Msens series

Index

Precision Tilt Sensor (Cube)
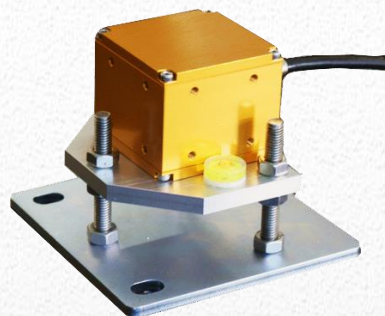
Feature

- High precision and accuracy tilt meter

- Built to different specifications

- Aplliable to bridges, special structures, vessel subway and

  factory facilities, etc.

- Suitable for intended use before requiring.

General Specification

Item	Specification		Unit	Remarks
Axis	Single(X)/Dual(X,Y)			
Response Time	< 0.5		sec	
Power	24		Vdc	mA-output
	12		Vdc	Vdc-output
Operating temperature	-40 to 125		°C	Max.
	-25 to 85		°C	Typical
Water proof grade	IP65			
Dimension	W65 X D65 X H55		mm	

Specification for each types

1) High Resolution of Ceramic Type

Item	Specification		Unit	Remarks
Measuring Range	±0.5 / ±1	±3	degree	
Resolution	< 1/10000	< 3/10000	degree	
Accuracy	< 1/1000		degree	mA-output
Non-Linearity	< 3		%	Max.
Output	Analog (mA / Diff. Vdc)			FS
Ordering Code	Cube-□-□-□-□-C			

2) High Resolution of MEMS Type

Item	Specification	Unit	Remarks
Measuring Range	±3 / ±5 / ±10 / ±15	degree	
Resolution	< 1/1000	degree	
Accuracy	< 1/1000	degree	mA-output
Non-Linearity	< 3	%	Max.
Output	Analog (mA / Diff. Vdc)		FS
Ordering Code	Cube-□-□-□-□-M		

3) Medium Resolution of MEMS

Item	Specification	Unit	Remarks
Measuring Range	±10 / ±15 / ±30	degree	
Resolution	<1/100	degree	
Non-Linearity	<0.38	%	FS
Output	Analog (mA / Diff. Vdc)		
Ordering Code	Cube-□-□-□-□- M		

3) Low Resolution of MEMS Type for RS485

Item	Specification	Unit	Remarks
Measuring Range	±180	degree	
Resolution	<1/100	degree	
Accuracy	<1/10	degree	
Non-Linearity	<0.25	%	Max.
Response Time	<0.08	sec	
Output	RS485		
Power(only for low resolution)	101 to 30	Vdc	

Ordering Code

CUBE □ □ □ □ □ □

Axial type
S = Single Axis
D = Dual Axis

Output type
MA = Analog : mA
MV = Analog : Vdc
485 = RS485

Range type
0.5 = ± 0.5 °
1 = ± 1 °
3 = ± 3 °
5 = ± 5 °
10 = ± 10 °
15 = ± 15 °

Sensor type
C = Ceramic
M = Mems

Monting type
W = Wall Mount
F = Floor Mount

Option
EL = EL-Beam
Jig = Tripod
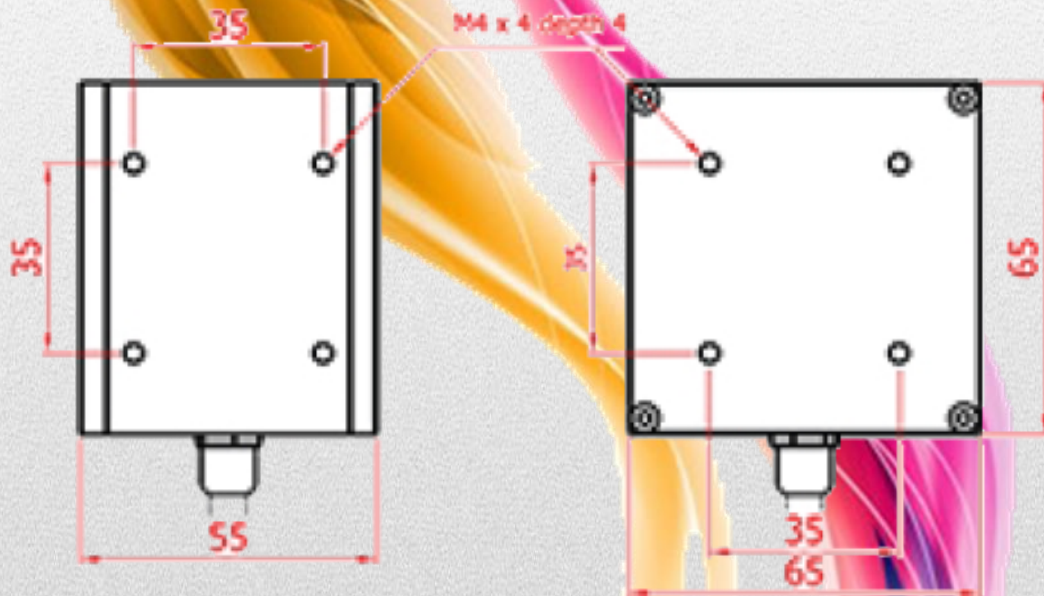
Wiring Connection

| Wire No.	mA/Vdc	Diff. Vdc	RS485
Red	V+	V+	V+
Black	GND	GND	GND
Green	X-Out	X-Out[Hi]	485-B(N)
White		[Low]	485-A(P)
Blue		Y-Out[Hi]	
Purple		[Low]	

Dimension

MEMS Type Tilt Sensor (MSENS-IN)

JooShin Corporation

MEMS-based tilt sensor and output within ± 180 ˚ angle can be set. In addition, Microprocessor mounted for temperature compensation, filtering, noise reduction and extended Kalman filter is applied. MSENS-IN is a leading tilt sensors by height performance and affordable price

Feature

- 1 or 2-Axis inclinometer based on MEMS applied the Extended Kalman Filter

- The settable angle output (±180°)

- Microprocessor for Temp. drift fitting, noise, calibration

- High performance, economical price

- Designed to be resistant to noise by the inner shield

- The function to set the output mode

- Easy to use output (4~20mA or 0~5Vdc, only 1-axis)

- RS485 data output

- Wide range input power (10~30Vdc)

Size
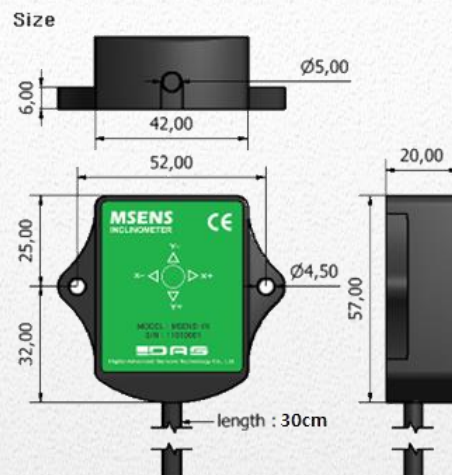
Specification

Description	Specification	Unit	Remark
Range (Deg)	±180	°	Settable
Axial	1 or 2		X, Y
Resolution(Deg)	0.1	°	
Non-linearity	0.25	%(FS)	
Response time	<0.08	Sec	Max.
Output(Digital)	RS485		Max. 1.2Km
Output(Analog)	mA/mV		Max. 1.2Km
Input	12	Vdc	10 ~ 30V
Operating temp.	-25 ~ 85	°C	
Waterproof	IP65		
Weight	68	g	Approx.

