



RTDAS Output Driver **Configuration Guide**

Version No: 1.0
Date: 7/8/2019

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1. Overview

Output Driver:

Output driver is a component that sends data to a 3rd party server. The driver understand format accepted by 3rd party server and also method of sending data (FTP, HTTP/JSON etc.).

Output driver concept was initially brought up in order to fulfill EnviroConnect customer requirement of sending data to different State Pollution Control Boards. Since then it has been generalized for all products.

Output drivers are developed to run on server as well as RTDAS.

Output Drivers in RTDAS

Each Output Driver is packaged as a separate component:

Linux- 1. <OutputDriverSpecific>.so file

Windows- 1. <OutputDriverSpecific>.dll file

These .so or .dll files are kept in directory where RTDAS is installed. Driver specific configuration is done in OutputDriverConfiguration.ini file in RTDAS directory. OutputDriverConfiguration.ini is downloaded from server. **Do not manually change this file.** Steps of configuration are given below for each Output Driver.

2. OutputDriverConfiguration.ini File

For using output drivers in RTDAS, a single configuration file is created for each site (RTDAS) with the name OutputDriverConfiguration.ini file. This file has following structure.

[Output Driver Name as Section Name]

Key1=Value1

Key2=Value2

In above format, Key can be Devices and its value can be actual device names.

Depending on Output Driver, no of keys and value differs.

Sample OutputDriverConfiguration.ini file is as follows.

```
[HSPCBRTDAS_134_TC 01]
```

```
Devices=TC 01
```

```
StationId=01
```

```
IndustryId=001
```

```
SiteUrl=http://10.6.10.208/hrcpcb-api/api
```

NOTE- This OutputDriverConfiguration.ini file is kept in RTDAS directory in both Windows RTDAS and Linux DATCon.

From following versions UI is provided for configuration of output drivers on server.

Please refer to Admin Tool Help for details.

- EnviroConnect Version 6.4 Patch 10
- SFactory and RAMS Version 5.6.1 Patch 19
- RTDAS version 4.5.0. Patch 2.0

For versions before this, OutputDriverConfiguration.ini file had to be created manually.

Both methods are explained in this document.

3. HSPCB Output driver

NOTE- Before starting actual configuration of this Output Driver, get the Pre-deployment check list from HSPCB.

This pre-deployment checklist has <Url where data is to be posted>, <Token required for uploading data which is unique for each customer>, <Device ID>, <Station ID>, <Industry ID> and <Parameter Name> which required for send data.

3.1. Driver Available for Solution

EnviroConnect

3.2. Description

This driver is used for sending emissions data to Haryana State Pollution Control Board (HSPCB).

3.3. Output Driver Availability

DATCon (Linux) and Windows.

3.4. Prerequisites

1. Make sure HSPCBRTDAS.so / .dll file is present in directory where RTDAS is installed.

3.5. Configuration for old design

For RTDAS version 4.5.0. Patch 1.0 and below.

Section name should be [HSPCBOutputDriver]

1. **Devices** – List of devices configured for sending the output. Multiple devices are comma separated.
2. **SiteUrl** – Generic HSPCB URL for uploading data. For ex -
http://164.100.160.248/hrcpcb-api/api
3. **Token** – It is unique token key for a customer to upload data.
4. **UploadFrequency** – It is the frequency with which data should be uploaded to HSPCB server. It's unit is milliseconds.
5. **DeviceID_<DeviceName>** – It has an unique Device ID.
6. **StationId_<DeviceName>** – It has unique StationId required for HSPCB.
7. **IndustryId_<DeviceName>**– It is unique IndustryId required for HSPCB.
8. **VarIDName_<DeviceName>** – Variable ids for which data is to be sent and Parameter name configured for HSPCB. Multiple variable ids are comma separated. (You can get these variable ids from SiteConfig.txt). Format-
VarIDName_<DeviceName>=<VariableId>\$<Parameter Name required for HSPCB>.
Please refer last section of this document to find Variable IDs.

3.5.1 Sample Configuration

Sample OutputDriverConfiguration.ini as per old design:

[HSPCBOutputDriver]

Devices=DEVICE3,DEVICE2

SiteUrl=http://164.100.160.248/hrcpcb-api/api

Token=MDEwMzIwMTlfZm9yYmVzX21hcnNoYWxsXzE2MDYxMg==

UploadFrequency=60000

DeviceID_DEVICE3=D00312

StationId_DEVICE3=312

IndustryId_DEVICE3=113

VarIDName_DEVICE3=1\$pH,2\$BOD,3\$COD,4\$TSS

DeviceID_DEVICE2=D00311

StationId_DEVICE2=311

IndustryId_DEVICE2=112

VarIDName_DEVICE2=2\$BOD,3\$COD,4\$TSS

3.6. Configuration for new design

Note- For RTDAS version 4.5.0. Patch 2.0 and above.

Following are the common keys for all devices,

Output Details							
RTDAS <input checked="" type="checkbox"/> SERVER	Export To: HSPCOutputDriver						
Export Details							
Export: HSPCOutputDriver	Config Name: sampleConfig						
<table border="1"> <thead> <tr> <th>Config Key</th> <th>Config Value</th> <th>Config Key Values</th> </tr> </thead> <tbody> <tr> <td> SiteUrl Token UploadFrequency </td> <td> <input type="text"/> </td> <td> SiteUrl,http://10.6.10.31:8080/ENVBuild Token,token UploadFrequency,60000 </td> </tr> </tbody> </table>	Config Key	Config Value	Config Key Values	SiteUrl Token UploadFrequency	<input type="text"/>	SiteUrl,http://10.6.10.31:8080/ENVBuild Token,token UploadFrequency,60000	Description : Frequency for uploading data(milliseconds).
Config Key	Config Value	Config Key Values					
SiteUrl Token UploadFrequency	<input type="text"/>	SiteUrl,http://10.6.10.31:8080/ENVBuild Token,token UploadFrequency,60000					
Device List	Configured Devices						
Test Plant Pvt Ltd	Test						
<input type="checkbox"/> Test	<input type="checkbox"/> Device1						
<input type="checkbox"/> Device2							
<input type="button" value="Save"/> <input type="button" value="Delete"/> <input type="button" value="Reset"/>							

