

Wireless sensing system
"Intelligence, Convenience, Low Cost"



" Easy & Simple Sensing "

Business Profile

- **Product Sales**

- Wireless Sensing System
- Research/Experiment Equipment

- **Research/Development Service**

- Development of Structure Monitoring Program
- Production of Mock-up or Test Model
- Measurement, Test and Analysis of Structure
- Commissioned Research from National/Public Research Institute



History

2008

- Established Smart Control & Sensing

2010

- Jan. Joined Korea Research Institute of Standards and Science Business Incubator

2011

- Mar. Commercialized iLOG Product
- Jun. Acquired ISO 9001 Certification
- Jul. Moved Office (Deajeon Techno-park)
- Aug. Acquired CE Certification(iLOG-ACC, iLOG-strain)

2013

- Dec. Acquired FCC Certification
- Dec. Acquired CE Certification(Shaking Table, iLOG-Tilt)



Shaking Table

For Structural Dynamics Education and Research

Description

The shake Table (ST-ER-1) helps successfully integrate Structural Dynamics & Control, Earthquake Engineering and related fields into Civil Engineering curriculum and research. This portable, bench-scale table is powered by a Ironless linear motor. The load is directly connected to the motor. Therefore, there is no backlash or elasticity from the moving elements. Thus, the dynamic behavior of the servo control is improved and higher levels of accuracy are achieved. The ST-ER-1 is instrumented with an optical encoder and accelerometer. Each ST-ER-1 moves along a single axis, however, two tables can be coupled for dual axis, x - y operation.

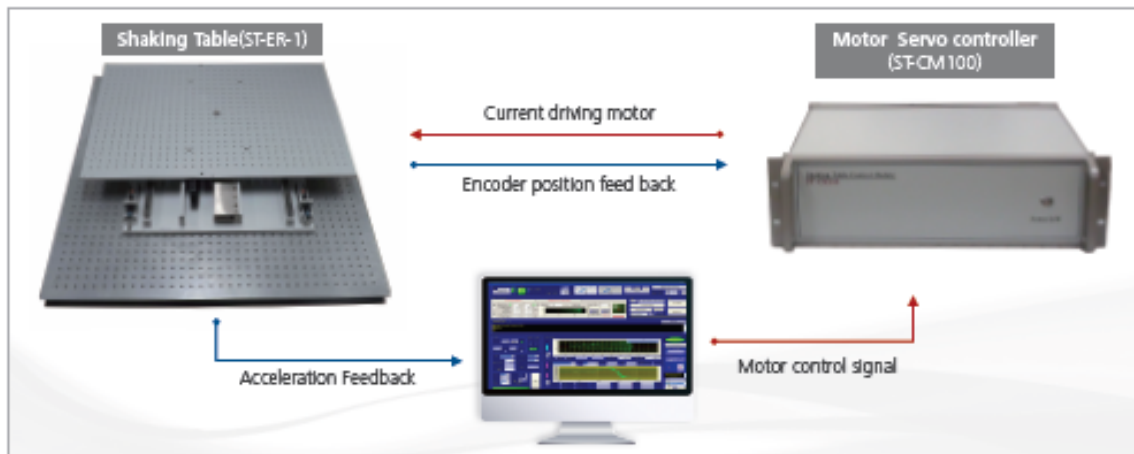


Key Features

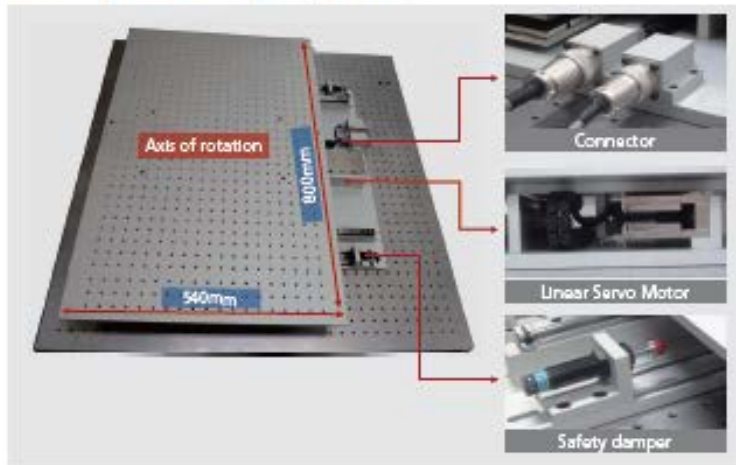
- Portable, accessible & easy-to-use
- Allows hands-on student involvement, introducing experimentation and research techniques
- Easy integration of your structures, sensors and actuators
- Simple, standalone software operation
- Single (x) or Dual (x-y) axis configurations
- Complete, cost-effective turnkey systems provided
- 0.2-20 Hz., 16cm. stroke
- 1.5g acceleration with 20kgf payload (ST-E-1)