Ordering number format

MSENS -IN - ☐ - ☐☐ - ☐☐ - ☐ - ☐

S/D(single or Dual)

MV/MA/485 (Voltage or Current or 485
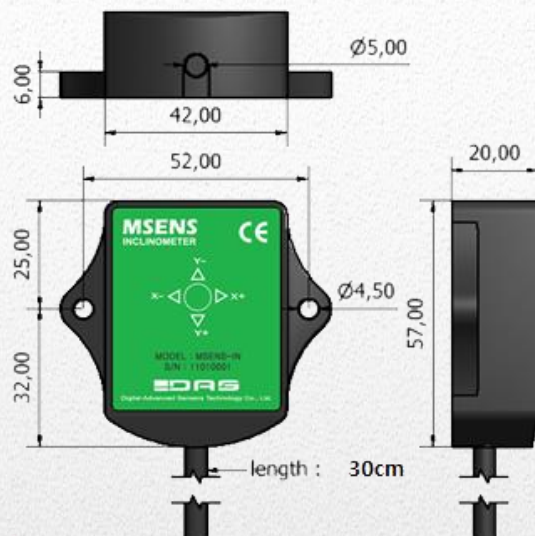
10/30/60/90/180(Degree)

Signal increasing(CW, CCW)

Mount(W : Wall , F : Floor)

Ex) MSENS - IN - S - MV - 90 - W - CW

MEMS Type Tilt Sensor (MSENS-IN-360)

JooShin Corporation

MEMS-based tilt sensor and output within 0 - 360 ˚ angle can be set. In addition, Microprocessor mounted for temperature compensation, filtering, noise reduction and extended Kalman filter is applied. MSENS-IN is a leading tilt sensors by high performance and affordable price.

Feature

- 1 or 2-Axis inclinometer based on MEMS applied the Extended Kalman Filter

- Microprocessor for Temp. drift fittting, noise, calibration

- High performance, economical price

- Designed to be resistant to noise by the inner shield

- The function to set the output mode

- Easy to use output (4~20mA or 0~5Vdc, only 1-axis)

- RS485 data output

- Wide range input power (10~30Vdc)

Specification

Description	Sepcifcation	Unit	Remark
Range (Deg)	360	°	Settable
Resolution(Deg)	0.1	°	
Non-linearity	0.25	%(FS)	
Response time	<0.08	Sec	Max.
Output(Digital)	RS485		Max. 1.2Km
Output(Analog)	mA/mV		
Input	12	Vdc	10 ~ 30V
Operating temp.	-20 ~ 85	°C	
Waterproof	IP65		
Weight	68	g	Approx.
Current	<60	mA	at 12Vdc

Ordering number format

MSENS -IN - 360 - □□ - □ - □

MV : Analg mV output 0.5~4.5V

MA : Analog mA output 4~20mA

485 : Digital output RS-485

CW : Signal increasing CW

CCW : Signal increasing CCW

F/W : Floor mount / Wall mount

MEMS type tilt module, output 0.5 ~ 4.5Vdc and +5 Vdc input is exported. Very simple to use and is used in various fields.
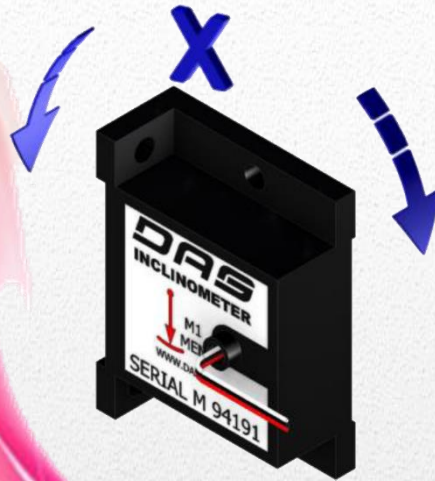
Typical automotive wheel alignment correct application attitude control equipment or heavy equipment, etc. are used.

Feature

- Built-in Microprocessor

- Small Size of 28X12X31mm

- High Precision

- Light Weight of 13g

Application

- Hwileolrain Entertainment

- Construction Equipment

- Antenna Position Correction System
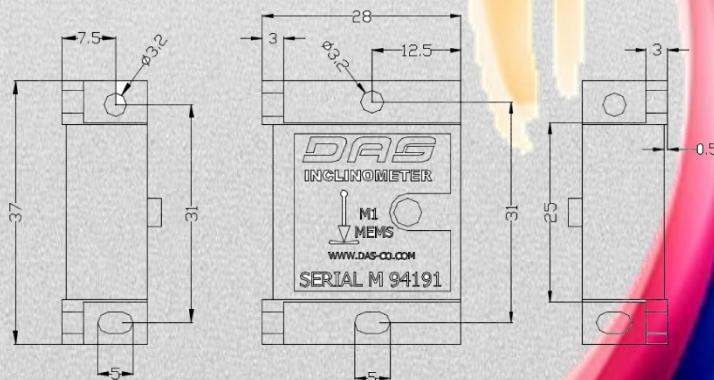
- Solar Tracker

Specification

Model	M1
Range	±30
Resolution(Deg)	<0.005
Response time	<0.3 second
Output	0.5~4.5Vdc
Power	5VDC
Zero offset	2.5±0.1V
Operating Temp.	-40 ~ 85℃
Sensitivity Temp	-30...+85℃, ±0.014°
Cable	30cm / Molex

Sensitivity

Tilt Angle	Straight line conversion error
0°	0
1°	0.0027
2°	0.0058
3°	0.0094
4°	0.0014
5°	0.0198
10°	0.0787
15°	0.2185
30°	1.668

SA1N is built- in micro processor and the newest Mems technology is applied.

Specially this sensor is single axial and very small size and low price.
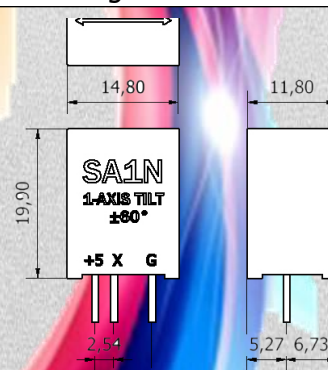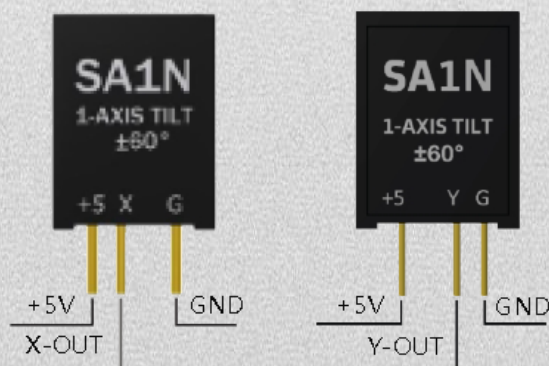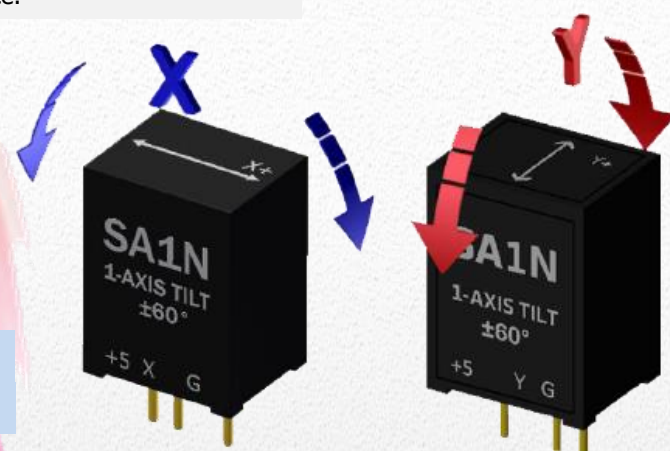
Feature