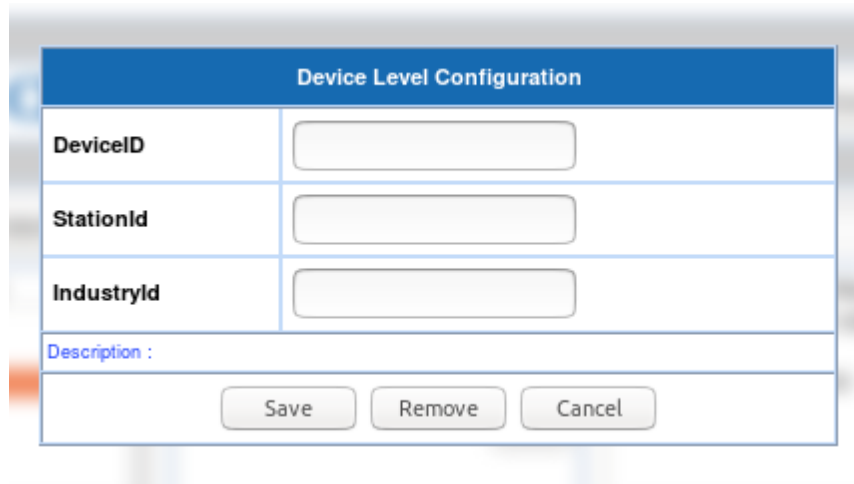
SiteUrl – Generic HSPCB URL for uploading data. For ex -
http://164.100.160.248/hrcpcb-api/api

Token – It is unique token key for a customer to upload data.

UploadFrequency – It is the frequency with which data should be uploaded to HSPCB server. It's unit is milliseconds.

Now select devices for which this Output Driver should be configured. A separate section is added for each device in configuration file.

At device level, following keys are required



Device Level Configuration	
DeviceID	<input type="text"/>
StationId	<input type="text"/>
IndustryId	<input type="text"/>
Description :	
<input type="button" value="Save"/> <input type="button" value="Remove"/> <input type="button" value="Cancel"/>	

DeviceID – Device ID provided by HSPCB

StationID – Station ID provided by HSPCB

IndustryID – Industry ID provided by HSPCB.

Note: Parameter name required for HSPCB needs to be configured while configuring variable on Add Variable page. Write **parameter name** in 'Variable Output' field whose data needs to be sent to HSPCB server. Also make sure the variable is **assigned specific unit** while configuring.

Refer following screenshot.

The screenshot shows the 'Variable' configuration page in the EnviroConnect system. The page includes a navigation menu at the top with options like Plant, Device, Variable, Alarms, Calibration, Output Driver, Template, Template Variable, System Configuration, and Admin Configuration. The main content area is a form for configuring a variable. Key fields include:

- Variable Name:** Select parameter (dropdown)
- Variable Type:** Environment Data (selected) or Diagnostic
- Type:** Analog (dropdown)
- Unit:** Select Unit (dropdown)
- Range / Threshold Configuration:** Fields for Total Range Min/Max, Measurement Range Min/Max, and Permissible Range Min/Max.
- Output Driver:** Device (selected), Constant, or Processed

 Red boxes highlight the 'Unit' dropdown and the 'Output Driver' radio buttons.

3.6.1 Sample Configuration

Sample OutputDriverConfiguration.ini as per new design:

[HSPCBRTDAS_20_HSPCB]

Devices=DEVICE2

SiteUrl=http://164.100.160.248/hrcpcb-api/api

Token=MDEwMzIwMTlfZm9yYmVzX21hcnNoYWxsXzE2MDYxMg==

UploadFrequency=60000

DeviceID=D00311

StationId=311

IndustryId=112

[HSPCBRTDAS_21_HSPCB]

Devices=DEVICE3

SiteUrl=http://164.100.160.248/hrcpcb-api/api

Token=MDEwMzIwMTlfZm9yYmVzX21hcnNoYWxsXzE2MDYxMg==

UploadFrequency=60000

DeviceID=D00312

StationId=312

IndustryId=113

3.7. Final Checklist

1. HSPCBRTDAS.so or .dll file is present in RTDAS directory.
2. OutputDriverConfiguration.ini file properly configured and kept in RTDAS directory.
3. Variable is given **Variable Output Name and Unit** as per required format for HSPCB.

4. LocalDataExport Output driver

This solution is implemented when we have to send data (through files) to multiple servers. For this we use FTP client through which we upload files to multiple servers. For multiple servers, multiple instances of below **Configuration details block** are pasted in OutputDriverConfiguration.ini file. These block names are to be maintained as unique.

4.1. Driver Available for Solution

EnviroConnect

4.2. Description

This driver is used for sending data to multiple servers.

4.3. Output Driver Availability

DATCon (Linux) and Windows.

4.4. Prerequisites

1. Make sure LocalDataExport.so / .dll file is present in directory where RTDAS is installed.

4.5. Configuration for old design
For RTDAS version 4.5.0.0 and below.

Section name should be [LocalDataExport]

1. **Devices** - List of devices for which data is to be sent. Multiple devices are comma separated.
2. **UploadToFolder** - Name of folder from which files are uploaded to ftp server. In case, RTDAS and server are on same machines, there is no need to upload to FTP server, in that case give the path of 'PLSUpload' directory of server). So that server will look for files in this folder.
3. **UploadFrequency** - Time interval in millisecond after which files are to be uploaded to ftp server. Also data of this interval is written in one single file.
4. **FileName_<device name>** – Unique identifier which need to include in file name for this device. E.g. FileName_Device1 = BB2.
5. **ConnectionUsing** – Type of connection. For ex-LAN, INTERNET
6. **UseFTP**- If you want to upload to FTP server, this flag is enabled (1), else disable it (0).
7. **FtpUrl** – It has Ftp url.
8. **FtpName** – It has FTP username.
9. **FtpPassword** – It has Ftp Password.
10. **FtpUploadFilePath**- Path on FTP server where files will be uploaded.
11. **FtpMode**- Ftp mode can be active or passive.

