

How can I integrate Kentix devices with PRTG?

[PRTG Network Monitor](#) is a monitoring software from Paessler for monitoring the entire network. This article explains how to integrate Kentix devices with PRTG.

The following integration options are available

1. SMS gateway function
2. SNMP integration
3. REST API integration

All API and SNMP examples shown here refer to the current versions of the respective products at the time of writing. These are subject to ongoing development.

The ReST API as well as the SNMP interfaces are delivered according to the documentation. KENTIX assumes that the user has basic knowledge of these technologies when using these interfaces.

In order to support you optimally in the implementation of your individual project requirements, we offer suitable support packages. You can easily book a corresponding time contingent in the [Kentix Shop](#).

SMS gateway function

The Kentix AlarmManager offers you the possibility to provide an SMS gateway that can be used by PRTG if the GSM function is enabled. The function is activated under the menu item **Configuration -> GSM -> SMS gateway**. For the gateway you assign a password here.

SMS Gateway

The SMS Gateway will send SMS message after receiving HTTP requests.

☒ Active
En-/Disable the SMS gateway.

Password

SMS-Gateway password. Set this in the request as the parameter "key".

Example Request

```
https://192.168.100.222/php/sms_gateway.php?
key=password&recipients=+49123456789,+49987654321&message=This+is+an+exa
mple
```

Example Request (GET)

```
https://192.168.100.222/php/sms_gateway.php?
key=password&recipients=+49123456789,+49987654321&message=This+is+an+exa
mple
```

SMS gateway configuration in AlarmManager

After the SMS gateway has been activated in AlarmManager, it can be configured in PRTG. To do this, navigate to **Configuration -> System management -> Sending notifications**. Under the item **Dispatch via SMS** you configure a user-defined URL.

`https://192.168.100.222/php/sms_gateway.php?key=password&recipients=%SMSNUMBER&message=%SMSTEXT`

Versand per SMS

| | |
|----------------------------|--|
| Konfigurationsmodus ⓘ | <input type="radio"/> SMS-Versand deaktivieren <input type="radio"/> Wählen Sie einen SMS-Dienstleister aus der Liste aus <input checked="" type="radio"/> Geben Sie die URL eines nicht in der Liste enthalten Dienstleisters ein |
| Benutzerdefinierte URL ⓘ | <input type="text" value="https://10.15.30.3/php/sms_gateway.php?key=password&recipients=%SMSNUMBER&message=%SMSTEXT"/> |
| HTTP-Authentifizierung ⓘ | <input checked="" type="radio"/> HTTP-Standard-Authentifizierung nicht verwenden (Standard) <input type="radio"/> HTTP-Standard-Authentifizierung verwenden |
| Benutzerdefinierte SNI ⓘ | <input checked="" type="radio"/> SNI nicht senden (Standard) <input type="radio"/> SNI senden |
| Zeichenkodierung für SMS ⓘ | <input checked="" type="radio"/> ANSI-Codepage des lokalen Systems (Standard) <input type="radio"/> UTF-8 <input type="radio"/> UTF-16 |
| Virtueller Host (SNI) ⓘ | <input type="text"/> |
| Maximale Länge des Texts ⓘ | <input type="text" value="0"/> |
| SMS-Einstellungen testen | <input type="button" value="SMS-Einstellungen testen"/> |

Configuration of the SMS gateway in PRTG

SNMP integration

The Simple Network Management Protocol is a network protocol for monitoring a wide range of components. The protocol exists in versions 1 to 3. The focus in version 3 is mainly on the use of security mechanisms for authentication between agent and manager. By default, the SNMP protocol uses UDP port 161 to query agents and UDP port 162 to receive traps.

Kentix devices support SNMP protocols v2 and v3 and therefore offer the possibility to implement SNMP queries with increased security requirements. The use of SNMP can be activated in the main device under the menu item **Configuration -> Communication -> SNMP**. The OID glossary is then directly available for download. This CSV list contains a dynamically generated list of all values provided by your Kentix device. Furthermore, you can download the [Kentix MIB file](#) directly from the store, and use it to run queries directly against your Main device.

