

SOYAL

701Server JSON Command

Version 1.05
701ServerSQL 10v5

1 701Server JSON Command Schema Format

1.1 Request schema:

```
{
  "l_user"      : "login user",
  "cmd_array"   : [
    {
      "c_cmd"    : 1000,
      "user"     : "Engineer"
    },
    {
      "c_cmd"    : 1002,
      "NodeID"   : 1,
      "Start"    : 0,
      "End"      : 3
    }
  ]
}
```

1.2 Response schema:

```
{
  "resp_array" : [
    {
      "c_cmd"    : 1000,
      "c_resp"   : 3,
      "db_used"  : true,
      "name"     : "\u8302\u65ed\u8cc7\u8a0aName",
      "ver"      : "10.1"
    },
    {
      "c_cmd"    : 1002,
      "c_resp"   : 3,
      "NodeID"   : 1,
      "Array"    : [
        {"Data":"0xFFFFFFFF","Index":0},
        {"Data":"0xFFFFFFFF","Index":1},
        {"Data":"0xFFFFFFFF","Index":2},
        {"Data":"0xFFFFFFFF","Index":3}
      ]
    }
  ]
}
```

1.3 701Server JSON Response code (c_resp):

Response Code	Description	Parameters	
3	Echo request data		
4	Echo ACK		
5	Echo NACK		

1.4 Error response schema:

```
{
  "resp_err"   : "(0x80000003) command array can not be null!"
}
```

2 Commands

2.1 Get Server Information

Request Schema	Value	Type		Notes
"c_cmd"	1000	INT		

Response Schema	Value	Type		Notes
"c_cmd"	1000	INT		
"c_resp"	3	INT		
"ver"	Host OS version	String		
"name"	"Host Name"	String		
"db_used"	true	Bool		

2.2 Get Controller Type and Online Status

Request Schema	Value	Type		Notes
"c_cmd"	1001	INT		
"Area"	0, (Default 0)	INT	00~15	<input type="checkbox"/>
"Start Node"	Start Node of Polling Controller Range.	INT	1~254	
"End Node"	End Node of Polling Controller Range.	INT	1~254	
"PollNode"	The polling Node that checked on LAN.	String	""	<input type="checkbox"/>
"Online"	The Controller Online/Offline State	String	""	<input type="checkbox"/>
"CtlCode"	The Online Controller Type Code	String	""	<input type="checkbox"/>
"NetFamily"	The Controller Family of each net on LAN.	String	""	<input type="checkbox"/>

※SS: Begin Node, EE:End Node (Hex)

Notes : : This item is not necessary.

Response Schema	Value	Type		Notes
"c_cmd"	1001	INT		
"c_resp"	3	INT		
"Area"	0	INT	00~15	
"Start Node"	Strat Node of Response Data.	INT		
"End Node"	End Node of Response Data.	INT		
"PollNode"	"10100000... ", "1" :Checked, "0": Uncheck	String		
"Online"	"10100000... ", "1" :Online, "0": Offline	String		
" CtlCode "	"0xC2FFFF "	String	"FF": Unknown	
"NetFamily"	'0x1621'	String	NET Family Setting	

```
{
  "cmd_array": [{
    "c_cmd": 1001,
    "Area": 1,
    "Start Node": 1,
    "End Node": 10,
    "Online": "",
    "CtlCode": "",
    "NetFamily": "",
    "PollNode": ""
  },
  {
    "c_cmd": 1001,
    "Area": 0,
    "Start Node": 1,
    "End Node": 10,
    "Online": "",
    "CtlCode": "",
    "NetFamily": "",
    "PollNode": ""
  }
],
  "l_user": "supervisor"
}

{
  "resp_array": [{
    "Area": 1,
    "CtlCode": "0xFFFFFFFFFFFFFFFF",
    "End Node": 10,
    "NetFamily": "0x16161616161616161616",
    "Online": "0000000000",
    "PollNode": "0000000000",
    "Start Node": 1,
    "c_cmd": 1001,
    "c_resp": 3
  }, {
    "Area": 0,
    "CtlCode": "0xFFFFFFFFFFFFFFFF",
    "End Node": 10,
    "NetFamily": "0x16161616161616161616",
    "Online": "0000000000",
    "PollNode": "1000000000",
    "Start Node": 1,
    "c_cmd": 1001,
    "c_resp": 3
  }
}]
}
```

2.3 Get Remote Terminal Controller IO status

Request Schema	Value	Type	Value	Notes
"c_cmd"	1002	INT		
"Area"	0	INT		<input type="checkbox"/>
"Start Node"	Strat Node of Response Data.	INT		
"End Node"	End Node of Response Data.	INT		
"Pp"	256	INT		

