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**Data Exchange Platform**

**API Setup Reference Guide**

**General Telemetry**

**Version 1.5**

**Released on Dec’2022**

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# **Document Control**

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Revision Date | Revision History | Author |
| 1.0 | December 2022 | New Release | TCS |
| 1.1 | Jan 2022 | Added Unified API to the list | TCS |
| 1.2 | Jan 2022 | Added Unified API 24 Hours to the list | TCS |
| 1.3 | Jan 2022 | Updated unified24telemetry to V1 | TCS |
| 1.5 | Feb 2022 | Unified 24 hrs telemetry api JSON | TCS |

# **Overview**

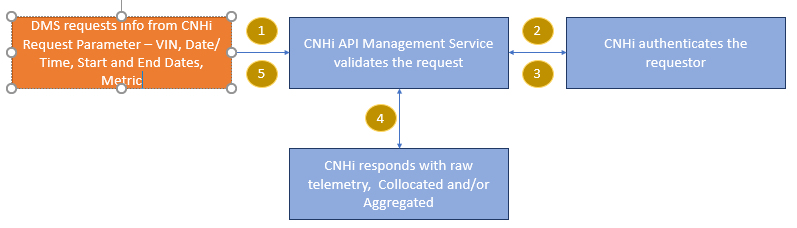
Telemetry API intends to provide the parameter information of the different parts of an equipment, which are collected from the modem real time like AM53, PCM etc., which enables the DMS users to understand the part parameters before or while creating the work order in DMS.

A DMS provider can query for telemetry information in the following methods.

1. For a given equipment for one day.
2. For a given equipment at a specific date and time
3. For a given equipment in an aggregated format (hourly/day) between dates

The API provides information about geographical and the parametric values for all the critical parts of the equipment between the requested dates (As applicable) as a response. If the request does not contain the date range, by default the raw telemetry data of last 24 hours will be shared. All the telemetry and its relevant data are extracted from the Geo Spatial System (GSS) of CNHi.

Pictorial representation of the data flows below.



# **3.** **Pre-requisites to access the API**

* To request for the telemetry details, the dealer should be registered and possess a user ID from CNHi dealer portal.
* No Additional configuration or access required for the GSS system of CNHi.
* All the API setups require a basic http authorization header, which will require an API Subscription key

# **4. API setup**

CNHi’ s has built a data exchange platform, which provides the flexibility to the end users to request Telemetry information from CNHi system in the following format.

1. REST API

CNHi’ s data exchange platform will take care of the format transformations (as needed) to process the request and provide a response to the DMS system.

DMS providers are required to develop the REST API and point to the end point URL in their systems (details in connection details section).

# **5.** **API and Connection Details**

While developing this interface, we want to avoid changes and perform testing in a live environment to that end, CNHi provides two environment contexts for its APIs:

* Cert / UAT
* Production

The environments are identical, requiring only that you change out your connection string and authorization endpoint to connect to any of the environments.

We have 19 APIs

1. **Caution Code API**

**2. Cumulative Idle Hours API**

**3. Cumulative Operating Hours API**

**4. Location API**

**5. Cumulative Fuel Used API**

**6. Distance API**

**7. Max Transmission Oil Temp API**

**8. Max Hydraulic Oil Temp API**

**9. Max Intake Manifold Temp API**

**10. Cumulative Nonproductive idle Hours API**

**11. Engine Condition API**

**12. Fuel Remaining Ratio API**

**13. Max Engine Coolant Temperature API**

**14. Max Engine Oil Temperature API**

**15. Fuel Used in Preceding 24 Hours API**

**16. DEF Remaining API**

**17. Peak Daily Speed API**

**18. Unified API (7 Days)**

**19. Unified API (24 Hours)**

# **Caution Code**

Caution Code returns Caution code and code description

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | [https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/CautionCodes/{**startdate**}/{**enddate**}](https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/%7bAssetId%7d/CautionCodes/%7bstartdate%7d/%7benddate%7d) |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| cautionMessages.Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| cautionMessages.Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| CautionMessages.CautionDescription.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| CautionMessages.CautionDescription.Identifier | String | Caution code identifier |
| CautionMessages.CautionDescription. Description | String | Caution code description |