- MEMS techology

- Small Size of 15×12X20mm

- High strength PC ABS case

- Light Weight of 10g

Application

- Robot   - Solar pannel and tracking

- Various control   - Other Motion Detection

Specification

Model	SA1N		
Range(Deg)	±30°	±60°	±90°
Resolution(Deg)	<0.1		
Non-linearity	<3% FS		
Transverse sensitivity	<0.5% at ±60° tilt		
Response time	<0.1 second		
Temp. drift	0.1%/°C		
Output impedance	10kOhm		
Power supply	5VDC		
Output	0.5 - 4.5 Vdc		
Power consumption	<10mA		
Operating Temp.	-30 ~ 80°C		
Storage Temp.	-45 ~ 120°C		
Zero offset	2.5±0.1 Volt		
Weight	10g		

SA2 is built- in micro processor and the newest MEMS technology is applied.

Specially this sensor is single axial and very small size and low price.

Feature

- MEMS techology

- Small Size of 15×12X20mm

- High strength PC ABS case

- Light Weight of 10g

Application

- Robot

- Various control

- Solar panel and tracking

- Other Motion Detection

Specification

Model	SA2		
Range(Deg)	±30°	±60°	±90°
Resolution(Deg)	<0.1		
Non-linearity	<1% FS		
Transverse sensitivity	<0.5% at ±60° tilt		
Response time	<0.1 second		
Temp. drift	0.1%/°C		
Output impedance	10kOhm		
Power supply	5VDC		
Output	0.5 - 4.5 Vdc		
Power consumption	<10mA		
Zero offset	2.5±0.1 Volt		
Operating Temp.	-30 ~ 80°C		
Dimesion	W 15 X D 12 X H 19 mm		
Weight	10g		

+5V

X-OUT

GND

Y-OUT
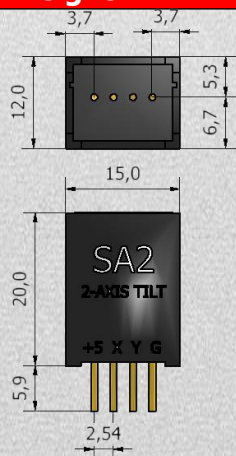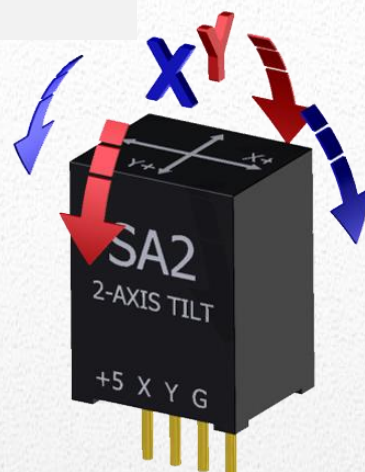
MEMS-based and extended Kalman filter is applied to the 1,2-axis tilt sensor and alarm output is within ±90˚ angle can be set.

In addition, This sensor is high performance and economic price by mounting Microprocessor for temperature compensation, filtering and noise reduction.

Feature

- Shielded internal shielding designed to drop through the noise
- Within 0.1˚ a stable drift is detected
- 2 built-in one 1A output relay
- Various output mode setting feature
- Powerful built-in surge protection circuit
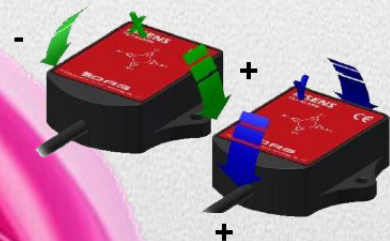- 10~30Vdc input power for a wide range

Application

- Bench heights   - Tower Crane   - Fire engine
- Lifter   - Agricultural - Pesticide sprayer
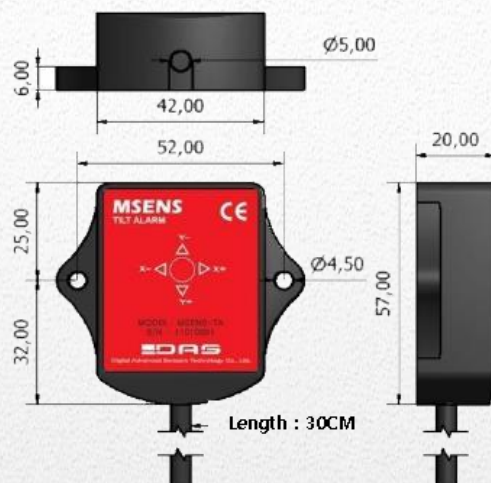
Specification

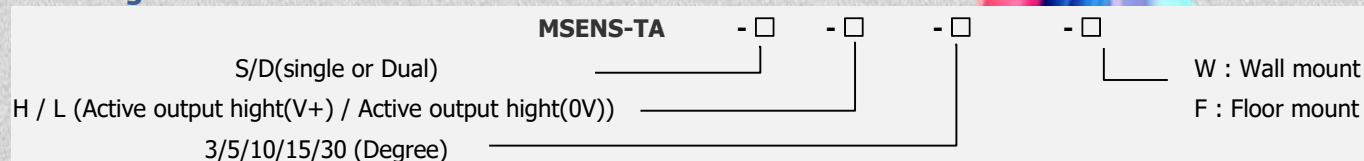| Description	Specification	Unit	Remark
Range (Deg)	±90	°	Settable
Axial	1 or 2		X, Y
Resolution(Deg)	0.1	°	
Off delay	2	Sec	Reset
On delay	2	Sec	Trigger
Output	2 Relay		1A
Input	10 ~ 30	Vdc	
Current	<150	mA	at 12Vdc
Turn-on time	<50	ms	
Waterproof	IP65		
Operating Temp.	-20 ~ +85	°C	
Weight	68	g	Approx.
Cable	5P		Shield cable

Direction

Connection

1 10~30Vdc
2 X-Relay out
3 GND
4 Y-Relay out

Ordering number format

MSENS-TA   -□   -□   -□   -□

S/D(single or Dual)

H / L (Active output hight(V+) / Active output hight(0V))

3/5/10/15/30 (Degree)

W : Wall mount

F : Floor mount

Rotary Angle Sensor (DRS-10)

Contactless magnetic angle sensor in the way of the absolute rotating angle can be measured with high precision sensors.
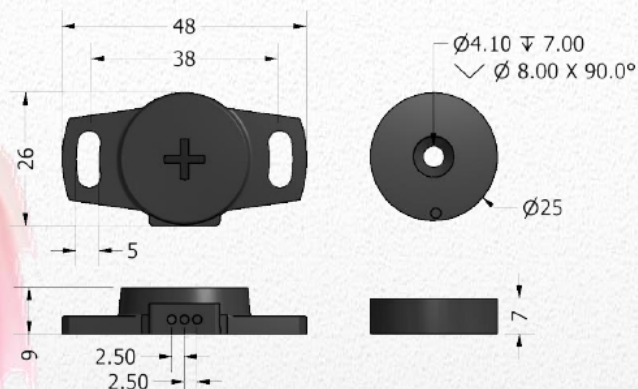The main applications of construction machinery, medical equipment, servo motor can be applied to the rotor.

