back-up Unit</b>	backup time ≥ 10min (ready time), charging time ≤ 48hrs (no function at the operation by optional power 24VDC)
<b>Mounting Method</b>	wall mount
<b>Ambient Temperature</b>	0 - +50°C
<b>Ambient Humidity</b>	10 - 85%RH
<b>Power Supply</b>	DC24 V±10% ≤ 70 W
<b>External Dimensions</b>	refer to external dimensions
<b>Painted Color</b>	panel : close to Munsell 5GY8/0.5 case : Munsell N6.0
<b>Weight</b>	approx. 3 kg

SW-52

<b>Detecting Method</b>	omni-directional non-directivity detection by vector product acceleration
<b>Built-in Pickup</b>	force-balance servo type accelerometer
<b>Frequency Range</b>	0.3 - 10 Hz (±10%)
<b>Acceleration Range</b>	0 - 5000 Gal (3-component vector product) NS, EW direction: ±3000 Gal, UD direction: +2000 - -4000 Gal
<b>Measuring range</b>	0.1 - 1500 kine (3-component vector product)
<b>SI Value Measurement</b>	Period 0.1 - 2.5 sec. (±10%) Range Natural period 0.1 sec. step, calculation by 25 of 1-freedom simulation filter) Damping 2 - 30% (1% step any setting)
<b>Low Pass Filter</b>	30Hz (-3dB), 4th butterworth
<b>A/D Converter</b>	16bit, 100Hz sampling
<b>Display</b>	7-segment LED, 4-digit display (xxx.x or xxxx)
<b>Alarm Step</b>	up to three (ALM1-3), with individual settings (arbitrary settings of acceleration or spectrum intensity)
<b>Alarm Setting Level</b>	0.1 to 999.9 (Gal/instrumental seismic intensity / Kine), 0.1 to 999.9 (Gal Kine), 0.1 stepping, the value of "0.0" disables the alarm
<b>Alarm Reset Method</b>	Alarm Contact 1a contact (photo MOS relay, COM common) Contact Rating 200V-0.65A (AC/DC peak value) Relay made by Panasonic PD1a type (AQY277A)
<b>Alarm Reset Method</b>	a. automatic reset by an internal timer (1-9999 sec. [setting interval: 1sec., 0 is automatic reset OFF]) b. external reset terminals (all steps reset by no-voltage a contact)
<b>DC Output</b>	DC4-20 mA, load resistance ≤ 300Ω output content switching type (acceleration/ SI value/seismic scale by internal setting) full scale value : settable optionally up to scale 7
<b>Serial I/F</b>	communication with SW-54 (conforms to RS422)
<b>Clock</b>	accuracy ≤ 70ppm (6sec./day) time correction input ± 30 sec. correction (external input of no-voltage a contact)
<b>Ambient Temperature</b>	0 - +50°C 0 - +50°C
<b>Ambient Humidity</b>	10 - 100%RH 10 - 100%RH
<b>External Dimensions</b>	refer to external dimensions
<b>Structure</b>	waterproof (IP67)
<b>Material</b>	aluminum die-casting
<b>Painted Color</b>	silver metallic
<b>Weight</b>	approx. 4 kg
<b>Mounting Method</b>	installation on the ground (fixed by anchor)
<b>I/O Cable</b>	waterproof connector one-touch lock connector (Nanaboshi Electric) NRW-2421PF11 (connector diameter : approx.34.1mm) twisted cable with shielded (Fuji Electric Wire) FKEV-SB 0.3sqX10 pair (Outer diameter : approx.10.5 mm)



## Seismic Monitoring System

# SW-54

Seismic monitoring system continuously monitor tremors and hence can prevent secondary disasters. Therefore, these systems are popular and have been employed as anti-disaster systems throughout Japan since the Kobe earthquake. Seismic monitoring system has been in use at various locations such as high-rise buildings plants, dams, water gates and railways making major contributions to public welfare, and operational safety of the equipment.



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\*The specifications and design are subject to change without notice.

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Seismic monitoring system "SW-54" use high resolution force-balance accelerometer which can detect the minute earthquake.

