

Smart AC Controller

UC701

Payload Protocol (HEX)

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Chapter 1. Preface

Readers

This guide introduces the raw HEX payload protocol used to communicate with the device. It is intended for developers or users who integrate the device without Milesight gateways or codecs.

This document does not describe physical installation and configuration steps in detail. Please use it together with the related documents.

Related Document

Document	Description
UC701 User Guide	Provides introductions, compatibility check, installation and configuration steps.
UC701 BACnet Object List	Lists the BACnet objects exposed through a Milesight gateway with the BACnet feature enabled.
UC701 Payload Protocol (JSON)	Provides the decoded JSON format for uplink data and downlink commands when using the codec provided by Milesight.

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Revision History

Release Date	Version	Revision Content
Sept. 30, 2026	V1.0	Initial version.

Chapter 2. Overview

All messages follow the following format (HEX), the Parameter/Data field must follow **little-endian** byte order:

Command ID	Parameter/Data	...
N Bytes	0-N Byte	...

For decoder and encoder examples, please find files on https://github.com/Milesight-IoT/SensorDecoders. For details of uplink reports and downlink commands please refer to the sections below.

Chapter 3. Uplink Data

This chapter describes the uplink packets reported by the device.

Basic Information Packet

After joining the network, the device reports a packet containing the basic device information, totaling four reports.

Packet description:

Item	Byte	Command	Description
Device Status	1+1	c8	00: Off, 01: On
TSL Version	1+2	df	Example: 01 02 = V1.2
Device Request	1	ee	Send after reset
Device Version	1+8	da	Hardware version (2B) + Software version (2B) + 00000000
OEM ID	1+2	d9	4 digits
Device Type	2+1	cf00	00: Class A, 01: Class B, 02: Class C, 03: Class C to B
Serial Number	1+8	db	16 digits

Example:

df0100 ee db6556071d88020003 da0102010100000000 d90000 c801 cf0002	
Command	**Value**
df	TSL Version: 01 00 => V1.0
ee	Reset
db	SN: 6556071d88020003
da	Hardware Version: 0102 => V1.2 Software Version: 0101=> V1.1
d9	OEM ID: 0000
c8	01: Device is on

df0100 ee db6556071d88020003 da0102010100000000 d90000 c801 cf0002	
Command	**Value**
cf00	02: Class C

Periodic Data Packet

The device reports a data packet at a configured reporting interval.

Packet description:

Item	Byte	Command	Description
IR Command Status	1+4	04	**Byte 1**: IR Command Content, • Bit 0: 0=AC Off, 1=AC On • Bit 3-1: Temperature Control Mode, 000=Heat, 010=Cool, 011=Auto, 100=Dehumidification, 101=Ventilation • Bit 6-4: Fan Speed, 000=Auto, 011=Low, 100=Medium, 101=High • Bit 7: 0=Command Trigger, 1=Local Trigger **Byte 2**: IR Command Validity, • Bit 0: 0=Never Send Command, 1=Ever Send Command • Bit 1: 0=IR Command Invalid, 1=IR Command Valid **Byte 3-4**: Target temperature, INT16/100, Unit: °C **Note:** If IR code is not configured, this will send all 0.
AC Operating Status	1+2 or 1+5	05	**Byte 1**: 00=IR command, 01=CT When not connecting CT, **Byte 2**: 00=AC Off, 01=AC On

Item	Byte	Command	Description
			When connecting CT, **Byte 2-5**: UINT32/1000, Unit: A, `0xffffffff` = abnormal
Temperature (Built-in)	1+2	06	INT16/100, Unit: °C
Temperature (External)	1+2	07	INT16/100, Unit: °C
Humidity	1+2	08	INT16/10, Unit: %RH
Sensor Alarm	1+1	03	**Bit 7-4**: 0=Built-in Temperature, 1=External Temperature, 2=Humidity **Bit 3-0**: 0=Collection Error, 1=Under-range, 2=Over-range

Example:

040503f00a 050001 06d60a 08ff01	
Command	**Value**
04	IR Command Content: 05=> 0000 0101 = AC On, Cool, Auto, Command Trigger IR Command Validity: 03=>11 = 1=Ever Send Command, 1=IR Command Valid Target temperature: f0 0a => 0a f0 = 2800/100=28 °C
05	00=IR Command, 01=AC On
06	Temperature (Built-in): d6 0a=>0a d6 =2774/100=27.74°C
08	Humidity: ff 01 => 01 ff = 511/10=51.1%RH

Alarm Packet

The device reports the following types of alarm packets.