Response Schema	Value	Type	Range	Notes
"c_resp"	3	Value		
""				
""				
""				

2.4 Get Access Controller IO status

Request Schema	Value	Type		Notes
"c_cmd"	1003	INT		
"Area"	0	INT		<input type="checkbox"/>
"Start"	1	INT		
"End"	2	INT		

Response Schema	Value	Type		Notes
"c_cmd"	1003,	INT		
"c_resp"	3,	INT		
"Array"	[
	{			
"Node"	1	INT		
"Status"	"Online !"	String		
"SubArray"	[[
	"ARM": "Off"		Main Port	
	"Alarm Relay": "Off"			
	"Alarming": "Off"			
	"Door": "Close"			
	"Door Relay": "Close"			
	"PTE": "Off"			
	"SubNode": "Main"			
	},{			
	"ARM": "Off"		WG Port	
	"Alarm Relay": "Off"			
	"Alarming": "Off"			
	"Door": "Close"			
	"Door Relay": "Close"			
	"PTE": "Off"			
	"SubNode": "WG"			
	}},			
	{			
"Node"	2,	INT		
"Status"	"Offline !"	String		
	}			
]			

2.5 Set Remote Terminal Controller IO status

Request Schema	Value	Type		Notes
"c_cmd"	1004	INT		
"Area"	0	INT		<input type="checkbox"/>
"Node"	1	INT		
"Pp"	256	INT		
"State"	1	INT		
"Value"	0: For Latch(default) 1:For Pulse	INT		<input type="checkbox"/>

**The "Value" Field is an option field and support for Access Controller to control Door Relay.

Response Schema	Value	Type		Notes
"c_cmd"	1004	INT		
"c_resp"	4	INT		

2.6 Set Guest Tag UID and Date Time limit (Send command to Controller only)

Request Schema	Value	Type		Notes
"c_cmd"	1021	INT		
"Area"	0	INT		<input type="checkbox"/>
"Node"	1,	INT		
"Addr"	10000	INT		
"TagUID"	"0x000000003A5B67DE",	String	8 Bytes UID (HEX)	
"Begin_dt"	"2020-11-05 00:00",	String		
"End_dt"	"2020-11-05 23:59",	String		
"Lift"	"0x3A5B67DE", [1~8F][9~16F][17~24F][25~32F]	String	4 Bytes Lift (HEX)	<input type="checkbox"/>
"DoorAccess"	"0x03FF", [1 st Byte][2 nd Byte] for Controller Panel: set the 1 st byte bit 0 will allow access on Node 9, set the 1 st byte bit 7 will allow access on Node 16, set the 2 nd byte bit 0 will allow access on Node 1 etc. for Controller: set the 2 nd byte bit 0 will allow access on Main Port, set the 1 st byte bit 1 will allow access on WG Port		2 Bytes Access(HEX)	<input type="checkbox"/>
"PIN"	0~999999999	INT		
"Mode"	0/1/2/3 for Invalid/Card Only/Card or PIN/Card and PIN	INT	0/1/2/3	
"Alias"	"Name show on LCD",	String	16 ASCII or 8 Big-5	

Response Schema	Value	Type		Notes
"c_cmd"	1021	INT		
"c_resp"	4	INT		

2.7 Clear Guest Tag UID and Date Time limit

Request Schema	Value	Type		Notes
"c_cmd"	1022	INT		
"Area"	0	INT		<input type="checkbox"/>
"Node"	1,	INT		
"Addr"	10000	INT		

Response Schema	Value	Type		Notes
"c_cmd"	1022	INT		
"c_resp"	4	INT		

2.8 Clear Range Guest Tags

Request Schema	Value	Type		Notes
"c_cmd"	1022	INT		
"Area"	0	INT		<input type="checkbox"/>
"Node"	1,	INT		
"AddrStr"	10000	INT		
"AddrEnd"	10050	INT		

Response Schema	Value	Type		Notes
"c_cmd"	1024	INT		
"c_resp"	4	INT		

2.9 Protocol transmission in HEX Format

Request Schema	Value	Type		Notes
"c_cmd"	2000	INT		
"Area"	0	INT		<input type="checkbox"/>
"Node"	1,	INT		
"Hex"	"0x.." Transmission data start from 'Function Code'	String		
"Format"	"L" : Long format for E-Serial Controller only.	String		<input type="checkbox"/>

Response Schema	Value	Type		Notes
"c_cmd"	2000	INT		
"Area"	0	INT		<input type="checkbox"/>
"Node"	1,	INT		
"c_resp"	3	INT		
"Hex"	"0x....."	String		