4.5.1 Sample Configuration

Sample OutputDriverConfiguration.ini as per old design:

[LocalDataExport]

Devices=D2,DNew

UploadToFolder=FTPUpload

UploadFrequency=60000

FileName_D2=BB1

FileName_DNew=BB2

ConnectionUsing=LAN

UseFTP=1

FtpUrl=10.6.10.12

FtpName=aipl

FtpPassword=aipl12*

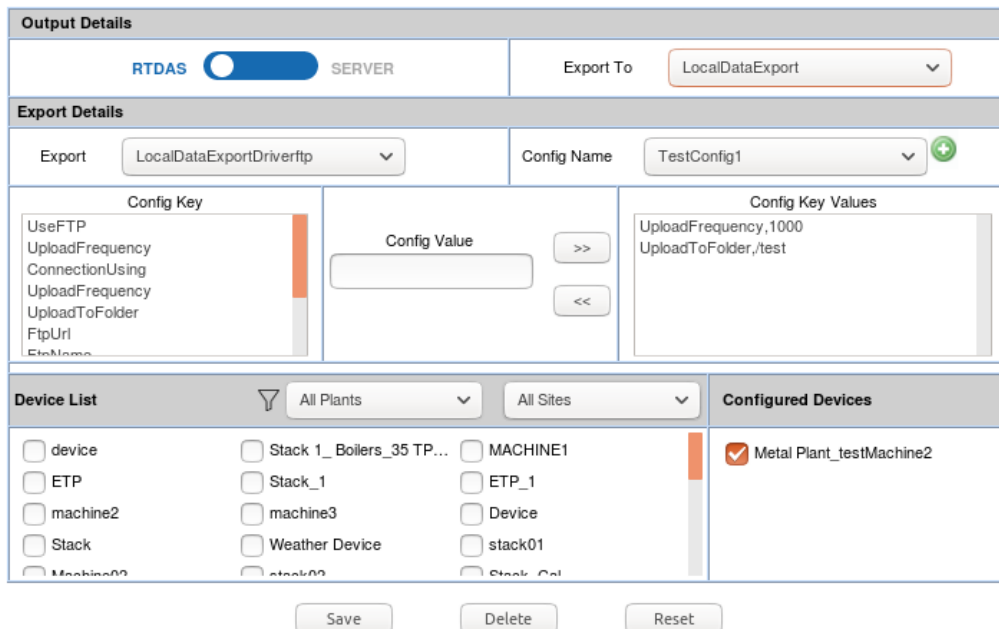
FtpUploadFilePath=/

FtpMode=passive

4.6. Configuration for new design

Note- For RTDAS version 4.5.0. Patch 2.0 and above

Following are the common keys for all devices



The screenshot displays the RTDAS configuration interface. At the top, there is a section for 'Output Details' with a toggle for 'RTDAS' (currently on) and a dropdown for 'Export To' set to 'LocalDataExport'. Below this is the 'Export Details' section, featuring a dropdown for 'Export' (set to 'LocalDataExportDriverftp') and a dropdown for 'Config Name' (set to 'TestConfig1'). The main configuration area is divided into three columns: 'Config Key', 'Config Value', and 'Config Key Values'. The 'Config Key' column lists various keys like 'UseFTP', 'UploadFrequency', 'ConnectionUsing', etc. The 'Config Value' column has a text input field and navigation arrows. The 'Config Key Values' column shows the current values for the selected keys, such as 'UploadFrequency,1000' and 'UploadToFolder,test'. At the bottom, there is a 'Device List' section with filters for 'All Plants' and 'All Sites', and a 'Configured Devices' list where 'Metal Plant_testMachine2' is checked. Below the device list are 'Save', 'Delete', and 'Reset' buttons.

UploadToFolder - Name of folder from which files are uploaded to ftp server. In case, RTDAS and server are on same machines, there is no need to upload to FTP server, in that case give the path of 'PLSUpload' directory of server. So that server will look for files in this folder.

UploadFrequency - Time interval in milliseconds after which files are to be uploaded to ftp server. Also data of this interval is written in one single file.

FileName – Unique identifier which need to include in file name. BB2 is added as prefix to file which has data.

ConnectionUsing – Type of connection. For ex-LAN, INTERNET

UseFTP- If you want to upload to FTP server, this flag is enabled (1), else disable it (0).

FtpUrl – Its has Ftp url.

FtpName – It has FTP username.

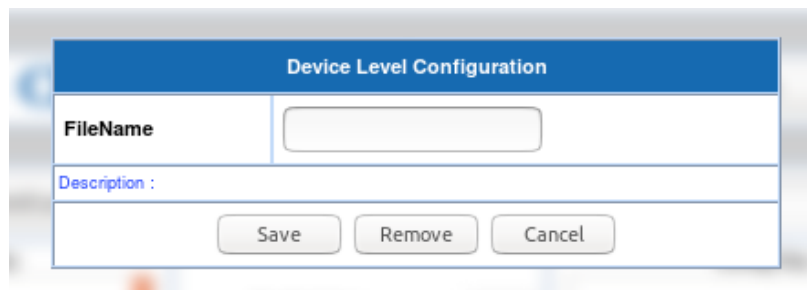
FtpPassword – It has Ftp Password.

FtpUploadFilePath- Path on FTP server where files will be uploaded.

FtpMode- Ftp mode can be active or passive.

Now select devices for which this output Driver should be configured. A separate section is added for each device in configuration file.

At device level, following keys are required



FileName – Unique identifier which need to include in file name. e.g. BB2 is added as prefix to file which has data.

4.6.1 Sample Configuration

Sample OutputDriverConfiguration.ini as per new design:

```
[LocalDataExport_2_Server1]
```

```
Devices=D2
```

```
UploadToFolder=FTPUpload
```

```
UploadFrequency=60000
```

```
FileName=BB1
```

```
ConnectionUsing=LAN
```

```
UseFTP=1
```

```
FtpUrl=10.6.10.12
```

```
FtpName=aipl
```

```
FtpPassword=aip12*
```

```
FtpUploadFilePath=/
```

```
FtpMode=passive
```

```
[LocalDataExport_3_Server2]
```

```
Devices=DNew
```

```
UploadToFolder=FTPUpload2
```

```
UploadFrequency=60000
```

```
FileName=BB2
```

```
ConnectionUsing=LAN
```

```
UseFTP=1
```

```
FtpUrl=10.6.10.79
```

FtpName=aipl

FtpPassword=aipl123*

FtpUploadFilePath=/

FtpMode=passive

4.7. Final Checklist

1. LocalDataExport.so or .dll file is present in RTDAS directory.
2. OutputDriverConfiguration.ini file properly configured and kept in RTDAS directory.
3. 'UseFTP' key in OutputDriverConfiguration.ini should be 1 if you want to sent data through ftp.

5. MQTT Output driver

NOTE- Before starting actual configuration of this Output Driver, configure the MQTT server-client for sending and receiving data.

5.1. Driver Available for Solution

All solutions

5.2. Description

This driver is used for sending data to MQTT servers/broker.