Shaking Table

01. System Configuration



02. Component Description (ST-ER-1)



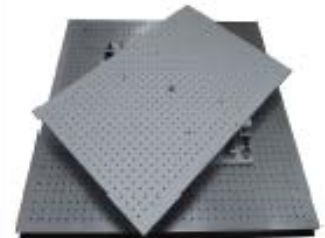
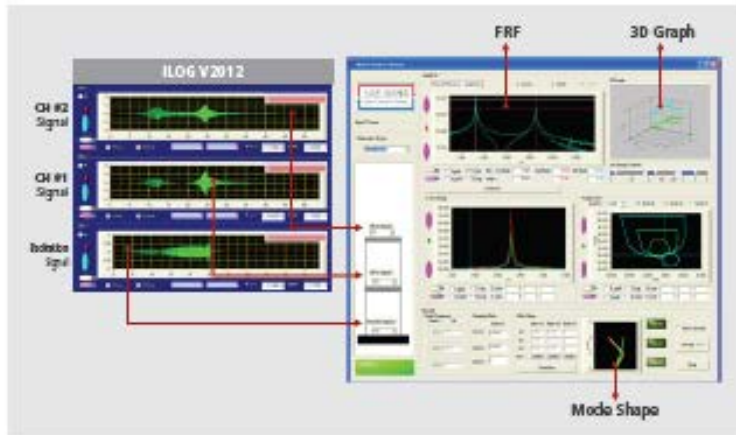
SHAKING TABLE



ST-E-1(1axis)

LxWxH	540x540x65mm
Motor Force	81N
Table trable	±150mm

03. Analysis S/W module



ST-ER-1(1axis)

LxWxH	540x800x65mm
Motor Force	202.5N
Table trable	±150mm

04. Integration system (Shaking table+iLOG sensor)

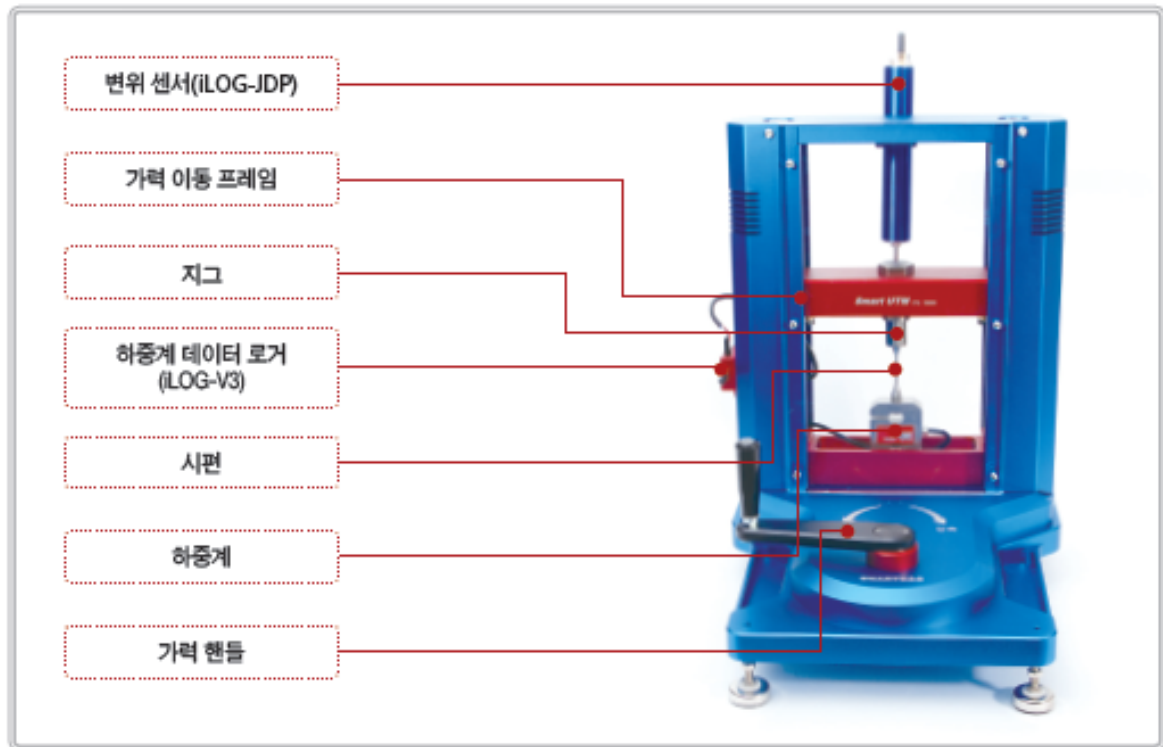


ST-ER-2(2axis)

LxWxH	540x540x65mm
Motor Force	202.5N
Table trable	±150mm

SMART UTM HTC-10000N

Manually operated, Portable, Easy & Wireless



▶ 성능

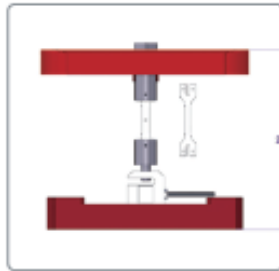
- ▶ 적정 가력 하중 : 10,000N
- ▶ 크기 : 370mm X 433mm X 494mm
- ▶ 무게 : 37kgf
- ▶ 이동 거리 : 260mm
- ▶ 이동 속도 : 0.16mm/cycle

SMART UTM HTC-10000N

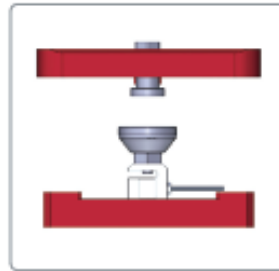
◆ 지그(Zig)