Ex: "Format" assignment is not necessary in standard format transmission. (7E Len DID CTL...)

```

Send: 0x7E.04.01.25.DB.01
{
  "l_user": "login user",
  "cmd_array": [{
    "c_cmd": 2000,
    "Area": 0,
    "Node": 1,
    "Hex": "0x25"
  }]
}

Recv: 0x7E21000B0120271701010516110001000010005C340100907E00000000000000071B9
{
  "resp_array": [{
    "c_cmd": 2000,
    "Area": 0,
    "Node": 1,
    "c_resp": 3,
    "Hex": "0x7E21000B0120271701010516110001000010005C340100907E00000000000000071B9"
  }]
}
    
```

Set RTC: 7E 0B 01 23 07 1B 0A 02 02 05 16 D8 47. (Node:1,Cmd:23,Sec.Min.Hr.Week.Day.Mon.Year)

Tx:

```
{"l_user":"login user","cmd_array":[{"c_cmd":2000,"Area":0,"Node":1,"Hex":"0x23071B0A02020516"}]}
```

Rx:

```
{"resp_array":[{"Area":0,"Hex":"0x7E0700040144E05E87","Node":1,"c_cmd":2000,"c_resp":3}]}
```

2.10 Create Event Log

Request Schema	Value	Type		Notes
"c_cmd"	3002	INT		
"Area"	0	INT		<input type="checkbox"/>
"Node"	1,	INT		
"MsgCode"	0 ~ 256	INT		
"MsgSubCode"	0 ~ 256	INT		
"Door"	1 ~ 255	INT		
"Addr"	0 ~ 32767	INT		
"TagUID"	"0x000000003A5B67DE",	String	8 Bytes UID (HEX)	
"Datetime"	"2020-11-05 00:00:00"	String		<input type="checkbox"/>

※ If the "Datetime" field is empty then the current time of server will be used.

Response Schema	Value	Type		Notes
"c_cmd"	3002	INT		
"c_resp"	4	INT		
"REC_INDEX"	2007, The `REC_INDEX` of inserted event log	INT64		10v4

MsgCode: 114 for remote Time Attendance

MsgSubCode: 1: Remote Entrance, 2: Remote Exit, 3: Modified Entrance, 4: Modified Exit

2.11 Set Controller Real Time Clock

Request Schema	Value	Type		Notes
"c_cmd"	3003	INT		
"Area"	0	INT		<input type="checkbox"/>
"Node"	1,	INT		
"Datetime"	"2022-04-30 18:31:08"	String		<input type="checkbox"/>

※ If the "Datetime" field is empty then the current time of server will be used.

Response Schema	Value	Type		Notes
"c_cmd"	3003	INT		
"c_resp"	4	INT		

3 Controller Family Code

Code	Family Description		
00H	The AR701 Serial Desktop Remote I/O Controller Serial.		
01H	The AR704E 4 Door Controller Serial.		
02H	The AR716E 16 Door Controller Serial. (Version I)		
03H	The AR716E 16 Door Controller Serial. (Version II)		
04H	The AR716E 16 Door Controller Serial with TCP/IP Module. (Version II)		
05H	The AR821E LCD Fingerprint Controller Serial.		
06H	The AR821E LCD Fingerprint Controller with lift control function Serial.		
07H	The AR829E LCD Controller Serial.		
08H	The AR821E LCD Fingerprint Controller Serial. (Version II)		
09H	The AR727H LCD Controller Serial. (Version I)		
0AH	The AR101H/323D/721H/723H & 888W Controller Serial.		
0BH	The AR727/747H LCD Controller Serial. (Version III)		
0CH	The AR829E LCD Controller Serial. (Version III)		
0DH	The AR716E18 16+2 Door Controller Serial with TCP/IP Module. (Version III)		
0EH	The AR401E Remote Programmer Logic Controller.		
0FH	The AR821E LCD Fingerprint Controller Serial. (Version III)		
10H	The AR821E LCD Vein Controller Serial. (Version I)		
11H	The AR821E LCD Fingerprint Controller Serial. (Version IV)		
12H	The AR725E Controller Serial. (Version I)		
13H	The AR821E LCD Vein Controller Serial. (Version II)		
14H	The AR321H/331H/725H/888H Controller Serial. (Version I)		
15H	The AR721E Dual Port Wiegand Controller Serial. (Version I)		
16H	The AR331E/327E/725Ev2/727E/837E/EF/881E/716E16 Controller Serial.		
17H	The RS-485 Remote IO Serial with MODBUS-RTU Support.		
18H	The TCP/IP Remote Gateway and IO Serial with MODBUS-TCP Support		

4 Update Log

- Version 1.01 2020-Nov-27
- Version 1.02 2020-Dec-24
- Version 1.03 2021-Jun-18 Add Command 1021, 1022
- Version 1.04 2022-May-02 Add Command 2000, 3003

Notes : □ : Can be omitted.