5.3. Output Driver Availability

DATCon (Linux)

5.4. Prerequisites

1. Make sure MQTTRTDAS.so file is present in directory where RTDAS is installed.

5.5. Configuration for new design

Steps to configure OutputDriverConfiguration.ini as per new design:

Configuration details:

Note- For RTDAS version 4.5.0. Patch 2.0 and above

Following are the common keys for all devices

Output Details

RTDAS

SERVER

Export To: MQTTOutputDriver

Export Details

Export: MQTTOutputDriver

Config Name: config ✕

Config Key

- SiteUrl
- UploadFrequency
- IamAliveFrequency
- TimeOut
- IsSecure
- RetainFlag
- DebugMode

Config Value

>>
<<

Config Key Values

Device List

⌵

All Plants

All Sites

Configured Devices

<input type="checkbox"/> device	<input type="checkbox"/> Stack 1_ Boilers_35 TP...	<input type="checkbox"/> MACHINE1
<input type="checkbox"/> ETP	<input type="checkbox"/> Stack_1	<input type="checkbox"/> ETP_1
<input type="checkbox"/> machine2	<input type="checkbox"/> machine3	<input type="checkbox"/> Device
<input type="checkbox"/> Stack	<input type="checkbox"/> Weather Device	<input type="checkbox"/> stack01
<input type="checkbox"/> Machine02	<input type="checkbox"/> stack02	<input type="checkbox"/> Stack_Cal

Save

Delete

Reset

SiteUrl – MQTT broker URL for uploading data. For ex - tcp://10.6.10.84:1883

UploadFrequency – It is Frequency for posting the data to server (in milliseconds).

IamAliveFrequency – It is for frequency with which the URL is pinged (in seconds).

TimeOut – Time Interval to wait for the response from server (in seconds).

IsSecure – It is 0 for no security, 1 for username and password, 2 for SSL certificate and 3 for username, password and SSL certificate.

RetainFlag- If the RetainFlag is **0**, the server **must not** store previous message. If RetainFlag is **1**, then the server must **store** the application message so that it can be delivered to future subscribers.

ClientID- It is unique client Id as defined in MQTT broker.

SSLCertPath- Set the ssl certificate path.

UserName - User name required for broker.

Password - Password required for broker.

Now select devices for which this output Driver should be configured. A separate section is added for each device in configuration file.

At device level, following keys are required

The image shows a 'Device Level Configuration' dialog box. It has a blue header with the title 'Device Level Configuration'. Below the header, there is a 'ClientID' label followed by an empty text input field. Underneath that is a 'Description:' label followed by another empty text input field. At the bottom of the dialog, there are three buttons: 'Save', 'Remove', and 'Cancel'.

ClientID- It is unique client Id.

Note- Parameters to be sent to MQTT broker/server, needs to be configured on Add/Modify Variable page. Write **parameter name** in 'Variable Output' field whose data needs to sent to MQTT broker/server.

The image shows a screenshot of the EnviroConnect web interface. The top navigation bar includes tabs for Plant, Device, Variable, Alarms, Calibration, Output Driver, Template, Template Variable, System Configuration, and Admin Configuration. The 'Output Driver' tab is active. The main content area shows a configuration form for an output driver. The form includes fields for Variable Name, Tag Name, Variable Type (Environment Data selected), Start Address, End Address, Type (Analog), Data Type, Unit, Precision, Percentage Validity, Writable, and Scaling. A section titled 'Range / Threshold Configuration' contains fields for Total Range Min/Max, Measurement Range Min/Max, and Permissible Range Min/Max. At the bottom, there are radio buttons for Data Source (Device selected), Constant, and Processed. A red box highlights the 'Variable Output' field, which is currently empty.

5.5.1 Sample Configuration

Sample OutputDriverConfiguration.ini as per new design:

[MQTTRTDAS_10_MQTTServer]

Devices=Device1

SiteUrl=tcp://10.6.10.84:1883

UploadFrequency=10000

IamAliveFrequency=10

TimeOut=20

IsSecure=2

RetainFlag=1

ClientID=RAMS_MODBUS_1

SSLCertPath=

UserName=

Password=

[MQTTRTDAS_11_MQTTServer]

Devices=Device2

SiteUrl=tcp://10.6.10.84:1883

UploadFrequency=10000

IamAliveFrequency=10

TimeOut=20

IsSecure=2

RetainFlag=1

ClientID=RAMS_MODBUS_2

SSLCertPath=

UserName=

Password=

5.6. Final Checklist

1. MQTTRTDAS.so file is present in DATCon directory.
2. OutputDriverConfiguration.ini file properly configured and kept in DATCon directory.
3. Variable is given Variable Output Name as per required format.

6. Glens-MPCB Output driver

NOTE- Before starting actual configuration of this Output Driver, get the Pre-deployment check list from Glens-MPCB.

This pre-deployment checklist has <Url where data is to be posted>, <Encryption key required for uploading data which is unique for each customer>, <Site ID>, <Monitoring ID>, <Analyser ID>, <Parameter ID>, <Unit ID> and <Parameter Name> which required for sending data. Among above keys, <Monitoring ID>, <Analyser ID>, <Parameter ID>, <Unit ID> and <Parameter Name> are needed for each parameter.

6.1. Driver Available for Solution

EnviroConnect

6.2. Description

This driver is used for sending emission data to MPCB-Glens servers.

6.3. Output Driver Availability

DATCon (Linux)