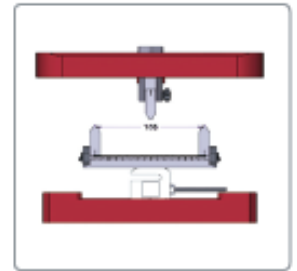
UTM-ZIG-T1 (인장 지그)



UTM-ZIG-T2 (인장 지그)

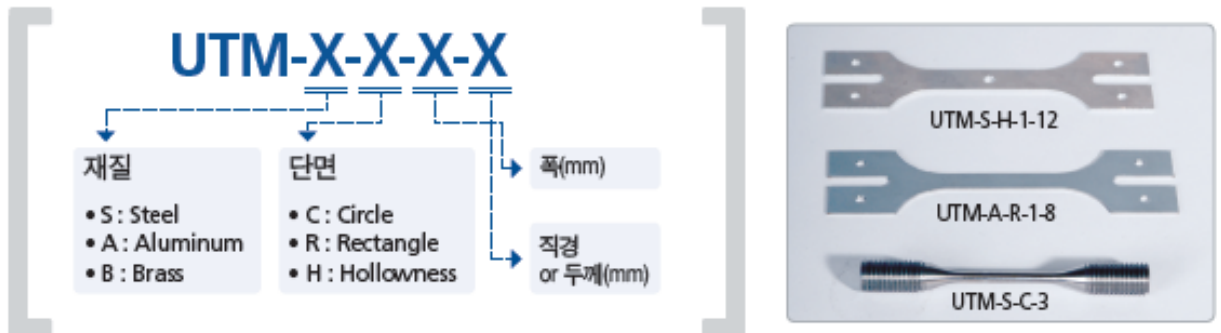


UTM-ZIG-C1 (압축 지그)



UTM-ZIG-B1 (휨 지그)

◆ 시편



◆ 계측 시스템 및 S/W



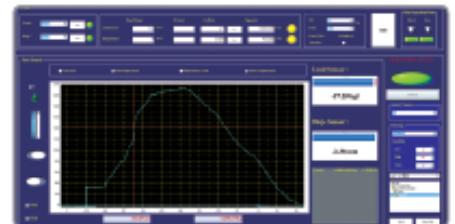
LoadCell
• 용량 : 1,000kgf



데이터 로거(무선)
• S/R : 50Hz



데이터 로거(무선)
• S/R : 50Hz
• M/L : 50mm
• 데이터 로거 내장



데이터 획득 및 분석 S/W
• 하중-변위 그래프
• 데이터 Text 파일 저장
• Excel 파일로 변환 저장

iLOG **Smart Sensor System** 2.4GHz Wireless MEMS Accelerometer

iLOG-MEMS-Acc

■ Introduction

iLOG-MEMS-ACC is a wireless acceleration sensor system that rapidly sends(115.2kbps)acceleration signals without noise, using Bluetooth. The sensor device consists 2-axis MEMS acceleration sensor, 16bit A/D convertor, 8bit microphone controller, internal memory(2.0Mb), Bluetooth communication module, and Li-ion recharge module, which allows self-acquisition of acceleration signal as well as decision making according to embedded algorithm.



■ Features & Benefits

- Small size(48mm * 48mm * 13mm)
- Acquisition of 2-axis acceleration signal with one sensor
- Various data acquisition methods
- Communication distance appropriate to on-site sensing

■ Applications

- Appropriate to signal processing or dynamic characteristic analysis experiments in university Labs.
- Can be applied to structure dynamic analysis tests using acceleration in research centers or company Labs.
- Available to safety inspection for structures.
- Can be efficient and cost-effective for long-term structure sensing system establishment



■ Specifications

	Min	Type	Max	Units
Power consumption	0.24		0.5	W
Recharge voltage	4.2	5	7.5	V
Weight		65		gf
Sampling rate	50		800	Hz
Internal memory		2		MB
Scope		±1.7		G
Reception		1		mg at 60Hz
Communication distance			1.2	Km
Standby			5	Hr
Duration			2.5	Hr
Resolution		16		Bit



iLOG Smart Sensor System

2.4GHz Wireless Data Logger

iLOG-Strain Type Logger

Introduction

iLOG-Strain Type Logger is a wireless acceleration sensor system that rapidly sends(115.2kbps)acceleration signals without noise, using Bluetooth. The sensor device consists PGA(Programmable Gain Amplifier) 16bit A/D convertor, 8bit microphone controller, internal memory(2.0Mb), Bluetooth communication module, and Li-ion recharge module, which allows self-acquisition of displacement data as well as decision making according to embedded algorithm.



Features & Benefits

- Bluetooth type
- Small size(48mm * 48mm * 13mm)
- 1 Gauge type, 2 Gauge type, Full Bridge type
- Various data acquisition methods(Manual,Trigger,Interval)
- Communication distance appropriate to on-site sensing

Program(SLA V3.0)-12CH.