Feature

- Very long life and compact design

- Drift stable detection within0.1°

- Built-in powerfu lsurge protection circuit

- Wide range of 10 ~30 Vdc input power

- High-strength plastic metal case

- Dual ouput (option)

Specification

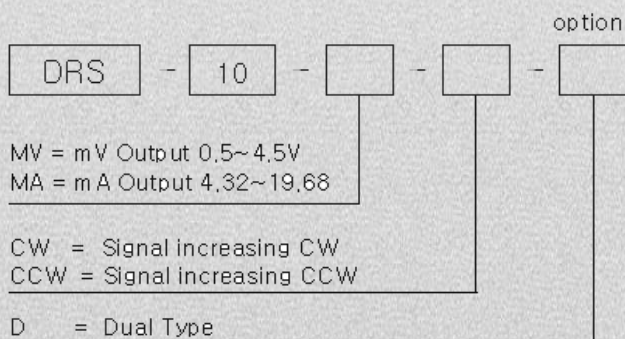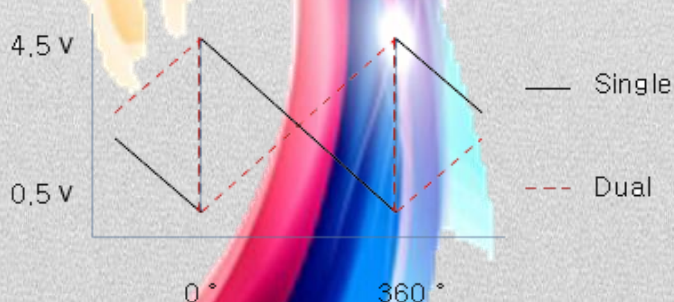| Description	Specification	Unit	Remark
Range (Deg)	0 ~ 360	°	
Resolution(Deg)	0.1	°	
Linearity	±1	%	FS
Mechanical range	360	°	Continuous
Mechanical life	Infinite		
Electrical life	10	year	
Input power	10 ~ 30	Vdc	
Current consumption	<15	mA	at 12Vdc
Waterproof	IP68		
Operating Temp.	-20 ~ +85	°C	
Weight	28	g	Approx.
Dimensions	48 X 28 X 8	mm	
Cable	4	p	L=1500mm

Direction

Connection

❶ 10~30Vdc
❷ Analog – out1
❸ Analog – out2 (Dual only)
❹ GND

Ordering number format

DRS - 10 - ☐ - ☐ - ☐ option

MV = mV Output 0.5~4.5V
MA = mA Output 4.32~19.68

CW = Signal increasing CW
CCW = Signal increasing CCW

D   = Dual Type

Output

4.5 V

0.5 V

0°   360°

—— Single
--- Dual

Waterproof Type Tilt Sensor (UWT2)

UWT2 is 1 axis 360° tilt sensor and applied MEMS-based extended Kalman filter. And Microprocessor is applied for compensation of temperature, filtering and removal of noise. And UWT2 is protected from water and shock by stainless case.

Feature

- High precision to 0.1°

- Available to set tilt direction and various setup

- Available to sellect various ouput (mV. mA, RS-485)

- Wide input power (10-30Vdc)

- Strong structure by stainless case

Application

- Bridge post　　　　　- Floodgate tilt measurement

- Safety monitoring for under water structure

Specification

Items	Specification	Unit	Remark
Range (Deg)	±360	°	Settable
Resolution(Deg)	0.1	°	
Linearity	<0.2	%FS	
Response time	<0.08	Sec	
Output(Digital)	RS-485	Vdc	Max. 12km
Output(Analog)	mV or mA	Vdc	Selectable
Storage Temp.	-40 ~ +110	°C	
Shock	10,000	g	g for 0.1ms
Input power	12	Vdc	10 - 30 Vdc
Current	50	mA	
Weight	68	g	Approx.
Case	Stainless Steel, IP67		
Cable	PU 4C, 1.5M		
Dimension	24 X 50 X 30 mm		

Direction
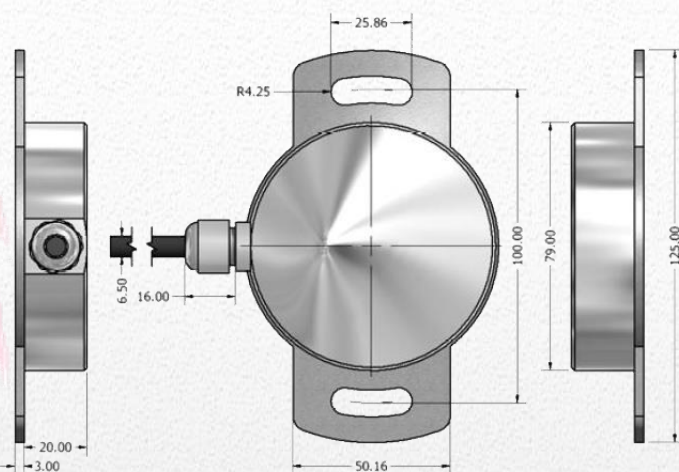
- Installation Mount - Floor / Wall
- Changeable + / - Direction

Wiring

Red	: +10 ~30 Vdc
Green	: 485 +
White	: mV/mA out, 485 -
Black	: GND

Ordering number format

UWT2 -□ -□ -□ -□

S/D(single or Dual)

MV / MA (analog mV output / (analog 4 - 20 mA output)

3/5/10/15/30 (Degree)

W : Wall mount
F : Floor mount

Extended Kalman filter is applied and ultra-high-precision MEMS-based gyro sensor suitable for heavy-duty environment is very harsh optimized to 0.5 ° / h bias stability of less than superlative and RS-232, 4 ~ 20mA, 0 ~ 5Vdc output of type can be selected.

Feature

- High precision gyro sensor based on MEMS
- Excellent protection for vibration and impact
- Low bias drift
- Low noise
- Continuous self-diagnostics

- Ouput of Yaw angle
- Highest bias stability less than 0.5º/h
- Various output : RS-232
 5.6~18.4mA, 0~5Vdc

Specification

Description	Specification	Unit	Remark
Range	±360	°	
Operating Range	±100	°/s	
Output (mA)	5.6 ~ 18.4	mA	12mA at 0°
Output (mV)	0.5 ~ 4.5	Vdc	2.5V at 0°
Operating Temp.	-4 ~ +85	°C	
Input power	10 ~ 30	Vdc	
Current consumption	100	mA	
Start-up time	1	s	
Sampling Frequency	2000	SPS	Normal
Mechanical shock	3000	g	
In-run bias instability	<0.5	°/h	
Angular random walk	<0.45	°/√h	
Weight	550	g	
Dimensions	65 X 65 X 55	mm	