Item	Byte	Command	Description
Low Battery Alarm	1+1	01	UINT8, Unit: %
Temperature Alarm	1+4	02	**Byte 1**: Alarm type, 00=Open Window Alarm Release, 01= Open Window Alarm, 20=Above Threshold, 21= Above Threshold Release, 22=Below Threshold, 23=Below Threshold Release, 24= Within Threshold, 25= Within Threshold Release, 26= Above or Below Threshold, 27= Above or Below Threshold Release, 30=Persistent Low Temperature Alarm Release, 31=Persistent Low Temperature Alarm, 40=Persistent High Temperature Alarm Release, 41=Persistent High Temperature Alarm **Byte 2-3**: Temperature, INT16/100, Unit: °C **Byte 4**: Temperature data source, 00=Internal, 02=External
Filter Cleaning Alarm	1+4	09	Filter Used Time, UINT32, Unit: min
Temp Limit Alarm - Command	1+8	0a	**Byte 1**: 00=Below Threshold, 01=Above Threshold **Byte 2-3**: Below Threshold Temperature, INT16/100, Unit: °C **Byte 4-5**: Above Threshold Temperature, INT16/100, Unit: °C **Byte 6-7**: Temperature, INT16/100, Unit: °C **Byte 8**: Temperature data source, 00=Internal, 02=External
Temp Limit Alarm- Local	1+7	0b	

Example:

0220df0700	
Command	**Value**
02	20=Above Threshold df 07 => 07 df=2015/100=20.15°C 00=Internal data source

Status Change Packet

The device reports a packet when a parameter or status is changed.

1. Configuration Change Report

   A configuration change report is sent when air conditioner on/off status, target temperature, temperature control mode or fan mode changes. The change report format is the same as the periodic data report and not includes the temperature and humidity data.

2. Battery Level Report.

   A battery level report is sent when the controller is connected to the battery compartment and the battery level changes.

Byte	Command	Description
1+1	00	UINT8, Unit: %

Example:

0032	
Command	**Value**
00	32=>50%

3. Bluetooth Status Packet.

   A Bluetooth status packet will be reported once after the device joins the network or when Bluetooth pairing status changes.

Byte	Command	Description
1+10	ba	**Byte 1**: 00 **Byte 2**: 00=Not paired, 01=Paired, 02=Disconnected **Byte 3-10**: Paired device EUI

Example:

ba000224e124826068b876	
Command	**Value**
ba	02=Disconnected Paired device EUI: 24e124826068b876

Thermostat Data Packet

When UC701 controller is paired with or connected to the wireless thermostat (WT401) and the communication mode of the thermostat does not include LoRa, the thermostat status will be reported via UC701 controller. The UC701 can forward the following information from the WT401 thermostat:

- Battery Level: transfer when the thermostat turns on or the battery level changes;
- Battery Alarm: transfer when a low battery alarm is triggered or cleared;
- Button Event Report: transfer when the corresponding button is pressed;
- Device Status: transfer when the thermostat turns off.

Byte	Command	Description
1+3	30	**Byte 1**: 00 **Byte 2**: Data type, 00=Battery Level, 0f=Battery Alarm, 0d=Button Event Report, c8=Device Status **Byte 3**: • Battery Level: UINT8, Unit: % • Battery Alarm: 00=Normal, 01=Low battery voltage • Button Event Report: 00=Button 1, 01=Button 2, 02=Button 3 • Device Status: 00=Off, 01=On

Example:

30000062	
Command	**Value**
30	00=Battery Level, 62=>98%

Historical Data Report

When data retransmission is triggered, the device will report a historical report at data retransmission interval.

Packet description:

Command	Report Mode	Timestamp	Historical Data
ed	01	UINT32, Unit: s	Command + Data, see Periodic Data Packet and Alarm Packet

Example:

ed018138a16a040503f00a05000106d60a08ff01				
Command	**Report Mode**	**Timestamp**	**Command**	**Value**
ed	01	81 38 a1 6a => 6a a1 38 81 =1788946561s	04	IR Command Content: 05=> 0000 0101 = AC On, Cool, Auto, Command Trigger IR Command Validity: 03=>11 = 1=Ever Send Command, 1=IR Command Valid Target temperature: f0 0a => 0a f0 = 2800/100=28 °C
			05	00=IR Command, 01=AC On
			06	Temperature (Built-in): d6 0a=>0a d6 =2774/100=27.74°C
			08	Humidity: ff 01 => 01 ff = 511/10=51.1%RH

Chapter 4. Downlink Commands

Downlink commands can be used for remote control of device through a network server. The downlink port (application port) is 85 by default and can be configured through ToolBox.