- Acquisition Method : Manual/Trigger/Interval
- Window Function : Hanning/Hamming
- Filtering Function : LPF/BPF
- Signal Process Function : Power Spectrum/FFT/CCF
- The Others : Auto Save/Sensor Check



Specifications

	Min	Type	Max	Units
Power consumption	0.24		0.6	W
Recharge voltage	4.2	5	7.5	V
Weight		65		gf
Sampling rate	50		800	Hz
Internal memory		0.24		MB
Communication distance			1.2	Km
Standby			5	Hr
Duration			1.9	Hr
Resolution		16		Bit



Acceleration Sensor



Strain Gauge



Transducers(Disp./Load)

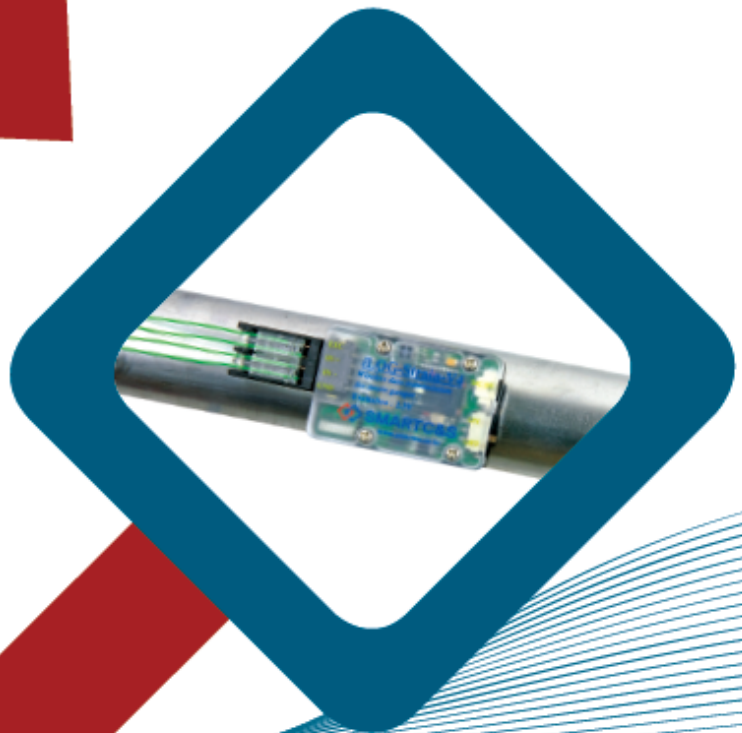


Solar Energy Recharger

iLOG-Strain/IEPE

Torque Measuring Telemetry System
for Strain Gage Applications

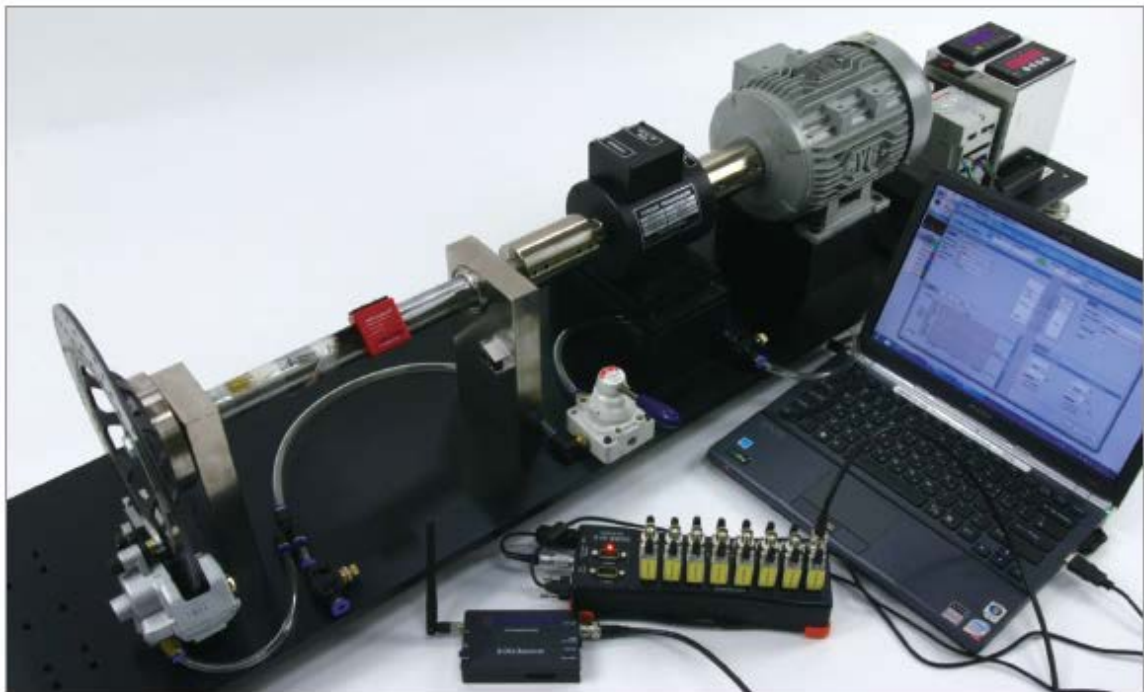
- Easy to assemble and operate
- Gain : 125-9000 – Setting receiver side
- Distance max 50m (with 1 dBi antenna)
- Signal bandwidth 0-500Hz (-3dB)