Connection

1. 10~30Vdc
2. S-out(mA/mV) or RX
3. Gnd
4. Zero Setting   or TX
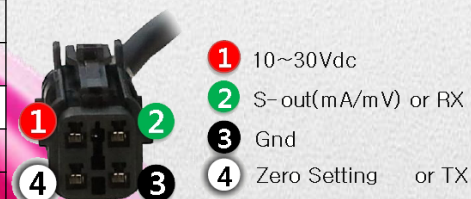
Axis direction
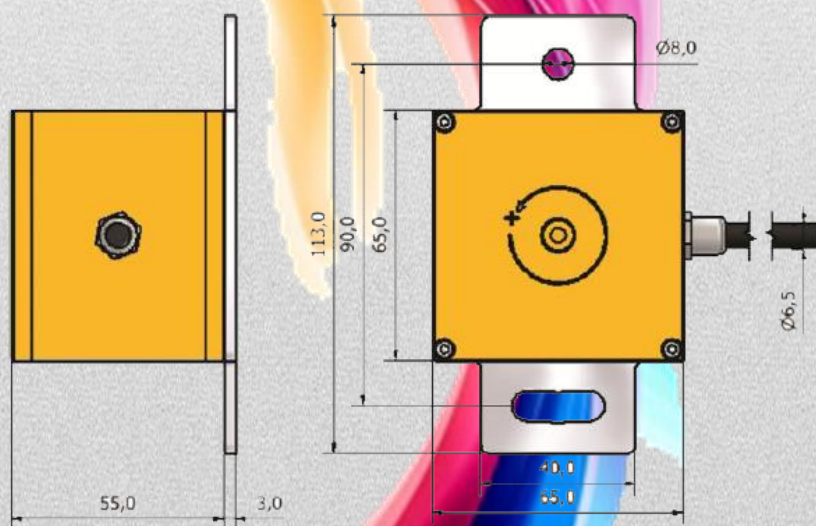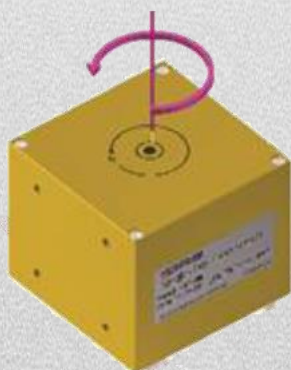
* If over 360°, increase from -360°

* If over -360°, increase from 360°

Ø8,0
113,0
90,0
65,0
Ø6,5
55,0
3,0

MEMS Type Gyro Sensor (MSENS-GY)

Extended Kalman filter is applied to MEMS-based 3-axis gyro sensor mounted Microprocessor converts the angle value output by the angular velocity or angular velocity that can be output as a value product. RS-485 output and an output shaft only analog (mA/mV) output.

Feature

- Built-in shield for low noise
- Highest bias less than 12º/h
- setup function for motion sensing
- Selectable in mV or mA (1 axis selection)
- Various RS485 output (Pitch, Roll, Yaw)
- Wide range of 10 ~30 Vdc input power

Application

- Bench heights
- Crawler drill
- Tower Crane
- Agricultural
- Medical Equipment

Length : 30CM

Axis direction

Specification

Description	Specification	Unit	Remark
Range	±180	°	Pitch, Roll, Yaw
Sensing Speed Range	±250 ~ 2000	°/s	Pitch, Roll, Yaw
Start-up time	2	s	
Digital out data rate	100	Hz	Normal
In-run bias instability	<12	°/h	
Angular random walk	<3	°/√h	
Mechanical shock	10,000	g	g for 0.1ms
Output(Digital)	RS-485	Vdc	
Output(Analog)	mV or mA	Vdc	2.5V at 0°
Operating Temp.	-40 ~ +85	°C	
Input power	10 ~ 30	Vdc	10 ~ 30V
Current consumption	60	mA	
Weight	68	g	
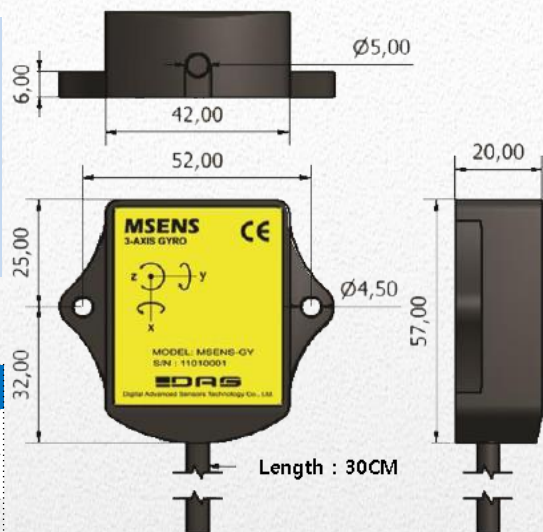
Connection

1. 10~30Vdc
2. S-out(mA/mV) or 485-A(P)
3. GND
4. Tigger or 485-B(N)

Ordering number format

MSENS – GY – ☐ – ☐ – ☐

X = ANALOG OUT X AXIS
Y = " Y AXIS
Z = " Z AXIS
YAW = ONLY YAW

mv = Analog mv output 0.5~4.5V
ma = Analog ma output 4.32~19.68
485 = Digital output RS-485

1 = ±250 DPS
2 = ±500 DPS
3 = ±2000 DPS

# MEMS Type Accelerometer (GSENS-AC)

Feature

- High-Performance MEMS Accelerometer for analysis vibration

- Ultra -Low_ Nois analog output

- High_Frequency responses provided

- High-Performace with Economy-price

Specification

Description	Specification	Unit	Remark
Range	±2, ±6, ±12	g	Variable Selection
Zero drift	±0.1	mg/°C	0°C to 70°C
Sensitivity	1,000	mV/g	±2g
	333	mV/g	±6g
	166	mV/g	±12g
Output Voltage	0.35 to 4.5	Voltage	0g=2.5V
Transverse Sensitivity	±3.5	%	
Linearity Error	±0.5	% Span	typical
Temperature Error	±1	% Span	typical
Frequency	400(DC)	Hz	-3dB LP
Operating Temp.	-20 ~ +85	°C	
Storage Temp.	-40 ~ +110	°C	
Power	12	Vdc	9.6 to 16 Vdc
Current Drain	10	mA	Maximum
Dimension	W40 X D40 X H24	mm	
Weight	68	gram	Approx.

Dimensions
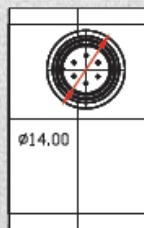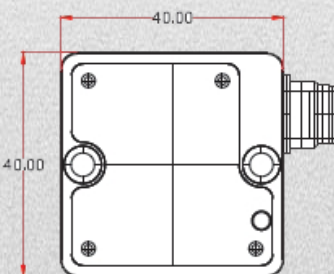
Connector
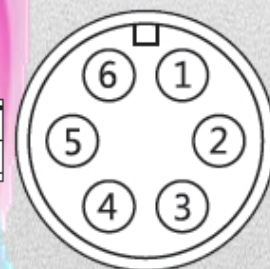
Wiring Connection

Axis	1	2	3	4	5	6
Z-Axis	V+	Z1-Out	GND	nc	nc	nc
Dual Z-Axis	V+	Z1-Out	GND	V+	Z2-Out	GND
X,Y -Axis	V+	X-Out	Y-Out	GND	nc	nc

JooShin Corporation

AT100 has high efficiency tilt meter and indicator. Usually At100 is used for earth drill and monkey engine, and is designed to endure coarse site as like shock and dust. And AT100 is designed also to be strong change of temperature and weather in construction site.