SNMP Configuration

General configuration for SNMP

☒ Active

Enables SNMP for this device.

Save

☐ Instant polling after trap reception

Enables automatic retrieval of all OIDs from devices from which a trap has been received.

[Download OID Glossary](#)

SNMP activation in the main device and download of the OID glossary

When you query values of your Kentix system, this is always done via the Main device. The values of connected sensors are also provided here.

After SNMP activation, you can create different SNMP types. For integration into PRTG you need the type **Provide data** in any case. This makes your Kentix system accessible under the configured settings for the PRTG server and you can query values there.

General

☒ Active

Activate SNMP.

SNMP Type

Provide Data

Choose here SNMP Type.

Name*

PRTG

Enter here a name for the Request.

SNMP Version

SNMP v2

Choose here the SNMP Version.

Authentication

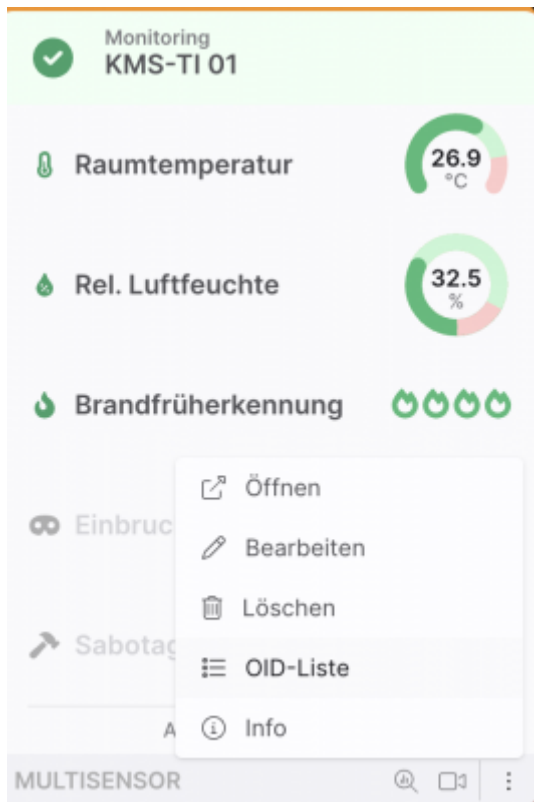
Public Community*

public

This Value is used for Autentication and behaves like an Username/Password.

Activation of the "Provide data" type

You can either find the individual data points of your Kentix system in the OID glossary or retrieve them directly from the individual devices.



Calling the OID list for individual devices

| | | | |
|------------------|-----------------------------|-----------------------------------|---|
| Raumtemperatur | ALLGEMEIN | OID | |
| | Messwerte | .1.3.6.1.4.1.37954.5.2.2.1.2.177 | 🔗 |
| | Alarm | .1.3.6.1.4.1.37954.5.2.2.1.3.177 | 🔗 |
| | Min | .1.3.6.1.4.1.37954.5.2.2.1.4.177 | 🔗 |
| | Max | .1.3.6.1.4.1.37954.5.2.2.1.5.177 | 🔗 |
| | Letzter Alarmstatus-Wechsel | .1.3.6.1.4.1.37954.5.2.2.1.10.177 | 🔗 |
| Rel. Luftfeuchte | ALLGEMEIN | OID | |
| | Messwerte | .1.3.6.1.4.1.37954.5.2.3.1.2.177 | 🔗 |
| | Alarm | .1.3.6.1.4.1.37954.5.2.3.1.3.177 | 🔗 |
| | Min | .1.3.6.1.4.1.37954.5.2.3.1.4.177 | 🔗 |
| | Max | .1.3.6.1.4.1.37954.5.2.3.1.5.177 | 🔗 |
| | Letzter Alarmstatus-Wechsel | .1.3.6.1.4.1.37954.5.2.3.1.10.177 | 🔗 |

The OID list provides you with all data points of the respective device

To display the desired data point in PRTG, create a device in the first step. The IP address here is always the main device. In the second step, you create a sensor of type **SNMP (Custom)**. In the following input mask, you add the required data, essentially the OID that is to be queried.