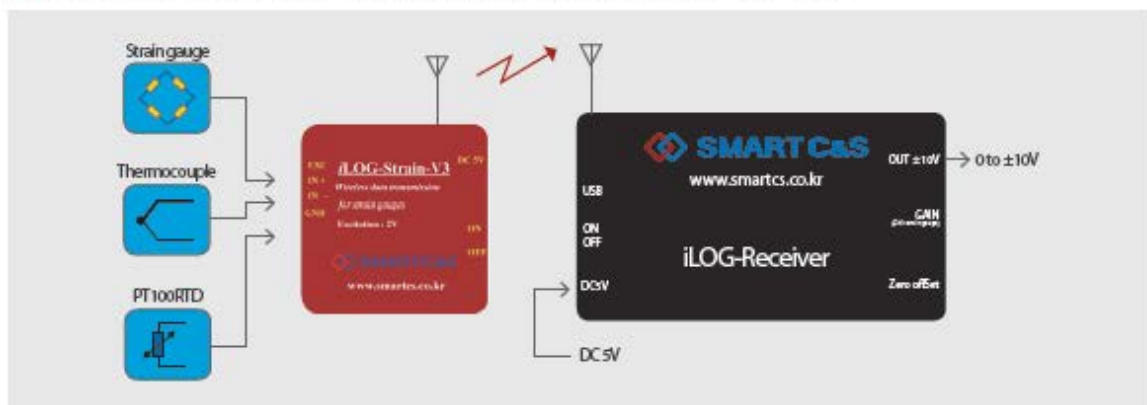
System Configuration

The ILOG-Strain offers the easiest handling for the wireless radio transmission of strain gage signals from rotating shafts. The encoder has dimensions (V3, V4) of 39 x 42 x 15.30, 40 x 26 x 10mm (without connectors) and Receiver of 96.70 x 60 x 20mm (without connectors). Each module has a weight of about 119g. The encoder/transmitter parts are simply mounted on the rotating shaft with a special fiber reinforced tape and add steel trip.

The ILOG-Strain is a wireless strain type sensor system. That rapidly sends (115.2 kbps) without noise, using Bluetooth. The sensor device consists PGA (Programmable Gain Amplifier) 16bit A/D convertor, 8bit micro controller, internal memory (2.0 MB), Bluetooth communication module, and Li-Ion recharge module.



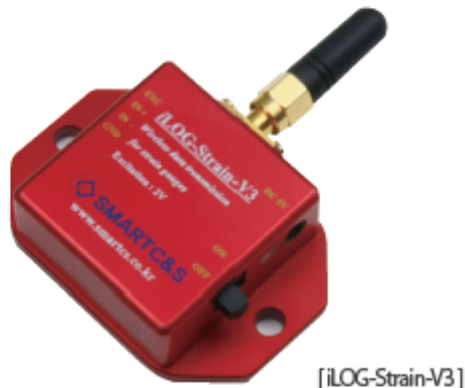
General Measurement Configuration for Single Channel Systems



Spec.- Transmitter Part

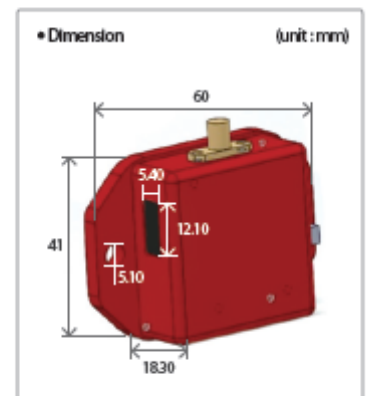
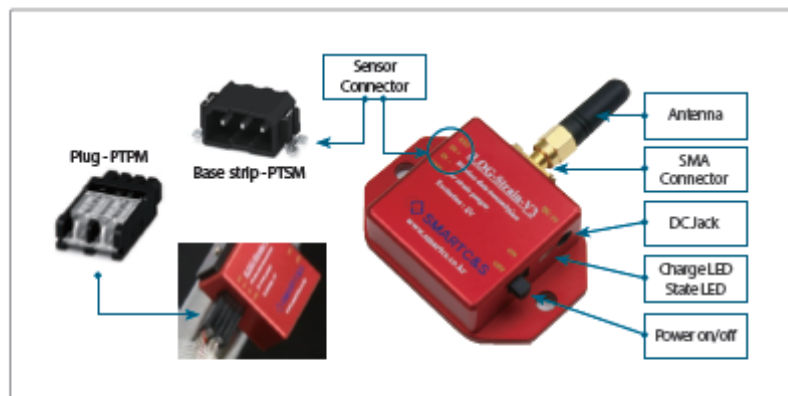
iLOG-Strain-V3 : Antenna attached outside the case

"Gain and Auto Zero setting direct from Receiver Side!"

