

Real time data transmitter for
Vaisala Weather Station WXT53x
(GSM/GPRS, 3G [W-CDMA], & 4G)

SESAME II-05q

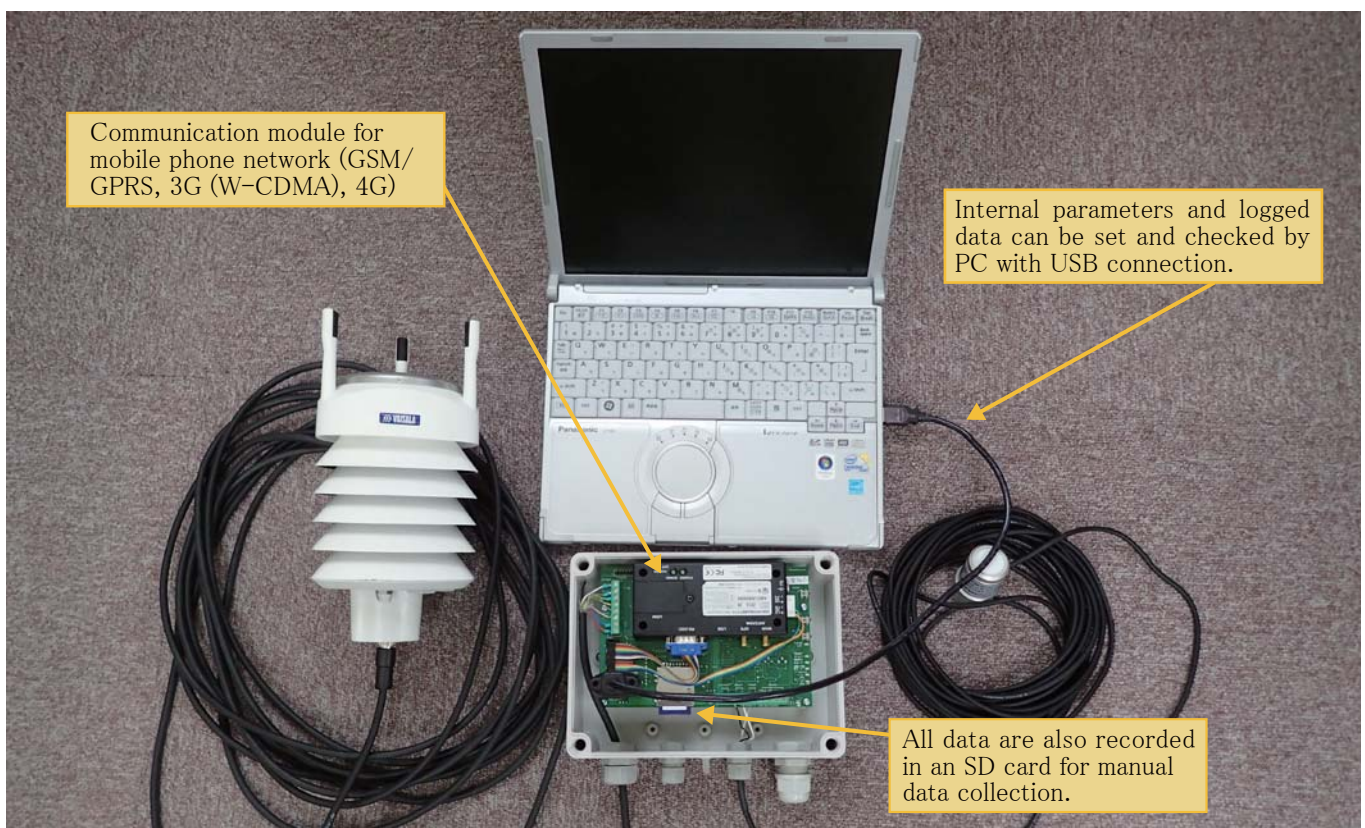
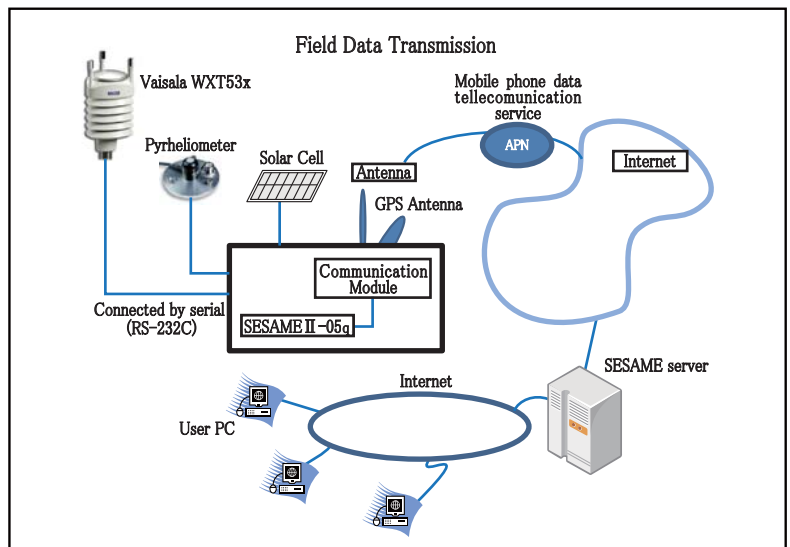
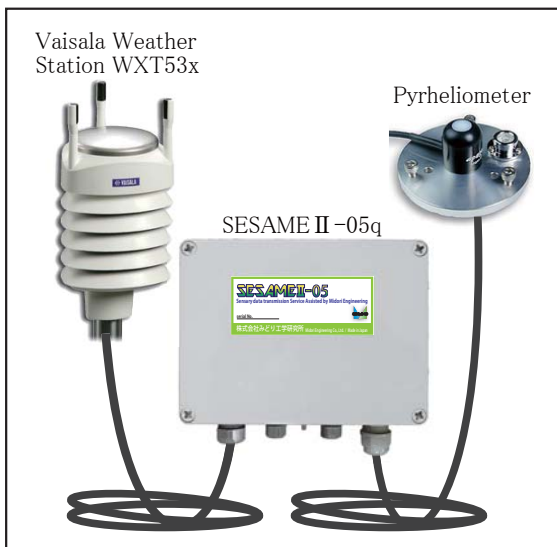
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Midori Engineering
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SESAME II-05q is a data logging and transmitting system designed for Vaisala Weather Station WXT53x. Based on the telecommunication network served by SESAME System, you can get real-time field data measured with this powerful and reliable weather observation apparatus!