If you need to query the configurations first, please send a query command in the following format:

Command (1B)	Command ID Length (1B)	Command ID (1-N Byte)
ef	Query command ID length in bytes	Query command ID

If the device receives a downlink command requiring confirmation, it will send a reply packet in the following format:

Command (1B)	Result & Length (1B)	Command ID (1-N Byte)	...
ef	Bit 7-4: result code, 0=success, 5=parameter error, 7=execute error, 10=association error Bit 3-0: command length	Same as downlink command	...

For details of downlink commands please refer to the sections below.

Downlink Commands for Network Parameters

This section describes the downlink commands for network settings.

Configure Communication Parameters

Command description:

Item	Byte	Command	Value	Example
Reporting Interval	1+4	66	**Byte 1-2**: 0001 **Byte 3-4**: Interval time, range: 1-1440, unit: minute, default: 10	Reporting interval is 15 minutes: **6600010f00**
Reset Blue tooth Name	2	b400	-	-

Item	Byte	Command	Value	Example
Keep Bluetooth Advertising	2+1	9000	00=Disable, 01=Enable (default)	Disable: **900000**
Bluetooth Advertising Duration	2+1	9001	UINT8, Range: 1-10, Default: 1, Unit: min	The duration is 10 mins: **90010a**
Cancel Bluetooth Pairing	2	b401	-	-
Bluetooth Name (First 8B)	2+8	cd05	ASCii to Hex strings (8B)	Name is `Room1`: **cd0552 6f6f6d31000000**
Bluetooth Name (Last 5B)	2+5	cd06	ASCii to Hex strings (5B)	

Rejoin the Network

Command description:

Item	Byte	Command	Value
Rejoin the Network	1	b6	-

Configure D2D Parameters

Command description:

Item	Byte	Command	Value	Example
D2D Agent	1+1	97	00=Disable (default), 01=Enable	Enable: **9701**
D2D Agent Rule	2+4	98 + ID (00-07)	**Byte 1**: 00=Disable (default), 01=Enable **Byte 2-3**: Control Command **Byte 4**: 00=Insert Schedule 1, ..., Insert Schedule 16=0f, 10=System Off, 11=System On, 12=System Inverse	Enable rule 1, control command is 0011, control action is inserting schedule 1: **980001110000**

Downlink Commands for Air Conditioner Control Parameters

This section describes the downlink commands for air conditioner control related parameters.

IR Code Learning

Command description:

Item	Byte	Command	Value	Example
Activate IR Learning Mode	1	55	-	-
Preset Mode	2+1	8603	01=M96b (TCL/XIAOMI), 02=M100b (ELECTROLUX/SAMSUNG/SHINCO), 03=T102b (AIRWELL/BOSCH/WHIRLPOOL), 04=M128b (FUJITSU/MCQUAY), 05=M56b (TRUMA)	Set M96b: **860301**
IR Code	1+2+N	8e	**Byte 1**: Offset **Byte 2**: Code length, range: 1-186 **Byte 3-N**: IR Code	see below
Clear IR Code	1	59	-	-

One IR Code can be configured by one of the following methods.

Example 1: Offset is 0

```
8E00BA000090004DB2FF0003FC4DB2FF0003FCAB28000000970000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
30159D0D3D159D03BD1F9822600751F6AF000030103000601060002710101044C2
```

Example 2: Offset is not 0

```
8E00080000090004DB2FF00
8E080803FC4DB2FF0003FC
8E10084DB2FF0003FCAB28
.....
```

Configure Air Conditioner System Parameters

Command description:

Item	Byte	Command	Value	Example
System Status + Temp. Control Mode + Fan Mode + Target Temperature	1+5	54	**Byte 1**: 00=Off, 01=On, ff=No apply **Byte 2**: 00=Heat, 02=Cool, 03=Auto, 04=Dehumidification, 05=Ventilation, ff=No apply **Byte 3**: 00=Auto, 03=Low, 04=Medium, 05=High, ff=No apply **Byte 4-5**: Target Temperature, INT16/100, Unit: °C, Range: 16~30, ff7f=No apply	AC on, Cool, Auto, 20°C: **54010200d007**
System Status	1+1	6f	00=Off (Default), 01=On	Turn AC on: **6f01**
Temperature Control Mode Enable	1+1	75	For every bit: 0=Disable, 1=Enable (default) • Bit 0: Heat • Bit 1: 0 • Bit 2: Cool • Bit 3: Auto • Bit 4: Dehumidification • Bit 5: Ventilation	Enable Auto and Heat mode: **7509**
Temperature Control Mode	2+1	6000	00=Heat, 02=Cool, 03=Auto, 04=Dehumidification, 05=Ventilation	Temperature control mode is Cool: **600002**
Target Temperature	1+3	61	**Byte 1**: 00=Heat, 02=Cool, 03=Auto **Byte 2-3**: Target Temperature, INT16/100, Unit: °C, Range: 16~30	Target temperature is 20 °C: **6102d007**
Target Temperature Tolerance	1+3	62	**Byte 1**: 00 **Byte 2-3**: INT16/100, Unit: °C, Range: 0.1~5, Default: 1	Target temperature tolerance is 5 °C: **6200f401**
Fan Mode	2+1	7000	00=Auto (Default), 03=Low, 04=Medium, 05=High	Fan mode is Auto: **700000**

Configure Open Window Detection

Command description:

Item	Byte	Command	Value	Example
Open Window Detection	2+1	6800	00=Disable (Default), 01=Enable	Enable: **680001**
Temperature Change	2+2	6802	INT16/100, Unit: °C/min, Range: 1-10, Default: 3	Temp. change is 10°C/min: **6802e803**
Stop tempe rature time	2+2	6803	UINT16, Unit: min, Range: 1-1440, Default: 30	Stop time is 360 mins: **68036801**
Open Window Alarm	1+1	5a	00=Release, 01=Alarm	Trigger alarm: **5a01**

Configure Filter Cleaning Alarm

Command description:

Item	Byte	Com mand	Value	Example
Filter Cleaning Alarm Enable	2+1	8b00	00=Disable (Default), 01=Enable	Enable: **8b0001**
Reminder Interval	2+2	8b01	UINT16, Unit: day, Range: 1-730, Default: 90	Reminder 1 day: **8b010100**
Filter Clea ning Alarm	1+1	5b	00=Release, 01=Alarm	Trigger alarm: **5b01**

Configure Schedule Parameters

Tip:
To delete a schedule plan, just leave the value of the command as all 0.

Command description:

Item	Byte	Command	Value	Example
Schedule Plan	3+1	67+Schedule ID (00-07) + 00	00=Disable (Default), 01=Enable	Enable/Add plan 4: **67030001**

Item	Byte	Command	Value	Example
Schedule Name (First 6B)	3+6	67+Schedule ID (00-07) + 01	ASCii to Hex strings (6B)	Schedule name is Schedule 1: **6700017363686564756700026c652031**
Schedule Name (Last 4B)	3+4	67+Schedule ID (00-07) + 02	ASCii to Hex strings (4B)	
Fan Mode	3+1	67+Schedule ID (00-07) + 03	00=Auto, 03=Low, 04=Medium, 05=High	Schedule 1 Fan Mode is Auto: **67000300**
Target Temperature	3+2	67+Schedule ID (00-07) + 04	INT16/100, Unit: °C, Range: 16~30	Schedule 1 target temperature is 16 °C: **6700044006**
AC System Status	3+1	67+Schedule ID (00-07) + 05	00=Off, 01=On	Schedule 1 AC on: **67000501**
Temperature Control Mode	3+1	67+Schedule ID (00-07) + 06	00=Heat, 02=Cool, 03=Auto, 04=Dehumidification, 05=Ventilation	Schedule 1 Cool mode: **67000602**
Schedule Time	4+4	67+Schedule ID (00-07) + 07 + Time ID (00-0f)	**Byte 1**: 00=Disable (Default), 01=Enable **Byte 2-3**: Time, Range: 0-1439, Unit: min **Byte 4**: Repeat day, for per bit 0=Disable, 1=Enable • Bit 0: Sunday • Bit 1: Monday • Bit 2: Tuesday • … • Bit 6: Saturday • Bit 7: 1	Enable schedule time 1, time is 8:00, repeat day is Mon., Wed., Fri.: **6700070001e001aa**
Execute Schedule Plan	1+1	5c	Schedule ID, Range: 0-7, ff=Stop executing	Execute plan 1: **5c00**
Delete/Reset Schedule Plan	1+1	5f	Schedule ID, Range: 0-7, ff=Reset all	Delete plan 2: **5f01**

Configure Energy Saving Parameters

> **Tip:**
> To delete a task, just leave the value of the command as all 0.