# SW-54

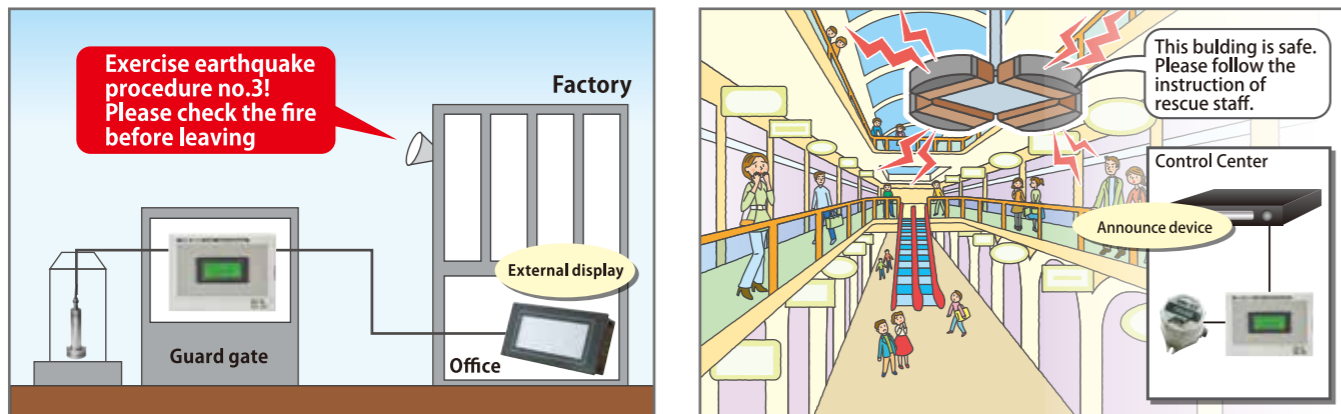
Multi functional model equipped alarm output up to 10-step and SI value output



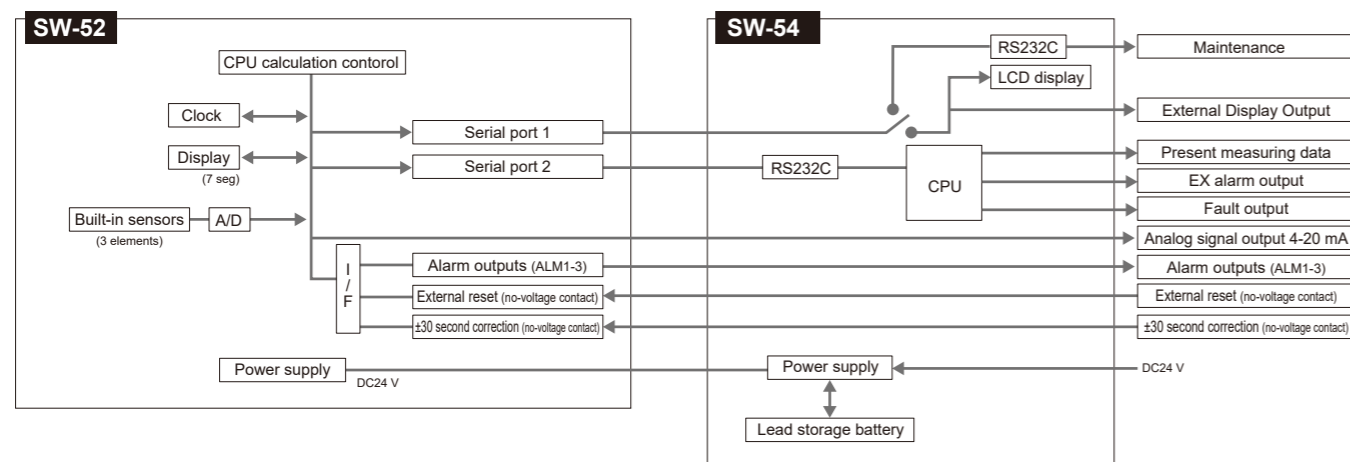
Force-balance Accelerometer	Color Display
3-direction non-directivity	Database Inquiries
Earthquake information display	Alarm Buzzer
Acceleration Alarm Contact Output	Power Backup
Seismic Intensity/SI Value Alarm Contact Output	Extra Alarm Output
Ability to Reset Alarm Externally	FAULT Alarm
Analog Level Output	External Display Connection
	Sensor Test

## Applications

In seismic accelerograph, automatic announcement and mechanical operation are controlled by alarm output according to the level of earthquake.

