|  |  |
| --- | --- |
| Name: | Temp\_hal\_su8EngineTemp |
| Type | Uint8\_t |
| Scope | global |
| Storage Class | static |
| Range | 0:255 |
| Description | This variable will hold the value of Engine temperature. This variable will be *set* by another module “UART” and will be read by **Sensor\_manager** module using a *getter* function. |

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| --- | --- |
| Module file structure |  |
|  | Temp\_hal.c |
|  | Temp\_hal.h |
| Module dependencies |  |
|  | stdint.h |
|  | UART\_int.h |

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| --- | --- |
| Configuration | No configuration needed for this SW component. |

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| --- | --- | --- |
| Function name: | Temp\_hal\_u8Init | |
| Syntax | uint8\_t Temp\_hal\_u8Init **(**  void  **)** | |
| Sync/Async | Synchronous | |
| Reentrancy: | Non-reentrant | |
| Arguments: | Input | NA |
|  | Output | NA |
|  | Input/Output | NA |
| Return | E\_OK | 0 |
|  | E\_NOK | 1 |
| Description | This function is responsible for initializing down modules used to get the engine temperature, which is the UART module in our case. | |

|  |  |  |
| --- | --- | --- |
| Function name: | Temp\_hal\_u8SetEngineTemp | |
| Syntax | uint8\_t Temp\_hal\_u8SetEngineTemp**(**  void  **)** | |
| Sync/Async | Synchronous | |
| Reentrancy: | Reentrant | |
| Arguments: | Input | NA |
|  | Output | NA |
|  | Input/Output | NA |
| Return | E\_OK | 0 |
|  | E\_NOK | 1 |
| Description | This function is used to ***set*** the static global variable “Temp\_hal\_su8EngineTemp”. It calls the UART API used to receive data from UART Rx.  “Temp\_hal\_su8EngineTemp” would be updated periodically by the value received from UART Rx buffer.  This function address is passed to the UART module using the function “UART\_u8SetCallBack”; that is in order to be executed whenever a UART Rx interrupt is fired. | |

|  |  |  |  |
| --- | --- | --- | --- |
| Function name: | Temp\_hal\_u8GetEngineTemp | | |
| Syntax | uint8\_t Temp\_hal\_u8GetEngineTemp **(**  uint8\_t **\*** pu8\_EngineTemp  **)** | | |
| Sync/Async | Synchronous | | |
| Reentrancy: | Reentrant | | |
| Arguments: | Input | NA | |
|  | Output | pu8\_EngineTemp | Uint8\_t \* |
|  |  | A container passed by address to take the current value of engine temperature. | |
|  | Input/Output | NA | |
| Return | E\_OK | 0 | |
|  | E\_NOK | 1 | |
| Description: | This function is used as a getter. It is used by **Sensor\_manager** to get the engine temperature | | |