6.4. Prerequisites

1. Make sure MPCBGlensRTDAS.so file is present in directory where RTDAS is installed.

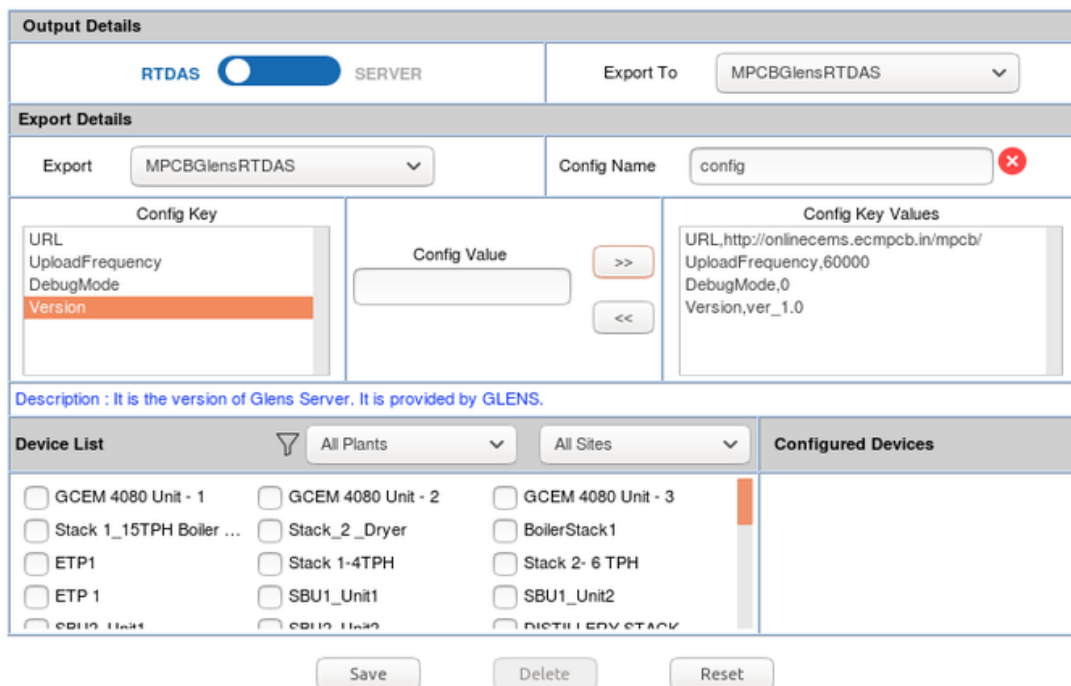
6.5. Configuration for new design

Steps to configure OutputDriverConfiguration.ini as per new design:

Configuration details:

Note- For RTDAS version 4.5.0. Patch 3.0 and above

Following are the common keys for all devices



The screenshot shows a web-based configuration interface for RTDAS. It is divided into several sections:

- Output Details:** Features a toggle switch for 'RTDAS' (currently turned on) and a dropdown menu for 'Export To' set to 'MPCBGlensRTDAS'.
- Export Details:** Includes an 'Export' dropdown (set to 'MPCBGlensRTDAS') and a 'Config Name' text field containing 'config'.
- Config Key:** A list of keys including 'URL', 'UploadFrequency', 'DebugMode', and 'Version'. 'Version' is currently selected and highlighted in orange.
- Config Value:** A text input field with '>>' and '<<' buttons for moving values between the key and value lists.
- Config Key Values:** A list of values corresponding to the selected key, showing: 'URL,http://onlinecems.ecmpcb.in/mpcb/', 'UploadFrequency,60000', 'DebugMode,0', and 'Version,ver_1.0'.
- Description:** A text area containing the note: 'It is the version of Glens Server. It is provided by GLENS.'
- Device List:** A table with filters for 'All Plants' and 'All Sites'. It lists various units such as 'GCEM 4080 Unit - 1', 'Stack 1_15TPH Boiler ...', 'ETP1', 'ETP 1', 'SBU1_Unit1', 'SBU1_Unit2', and 'DISTILLED STACK'.
- Configured Devices:** A column on the right side of the device list, currently empty.
- Buttons:** 'Save', 'Delete', and 'Reset' buttons are located at the bottom of the interface.

URL – Generic MPCB URL for uploading data. For ex - <http://onlinecems.ecmpcb.in/mpcb/>

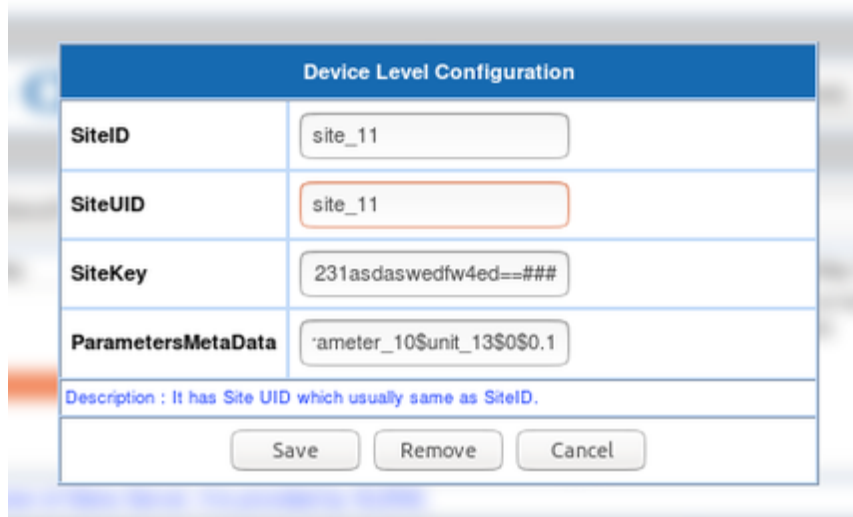
UploadFrequency – It is the frequency with which data should be uploaded to MPCB server. It's unit is Minute.

DebugMode – Debug mode=0 for disabling debug mode. Debug mode=1 for displaying debug logs on console . Debug mode=2 for displaying debug logs on console as well as writing them to its respective log files.

Version – It is the version of Glens Server. It is provided by GLENS. Generally, use version=ver_1.0

Now select devices for which this output Driver should be configured. A separate section is added for each device in configuration file.

At device level, following keys are required



Device Level Configuration	
SiteID	site_11
SiteUID	site_11
SiteKey	231asdaswedfw4ed===###
ParametersMetaData	parameter_10\$unit_13\$0\$0.1
Description : It has Site UID which usually same as SiteID.	
<input type="button" value="Save"/> <input type="button" value="Remove"/> <input type="button" value="Cancel"/>	

SiteID – It has an unique Site ID.

SiteUID – It has Site UID which usually same as SiteID.

SiteKey – It is an key which is required for encryption and decryption of data.

ParametersMetaData – This field denotes names of parameters to be monitored.

Names of parameters are comma separated. <Variable 1 Variable Output Name as configured on add/modify variable page>\$<Monitoring Id 1>\$<analyser ID 1>\$<Parameter ID 1>\$<Unit id 1>\$0<Scaling 1>,<Variable 2 Variable Output Name as configured on add/modify variable page>\$<Monitoring Id 2>\$<analyser ID 2>\$<Parameter ID 2>\$<Unit id 2>\$0<Scaling 2>.

Note- Configure Variable Output Name with Parameter Name as required for MPCB.

The screenshot shows the 'Output Driver' configuration page in the EnviroConnect system. The 'Variable Output' field is highlighted with a red box. The form includes various configuration options such as Variable Name, Variable Type (Environment Data or Diagnostic), Start/End Address, Type (Analog or Digital), Unit, Precision, Writable, Range/Threshold Configuration, and Data Source (Device, Constant, or Processed).

