

Next-generation Data logger-type sensor



INFINITY

Soon on sale

COMPACT series is remodeled completely

The core products of ALEC Electronics Co., Ltd., COMPACT series, will be thoroughly remodeled in this spring. In 2000, we launched the COMPACT series such as the EM-type current meter and CT instrument. Since then almost 8 years have passed. As being a memory medium used in COMPACT series products, the flash memory is adopted and controlled by built-in PIC. The greatest reputation has been given to Compact instruments both from Japan and abroad, because of their high stability, light weight, compact and robust design, easy handling and low price. Now, almost all the Compact instruments have been sold with exceeding 5,000 units in entire 15 models. We would appreciate the users' patronages to the COMPACT series products.

Once COMPACT series-products were put into market, we started to make this series advanced for easier handling and more convenient to users. For this goal, we have worked very hard to develop the next-generation logger-type instruments applying the state-of-art technology.

Herewith we would like to announce that the next-generation logger-type instruments have been completed based on the valuable feedbacks from many field researchers and our extremely advanced technology. The newly-developed logger-type instruments are named as **INFINITY** with the unlimited potentiality. The design logo *infinity* was adopted and multiplied by "Möbius strip" widely used as the unlimited image by *INFINITY*.

The "COMPACT series" instruments will be replaced with the "INFINITY series". First of all, turbidity meter, EM current and CT meters will be on line in sequence from April until the end of this year. We introduce the *INFINITY* models that have already been examined in field test.



INFINITY-EM



INFINITY-Turb

OVERVIEW & FEATURES OF INFINITY

- Easy-handling & high-speed data transfer

The *INFINITY* series is a USB logger-type instrument controlled by high-performance 16-bit MCU. A Mini-SD card is provided as a memory medium. Since the flash memory was fixed on PCB of the COMPACT series, the PC must be connected to run measurement setup and data transfer through the relative software. And, due to slow transfer speed by the RS232-C applied to the COMPACT series, many improvements were demanded from the researchers. The *INFINITY* series has the better features to solve those problems entirely. The measurement setup can be done either directly from the PC through USB access or executed by editing file in the Mini-SD card. Moreover, due to using USB and Mini-SD card, the transfer speed is extremely improved. As a result, it permits speedy, safety and easy handling regardless of any kinds of field environments.

- Large memory capacity

For the *INFINITY* series, the Mini-SD card of 512Mbyte is supplied as standard and it can be increased up to maximum 2Gbyte, based on the measurement needs from clients. The standard type of 512Mbyte Mini-SD card can store up to maximum 50 millions words that converted in 16bits, and thus, about 7 millions data sets can be saved with 7-ch instrument (However, the measurement time is also determined by the battery capacity and consumable current, which depends on the model type). Moreover, multi-files corresponding to each measurement can be saved on the card. The data files in the mini-SD card are readable in Windows OS. It is possible to read the data by the card slot built in the PC and available card reader/writer, and thus, the file management is fast obviously.

- Operational verification feature

As the COMPACT series does not provide any function to know if the measurement starts normally as per the setup, the researcher sometimes worries about the measurement. The "Measurement verification function" is equipped in the *INFINITY* series with a buzzer sounding at the beginning of measurement.

- Battery pack

The lithium battery pack (CR-V3) for camera is used instead of the conventional lithium battery. This battery pack is locally available at some camera shops and supermarkets. Although the maximum quantity of battery equipped totally is depending on the model type (2 or 4 pcs), it is designed to be able to work only by 1 piece of battery. This makes measurement more economic based on measurement condition.



Two ways for measurement setup

USB access



Mini-SD card



Camera lithium battery (CR-V3)



- User-friendly software

The data acquisition software of the *INFINITY* series is based on the comments from the field researchers and designed with the user-friendly architecture. For instance, the setup of measurement interval is ranged from 0.1 sec till 6,000 sec. and the precise measurement can be planned.

LINE-UP

- INFINITY-EM (EM-type current meter)

- An improved EM-type sensor with lower 0-point drift and applying inclination.