Sensor hinzufügen zum Gerät PDU A [10.15.100.2]

< Abbrechen

Allgemeine Sensoreinstellungen

Name des Sensors ⓘ Temperatur

Übergeordnete Tags ⓘ

Tags ⓘ snmpcustomsensor x ⓘ

Priorität ⓘ ★ ★ ★ ☆ ☆

OID-Einstellungen

OID ⓘ .1.3.6.1.4.1.37954.5.2.2.1.2.177

Kanalname ⓘ Temperatur

Anzeige für Einheit ⓘ °C

Wertetyp ⓘ ☒ Absolut (Ganzzahl ohne Vorzeichen)
☐ Absolut (Ganzzahl mit Vorzeichen)
☐ Absolut (Gleitkommazahl)
☐ Delta (Zähler)

Multiplikation ⓘ 1

Division ⓘ 10

Bei Änderung des Werts ⓘ ☒ Ignorieren (Standard)
☐ Benachrichtigung für Änderungen auslösen

PRTG configuration mask SNMP sensor

When working with SNMP, it may be necessary to use a multiplier or divisor when querying the values. You can find this information in the MIB file

This will show you the desired data point from the Kentix system in PRTG.

API integration

Kentix devices provide a REST API as another interface for integration. PRTG offers you the possibility to create API sensors to query values via the Kentix API. Currently PRTG provides the **REST v2** sensor, as this is still in BETA phase, the usage has to be **enabled** separately

As an authentication method to the API, Kentix uses user-based bearer tokens. The respective token can be viewed directly in the user settings.

Konto-Einstellungen

Benutzername*

admin

Geben Sie hier den Benutzernamen ein.

Passwort

.....

Geben Sie hier das Kennwort ein.

Passwort wiederholen

.....

Wiederholen Sie hier das Kennwort.

API-Token

pJzvOBggQ6TIYPW8ka4XkUGgJKKcKZ6P0nUQsE

API-Token des Benutzers

☒ Administrator
Der Benutzer hat Administrator-Rechte.

To determine the desired values we recommend the software [Postman](#), this gives you the possibility to address an API with different HTTP methods and the desired authentication. The main route that provides you with readings from all Kentix devices is.

GET <https://192.168.100.222/api/systemvalues>

To determine the detailed values of an individual sensor, you need its ID. This can be found, for example, in the response of the API route mentioned above. Alternatively, it is also possible to edit the device in the web interface. The ID is then displayed as part of the browser URL. With a PDU, this then looks like this.

<https://192.168.100.222/powermanagers/136>

With the desired ID you can extend the API route so that only the detailed values of the device are specified