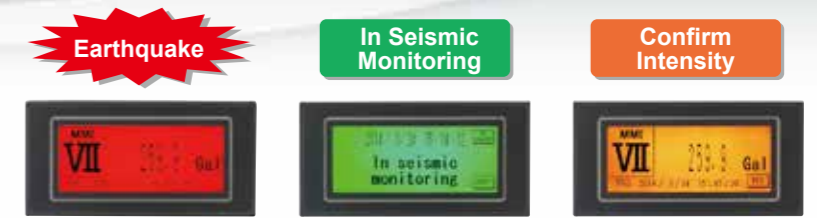


## Block Diagram



## Features

Status are indicated by backlight color. The severity level can be distinguished from far away.

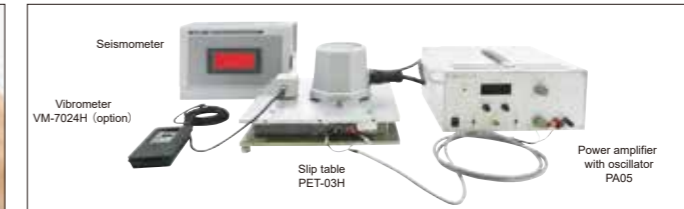


### Touch panel



Direct operation makes speedy confirmation.

### System Calibration Service



Calibration system is composed of a compact electrodynamic horizontal table PET-03 and amplifier with oscillator PA05. It simulates earthquake and enables easy calibration test.

### Easy Installation



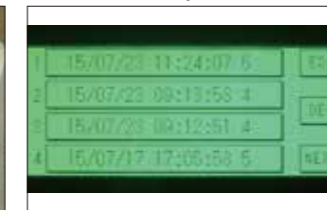
U-shaped fixing hole make easy to anchor the seismic pickup.

### Water proof Manufacturing



The accelerometer has IP67 water proof compliant structure for installation on rainy places.

### Database Inquiries Screen



History up to 50 records are saved.

### Reliable Accuracy



Force-balance accelerometers built in IMV earthquake monitoring systems are high precision and accuracy.

### Compact Design



By locating sensor port at a lower place and rounding off the corners can be avoided impact to cables from outside.

## Options



### External Display ED74

Indicates acceleration value, seismic intensity scale and alarm generation time.

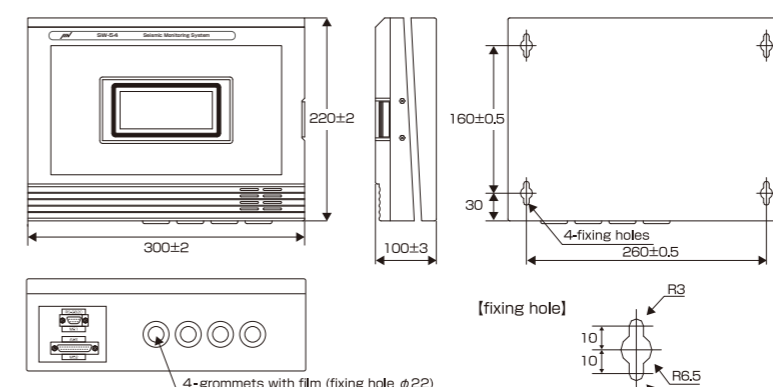


### Control Unit CU-5

A control unit makes reliability of the relay contact output of the alarm signal to control or stop activation higher. An alarm signal is output when 2 units out of 3 generate such signals.

## External Dimensions

### SW-54 (unit: mm)



### SW-52