EM current meter

INFINITY-EM Specifications

Parameters	Current velocity	Bearing	Temp.
Type	2-axis EM type	Hall element	Thermistor
Range	0 ~ ± 500cm/sec	0~360°	-5 ~ 45°C
Resolution	0.02cm/sec	0.01°	0.001°C
Accuracy	± 1cm/sec or ± 2%	± 2°	± 0.02°C
Consumption	90mA		
Data Capac.	8.5 millions data approx.(6ch, standard 512MB)		
Battery	Lithium battery CR-V3/3.3Ah (Max. 2 pcs.)		
Material	Titanium		
Dimensions	Φ42mm (Flange part φ54mm) × 450mm		
Weight	1Kg. approx. in air 0.6Kg. approx in water		
Depth rating	Equivalent to 1,000m		
Strength	2kN approx.(Equivalent to 200kg)		

- INFINITY-Turbi (Back-scattering type turbidity meter)

- Wide turbidity ranges by using 2ch. turbidity sensors corresponding to medium/high concentration.
- Provided with water temperature and depth sensors as standard.



Turbidity

INFINITY-Turbi Specifications

Parameters	Medium density	High density	Depth	Temp.
Type	Infrared back-scattering	Infrared back-scattering	Semi-conductor	Thermistor
Range	0 ~ 1,000FTU	0 ~ 100,000ppm	0 ~ 0.25mPa	-5 ~ 45°C
Resolution	0.03FTU	2ppm	0.005kPa	0.001°C
Accuracy	± 0.3FTU or ± 2% of measured value	± 10ppm or ± 10% of measured value	± 0.35kPa	± 0.02°C
Consumption	165mA			
Data capac.	7 millions data approx.(7ch, standard 512MB)			
Power	Lithium battery CR-V3/3.3Ah (Max. 4 pcs.)			
Material	Titanium			
Dimensions	φ60mm (Flange part φ70mm) × 280mm			
Weight	1.4Kg. approx. in air 0.7Kg. approx. in water. (including batteries 4 pcs.)			
Depth rating	Equivalent to 200m			

- INFINITY-CT (Water temperature, conductivity meter)

- Newly developed 7-electrode type conductivity sensor.
- Depth rating 2,000m.



INFINITY-CT Specifications

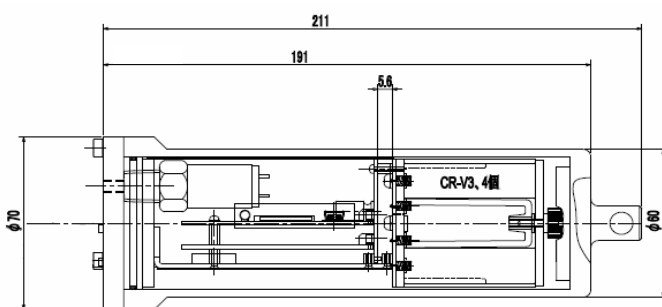
Parameters	Water temperature	Electric conductivity
Type	Thermistor	7-electrode
Range	-5~45°C	0~70mS/cm
Resolution	0.001°C	0.001mS/cm,
Accuracy	± 0.01°C (0~35°C)	± 0.01mS/cm
Consumption	90mA	
Data capac.	9 millions data approx. (4ch, standard 512MB)	
Power	Lithium battery CR-V3/3.3Ah (Max. 2 pcs.)	
Material	Titanium (TP340)	
Dimensions	φ54mm×255mm	
Weight	0.7Kg approx. in air. 0.4Kg in water (including batteries 2 pcs.)	
Depth rating	Equivalent to 2,000m	

INFINITY-WH Specifications

Parameters	Pressure(Depth)	Temp. (Option)
Type	Semi-conductor	Thermistor
Range	0~25m (*0~50m)	-5~45°C
Resolution	0.0005m (*0.001m)	0.001°C
Accuracy	0.1%FS	± 0.02°C (0~35°C)
Consumption	55mA	
Data capac.	12 millions data approx. (3ch, standard 512MB)	
Battery	Lithium battery CR-V3/3.3Ah (max. 4 pcs.)	
Material	Titanium (TP340)	
Dimensions	φ60mm (Flange part φ70mm) ×211mm	
Weight	1.2Kg approx. in air 0.5Kg approx. in water (including 4 pcs.)	
Depth rating	Equivalent to 25m (*50m, option)	

INFINITY-WH (Wave-height meter)

- Continuous measurement for 30 days at 20 minute interval per an hour.
- Water temperature sensor (option).



INFINITY-WH Dimensions

INFINITY series General spec.

Memory type	Mini-SD card
Capacity	16MB~2GB (Standard 512MB)
Data number	50 millions words (at standard 512MB)
A/D converter	16bit digital conversion
Measure mode	Continue/burst mode
Interval	0.1~600 sec. (setup per 1 sec for interval of more than 1 sec.)
Burst time	1~1440min. (setup per 1min.)
Sampling	1~6000 data
Communication	USB access (USB2.0 compatible)



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