6.5.1 Sample Configuration

Sample OutputDriverConfiguration.ini as per new design

[MPCBGlensRTDAS_20_Glens1]

Devices=Sugar ETP

URL=http://onlinecems.ecmpcb.in/mpcb/

SiteID=site_498

SiteUID=site_498

SiteKey=c2l0ZV80OTgsdmVyXzEuMCxkZWZhdWx0LDIwMTYtMTAtMDItMTk6M

Dk6NDk

Version=ver_1.0

UploadFrequency=60000

DebugMode=2

ParametersMetaData=PM\$GSSP\$analyzer_287\$parameter_10\$unit_13\$0\$0.1

[MPCBGlensRTDAS_21_Glens2]

Devices=Sugar ETP 2

URL=http://onlinecems.ecmpcb.in/mpcb/

SiteID=site_499

SiteUID=site_499

SiteKey=c2l0ZV80OTgsdmVyXzEuMCxkZWZhdWx0LDIwMTYtMTAtMDItMTk6M

Dk6NDk

Version=ver_1.0

UploadFrequency=60000

DebugMode=2

ParametersMetaData=HF\$SSP\$analyzer_287\$parameter_239\$unit_13\$1\$0.1

6.6 Final Checklist

1. MPCBGlensRTDAS.so file is present in DATCon directory.
2. OutputDriverConfiguration.ini file properly configured and kept in DATCon directory.
3. Variable is given Variable Output Name as per required format for MPCB.

7. EnviroConnectAPI Output driver

NOTE- Before actually configuring this Output Driver, get the Pre-deployment check list from TSPCB

This pre-deployment checklist has <Url where data is to be send>, <DeviceID configured with TSPCB> and <Parameter Name configured with TSPCB> which required for sending data.

7.1. Driver Available for Solution

EnviroConnect

7.2. Description

This driver is used for sending emission data to TSPCB server. It can also be used to send data to another EnviroConnect server that acts as secondary server for given device

7.3. Output Driver Availability

RTDAS (Windows)

7.4. Prerequisites

1. Make sure EnviroConnectAPIOutputDriver.dll file is present in RTDAS Folder

Note: For TSPCB we are sending data from Primary Server (CPCB) to Secondary server (TSPCB)

7.5. Configuration for old design

For RTDAS version 4.5.0. Patch 1.0 and below.

Section name should be [EnviroConnectAPIOutputDriver]

1. **TSPCBDeviceIDs**- Device ID of Secondary Server (Where data has to be sent).

Multiple ID's are Comma separated.

2. **ServerURL**- URL of Secondary Server. For ex- TSPCB server url

3. **Name_<Device ID (Secondary)>_<Device Name (Primary)>** - Site user name as on Secondary Server. E.g. Name_12_Station2=FIRST, where 12 is device ID on secondary server and Station2 is device name on primary server

4. **Password_<Device ID (Secondary)>_<Device Name (Primary)>** - Site password as on Secondary

5. **PollingFreq_<Device ID (Secondary)>_<Device Name (Primary)>** - As on Secondary Server

6. **HeaderList_<Device ID (Secondary)>_<Device Name (Primary)>** - Variable names as on Secondary Server. Multiple variable names are comma separated.

7. **Devices** - Device name as on Primary Server. Multiple devices are comma separated.

8. **VarList_<Device Name (Primary)>** - Variable Id's as on Primary Server. Multiple Id's are comma separated.

9. **TSPCBDeviceID_<Device Name (Primary)>**- Device ID of Secondary Server

7.5.1 Sample Configuration

Sample OutputDriverConfiguration.ini as per old design:

[EnviroConnectAPIOutputDriver]

TSPCBDeviceIDs=12,13

ServerURL=http://183.82.41.227:8080/enviroconnect

Name_12_Station2=FIRST

Password_12_Station2= FIRST

PollingFreq_12_Station2=30

HeaderList_12_Station2=CO,SPM,Sox,NOx

Name_13_Boiler 1=FIRST

Password_13_Boiler 1=FIRST

PollingFreq_13_Boiler 1=30

HeaderList_13_Boiler 1=CO,NOx,SPM,Sox

Devices=Station2,Boiler 1

VarList_Station2=2,1,4,3

TSPCBDeviceID_Station2=12

VarList_Boiler 1=2,3,1,4

TSPCBDeviceID_Boiler 1=13

Note: Device Name & Variable Id's of primary server can be found on primary server & Device ID & Variable names can be found on secondary server

Note- For verifying data transmission from primary to secondary, go to DAS logs and check in EnviroAPIDebugger<date time>.txt (for this enable debug mode of DAS), API data request is as given below:

21-01-2016 14:00:11, Current Data - String is -
 {"FunctionName":53,"Name":"FIRST","Password":"FIRST","DeviceID":1,"additionalIn
 fo":{"SoftwareNameVersion":"EnviroConnectDAS2.5.0.7"},"Datetime":"2016-01-21
 14:00:11","Variables":
 [{"Variablename":"Nox","Value":"1.000","Flags":"","Unit":"mg/nm3"},
 {"Variablename":"Sox","Value":"20.00","Flags":"","Unit":"mg/nm3"},
 {"Variablename":"SPM","Value":"1.00","Flags":"","Unit":"mg/nm3"}]}

7.6. Configuration for new design

Steps to configure OutputDriverConfiguration.ini as per new design:

Configuration details:

Note- For RTDAS version 4.5.0. Patch 3.0 and above

Following are the common keys for all devices

The screenshot shows the RTDAS configuration interface. At the top, there's a toggle for 'RTDAS' (currently on) and 'SERVER' mode. The 'Export To' dropdown is set to 'EnviroConnectAPIOutputDriver'. Below this is the 'Export Details' section with 'Export' set to 'EnviroAPIDriverftp' and an empty 'Config Name' field. The main area is divided into three panes: 'Config Key' (listing Password, Name, and SiteUrl), 'Config Value' (with input and navigation buttons), and 'Config Key Values' (empty). A description below reads: 'Description : TSPCB Url. For ex-http://respectiveIP:8080/enviroconnect'. The 'Device List' section has filters for 'All Plants' and 'All Sites'. A grid of checkboxes lists various units, with 'BoilerStack1' checked. At the bottom are 'Save', 'Delete', and 'Reset' buttons.

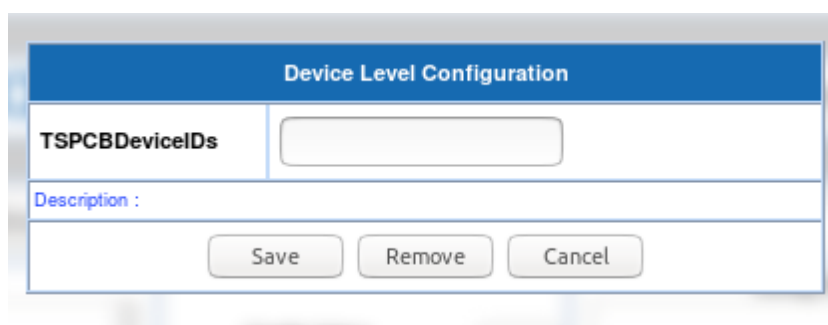
SiteUrl – Generic TSPCB URL for uploading data.