# **Cumulative Idle Hours**

Cumulative idle hour API returns the idle hours at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/ comulativeIdlehours/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| ComulativeIdlehoursMessages.Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| ComulativeIdlehoursMessages.Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| ComulativeIdlehoursMessages. ComulativeIdlehours.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| ComulativeIdlehoursMessages. ComulativeIdlehours. Hours | String | The current total lifetime Idle hours of the machine is expressed as the cumulative quantity of time during which the machine’s engine has been running. This is generally the value of the hour meter on the machine. |

# **Cumulative Operating Hours**

Cumulative operating hour API returns the total operating hours at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/ CumulativeOperatingHours/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| CumulativeOperatingHoursMessages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| CumulativeOperatingHoursMessages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| CumulativeOperatingHoursMessages. CumulativeOperatingHours.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| CumulativeOperatingHoursMessages. CumulativeOperatingHours. Hour | String | The current total lifetime operating hours of the machine is expressed as the cumulative quantity of time during which the machine’s engine has been running. This is generally the value of the hour meter on the machine. |

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# **Locations**

Locations API returns the location of the vehicle (latitude, longitude and altitude)

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/ locations/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| LocationMessages.Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| LocationMessages.Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| LocationMessages. Locations.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| LocationMessages. Locations. Latitude | String | Latitude, GPS data. From pos\_point Point object. |
| LocationMessages. Locations. Longitude | String | Longitude, GPS data. From pos\_point Point object. |
| LocationMessages. Locations. Altitude | String | The altitude is expressed as distance above mean sea level of the machine’s location. Altitude is reported in metres. This field is optional. |
| LocationMessages. Locations. AltitudeUnits | String | The altitude of the location shall be expressed in metres. If altitude is included in the response, this field is mandatory. It shall have the value “metre”. |

# **Cumulative Fuel Used**

Cumulative fuel used API returns the total fuel consumption at the requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/CumulativeFuelUsed/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| FuelUsedMessages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| FuelUsedMessages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| FuelUsedMessages. FuelUsed.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| FuelUsedMessages. FuelUsed.FuelUnits | String | The quantity of fuel is expressed in litres. If cumulative fuel used is included in the response, this field shall have the value “litre”. |
| FuelUsedMessages. FuelUsed.FuelConsumed | Double | The value is expressed as an unsigned integer, which includes all values from 0 through 4 294 967 295. |

# **Distance**

Odometer distance of the vehicle at the requested date time duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/Distance/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| DistanceMessages.Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| DistanceMessages.Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| DistanceMessages. distance.DateTime | string | Group id |
| DistanceMessages. distance. OdometerUnits | String | When available on a machine, the distance travelled by the machine shall be expressed in kilometers. If cumulative distance travelled is included in the response, this field shall have the value “kilometer”. |
| DistanceMessages. distance. Odometer | String | When available on a machine, this field indicates the cumulative distance the machine has travelled as of the specified date and time. Its data type is decimal. The value shall contain one significant digit to the right of the decimal with the smallest unit of resolution equal to 0,1 km. |

# **Max Transmission Oil Temperature**

Maximum Transmission Oil Temperature API returns the maximum transmission oil temperature at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/MaxTransmissionOilTemp/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | In | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| MaxTransmissionOilTempMessages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| MaxTransmissionOilTempMessages .Links.Href | String | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| MaxTransmissionOilTempMessages. MaxTransmissionOilTemp .DateTime | String | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| MaxTransmissionOilTempMessages. MaxTransmissionOilTemp. Temperature | decimal | The parameter indicates the maximum transmission oil temperature at date and time. |
| MaxTransmissionOilTempMessages. MaxTransmissionOilTemp. UnitOfMeasure | String | Unit of measure of transmission oil Temperature (Celsius). |

# **Max Hydraulic Oil Temperature**

Maximum Hydraulic Oil Temperature API returns the maximum hydraulic oil temperature at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/MaxHydraulicOilTemp/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| MaxHydraulicOilTempMessages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| MaxHydraulicOilTempMessages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| MaxHydraulicOilTempMessages. MaxHydraulicOilTemp.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| MaxHydraulicOilTempMessages. MaxHydraulicOilTemp. Temperature | decimal | The parameter indicates the maximum hydraulic oil temperature at date and time. |
| MaxHydraulicOilTempMessages. MaxHydraulicOilTemp. UnitOfMeasure | string | Unit of measure of hydraulic oil Temperature (Celsius). |