Command description:

Item	Byte	Command	Value	Example
Temp Limit Mode				
Temp Limit Task	3+1	830000	00=Disable (default), 01=Enable	Enable temp limit task: **83000001**
Valid Date	3+4	830001	**Byte 1**: Start month, Range: 1-12 **Byte 2**: Start Day, Range: 1-31 **Byte 3**: End month, Range: 1-12 **Byte 4**: End Day, Range: 1-31	Valid date is 1.1 to 12.31: **83000101010c1f**
Active Period	3+4	830002	**Byte 1-2**: Start time, Range: 0-1439, Unit: min **Byte 3-4**: End time, Range: 0-1439, Unit: min	Active period is 8:00 to 18:00: **830002e0013804**
Repeat Cycle	3+1	830003	For per bit 0=Disable, 1=Enable • Bit 0: Sunday • Bit 1: Monday • Bit 2: Tuesday • ... • Bit 6: Saturday • Bit 7: 1	Repeat cycle is Mon., Wed., Fri.: **830003aa**
Temperature Range - Low Threshold	3+2	830004	INT16/100, Unit: °C, Range: 16~30	Low threshold is 16 °C: **8300044006**

Item	Byte	Command	Value	Example
Temperature Range - High Threshold	3+2	830005	INT16/100, Unit: °C, Range: 16~30	High threshold is 30 °C: **830005b80b**
Delete Temp Limit Task	1+1	58	00	Delete Temp Limit Task: **5800**
Holiday and Seasonal Mode				
Holiday Mode Task	3+1	85 + ID (00 -07) + 00	00=Disable (default), 01=Enable	Add/Enable task 1: **85000001**
Valid Date	3+4	85 + ID (00 -07) + 01	**Byte 1**: Start month, Range: 1-12 **Byte 2**: Start Day, Range: 1-31 **Byte 3**: End month, Range: 1-12 **Byte 4**: End Day, Range: 1-31	Task 1 Valid date is 1.1 to 12.31: **85000101010c1f**
Active Period	3+4	85 + ID (00 -07) + 02	**Byte 1-2**: Start time, Range: 0-1439, Unit: min **Byte 3-4**: End time, Range: 0-1439, Unit: min	Task 1 Active period is 8:00 to 18:00: **850002e0013804**
Repeat Cycle	3+1	85 + ID (00 -07) + 03	For per bit 0=Disable, 1=Enable • Bit 0: Sunday • Bit 1: Monday • Bit 2: Tuesday • ... • Bit 6: Saturday • Bit 7: 1	Task 1 Repeat cycle is Mon., Wed., Fri.: **8500032a**
Fan Mode	3+1	85 + ID (00 -07) + 04	00=Auto, 03=Low, 04=Medium, 05=High	Task 1 Fan Mode is Auto: **85000400**
Target Tem perature	3+2	85 + ID (00 -07) + 05	INT16/100, Unit: °C, Range: 16~30	Task 1 target temperature is 16 °C: **8500054006**

Item	Byte	Command	Value	Example
Air Conditioner On/Off	3+1	85 + ID (00-07) + 06	00=Off, 01=On	Task 1 AC on: **85000601**
Temperature Control Mode	3+1	85 + ID (00-07) + 07	00=Heat, 02=Cool, 03=Auto, 04=Dehumidification, 05=Ventilation	Task 1 Cool mode: **85000702**
Delete/Reset Holiday Mode Task	1+1	56	Range: 00-07, ff=Reset	Delete Holiday Mode Task 1: **5600**

Downlink Commands for Auxiliary Features

This section describes the downlink commands for the auxiliary features.

