



Automation Control JSON Definitions

Tech Note – TN3011
August 25, 2020

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Introduction

In an effort to support external application development focused on facilities available on the controller, a couple of definition files are available in the JSON format.

File rtu.json

The JSON file rtu.json consists of an object array defining every pin of the automation control application that meets any of the following 3 conditions:

1. Dashboard display is enabled
2. Remote Cloud and/or Phone display is enabled
3. Logging is enabled

Pin Object Definition

All pin definitions are stored as objects in an array and are identified by their linear position in the system, preceded by an 'I' to indicate input or 'O' to indicate output type.

Pin Identifier: <string> (IXXX or OXXX):<Object>

The ID is string type prepended by either I (input) or O (output) followed by 3 digits corresponding the numerical sequence value in which it appears in the Outputs or Inputs area of the application.

Pin Type: "type" :<integer>

The pin type is a numeric value of either (1) digital, (2) Numeric/Analog/Pulse, or (3) Hex

Pin Name: "name" :<string>

The name of the pin as defined in Automation Control

Decimal Scale: "dec" :<string>

For pins of type (2) Numeric/Analog/Pulse, the decimal precision as defined in Automation Control

Units: "units" :<string>

The unit of measure as defined in Automation Control

Panel Location: "pnl" :<integer>

The id of the panel where parameter resides or is grouped

Phone Display: "phone" :<integer>

Phone display property where possible values are 0: don't display on phone, 1: display on cloud and phone, 2: display on phone only

Digital States Array: "state" :<array size 2 >

For pins of type Digital, binary state definitions reside in 2 objects, state[0] and state[1], respectively.

Digital Value Definition: "val" :<string>

The defined reading in Automation Control for the on/off state

Digital Indicator Type: "ind" :<integer>

The requested indicator types for the on/off states in Automation Control

Numeric Range Object: "range":<Object>

The minimum and maximum range or numeric data as defined by Automation Control.

Numeric Range Max: "max" :<float>

The maximum acceptable value defined for the pin.

Numeric Range Min: "min" :<float>

The minimum acceptable value defined for the pin.

Numeric Indicator Type: "ind" :<integer>

For Numeric types, the requested indicator type to display for the pin. For Digital types, that is defined in the on/off definition areas.

Example:

```
{
  "I001":
  {
    "type":2,
    "name":"Pump 1 Hours",
```

```

        "pn1":0,
        "phone":0,
        "dec":"2",
        "units":"Hours",
        "ind":0
    },
    "I009":
    {
        "type":1,
        "name":"Power Monitor",
        "pn1":0,
        "phone":0,
        "state":
        [{
            "val":"OK",
            "ind":2
        },{
            "val":"Danger",
            "ind":3
        }]
    },
    "I016":
    {
        "type":2,
        "name":"Wet Well Level",
        "pn1":1,
        "phone":1,
        "range":
        {
            "max":23.10,
            "min":0.00
        },
        "dec":"2",
        "units":"Feet",
        "ind":0
    }
}

```

File vpin.json

When SkyCloud Services is enabled, this file is passed to the server with the <jdef> tag. This file includes the necessary information for remote display of Automation Control data. The pin

definitions from rtu.json are included but only for data pins that are enabled for remote display or logging. There is a definition for panels for the purpose of grouping the data. A template id can also be defined for the data to allow further customization.

Version: "version":<integer>

An ID that identifies the schema version for this JSON definition

Display Template: "template":<integer>

An ID that identifies a template for use with this configuration.

Display Groups

Group Definition Object: "grps" :<Object>

The "grp" object contains panel information for the configuration

Default Panel: "dflt" :<integer>

The ID number of the panel selected as default

Panels Object: "pnl" :<Object>

The object that holds individual panel definitions.

Panel Key: <string (numeric)> :<Object>

The name of the object is the numerical id of the panel as seen in the Device Profile screen of the unit

Panel Name: "name" :<String>

The name that is used for the panel

Panel Display Option: "disp" :<integer>

Allows the panel to be hidden when the value is 0.

Example:

```
{  
  "template": 1,  
  "version": 2,
```

```

"I001":
{
  "type":2,
  "name":"Pump 1 Hours",
  "pnl":0,
  "phone":0,
  "dec":"2",
  "units":"Hours",
  "ind":0
},
"I009":
{
  "type":1,
  "name":"Power Monitor",
  "pnl":0,
  "phone":0,
  "state":
  [{
    "val":"OK",
    "ind":2
  },{
    "val":"Danger",
    "ind":3
  }]
},
"I016":
{
  "type":2,
  "name":"Wet Well Level",
  "pnl":1,
  "phone":1,
  "range":
  {
    "max":23.10,
    "min":0.00
  },

```

```
        "dec": "2",
        "units": "Feet",

        "ind": 0
    },
    "grps": {
        "dflt": 0,
        "pnl":
        {
            "0": {
                "name": "Pump Hours",
                "disp": 0
            },
            "1": {
                "name": "Well Status",
                "disp": 1
            }
        }
    }
}
```