# **Max Intake Manifold Hydraulic Oil Temperature**

Maximum Intake Manifold Temperature API returns the maximum Intake Manifold temperature at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/MaxIntakeManifoldTemp/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| MaxIntakeManifoldTempMessages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| MaxIntakeManifoldTempMessages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| MaxIntakeManifoldTempMessages. MaxIntakeManifoldTemp.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| MaxIntakeManifoldTempMessages. MaxIntakeManifoldTemp. Temperature | decimal | The parameter indicates the maximum Intake Manifold temperature at particular date and time. |
| MaxIntakeManifoldTempMessages. MaxIntakeManifoldTemp. UnitOfMeasure | string | Unit of measure of hydraulic oil Temperature (Celsius). |

# **Cumulative Non-Productive Idle Hours**

Cumulative Non-Productive Idle Hours API returns the Cumulative Non-Productive Idle hours at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/CumulativeNonProductiveIdleHours/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| CumulativeNonProductiveIdleHoursMessages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| CumulativeNonProductiveIdleHoursMessages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| CumulativeNonProductiveIdleHoursMessages. CumulativeNonProductiveIdleHours.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| CumulativeNonProductiveIdleHoursMessages. CumulativeNonProductiveIdleHours.Hour | decimal | The parameter indicates the CumulativeNonProductiveIdleHours at particular date and time. |

# **Engine Condition**

Engine Condition API returns the engine condition and running status at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/EngineCondition/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | In | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| EngineStatusMessages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| EngineStatusMessages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| EngineStatusMessages .EngineStatus.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| EngineStatusMessages .EngineStatus.EngineNumber | string | The parameter indicates Engine Number. |
| EngineStatusMessages .EngineStatus .Running | string | The parameter indicates Engine running status at particular date and time. |

# **Fuel Remaining Ratio**

Fuel Remaining Ratio API returns the fuel remaining ratio at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/FuelRemainingRatio/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | In | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| FuelRemainingMessage.Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| FuelRemainingMessage.Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| FuelRemainingMessage. FuelRemaining.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| FuelRemainingMessage. FuelRemaining.Fuel | string | The parameter indicates fuel remaining percentage. |

# **Max Engine Coolant Temperature**

Maximum Engine Coolant Temperature API returns the maximum engine coolant temperature at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/MaxEngineCoolantTemp/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| maxEngineCoolantTempMessages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| maxEngineCoolantTempMessages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| maxEngineCoolantTempMessages. maxEngineCoolantTemp.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| maxEngineCoolantTempMessages. MaxEngineCoolantTemp.Temperature | decimal | The parameter indicates the maximum Engine Coolant temperature at particular date and time. |
| maxEngineCoolantTempMessages. MaxEngineCoolantTemp.UnitOfMeasure | string | Unit of measure of engine coolant Temperature (Celsius). |

# **Max Engine Oil Temperature**

Maximum Engine Oil Temperature API returns the maximum engine Oil temperature at requested datetime duration.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/MaxEngineOilTemp/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| maxEngineOilTempMessages. Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| maxEngineOilTempMessages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| maxEngineOilTempMessages. maxEngineOilTemp.DateTime | string | Date and TimeD Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| maxEngineOilTempMessages. maxEngineOilTemp.Temperature | decimal | The parameter indicates the maximum Engine Oil temperature at particular date and time. |
| maxEngineOilTempMessages. maxEngineOilTemp.UnitOfMeasure | string | Unit of measure of engine oil Temperature (Celsius). |

# **Fuel Used in Preceding 24 Hours**

Fuel Used in Preceding 24 Hours API returns fuel consumed by Vehicle in previous 24 hours.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/fuelusedinthepreceding24hours/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| fuelUsedLast24Messages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| fuelUsedLast24Messages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| FuelUsedLast24Messages .fuelUsedLast24.DateTime | string | Date and Time Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| FuelUsedLast24Messages .fuelUsedLast24.FuelUnits | string | Unit of measure of Fuel Consumed (Litres). |
| fuelUsedLast24Messages. fuelUsedLast24.FuelConsumed | decimal | The parameter indicates the amount of Fuel Consumed In the preceding 24 hours. |