Configure General Parameters

Command description:

Item	Byte	Command	Value	Example
Reboot	1	be	-	-
Temperature Unit	1+1	64	00=°C (default), 01=°F	Set unit as °F: **6401**
Temperature Data Source	2+1	6a00	00=External, 04=Built-in (Default)	Data source is External: **6a0000**
Enhanced IR Emission	1+1	81	00=Disable (Default), 01=Enable	Enable: **8101**
Enable Battery Compartment	1+1	92	00=Disable (Default), 01=Enable	Enable: **9201**
Sleep Duration Enable	3+1	93 + Time (00 or 01) + 00	00=Disable (Default), 01=Enable	Enable time 1: **93000001**
Sleep Duration Time	3+4	93 + Time (00 or 01) + 01	**Byte 1**: Start month, Range: 1-12 **Byte 2**: Start Day, Range: 1-31 **Byte 3**: End month, Range: 1-12 **Byte 4**: End Day, Range: 1-31	Duration time 1 is 1.1 to 12.31: **93000101010c1f**

Item	Byte	Command	Value	Example
AC Cooling Power	2+2	8200	UINT16, Unit: W, Range: 0-60000, 0=blank	AC cooling power is 1000W: **8200e803**
AC Heating Power	2+2	8201		
Indicator Auto-Off	2+1	8000	00=Disable, 01=Enable (Default)	Disable: **800000**
Indicator Auto-Off Time	2+2	8001	UINT16, Unit: s, Range: 600-3600, Default: 600	When indicator auto-off is enabled, the LED will light 10 minutes: **80015802**
Data Storage & Retransmission	1+2	c5	**Byte 1:** 00=Data storage, 01=Data retransmission **Byte 2:** 00=Disable, 01=Enable	Enable data storage: **c50001**
Data Retransmission Interval	1+3	c5	**Byte 1:** 02 **Byte 2-3:** UINT16, Unit:s, Range: 30-1200 s, Default: 600	Interval is 1200s: **c502b004**
Clear History Data	1	bd	-	-

Configure Time Parameters

Command description:

Item	Byte	Command	Value	Example
UTC Time Zone	1+2	c7	INT16/60	UTC-4: **c710ff**
Daylight Saving Time	1+10	c6	**Byte 1**: 00=Disable (default), 01=Enable **Byte 2**: DST bias, unit: min, range: 1-120 **Byte 3-6**: Start time, Month (1B)+Week&Day (1B) + Minute Time (2B)	Enable DST, start time is October 1st Sunday 2:00, end time is April 1st Sunday 2:00, bias is 60 minutes: **c6013c0 a17780004177800**

<table>
<tr><th>Item</th><th>Byte</th><th>Command</th><th>Value</th><th>Example</th></tr>
<tr><td></td><td></td><td></td><td>Byte 7-10: End time, Month (1B)+Week&Day (1B) + Minute Time (2B)

Week&Day:
<table><tr><th>Bit7-4</th><th>Bit3-0</th></tr><tr><td>Week number, range: 1-5</td><td>Weekday, range: 1-7</td></tr></table></td><td></td></tr>
<tr><td>Sync time from LNS</td><td>1</td><td>b8</td><td>-</td><td>-</td></tr>
</table>

Configure Sensor Parameters

Command description:

<table>
<tr><th>Item</th><th>Byte</th><th>Command</th><th>Value</th><th>Example</th></tr>
<tr><td rowspan="3">Built-in Sensor Name</td><td rowspan="3">2+6</td><td>8800</td><td>First 6 bytes, ASCii to Hex strings</td><td rowspan="3">The name is sensor: 88007365 6e736f72</td></tr>
<tr><td>8801</td><td>Middle 6 bytes, ASCii to Hex strings</td></tr>
<tr><td>8802</td><td>Last 6 bytes, ASCii to Hex strings</td></tr>
<tr><td>Built-in Sensor Temperature Calibration</td><td>2+2</td><td>8805</td><td>INT16/100, Unit: °C, Range: -80 - 80</td><td>Calibration value is 1°C: 88056400</td></tr>
<tr><td>Built-in Sensor Humidity Calibration</td><td>2+2</td><td>8807</td><td>INT16/10, Unit: %RH, Range: -100 - 100</td><td>Calibration value is -0.3%RH: 8807fdff</td></tr>
<tr><td rowspan="3">External Sensor Name</td><td rowspan="3">2+6</td><td>8900</td><td>First 6 bytes, ASCii to Hex strings</td><td rowspan="3">The name is sensor: 89007365 6e736f72</td></tr>
<tr><td>8901</td><td>Middle 6 bytes, ASCii to Hex strings</td></tr>
<tr><td>8902</td><td>Last 6 bytes, ASCii to Hex strings</td></tr>
<tr><td>External Sensor Temperature</td><td>2+1</td><td>8906</td><td>00=Disable, 01=Enable (default)</td><td>Enable: 890601</td></tr>
</table>