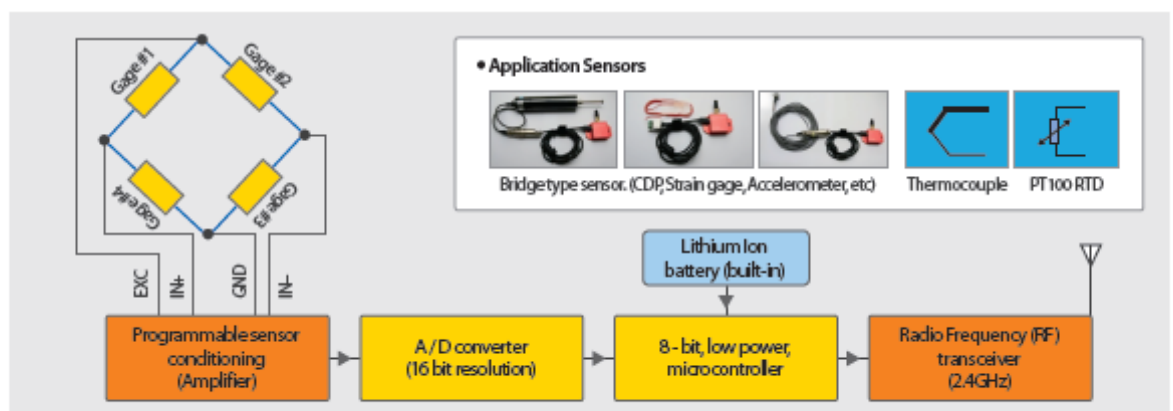


Features	Value
Strain gage	Full bridge (120Ω, 350Ω)
Excitation	2.6V (changeable)
Gain	125-9000 (select able from receiver side)
Operating temperature	-10to +80°C
Sampling rate	2.4KHz (Max)
Resolution	16bit (ADC)
Dimensions	60 x 41 x 18.30mm (adhesion flange)
Weight	64grams
Recharge Power	5.0V
Internal Battery	470mA
Power consumption	0.5W
Operating time	3Hr (Max)

Connector & External description



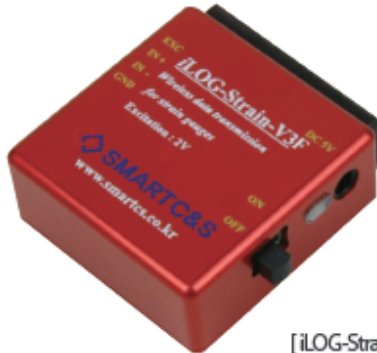
Block Diagram



Spec.- Transmitter Part

iLOG-Strain-V3F : Antenna attached inside the case

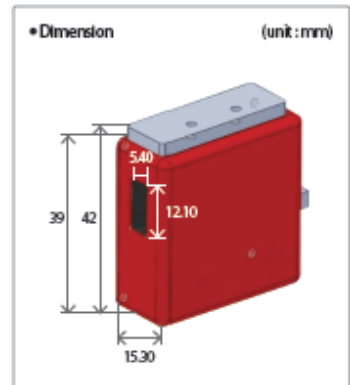
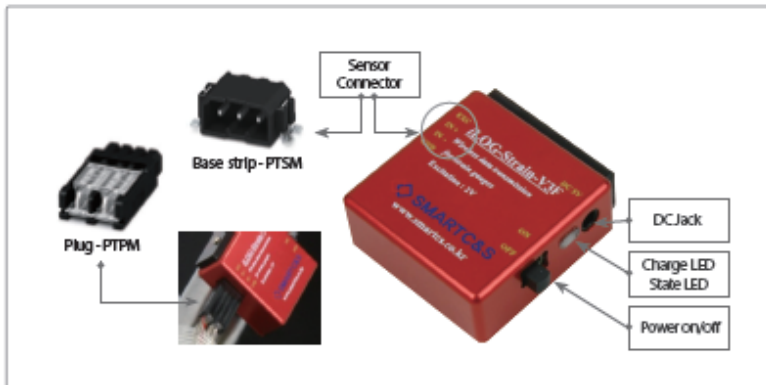
"Gain and Auto Zero setting direct from Receiver Side!"



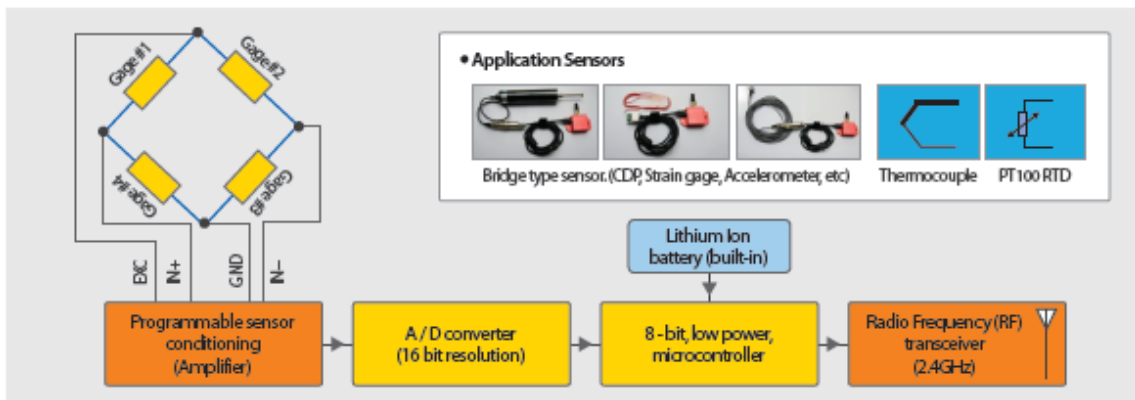
[iLOG-Strain-V3F]