# **DEF Remaining**

DEF Remaining API returns Percentage of DEF Remaining at requested datetime.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/DEFRemaining/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| DEFRemainingMessages.Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| DEFRemainingMessages.Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| DEFRemainingMessages.DEFRemaining.DateTime | string | Date and Time Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| DEFRemainingMessages.DEFRemaining.Percent | decimal | Percentage of DEF Remaining at particular Date and Time. |

# **Peak Daily Speed**

Peak Daily Speed API returns speed of the vehicle at particular Date and Time.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/PeakDailySpeed/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| peakDailySpeedMessages .Links.Rel | string | Relationship – The reference attribute describes the link. Paginated services shall include a collection of links that describe the current page (self), next page (next), previous page (prev), and last page (last). |
| peakDailySpeedMessages .Links.Href | string | Hyperlink – the hypermedia reference URL (href) is a reference to another endpoint. |
| PeakDailySpeedMessages .Speed.DateTime | string | Date and Time Date and Time are expressed as: YYYY-MM-DDThh:mm:ssZ |
| peakDailySpeedMessages. Speed.SpeedUnits | String | Unit of measure of Speed of the vehicle (KM/H) |
| peakDailySpeedMessages.Speed.Speed | Decimal | The parameter indicates speed of the vehicle at particular Date and Time. |

# **Unified API (7 Days)**

Unified API(7 days) returns the cumulative response for the below APIs together.

CumulativeOperatingHours

Locations

MaxTransmissionOilTemp

MaxHydraulicOilTemp

MaxIntakeManifoldTemp

EngineStatus

FuelRemaining

MaxEngineCoolantTemp

MaxEngineOilTemp

DEFRemaining

Speed

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/{**AssetId**}/ UnifiedTelemetry/{**startdate**}/{**enddate**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id, Start Date and End Date

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |
| Start date | Template Parameter | Char | True | - | Start Date |
| End date | Template Parameter | Char | True | - | End Date |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| CumulativeOperatingHours.Hour | String | The current total lifetime operating hours of the machine is expressed as the cumulative quantity of time during which the machine’s engine has been running. This is generally the value of the hour meter on the machine. |
| Locations. Latitude | String | Latitude, GPS data. From pos\_point Point object. |
| Locations. Longitude | String | Longitude, GPS data. From pos\_point Point object. |
| Locations. Altitude | String | The altitude is expressed as distance above mean sea level of the machine’s location. Altitude is reported in meters. This field is optional. |
| Locations. AltitudeUnits | String | The altitude of the location shall be expressed in meters. If altitude is included in the response, this field is mandatory. It shall have the value “meter”. |
| MaxTransmissionOilTemp. Temperature | decimal | The parameter indicates the maximum transmission oil temperature at date and time. |
| MaxTransmissionOilTemp. UnitOfMeasure | String | Unit of measure of transmission oil Temperature (Celsius). |
| MaxHydraulicOilTemp. Temperature | decimal | The parameter indicates the maximum hydraulic oil temperature at date and time. |
| MaxHydraulicOilTemp. UnitOfMeasure | string | Unit of measure of hydraulic oil Temperature (Celsius). |
| MaxIntakeManifoldTemp. Temperature | decimal | The parameter indicates the maximum Intake Manifold temperature at particular date and time. |
| MaxIntakeManifoldTemp. UnitOfMeasure | string | Unit of measure of hydraulic oil Temperature (Celsius). |
| EngineStatus .Running | string | The parameter indicates Engine running status at particular date and time. |
| FuelRemaining.Fuel | string | The parameter indicates fuel remaining percentage. |
| MaxEngineCoolantTemp.Temperature | decimal | The parameter indicates the maximum Engine Coolant temperature at particular date and time. |
| MaxEngineCoolantTemp.UnitOfMeasure | string | Unit of measure of engine coolant Temperature (Celsius). |
| maxEngineOilTemp.Temperature | decimal | The parameter indicates the maximum Engine Oil temperature at particular date and time. |
| maxEngineOilTemp.UnitOfMeasure | string | Unit of measure of engine oil Temperature (Celsius). |
| DEFRemaining.Percent | decimal | Percentage of DEF Remaining at particular Date and Time. |
| Speed.SpeedUnits | String | Unit of measure of Speed of the vehicle (KM/H) |
| Speed.Speed | Decimal | The parameter indicates speed of the vehicle at particular Date and Time. |