Feature

- High efficiency tilt meter for earth drill and indicator
- Protection circuit for inverse voltage
- Dual axial sensor, analog display, data cable, power cable
- Offset/span setting, anti-vibration and waterproof structure

Specification

Indicator

| Description	Tiltmeter	Indicator
Range (deg)	±5 (X axi, Y axi)	±5 (X axi, Y axi)
Resolution (deg)	0.00025	0.5 deg / div
Operating voltage	9 - 30 Vdc	17 - 30 Vdc
Operating current	-	50mA
Output	4 - 20mA	Analog display
Operating Temp.	-40 ~ +80℃	
Cable lenmgth	12M	6M
Weight	1200g	
Dimension	87(W)*87(D)*104(H)	110(W)*190(D)*70(H)
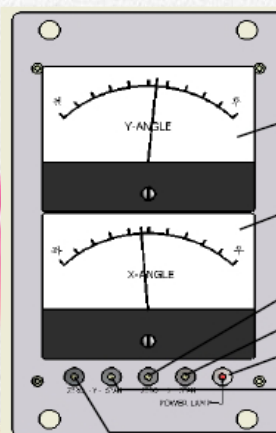
Y axis, meter
X axis, meter
Y axis gain VR
Y axis zero VR
Power Lamp
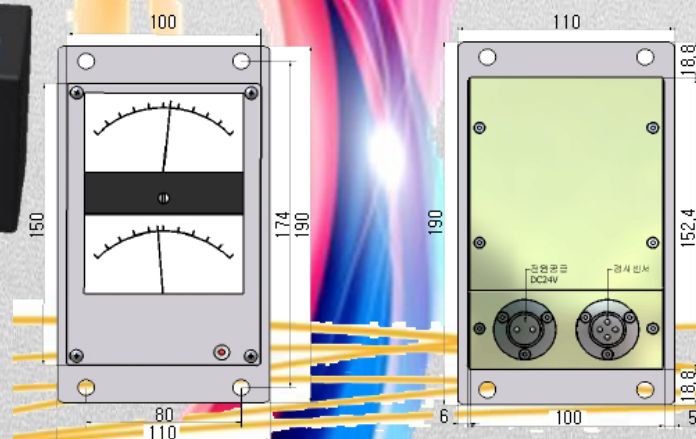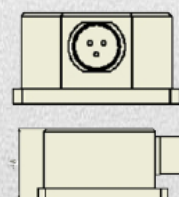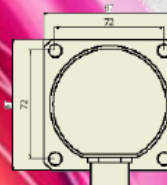X axis gain VR
Y axis zero VR

Wiring

Dimension
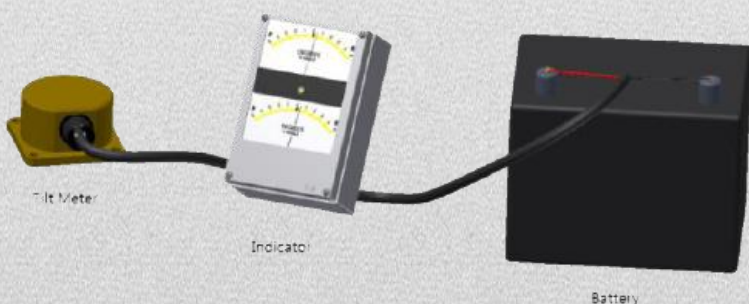
JooShin Corporation
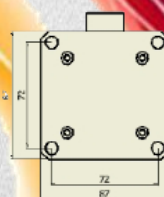
Inclination angle and the horizontal level measurement, precision electronic inclination angle of the sensor system is built. The measuring range is ± 15 º adoption of liquid crystal display system. Has been designed with low power consumption. It also can be charged via USB on your PC and portable recommended.

Feature

- Built-in precision electronic tilt sensor

- LCD method display Low power consumption design

- High-strength precision aluminum processing case

Application

- Retaining angle measurement

- Platform leveling

- Antenna position appointed

- Pitch and roll monitoring

- Vehicle tilt monitoring
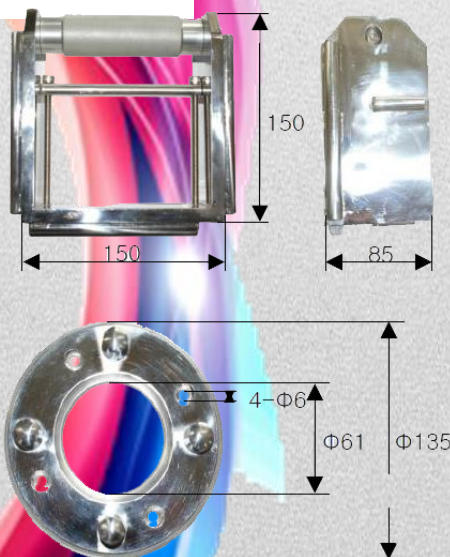
Specification

Model	Sepcifcation
Range (Deg)	±15º
Resolution(Deg)	± 0.0013º
Panel Display	0.01º
	(0.01 mm)
Cross Axis Error	< 1% up to 15º cross axis angle
Voltage supply	Chargeable Lithium (500mAh, 3.7V) battery
Battery life	approx. 150 hours
Operating temp.	0~ 65℃
Weight	300 g

Dimension

Jig Dimension

Measure

DIGIANGLE-2D
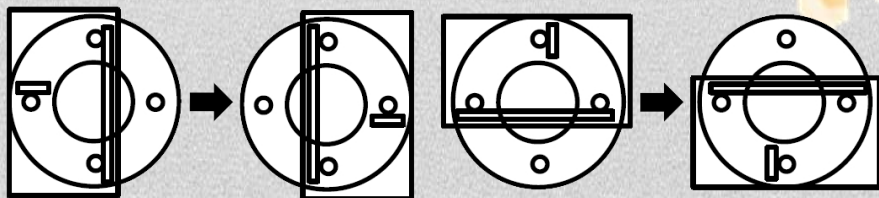
Measuring the slope angle and the horizontal level. Built-in tilt sensor is an electronic precision inclinometer.

The measuring range is ±30˚ display and dual axial and dopted LCD, and has been designed with low power consumption.

It also can be charged via USB on your PC and portable recommended.

Feature

- Built-in precision electronic tilt sensor

- LCD method display Low power consumption design

- High-strength precision aluminum processing case

Application

- Retaining angle measurement
- Pitch and roll monitoring
- Platform leveling
- Vehicle tilt monitoring
- Antenna position appionted

Specification

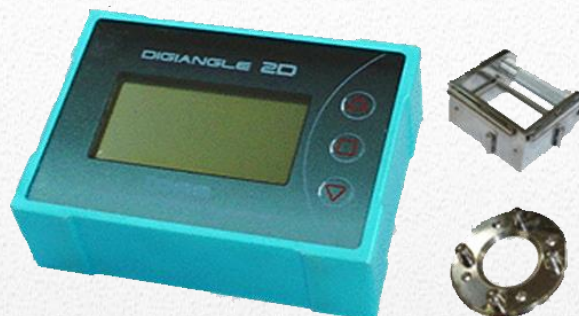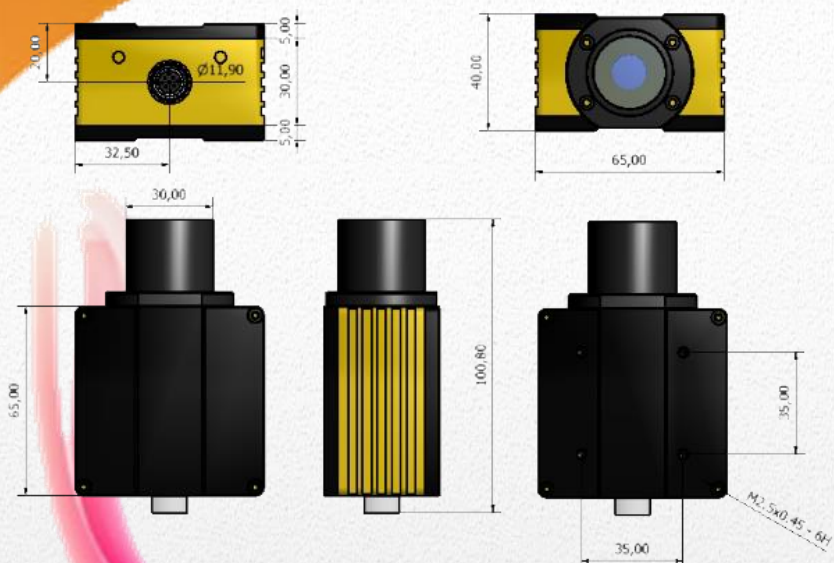| Model	Specification
Range (Deg)	±30º
Resolution(Deg)	± 0.035º
Axis	Dual axis
Panel Display	0.01º
Cross Axis Error	< 1% up to 15º cross axis angle
Voltage supply	Chargeable Lithium (500mAh, 3.7V) battery
Battery life	approx. 150 hours
Operating temp.	0~ 65°C
Weight	300 g