SESAME II-05q logs the data of WXT53x (wind speed and direction, air temperature, relative humidity, rain and hail intensity, and barometric pressure) and an additional sensor (pyrheliometer for example) in both its internal memory and an SD card. The data are then sent to a cloud server of SESAME System via the mobile phone network. So the users can access the data in the cloud server via the Internet.

SESAME II-05q can remember upper and lower threshold values for all items of WXT53x. When a measured value gets out of the range, an alert message is sent to the server, which will then send an email to the users. So the SESAME System is very useful for emergency measures for weather hazards.



Real time data transmitter, SESAME II -05q, for Vaisala Weather Station WXT53x

Model No.	SESAME II-05q
Input	All data of WXT53x (wind speed and direction, air temp., relative humidity, rain and hail intensity, and barometric pressure) Pyrheliometer: 0~40/400 mV (integration)*
Interval	Measurement: 1~60 min, 1 min step Transmission: 10/15/20/30 min, 1/2/4/6/12/24 hours
Alarming	All data of WXT53x and Battery voltage (upper and lower thresholds)
Recording Media	Internal: 1 M-bit non-volatile EEPROM (up to 3000 times observation) External: SD card (up to 4GB)
Antenna	Mobile Terminal: 1, GPS: 1

Band Frequency**	GSM/GPRS, 3G (W-CDMA), LTE Cat.4
Operating Temp.	-20 to 50°C
Power Source	12 VDC, 7~9 Ah Deep cycle battery with solar cell (10 W)
Power Requirement	WXT53x: 3 mA (typical) Data logger: 4 mA Transmission: 600 mA

Pyrheliometer: PCM-01

Sensor type	Thermopile
Wave length	305~2800 nm
Sensitivity	5~7 mV/kW/m ²
Cable length	10 m

* Another sensor which outputs the same type signal can be replaced.
** For example, Telkomsel is applicable in Indonesia.

Technical data of Vaisala Weather Station WXT53x

Barometric pressure measurement performance

Observation range	500 ... 1100 hPa
Accuracy (for sensor element) at 600 ... 1100 hPa	±0.5 hPa at 0 ... +30 °C (+32 ... +86 °F) ±1 hPa at -52 ... +60 °C (-60 ... +140 °F)
Output resolution	0.1 hPa / 10 Pa / 0.001 bar / 0.1 mmHg / 0.01 inHg

Air temperature measurement performance

Observation range	-52 ... +60 °C (-60 ... +140 °F)
Accuracy (for sensor element) at +20 °C (+68 °F)	±0.3 °C (±0.54 °F)
Output resolution	0.1 °C (0.1 °F)

Relative humidity measurement performance

Observation range	0 ... 100 %RH
Accuracy (for sensor element)	±3 %RH at 0 ... 90 %RH ±5 %RH at 90 ... 100 %RH
Output resolution	0.1 %RH

Wind measurement performance

Wind speed	
Observation range	0 ... 60 m/s (134 mph)
Reporting range	0 ... 75 m/s (168 mph)
Response time	0.25 s
Available variables	Average, maximum, and minimum
Accuracy	±3 % at 10 m/s (22 mph)
Output resolution	0.1 m/s (km/h, mph, knots)
Wind direction	
Azimuth	0 ... 360°
Response time	0.25 s
Available variables	Average, maximum, and minimum
Accuracy	±3.0° at 10 m/s (22 mph)
Output resolution	1°
Averaging time	1 ... 3600 s, sample rate 1, 2, or 4 Hz (configurable)

Precipitation measurement performance

Collecting area	60 cm ² (9.3 in ²)
Rainfall ¹⁾	
Output resolution	0.01 mm (0.001 in)
Field accuracy for daily accumulation	Better than 5 %, weather-dependent
Duration	Counting each 10-second increment whenever droplet detected
Duration output resolution	10 s
Intensity	Running 1-minute average, 10 s steps
Intensity observation range	0 ... 200 mm/h (0 ... 7.87 in/h) (broader with reduced accuracy)
Intensity output resolution	0.1 mm/h (0.01 in/h)
Hail ²⁾	
Output resolution	0.1 hits/cm ² (1 hits/in ²), 1 hit
Intensity output resolution	0.1 hits/cm ² h (1 hits/in ² h), 1 hit/h

1) Cumulative accumulation after the latest automatic or manual reset.
2) Cumulative number of hits against collecting surface.

Mechanical specifications

Weight	
WXT534, WXT535, WXT536	0.7 kg (1.54 lb)
WXT531, WXT532, WXT533	0.5 kg (1.1 lb)

Operating environment

Operating environment	Outdoor use
Operating temperature	-52 ... +60 °C (-60 ... +140 °F)
Storage temperature	-60 ... +70 °C (-76 ... +158 °F)
Operating humidity	0 ... 100 %RH
Operating pressure	500 ... 1100 hPa
Wind ¹⁾	0 ... 60 m/s (0 ... 134 mph)
IP rating	Without mounting kit: IP65 With mounting kit: IP66

1) Due to the measurement frequency used in the sonic transducers, RF interference in the 200 ... 400 kHz range can disturb wind measurement.

Distributor

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