Features	Value
Strain gage	Full bridge(120Ω, 350Ω)
Excitation	2.6V(changeable)
Gain	1.25-9000 (select able from receiver side)
Operating temperature	-10to +80°C
Sampling rate	2.4KHz(Max)
Resolution	16bit (ADC)
Dimensions	39 x 42 x 15.30mm
Weight	64grams
Recharge Power	5.0V
Internal Battery	470mA
Power consumption	0.5W
Operating time	3Hr (Max)

Connector & External description



Block Diagram



iLOG-Strain-V4 : Antenna attached inside the case

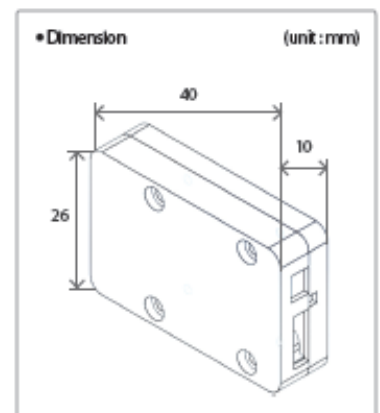
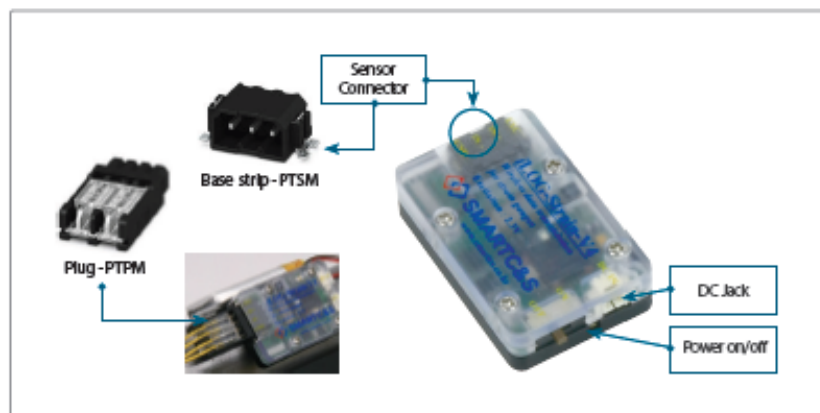
"Gain and Auto Zero setting direct from Receiver Side!"



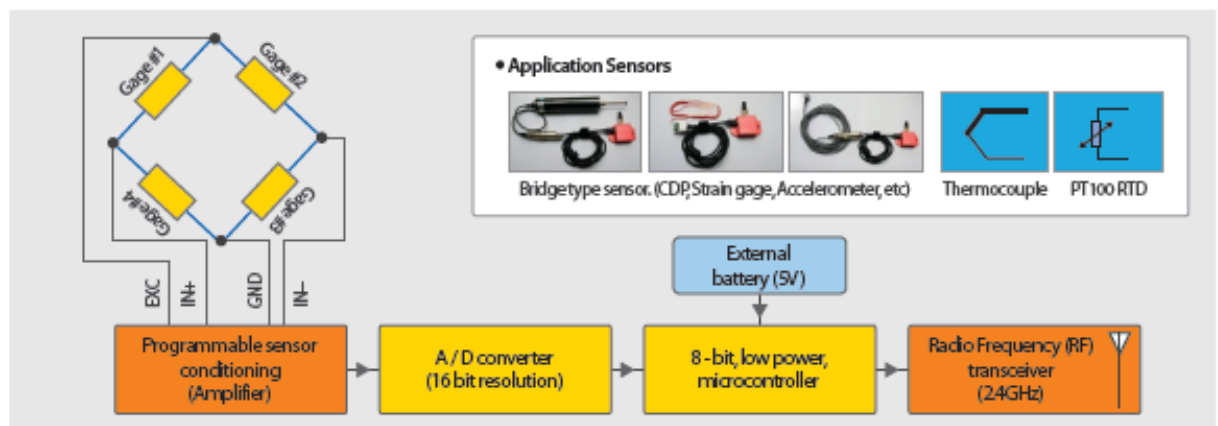
[iLOG-Strain-V4]

Features	Value
Strain gage	Full bridge (120Ω, 350Ω)
Excitation	2.6V (changeable)
Gain	125-9000 (select able from receiver side)
Operating temperature	-10to +80°C
Sampling rate	2.4KHz (Max)
Resolution	16bit (ADC)
Dimensions	40 x 26 x 10mm
Weight	15grams
Power consumption	0.5W