Accessories

Cable : 2m

Jig assembly

Dimension

80

110

32

JooShin Corporation

Feature

- Max. 80meter laser distance measurement

- 0.1mm resolution and ±1mm accuracy

- Various output and alarm output function

- Excellent performace and economic price

- Various installation by compact design

- ASCII code at RS485 comminication

- 10 - 30 Vdc wide input power

- High-strength Aluminum case

- Lense protection cap

- IP65 class waterproof and dustproof

Specification

Description	Sepcifcation	Unit	Remark
Range	0.05 to 80	meter	
Resolution(Deg)	0.1	mm	
Accuracy	± 1	%	FS
Laser class	2 class	2007	IEC608025
Laser output	<0.95	mW	
I-Out	4.13 - 20	mA	
Communication	RS485		
Input power	10 - 30	Vdc	option
Power consumption	<50	mA	at 12Vdc
IP Class	IP 65	°C	
Weight	48 X 26 X 16	mm	Approx.
Cable	6P X 1 sq		Length=1000mm

Wiring   Jig

1. TRANSPARENT : 4~20mA OUT
2. RED : 10~30Vdc
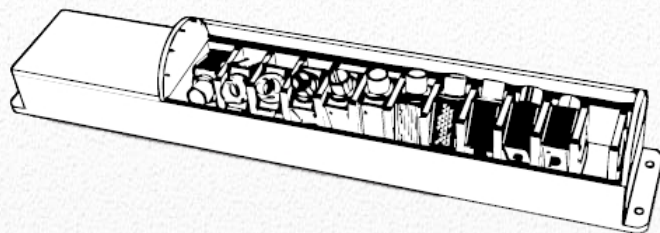3. ORANGE : 485 HIGH
4. WHITE : 485 LOW
5. BLUE : NC
6. BLACK : GND

JooShin Corporation
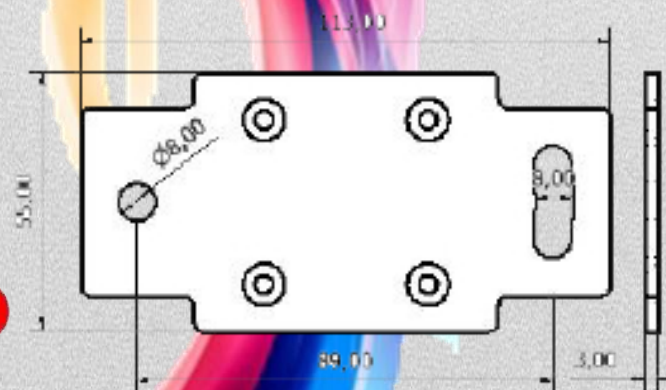
Feature

- Laser Convergence Monitoring System

- Simple installation and maintenance

- Decrease of loss by parallel design causing sensor trouble

- advantage against temperature comparing inclinometer type

Specification

Monitoring System TCS-L10	Sepcifcation	Unit	Remark
Power	DC 10 - 30 V		
Power consumption	Max. 18.5	W	
Operation Temperature	From -20 to 70	°C	
Data logger Dpro3	**Sepcifcation**	**Unit**	**Remark**
Moemory	1	GB	
Communication	RS-232 or RS-485	mm	
Baud rate	9,600		
Laser Sensor DLD-420	**Sepcifcation**	**Unit**	**Remark**
Range	0.05 to 80	meter	
Resolution(Deg)	± 1	%	
Accuracy	± 1	mm	
Laser class	2 class	2007	IEC608025
Laser output	<0.95	mW	
Input power	10 - 30	Vdc	
Power consumption	<50	mA	at 12Vdc
IP Class	IP 65	°C	

System structure   Monitoring

Dust cover

Data logger
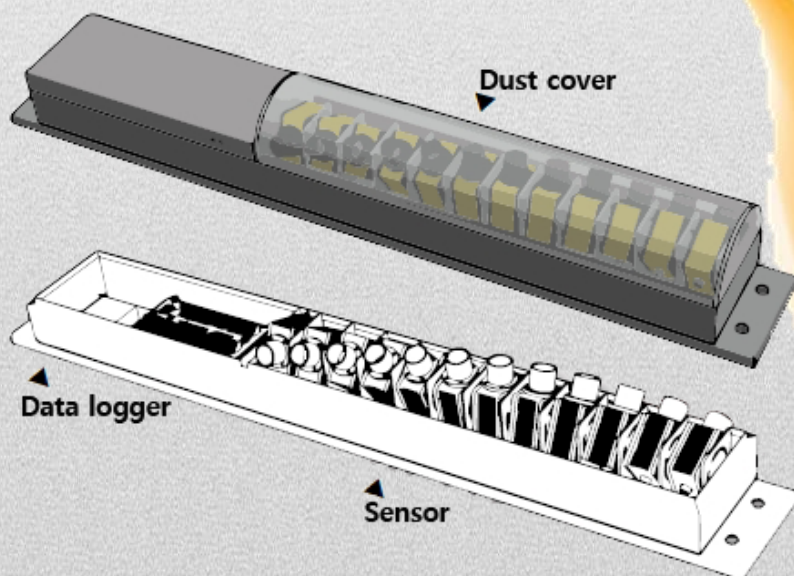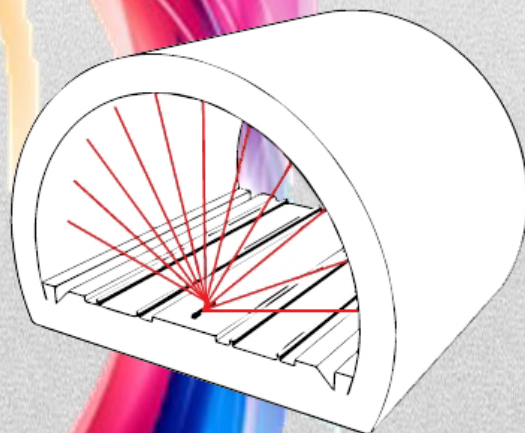
Sensor

DPRO3 equipment is controlled by even the most novice, but powerful feature is designed. Almost every one of the equipment sensor can be measured and various data communication methods can be obtained. Also equipped with a high-capacity memory can store data for a long time.
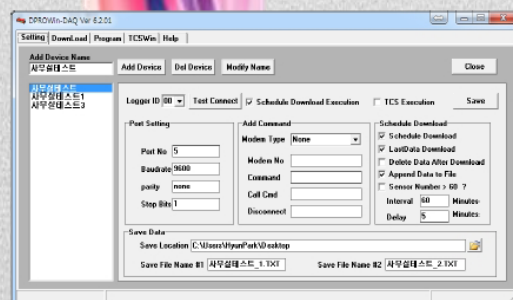
Feature