GET <https://10.15.100.2/api/systemvalues/devices/136>

As a response you will get the data in JSON format

```
...
    "address": "10.15.36.231",
    "mac_address": "70:82:0e:10:d0:24",
    "is_satellite": true,
    "fuses": [
      {
        "id": 19,
        "number": 1,
        "name": "Fuse 1",
        "type": 74,
```

```
        "channel": "1",
        "logic": 0,
        "value": true,
        "assignment": "always-active",
        "status": "ok"
    },
    {
        "id": 20,
        "number": 2,
        "name": "Fuse 2",
        "type": 74,
        "channel": "2",
        "logic": 0,
        "value": true,
        "assignment": "always-active",
        "status": "ok"
    },
    {
        "id": 21,
        "number": 3,
        "name": "Fuse 3",
        "type": 74,
        "channel": "3",
        "logic": 0,
        "value": true,
        "assignment": "always-active",
        "status": "ok"
    }
],
"active_state": "active",
"measurements": {
    "humidity": {
        "min": "10",
        "max": "80",
        "assignment": "always-active",
        "value": "26.8",
        "status": "ok"
    },
    "vibration": {
        "assignment": "off",
        "value": null,
        "status": "inactive"
    },
    "rcm_ac": {
        "max": "30",
        "assignment": "always-active",
```

```
        "value": "4.20",
        "status": "ok"
    },
    "rcm_dc": {
        "max": "30",
        "assignment": "always-active",
        "value": "0.00",
        "status": "ok"
    },
    "temperature": {
        "min": "10",
        "max": "35",
        "value": "33.2",
        "assignment": "always-active",
        "status": "ok"
    },
    "dewpoint": {
        "hysteresis": "2",
        "value": "11.6",
        "assignment": "always-active",
        "status": "ok"
    },
    "heat": {
        "max": "10",
        "value": "0.0",
        "assignment": "always-active",
        "status": "ok"
    },
    "co": {
        "value": null,
        "assignment": "off",
        "status": "inactive"
    },
    "connection": {
        "status": "ok",
        "assignment": "system",
        "last_updated": "2023-05-15T08:23:57+0200"
    }
},
"phases": [
    {
        "id": 58,
        "device_id": 136,
        "number": 1,
        "name": "L1",
        "consumption": {
```



```

        "value": "0.00",
        "assignment": "always-active"
    },
    "active_power": {
        "max": "2300",
        "value": "0",
        "assignment": "always-active",
        "status": "ok"
    },
    ...

```

From this response, you can now extract the desired data using the query language JSONPath. There are some online editors for this, e.g. <https://jsonpath.com/>. As input you copy in the answer of your query and can then navigate to the desired data point in the upper area.

In the example, the active power of phase 2 of a PDU.

`$.devices[0].phases[1].active_power.value`

JSONPath Online Evaluator - jsonpath.com

JSONPath

\$.devices[0].phases[1].active_power.value

Output paths

Expand JSONPath expressions

Inputs

```

129     },
130     "phases": [
131     {
132         "id": 58,
133         "device_id": 136,
134         "number": 1,
135         "name": "L1",
136         "consumption": {
137             "value": "0.00",
138             "assignment": "always-active"
139         },
140         "active_power": {
141             "max": "2300",
142             "value": "0",
143             "assignment": "always-active",
144             "status": "ok"
145         },
146         "apparent_power": {
147             "max": "2300",
148             "value": "0",
149             "assignment": "always-active",
150             "status": "ok"
151         },
152         "reactive_power": {
153             "max": "2300",
154             "value": "0",
155             "assignment": "always-active",
156             "status": "ok"
157         },
158         "voltage": {
159             "min": "100",
160             "max": "230"
161         }
162     }
163 ]

```

Evaluation Results

```

1 [
2   "191"
3 ]



```

JSON path

With this information, you now create a **REST v2 sensor** in PRTG for your Kentix main device. In the

group settings, directly configure the Bearer token for API authentication on the Kentix device in the credentials.

