**Lcd Module:**

* **Data types**

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| --- | --- |
| Name: | LCD\_4BIT\_MODE |
| Type: | define |
| Range | 0 |
| Description: | This define represents lcd 4-bit mode option |

|  |  |
| --- | --- |
| Name: | LCD\_8BIT\_MODE |
| Type: | define |
| Range | 1 |
| Description: | This define represents lcd 8-bit mode option |

|  |  |
| --- | --- |
| Name: | RowNo\_e |
| Type: | Enumerator |
| Range | RowNo\_1  RowNo\_2 |
| Description: | This enumerator represents number of row. |

|  |  |
| --- | --- |
| Name: | ColNo\_e |
| Type: | Enumerator |
| Range | ColNo\_1  ColNo\_2  ColNo\_3  ColNo\_4  ColNo\_5  ColNo\_6  ColNo\_7  ColNo\_8  ColNo\_9  ColNo\_10  ColNo\_11  ColNo\_12  ColNo\_13  ColNo\_14  ColNo\_15  ColNo\_16 |
| Description: | This enumerator represents number of column. |

|  |  |
| --- | --- |
| Name: | LCD\_READY |
| Type: | define |
| Range | 1 |
| Description: | Represent completion of Lcd initialization, used as an option for Lcd\_Ready |

|  |  |
| --- | --- |
| Name: | LCD\_N\_READY |
| Type: | Define |
| Range | 0 |
| Description: | Represent incompletion of Lcd initialization, used as an option for Lcd\_Ready |

* **Configurations:**

|  |  |
| --- | --- |
| Name: | RS |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of RS pin |

|  |  |
| --- | --- |
| Name: | EN |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of EN pin |

|  |  |
| --- | --- |
| Name: | D0 |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of D0 pin |

|  |  |
| --- | --- |
| Name: | D1 |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of D1 pin |

|  |  |
| --- | --- |
| Name: | D2 |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of D2 pin |

|  |  |
| --- | --- |
| Name: | D3 |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of D3 pin |

|  |  |
| --- | --- |
| Name: | D4 |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of D4 pin |

|  |  |
| --- | --- |
| Name: | D5 |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of D5 pin |

|  |  |
| --- | --- |
| Name: | D6 |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of D6 pin |

|  |  |
| --- | --- |
| Name: | D7 |
| Type: | Define |
| Range: | Gpio pins |
| Configuration Type: | Pre-compile |
| Description: | Configuration of D7 pin |

|  |  |
| --- | --- |
| Name: | MODE |
| Type: | Define |
| Range: | LCD\_4BIT\_MODE / LCD\_8BIT\_MODE |
| Configuration Type: | Pre-compile |
| Description: | Configuration of Lcd mode |

* **APIs:**

|  |  |  |  |
| --- | --- | --- | --- |
| Function name | Lcd\_Init | | |
| Arguments | Input | | Not used |
| Output | | Not used |
| Input/Output | | Not used |
| Return | E\_OK | | 0 |
| E\_NOK | 1 | |
| Description | Initializes Lcd pins.  Registers lcd\_handler in swTimer every 2 ms periodic | | |

|  |  |  |
| --- | --- | --- |
| Function name | Lcd\_WriteString | |
| Arguments | Input | Const uint\_8\* const |
| String to be displayed (up to 32 character only) |
| Output | Not used |
| Input/Output | Not used |
| Return | E\_OK | 0 |
| E\_NOK | 1 |
| E\_PENDING | 2 |
| E\_BUSY | 3 |
| Description | Write string on Lcd. | |

|  |  |  |
| --- | --- | --- |
| Function name | Lcd\_Clear | |
| Arguments | Input | Not used |
| Output | Not used |
| Input/Output | Not used |
| Return | E\_OK | 0 |
| E\_NOK | 1 |
| E\_PENDING | 2 |
| E\_BUSY | 3 |
| Description | Change cursor positions | |

|  |  |  |
| --- | --- | --- |
| Function name | Lcd\_handler | |
| Arguments | Input | Not used |
| Output | Not used |
| Input/Output | Not used |
| Return | Not used | |
| Description | Change cursor positions | |