# **Unified API (Last 24 Hours)**

Unified API (24 hrs) retrieves machine's last active telematics data for the below parameters:

CumulativeOperatingHours

Locations

MaxTransmissionOilTemp

MaxHydraulicOilTemp

MaxIntakeManifoldTemp

EngineStatus

FuelRemaining

MaxEngineCoolantTemp

MaxEngineOilTemp

DEFRemaining

Speed

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/v1/fleet/equipment/latest/{**AssetId**}/ unified24telemetry |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** Asset Id

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Input | Type | Is Required | Default Value | Comments |
| Asset Id | Template Parameter | Char | True | - | VIN Number |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| CumulativeOperatingHours.Hour | String | The current total lifetime operating hours of the machine is expressed as the cumulative quantity of time during which the machine’s engine has been running. This is generally the value of the hour meter on the machine. |
| Locations. Latitude | String | Latitude, GPS data. From pos\_point Point object. |
| Locations. Longitude | String | Longitude, GPS data. From pos\_point Point object. |
| Locations. Altitude | String | The altitude is expressed as distance above mean sea level of the machine’s location. Altitude is reported in meters. This field is optional. |
| Locations. AltitudeUnits | String | The altitude of the location shall be expressed in meters. If altitude is included in the response, this field is mandatory. It shall have the value “meter”. |
| MaxTransmissionOilTemp. Temperature | decimal | The parameter indicates the maximum transmission oil temperature at date and time. |
| MaxTransmissionOilTemp. UnitOfMeasure | String | Unit of measure of transmission oil Temperature (Celsius). |
| MaxHydraulicOilTemp. Temperature | decimal | The parameter indicates the maximum hydraulic oil temperature at date and time. |
| MaxHydraulicOilTemp. UnitOfMeasure | string | Unit of measure of hydraulic oil Temperature (Celsius). |
| MaxIntakeManifoldTemp. Temperature | decimal | The parameter indicates the maximum Intake Manifold temperature at particular date and time. |
| MaxIntakeManifoldTemp. UnitOfMeasure | string | Unit of measure of hydraulic oil Temperature (Celsius). |
| EngineStatus .Running | string | The parameter indicates Engine running status at particular date and time. |
| FuelRemaining.Fuel | string | The parameter indicates fuel remaining percentage. |
| MaxEngineCoolantTemp.Temperature | decimal | The parameter indicates the maximum Engine Coolant temperature at particular date and time. |
| MaxEngineCoolantTemp.UnitOfMeasure | string | Unit of measure of engine coolant Temperature (Celsius). |
| maxEngineOilTemp.Temperature | decimal | The parameter indicates the maximum Engine Oil temperature at particular date and time. |
| maxEngineOilTemp.UnitOfMeasure | string | Unit of measure of engine oil Temperature (Celsius). |
| DEFRemaining.Percent | decimal | Percentage of DEF Remaining at particular Date and Time. |
| Speed.SpeedUnits | String | Unit of measure of Speed of the vehicle (KM/H) |
| Speed.Speed | Decimal | The parameter indicates speed of the vehicle at particular Date and Time. |

# **Response Code**

The API responses are accompanied with a response code that describes the status (Successful, Unsuccessful) of the request. The below are the possible scenarios and their response codes.

|  |  |  |
| --- | --- | --- |
| Title | Reason | Code |
| REST Telemetry success response | Success | 200 |
| REST Telemetry failure response | Bad Request: Request query params are invalid | 400 |
| REST Telemetry failure response | Bad Request: Duration between Start and End Dates should be less than or equal to 7 days" | 400 |
| REST Telemetry failure response | Vehicle with provided VIN doesn't exist | 404 |
| REST Telemetry failure response | Internal Server Error | 500 |

# **Sample Postman Collection**

##### **Telemetry post man collection for CERT/UAT**

