

Advantech AE Technical Share Document

Date	2023/11/01	SR#	1-3044363952
Category	■FAQ □SOP	Related OS	N/A
Abstract	How to check WISE-4051 RS-485 communication Status By Using REST Command		
Keyword	Serial communication; RS-485; Modbus/RTU; REST		
Related Product	WISE-4051		

■ Problem Description:

This document explains that how to check WISE-4051 communication status with other RS-485 sensors by sending REST command.

■ Answer:

For example, in the data logger of WISE-4051, the Error Code would be recorded as I/O-type “33”, and the value of Error Code is 17.

Log Type	Timestamp	UUID	Slot	Channel	I/O-type	Value
128	2017-08-16T13:12:54+08:00	WISE-4051_00D0C9FAB2FA	0	0	32	0
128	2017-08-16T13:12:54+08:00	WISE-4051_00D0C9FAB2FA	0	0	33	17
128	2017-08-16T13:12:54+08:00	WISE-4051_00D0C9FAB2FA	0	1	32	0
128	2017-08-16T13:12:54+08:00	WISE-4051_00D0C9FAB2FA	0	1	33	17
128	2017-08-16T13:12:54+08:00	WISE-4051_00D0C9FAB2FA	0	2	32	0
128	2017-08-16T13:12:54+08:00	WISE-4051_00D0C9FAB2FA	0	2	33	17
128	2017-08-16T13:12:54+08:00	WISE-4051_00D0C9FAB2FA	0	3	32	0
128	2017-08-16T13:12:54+08:00	WISE-4051_00D0C9FAB2FA	0	3	33	17
128	2017-08-16T13:13:31+08:00	WISE-4051_00D0C9FAB2FA	0	0	32	0
128	2017-08-16T13:13:31+08:00	WISE-4051_00D0C9FAB2FA	0	0	33	17

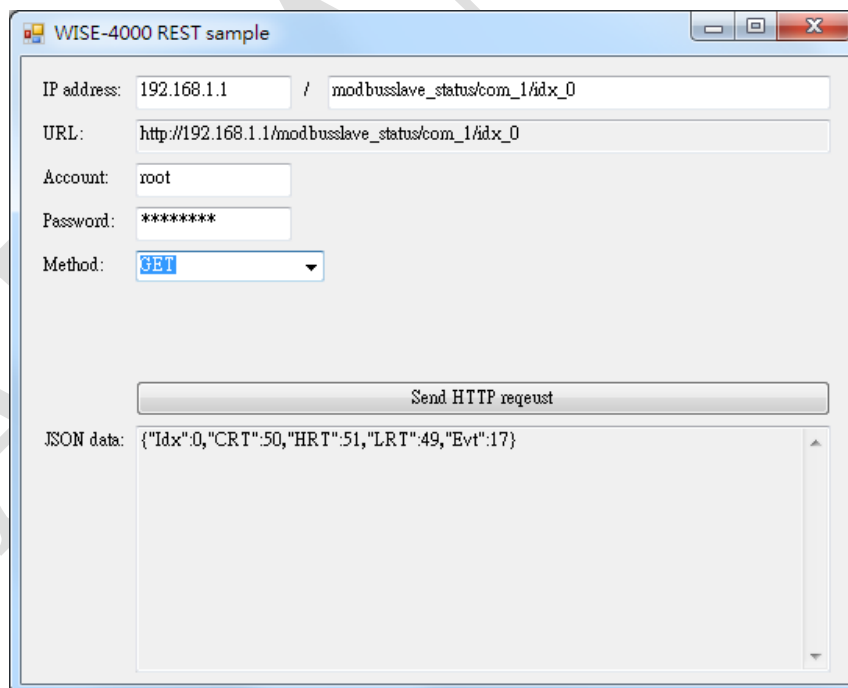
Refer to the below table, we could verify that the Error Code 17 means “Slave response timeout.”

Event Value (bit 6~0)	Description
0 (0x00)	No error
1 (0x01)	Illegal function
2 (0x02)	Illegal data address
3 (0x03)	Illegal data value
4 (0x04)	Slave device failure
5 (0x05)	Acknowledge

6 (0x06)	Slave device busy
----------	-------------------

7 (0x07)	Negative acknowledge
8 (0x08)	Memory parity error
9 (0x09)	Reserved
10 (0x0A)	Gateway path unavailable
11 (0x0B)	Gateway target device failed to respond
12 ~15	Reserved
16 (0x10)	Unavailable
17 (0x11)	Slave response timeout
18 (0x12)	Checksum error
19 (0x13)	Received data error
20 (0x14)	Send request fail
21(0x15)	Unprocessed
22(0x16)	Read only
23(0x17)	In processing

If we want to use REST command to query COM_1 channel_0, we could use “GET” command to the URL: “http://192.168.1.1/modbusslave_status/com_1/idx_0”



We may get the “Evt” is 17, which means slave response timeout.

For more detailed usage, please refer to following instructions.

Description	Retrieves information about the Modbus/RTU coil poll status
URL Structure	http://10.0.0.1/modbusslave_status/com_x http://10.0.0.1/modbusslave_status/com_x/idx_num where x = 1 ~ : the identifier of COM number where num = 0 ~ : the channel number
HTTP Method	GET : Returns the representation of all of Modbus/RTU polling status resource. PUT : None PATCH : None
GET	Multi-Channel Request : GET / modbusslave_status/com_x Single Channel Request : GET / modbusslave_status/com_x/idx_num [Example]: Request : GET / modbusslave_status/com_1 Content-type: application/json Response: 200 OK <pre>{ "RtuStat": [{ "Idx":0, "CRT":33, "HRT":35, "LRT":32, "Evt":0 }, { "Idx":1, "CRT":9, "HRT":11, "LRT":6, "Evt":0 }, { "Idx":2, "CRT":9, "HRT":11,</pre>

	<pre> "LRT":6, "Evt":0 }, { "Idx":3, "CRT":9, "HRT":11, "LRT":6, "Evt":0 }, { "Idx":7, "CRT":0, "HRT":0, "LRT":65535, "Evt":16 }] }</pre> <ul style="list-style-type: none">● Request : GET /modbusslave_config/com_1/idx_2 <p>Content-type: application/json Response: 200 OK</p> <pre>{ "Idx":2, "CRT":9, "HRT":11, "LRT":6, "Evt":0 }</pre>					
PUT	None					
PATCH	None					
<ul style="list-style-type: none">● JSON array name definition: <div></div> <table><tr><td>Array of Modbus RTU polling status</td><td>RtuStat</td><td>Array</td></tr></table>		Array of Modbus RTU polling status	RtuStat	Array		
Array of Modbus RTU polling status	RtuStat	Array				
<ul style="list-style-type: none">● Resource value definitions (Total index = 8): <table><tr><th>Field</th><th>Abbreviation</th><th>Data Type</th><th>Property</th><th>Description</th></tr></table>		Field	Abbreviation	Data Type	Property	Description
Field	Abbreviation	Data Type	Property	Description		

Item Index	Idx	Number	R	0, 1, ...7: Index number of Modbus RTU set	
The last (current) slave device response time	CRT	Number	R	0~65535: The last response time of polling slave device. Unit: ms	
The max slave device response time	HRT	Number	R	0~65535: The maximum response time of polling slave device. Unit: ms	
The min slave device response time	LRT	Number	R	0~65535: The minimum response time of polling slave device. Unit: ms	
Modbus RTU Polling Status Code	Evt	Number	R	The status code of Modbus RTU polling	