Connector & External description



Block Diagram



iLOG-IEPE-V2 : Antenna attached outside the case

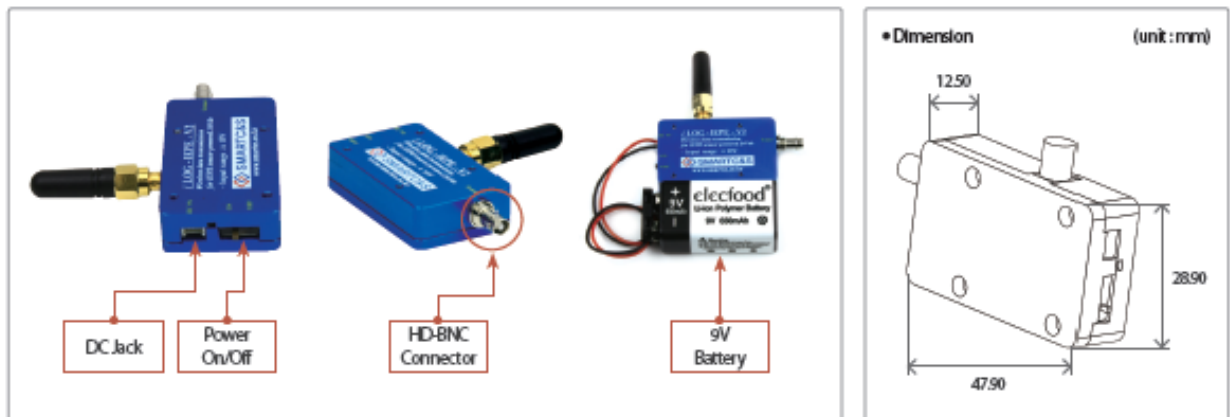
"Wireless data transmission
for all IEPE Sensors"



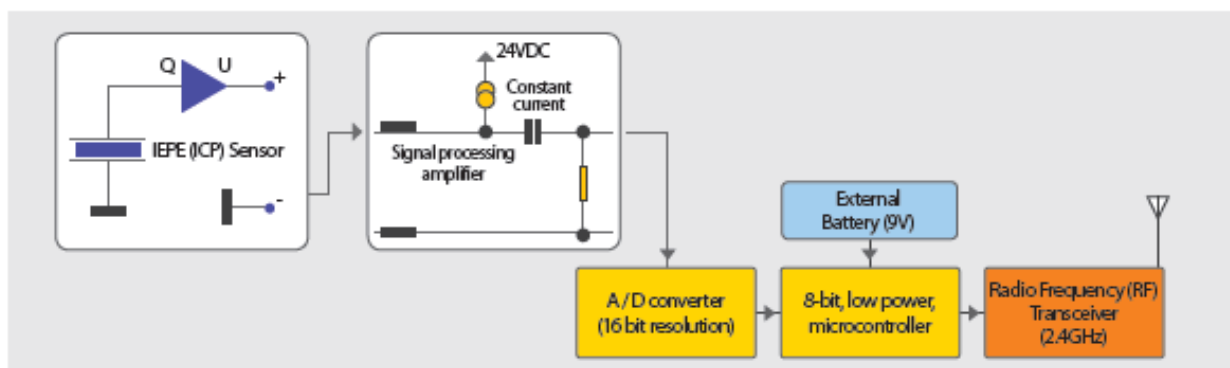
[iLOG-IEPE-V2]

Features	Value
Sensor	For all IEPE Sensors
Excitation	24V
Gain	125-9000 (select able from receiver side)
Operating temperature	-10to +80°C
Sampling rate	2.4KHz(Max)
Resolution	16bit (ADC)
Dimensions	47.90 x 28.90 x 12.50mm
Weight	35grams
Power	External Battery (6~9V)
Input range	±10V

Connector & External description



Block Diagram



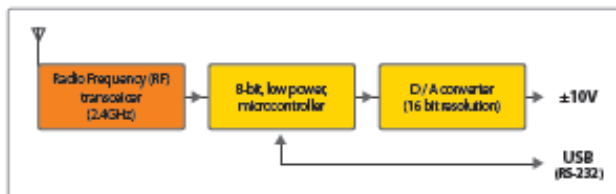
iLOG-Receiver : Single Channel



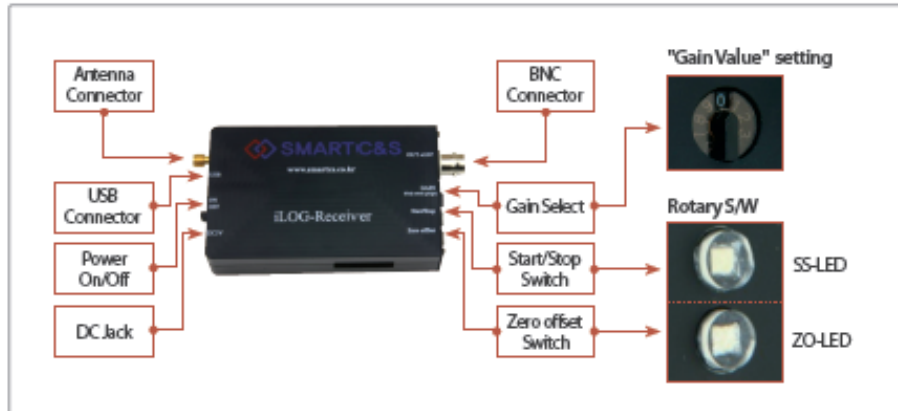
[iLOG-Receiver]

Features	Value
Analog output	±10.0V via BNC
Channel count	only one
Setting Interface	USB (RS-232)
Transmitting	Bluetooth (2.4GHz)
Gain Setting	via screw switch
Operating temperature	-10to + 80°C
Start/stop	Push button switch
Resolution	16bit (DAC)
Dimensions	96.70 x 60 x 20mm
Weight	119grams
Power	5.0V
Zero drift/ Gain drift	0.01%/°C

Block Diagram



External description



Value	Gain
0	125
1	250
2	500
3	750
4	1000
5	1500
6	2000
7	3000
8	6000
9	9000

Connecting flow