Name – It has Site User Name which is configured on TSPCB server.

Password – It has Site Password which is configured on TSPCB server.

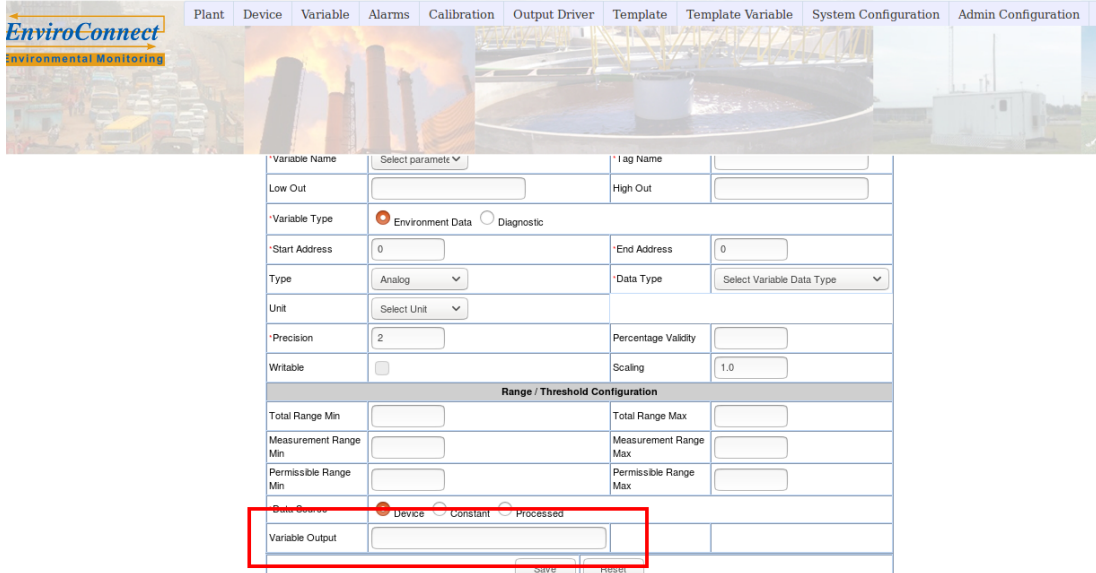
Now select devices for which this output Driver should be configured. A separate section is added for each device in configuration file.

At device level, following keys are required



TSPCBDeviceIDs – It has an unique Device ID of device on TSPCB server.

Note- Parameters to be sent to TSPCB server, needs to be configured on Add/Modify Variable page. Write **parameter name (exactly same as configured on TSPCB server)** in **‘Variable Output’ field (on primary server for ex-CPCB)** whose data needs to sent to TSPCB server. Refer below screenshot.



7.6.1 Sample Configuration

Sample `OutputDriverConfiguration.ini` as per new design

[EnviroConnectAPIOutputDriver_12_Enviro]

TSPCBDeviceIDs=64

SiteUrl=<http://10.6.10.12:8080/enviroconnect>

Name=Gooo

Password=Gooo

Devices=Gas Analyser

[EnviroConnectAPIOutputDriver_65_Enviro1]

TSPCBDeviceIDs=65

SiteUrl=<http://10.6.10.12:8080/enviroconnect>

Name=Gooo

Password=Gooo

Devices=Device Spm

7.7. Final Checklist

1. EnviroConnectAPIOutputDriver.dll file is present in RTDAS directory.
2. OutputDriverConfiguration.ini file properly configured and kept in RTDAS directory.
3. Variable is given Variable Output Name as per required format for TSPCB
(secondary) server.

8. Glens-RSPCB Output driver

NOTE- Before starting actual configuration of this Output Driver, get the Pre-deployment check list from Glens-RSPCB.

This pre-deployment checklist has <Url where data is to be posted>, <Site ID>, <Monitoring ID>, <Analyser ID>, <Parameter ID>, <Unit ID> and <Parameter Name> which required for sending data. Among above keys, <Monitoring ID>, <Analyser ID>, <Parameter ID>, <Unit ID> and <Parameter Name> are needed for each parameter.

8.1. Driver Available for Solution

EnviroConnect

8.2. Description

This driver is used for sending emission data to RSPCB-Glens servers.

8.3. Output Driver Availability

DATCon (Linux)

8.4. Prerequisites

1. Make sure RSPCBRTDAS.so file is present in DATCon Folder

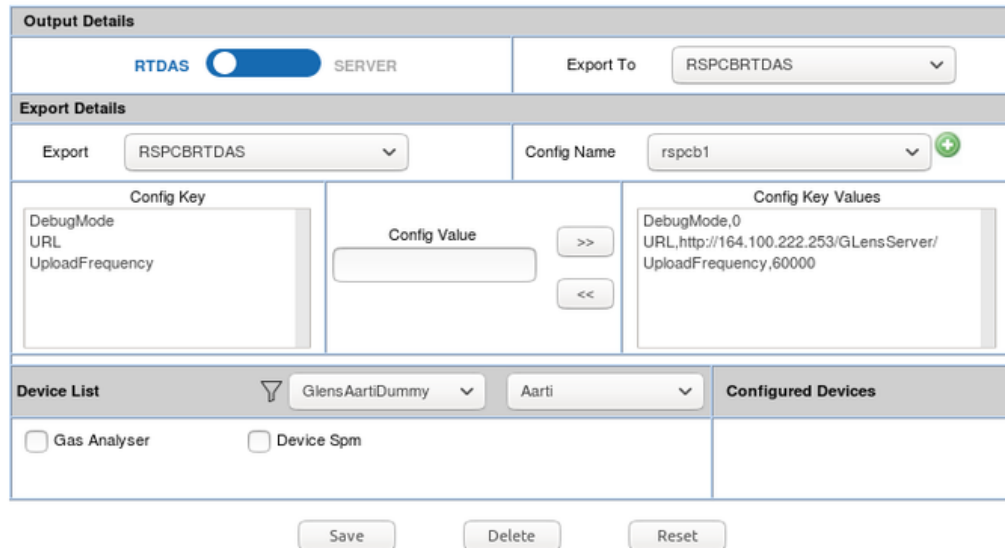
8.5. Configuration for new design

Steps to configure OutputDriverConfiguration.ini as per new design:

Configuration details:

Note- For RTDAS version 4.5.0. Patch 3.0

Following are the common keys for all devices



The screenshot shows a web-based configuration interface for RTDAS. It is divided into several sections:

- Output Details:** Includes a toggle for 'RTDAS' (currently on) and 'SERVER' mode. The 'Export To' dropdown is set to 'RSPCBRTDAS'.
- Export Details:** Shows the 'Export' dropdown set to 'RSPCBRTDAS' and the 'Config Name' dropdown set to 'rspb1'.
- Config Key/Value:** A table with columns for 'Config Key', 'Config Value', and 'Config Key Values'. The 'Config Key' column lists 'DebugMode', 'URL', and 'UploadFrequency'. The 'Config Value' column has a text input field and '>>' and '<<' buttons. The 'Config Key Values' column shows the current values: 'DebugMode,0', 'URL,http://164.100.222.253/GLensServer/', and 'UploadFrequency,60000'.
- Device List:** Features a search filter 'GlensAartiDummy', a dropdown 'Aarti', and a 'Configured Devices' column. Below this, there are checkboxes for 'Gas Analyser' and 'Device Spm', both of which are currently unchecked.

At the bottom of the interface, there are three buttons: 'Save', 'Delete', and 'Reset'.

DebugMode – Debug mode=0 for disabling debug mode. Debug mode=1 for displaying debug logs on console . Debug mode=2 for displaying debug logs on console as well as writing them to its respective log files.

URL – Generic RSPCB URL for uploading data. For ex - <http://164.100.222.253/GLensServer/>

UploadFrequency – It is the frequency with which data should be uploaded to MPCB server. It's unit is Minute.

Now select devices for which this output Driver should be configured. A separate section is added for each device in configuration file.

At device level, following keys are required

Device Level Configuration	
SiteID	<input type="text"/>
SiteUID	<input type="text"/>
ParametersMetaData	<input type="text"/>
Description :	
<input type="button" value="Save"/> <input type="button" value="Remove"/> <input type="button" value="Cancel"/>	

SiteID – It has an unique Site ID.

SiteUID – It has Site UID which usually same as SiteID.

ParametersMetaData –This field denotes names of parameters to be monitored. Names of parameters are comma separated. <Variable 1 Variable Output Name as configured on add/modify variable page>\${Monitoring Id 1}\${analyser ID 1}\${Parameter ID 1}\${Unit id 1}\$0<Scaling 1>,<Variable 2 Variable Output Name as configured on add/modify variable page>\${Monitoring Id 2}\${analyser ID 2}\${Parameter ID 2}\${Unit id 2}\$0<Scaling 2>.

Note- Configure Variable Output Name with Parameter Name as required for RSPCB.

The screenshot shows the 'Device' configuration page in the EnviroConnect system. The 'Range / Threshold Configuration' section includes fields for Total Range Min, Total Range Max, Measurement Range Min, Measurement Range Max, Permissible Range Min, and Permissible Range Max. Below this, there are radio buttons for 'Device', 'Constant', and 'Processed', with 'Device' selected. A red box highlights the 'Variable Output' field, which is currently empty.

8.5.1 Sample Configuration

Sample OutputDriverConfiguration.ini as per new design

```
[RSPCBRTDAS_59_rspcb1]
```

```
Devices=Device1
```

```
URL=http://164.100.222.253/GLensServer/
```

```
UploadFrequency=60000
```

```
DebugMode=0
```

```
SiteID=site_378
```

```
SiteUID=site_378
```

```
ParametersMetaData=NOx$Stack_1$analyzer_102$parameter_12$unit_13$0$1,SO2$Stack_1$analyzer_102$parameter_11$unit_13$0$1
```

```
[RSPCBRTDAS_60_rspcb1]
```

```
Devices=Device2
```

```
URL=http://164.100.222.253/GLensServer/
```

```
UploadFrequency=60000
```

```
DebugMode=0
```

```
SiteID=site_378
```

```
SiteUID=site_378
```

```
ParametersMetaData=PM$Stack_1$analyzer_214$parameter_3$unit_13$1$1
```

8.6 Final Checklist

1. RSPCBRTDAS.so file is present in DATCon directory.
2. OutputDriverConfiguration.ini file properly configured and kept in DATCon directory.
3. Variable is given Variable Output Name as per required format for RSPCB.

9. Procedure to find Variable ids from SiteConfig.txt

Read notes to find Variable id from below sample SiteConfig.txt

Sample SiteConfig.txt:

[SiteConfig]

SiteInfo=DisconnectDelay;2;0\$UploadFrequency;2;0\$ConnectOnAlarm;4;0\$LocalStorage;4;0\$EncryptionFlag;4;0\$AlarmFlag;4;0\$ReqDiskFreeSpace;2;0\$CleanupFreqInDays;2;0\$<~>10000;300000;0;0;0;1;20<~>

DevInfo=ID;4;0\$Name;1;50\$PDLList;1;40\$DeviceType;1;40\$<~>**7**;DEVICE3;7;EFFLUENT;\$<~>

(**Note**-In above line, bold **number**; **word** means Deviceid and DeviceName configured on CPCB server. For example DEVICE3 has Id-7. **See Variable Info Section for Device with id-7 to find out variable ids of each variable**)

Variable Info Section for Device with id-7[

Variable **7**=ID;4;0\$Name;1;255\$Type;1;1\$LoLimit;3;0\$LoLowLimit;3;0\$HiLimit;3;0\$HiHighLimit;3;0\$StartAddress;2;0\$EndAddress;2;0\$GenerateAlarmFlag;4;0\$DeviceId;4;0\$Precision;4;0\$Unit;1;255\$Scaling;3;0\$DataSourceId;3;0\$<~>**1**;pH,1;a;0.0;0.0;0.0;0.0;0;30;0;7;2;pH;1.0;0;\$**2**;BOD,1;a;0.0;0.0;0.0;0.0;1;30;0;7;2;mg/l;1.0;0;\$**3**;COD,1;a;0.0;0.0;0.0;0.0;2;30;0;7;2;mg/l;1.0;0;\$**4**;TSS,1;a;0.0;0.0;0.0;0.0;3;30;0;7;2;mg/l;1.0;0;\$<~>

(**Note**-In above line, bold **number;word** means VariableId and tag name of variable. **So you need to use this variable ids in OutputDriverConfiguration.ini file for Variable mapping**)

```
Configuration7=ParamName;1;30$ParamValue;1;30$<~>TimeOut;2000$PortNumber;50  
3$HostAddress;10.6.10.12$SlaveID;1$Protocol;ModbusTCPMaster$PollingFreq;5000$R  
econnectFreq;300000$Active;1$Polling;0$<~>  
]
```