Item	Byte	Command	Value	Example
External Sensor Temperature Calibration	2+2	8905	INT16/100, Unit: °C, Range: -80 - 80	Calibration value is 1°C: **89056400**
Temp & Humidity Sampling Interval	2+2	8803	UINT16, Unit: s, Range: 30-3600, Default: 30	Sampling interval is 3600s: **8803100e**
External CT	2+1	8a00	00=Disable (default), 01=Enable	Enable: **8a0001**
External CT - Sampling Interval	2+2	8a01	UINT16, Unit: s, Range: 1-128, Default: 5	Sampling interval is 128s: **8a018000**
External CT - Threshold	2+2	8a02	UINT16, Unit: mA, Range: 30-1000	Threshold is 30mA: **8a021e00**
External CT - AC Type	2+1	8a03	00=Wall-mounted (default), 01=Standing Cabinet, 02=Ceiling-mounted	AC type is wall-mounted: **8a0300**

Configure Threshold Parameters

Command description:

Item	Byte	Command	Value	Example
Persistent High Temperature Alarm - Enable	2+1	6c00	00=Disable (default), 01=Enable	Enable: **6c0001**
Persistent High Temperature Alarm - Difference	2+2	6c01	INT16/100, Unit: °C, Range: 1-10, Default: 3	Difference is 3.15°C: **6c013b01**
Persistent High Temperature Alarm - Duration	2+1	6c02	UINT8, Unit: min, Range: 0-60, Default: 5	Duration is 5 mins: **6c0205**
Persistent Low Temperature Alarm - Enable	2+1	6d00	00=Disable (default), 01=Enable	Enable: **6d0001**

Item	Byte	Command	Value	Example
Persistent Low Temperature Alarm - Difference	2+2	6d01	INT16/100, Unit: °C, Range: 1-10, Default: 3	Difference is 3.15°C: **6d013b01**
Persistent Low Temperature Alarm - Duration	2+1	6d02	UINT8, Unit: min, Range: 0-60, Default: 5	Duration is 5 mins: **6d0205**
Temperature Threshold - Enable	2+1	6e00	00=Disable (default), 01=Enable	Enable: **6e0001**
Temperature Threshold - Condition	2+1	6e01	01=Below, 02=Above, 04=Below or Above	Below thresh old: **6e0101**
Temperature Threshold - Below Value	2+1	6e02	INT16/100, Unit: °C, Range: -20-60, Default: -20	Below threshold is -5.15°C: **6e02fdfd**
Temperature Threshold - Above Value	2+1	6e03	INT16/100, Unit: °C, Range: -20-60, Default: 60	Above threshold is 25.15°C: **6e03d309**

Downlink Commands for Query

This section describes the downlink commands for querying the device data.

Query Current Data

Command description:

Item	Byte	Command	Value	Example
Enquiry Periodic Report	1	b9	-	-

Query Historical Data

Prerequisites: Data Storage was enabled and device time is synced.

Command description:

Item	Byte	Command	Value	Example
Query data for a specified time point	1+4	ba	Unix timestamp, UINT32, Unit: s	/
Query data for a specified time range	1+8	bb	Start Unix Timestamp (4B) + End Unix Timestamp (4B), UINT32, Unit: s	Query data from 1697445000s to 1697445600s: **bb88f42c65e0f62c65**
Stop data query report	1	bc	-	/
Query report interval	1+3	c5	**Byte 1:** 03 **Byte 2-3:** UINT16, Unit:s, Range: 30-1200 s, Default: 60	Report interval is 1200s: **c503b004**

Reply description: Historical Data Packet

Chapter 5. Services

Milesight provides customers with timely and comprehensive technical support services. End-users can contact their local dealer to obtain technical support. Distributors and resellers can contact Milesight directly for technical support.

Technical Support Mailbox: iot.support@milesight.com

Online Support Portal: https://support.milesight-iot.com

Resource Download Center: https://www.milesight.com/iot/resources/download-center/

MILESIGHT CHINA

TEL: +86-592-5085280

FAX: +86-592-5023065

Add: Building C09, Software Park Phase III, Xiamen 361024, Fujian, China