- RS-232, RS-485 Communication

- Small Size, Low cost

- Civil measurement system

- Easy to use

- 2Gb Memory(FAT16)

- Connection with multiplexer over 100meter

Specification

Model	Sepecification
Input channel	Differential : 10 ch
	Single : 30 ch
	Three wire : 10 ch
	Four wire : 10 ch
	Expansion : by external RS485 Line (Not Multiplexer)
Output Power	12Vdc 1ch, 5Vdc 1ch
Power Supply	12V ~ 30V (AC or DC), 2.4W (Innormal mode)
Normal Current	69 mA at 12 Vdc
Active Current	138 mA at 12 Vdc
Sensor Support	4 ~ 20mA, Diff mV, mV, VW, Full Bridge, Thermistor, Multi type
Wireless support	CDMA, Bluetooth(option)
Data output (ASCⅡ)	RS232 (9600 Baud), RS485 (9600 Baud)
A/D Resolution	16bit
Memory	32Mb ~ 1Gb (Basic 512Mb) SD Card
Logger to Logger	RS485 (9600 Baud, 1Km)
Sampling Speed	Max 25Hz
Physical Dimensions	212mm ×85mm × 61.5mm
Environment Temperature	-45℃ ~ +70℃
Housing	Steel & Aluminum

Software : DPROWin-DAQ

Feature

- Perfectly Compatible with CR10X & CR1000 of Campbell Scientific, Inc.

- Multiplexes up to 32 sensors at a time, connects many sensors to single datalogger

- Supports many types of sensors including inclinometers, vibrometers, thermistors, potentiometers and more

- Decreases the cost of cabling individual sensors on long wire runs

- Protects the equipment from electrical surges and shocks

- Economy price and Compact size

Specification

| Model	Specification
Power	9.6 to 16 Vdc
Current Drain	Sleep Mode : < 1 mA @12 Vdc Active : 25 mA @12 Vdc
Operating Temperature	-25 to +70 Celsius
Maximum Switching Current	500 mA
Maximum Switching Voltage	50 Vdc
Relay Operation	break before make
Frequency	1 kHz
Dimensions	Without Mounts : 8.35 x 4.04 x 1.01 in With Mounts : 9.33 x 4.04 x 1.01 in
Weight	490g approx.

Connection

- The Maximum number of multiplex sensors through one MUX1632 depends on the type of sensors measured.

- MUX1632 can multiplexes...

  - 64 single-ended sensors

  - 32 single-ended or differential sensors that require two wires (e.g. half bridges)

  - 16 single-ended or differential sensors that require four wires (e.g. full bridges)

Applications

- Measurements of civil works

- Meteorological observations

- Water level/quality monitoring and more

Dimension
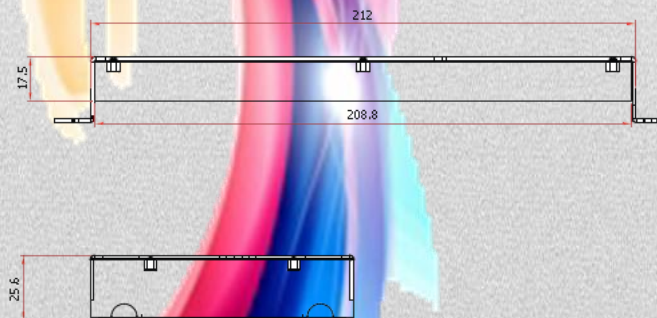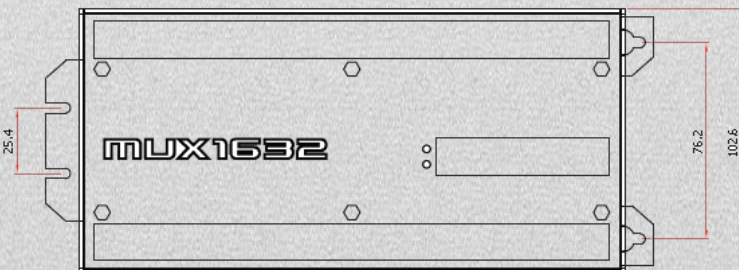
Main function of Digianlge -multi is read and display measurement value for various Das sensors.

Diginalge can read out 2channel (DC voltage) at the same time and can output read value to PC through USB communication by co210cp chip and can be recharged battery by USB. 3.7V 1000mA battery has automatic on/off function.

Feature

- Indicator for various Das DC voltage type sensors

- Output power to sensor

- 3.7 Vdc battery and USB recharge

- Read Dirrerential Voltage

- Indicating 2channel at the same time

- USB communication output

Specification

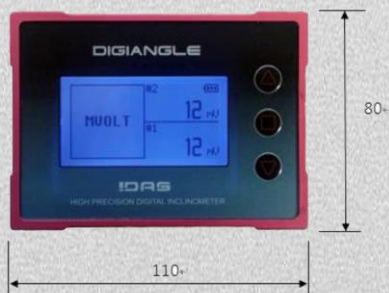| Description	Specification	Unit
Range	from -5 to 5	Vdc
Linearity	0.01	%
Offset error	±2mV	Voltage
Sensitivity error	0.1	%
Linearity Error	±0.5	%
Output Voltage	10Vdc	Vdc
Weight	400	gram
Dimension	110 X 80 X 32	mm
Serial interface	RS232 to USB(CP3210X)	

Cable

Red	: Sensor power
Black	: GND
Green	: X axis +
White	: X axis -
Blue	: Y axis +
Yellow	: Y axis -

Connector

Application

Dimensions

This system is to measure tilt at the site of embankment, dam and excavation. Probe is inputted to inclinometer casing to measure tilt. Data of angle, tilt and direction are output and draw graph automatically. This system include excellent linearity and repeatability high precision inclinometer. And also include high probe cable and strong connection pin against damage and corrosion.

Feature

- Light weight and low cost

- Simple cable

- Wireless communication by bluetooth

- Simple probe connection

- 1/1000° High resolution inclinometer

- Over 25 hours measurement by large capacity battery

Specification

Inclinometer Probe	
Axis	Dual Axis (X, Y)
Capacity	± 30°
Resolution (deg)	1/1000°
Repeatability	2/1000°
Operating Temp.	-20 ~ +70°C
Probe material	Stainless steel
Wheel base	500 mm
Waterproof	IP67
Inclinometer casing	Both Ø60 and Ø70

Bluetooth Reel	
Battery	3.7V 2,000mAh * 3 (Li-ion)
Recharge time	About 4 hours
Operation time	about 25 hours (continuous)
Recharge input	100-260VAC 60Hz
Recharge output	+19V 2A
Probe material	Stainless steel
Power consumption	< 6W
Waterproof	IP65

Application	
Tablet PC	7 inch touch pad (Android OS)
Application	Smart tilt reader
	Automatic measurement, graph, e-mail
Switch	Wire switch

Cable	
cable	Ø5.5 / 1P
Material	Urethane, Shield
Length	50m
Lable interval	0.5m

Eunjoon Tech(EJ Tech)

Company Address
Rm.#612, Cosmionville, 53
Eunbit-ro, Dukyang-gu, Goyang-city, Kyeongi-do, Korea

Tel : 82-70-8723-2200
Fax : 82-303-3130-7533
M.P : 82-10-2385-7185

E-mail : sales@ejt.kr