Zugangsdaten für REST API

 übernehmen von  Headquarter

Authentifizierungsmethode

- ☐ Keine (Standard)
- ☐ Standardauthentifizierung
- ☒ Bearerauthentifizierung

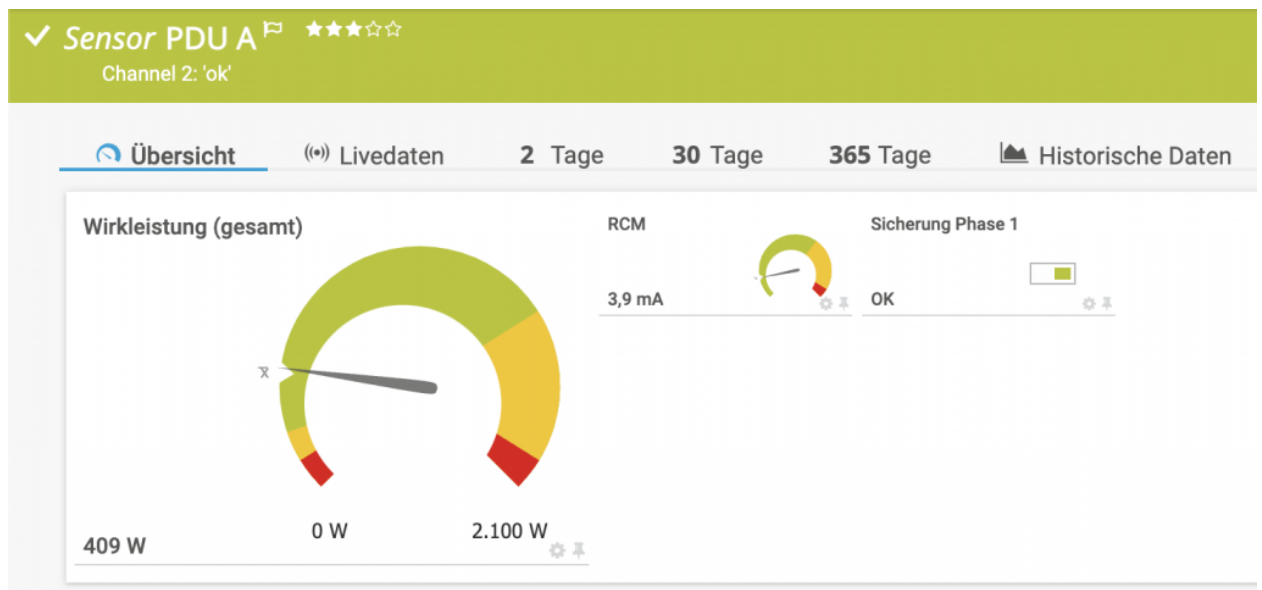
Bearertoken

.....

Platzhalter 1 Beschreibung

Configure authentication in PRTG

In the sensor itself, you then configure the query URL and subsequently have the option of creating up to 10 channels. In the example, the values of a PDU are queried and the active power of the 3 phases is added together and displayed in the first channel. Furthermore, the RCM value as well as the fuse status of phase 1 is displayed. The finished sensor then looks like this.



REST v2 sensor in PRTG

The sensor configuration is done during creation.

Objekt PDU A bearbeiten



Einstellungen für REST

Anforderungs-URL ⓘ

/api/systemvalues/devices/136

Abfragemethode ⓘ

☒ GET (Standard)

☐ POST

Benutzerdefinierte HTTP Header ⓘ

Zeitüberschreitung (Sek.) ⓘ

30

Content-Typ ⓘ

☒ JSON (Standard)

☐ XML

Benutzerdefinierte Sensormeldung ⓘ

Kanaleinstellungen

Kanal #1 JSON-Pfad/XPath ⓘ

eval(to_number(\$.devices[0].phases[0].active_power.value) + to_number(\$.devices[0].phases[1].active_power.value) + to_nu

Kanal #1 Typ ⓘ

Absolut (Gleitkommazahl)

Kanal #2 JSON-Pfad/XPath ⓘ

\$.devices[0].phases[0].fuse.status

Kanal #2 Typ ⓘ

Status (string)

Configuration REST v2 sensor PRTG

Typical query values for the API route /api/systemvalues/devices/<device-id>

Total active power of a 3-phase PDU

```
eval(to_number($.devices[0].phases[0].active_power.value) +  
to_number($.devices[0].phases[1].active_power.value) +  
to_number($.devices[0].phases[2].active_power.value))
```

RCM value

```
$.devices[0].measurements.rcm_ac.value
```

Backup status

```
$.devices[0].fuses[0].status
```

Temperature value

```
$.devices[0].measurements.temperature.value
```

CO alarm

```
$.devices[0].measurements.co.status
```