Function Definition

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Online Version

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After a product is created, define its functions first.

You can set functions for a product, including standard functions, custom functions, and advanced functions. This topic describes typical function definitions of smart metering sockets.

1 Standard function definition

1.1 DP list of standard functions

DP ID	DP	Identifier	Data transfer type	DP type	DP property	Required
1	Power 1	switch_1	Send and report	bool		Yes
					`true`: on	
					`false`: off	
9	Countdown of switch 1	countdown_1	Send and report	value		Yes
					Valid values: `0` to `86400`.	
					Pitch: `1`	
					Scale: `0`	
					Unit: second (s)	
17	Added electric-ity	add_ele	Send and report	value		Yes
					Valid values: `0` to `50000`.	
					Pitch: `100`	
					Scale: `3`	

DP ID	DP	Identifier	Data transfer type	DP type	DP property	Required
					Unit: kWh	
18	Current now	cur_current	Report only	value		Yes
					Valid values: 0 to 30000.	
					Pitch: 1	
					Scale: 0	
					Unit: mA	
19	Power now	cur_power	Report only	value		Yes
					Valid values: 0 to 80000.	
					Pitch: 1	
					Scale: 1	
					Unit: W	
20	Voltage now	cur_voltage	Report only	value		Yes
					Valid values: 0 to 5000.	
					Pitch: 1	
					Scale: 1	
					Unit: V	
21	Test bit	test_bit	Report only	value		Yes

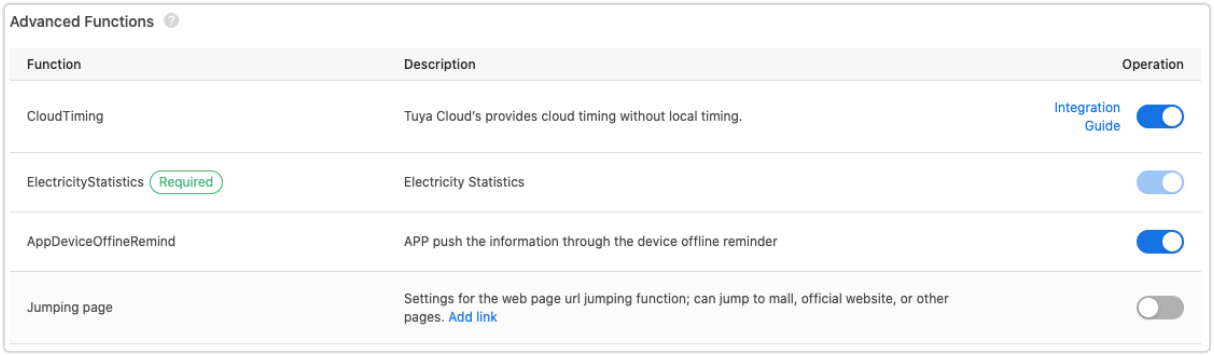
DP ID	DP	Identifier	Data transfer type	DP type	DP property	Required
					Valid values: 0 to 5.	
					Pitch: 1	
					Scale: 0	
22	Voltage COE	voltage_co	Report only	value		Yes
					Valid values: 0 to 1000000.	
					Pitch: 1	
					Scale: 0	
23	Electric COE	electric_co	Report only	value		Yes
					Valid values: 0 to 1000000.	
					Pitch: 1	
					Scale: 0	
24	Power COE	power_coe	Report only	value		Yes
					Valid values: 0 to 1000000.	
					Pitch: 1	
					Scale: 0	

DP ID	DP	Identifier	Data transfer type	DP type	DP property	Required
25	Electricity COE	electricity_	Report only	value		Yes
					Valid values: `0` to `1000000`.	
					Pitch: `1`	
					Scale: `0`	
26	Error	fault	Report only	fault	Valid values: `ov_cr`, `ov_vol`, `ov_pwr`, `ls_cr`, `ls_vol`, and `ls_pow`.	Yes
38	Restart status	relay_status	Send and report	enum	Enumeration values: `off`, `on`, and `memory`.	Optional
41	Cycle timing	cycle_time	Send and report	string	See the protocol in function descrip-tion.	Optional

DP ID	DP	Identifier	Data transfer type	DP type	DP property	Required
42	Random timing	random_time	Send and report	string	See the protocol in function description.	Optional

1.2 Advanced functions

With **Cloud Timing** enabled, you can set recurring tasks from Monday to Sunday to regularly switch on or off a device. The scheduled tasks support automatic adjustment for daylight saving time (DST).



2 Function description

2.1 Energy metering

- Added electricity: reports **incremental** power consumption of the device.
- Current now, voltage now, and power now: real-time parameters of the device. If a certain threshold is exceeded, actual values are reported to improve data accuracy.
- Power coe, electric coe, and electricity coe: calibrates metering data.
- Error: reports various fault values such as overcurrent, overvoltage, overpower, and undervoltage.

Bitmap	Fault value
Bit0	ov_cr
Bit1	ov_vol
Bit2	ov_pwr
Bit3	ls_cr
Bit4	ls_vol
Bit5	ls_pow

2.2 Advanced timing

- Cycle timing: You can set up to 10 cycle timing tasks. Every 10 bytes are described as follows:
  - Byte 1: indicates the channel ID. `Bit 0`: switch. `Bit 7` to `bit 1`: channel ID.
  - Byte 2: indicates the week. `00`: only once, `01`: Sunday, `02`: Monday, `04`: Tuesday, `08`: Wednesday, `10`: Thursday, `20`: Friday, and `40`: Saturday.
  - Bytes 3 and 4: indicates the start time. Unit: in minutes.
  - Bytes 5 and 6: indicates the end time. Unit: in minutes.
  - Bytes 7 and 8: indicates the enabling time. Unit: in minutes.
  - Bytes 9 and 10: indicates the disabling time. Unit: in minutes.
- Random timing: You can set up to 16 random timing tasks. Every 6 bytes are

described as follows:

- Byte 1: indicates the channel ID. `Bit 0`: switch. `Bit 7` to `bit 1`: channel ID. A power strip has 0 to 6 outlets.
- Byte 2: indicates the week.
- Bytes 3 and 4: indicates the start time. Unit: in minutes.
- Bytes 5 and 6: indicates the end time. Unit: in minutes.

2.3 Restart status

Enumeration values of power status setting are described as follows:

- `none`: The indicator light is steady off. This value is recommended for use at night, ensuring a good sleep for users.
- `relay`: The indicator light denotes the switch status. The indicator light is on when the switch is on, and the indicator light is off when the switch is off.
- `pos`: The indicator light denotes the position of the device. The indicator light is off when the switch is on, and the indicator light is on when the switch is off. This value is recommended for use at night, so as to help users quickly locate the socket. It is similar to the function of the fluorescent strip in a traditional socket.

> Power status setting only applies to power indicator lights for I/O control or indicator lights that are reused as a power indicator light.