

**CS-iTAS-01LW03**  
**Ancient Trees Inclination Monitor**  
**Communication Protocol**  
**V1.0**

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# Ancient Trees Inclination Monitor

## Communication Protocol V1.0

This document defines the communication protocol between ancient trees inclination monitor and gateway. The contents of this protocol is presented by asiic string, where “,” is used for data intervals.

### 1. Data Instructions:

\*: Command header

CS: Manufacturer

ID: Device number (Eg: 0001= Number 1 ancient trees inclination monitor)

SS: Equipment Type (Eg: 2 represents ancient trees inclination monitor device)

FF: Function code (S1=power on, A2=angle alarm, A3=low voltage alarm, T1=regular reporting, R1=dis-alarm)

AG: Angle alarm (10=10° )

C1: Current angle (20=20°)

B2: Background angle (05=5°)

D1: Regular reporting, calculated by hour (00010=10 hours)

F1: Alarm frequency, calculated by minutes (00010=10 minutes)

B1: Terminal device voltage (3000=3V), terminal sends data in mV

M1: Reservation (the default M1=0 in the system)

#: Command ending

### 2. Communication Information

#### 2.1 Powered-on: S1

**Figure 1 Powered-on Information (Data was sent from device terminal to PC)**

Command Header	Manufacturer	Device ID	Equipment Type	Function Code	Alarm Angle	Background Angle	Regular Reporting	Alarm Frequency	Battery Voltage	Reservation	Command Ending
*	CS	ID	SS	FF	AG	B2	D1	F1	B1	M1	#
*	CS	YYYY	2	S1	YY	YY	YYYYY	YYYYY	YYYY	0	#

Eg: \*CS,0001,2,S1,10,00,00010,00010,3000,0#

## 2.2 Alarm Information: S3

**Figure 2 Alarm Information (Data was sent from device terminal to PC)**

Command Header	Manufacturer	Device ID	Equipment Type	Function Code	Alarm Angle	Background Angle	Regular Reporting	Alarm Frequency	Battery Voltage	Reservation	Command Ending
*	CS	ID	SS	FF	AG	B2	D1	F1	B1	M1	#
*	CS	YYYY	2	S1	YY	YY	YYYYY	YYYYY	YYYY	0	#

Eg: \*CS,0001,2,S3,10,03,00010,00010,3000,0#

## 2.3 Angle Alarm: A2

**Figure 3 Angle Alarm Information (Data was sent from device terminal to PC)**

Command Header	Manufacturer	Device ID	Equipment Type	Function Code	Alarm Angle	Background Angle	Regular Reporting	Alarm Frequency	Battery Voltage	Reservation	Command Ending
*	CS	ID	SS	FF	AG	C1	D1	F1	B1	M1	#
*	CS	YYYY	2	A2	YY	YY	YYYYY	YYYYY	YYYY	0	#

Eg: \*CS,0001,2,A2,10,15,00010,00010,3000,0#

## 2.4 Low Voltage Alarm: A3

**Figure 4 Low Voltage Information (Data was sent from device terminal to PC)**

Command Header	Manufacturer	Device ID	Equipment Type	Function Code	Alarm Angle	Background Angle	Regular Reporting	Alarm Frequency	Battery Voltage	Reservation	Command Ending
*	CS	ID	SS	FF	AG	C1	D1	F1	B1	M1	#
*	CS	YYYY	2	A3	YY	YY	YYYYY	YYYYY	YYYY	0	#

Eg: \*CS,0001,2,A3,10,08,00010,00010,2300,0#

Note: When voltage reaches low voltage warning threshold, the device issues warning

## 2.5 Regular Reporting: T1

**Figure 5 Regular Reporting (Data was sent from device terminal to PC)**

Command Header	Manufacturer	Device ID	Equipment Type	Function Code	Alarm Angle	Background Angle	Regular Reporting	Alarm Frequency	Battery Voltage	Reservation	Command Ending
*	CS	ID	SS	FF	AG	C1	D1	F1	B1	M1	#
*	CS	YYYY	2	T1	YY	YY	YYYYY	YYYYY	YYYY	0	#

Eg: \*CS,0001,2,T1,10,08,00010,00010,2500,0#

## 2.6 Dis-alarm: R1

**Figure 6 Dis-alarm Information (Data was sent from device terminal to PC)**

Command Header	Manufacturer	Device ID	Equipment Type	Function Code	Alarm Angle	Background Angle	Regular Reporting	Alarm Frequency	Battery Voltage	Reservation	Command Ending
*	CS	ID	SS	FF	AG	C1	D1	F1	B1	M1	#
*	CS	YYYY	2	R1	YY	YY	YYYYY	YYYYY	YYYY	0	#

Eg: \*CS,0001,2,R1,10,08,00010,00010,2500,0#

### 3 Contact Information

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