Contents

1 Description 1

2 20 Program Organization Units 3
   2.1 FbMainDriver (FB) ................................................. 3
   2.2 typConfiguration (STRUCT) ...................................... 4

3 80 Status 5
   3.1 Status (GVL) ..................................................... 5
   3.2 eStatus (ENUM) .................................................. 6

4 VersionHistory (GVL) 7

5 Library Reference 8
Description

This document is automatically generated. Because of this, the chapter 30 Visualization is not shown in this document. If you are interested in getting to know more about visualization, we refer to the library manager of e!Cockpit.

Subject to Changes

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Personnel Qualification

All tasks that are carried out with libraries made for the e!COCKPIT software must only be performed by qualified electrical specialists instructed in PLC programming according to IEC 61131-3.

All tasks that have an effect on the properties or the behavior of automation hardware or software products must only be performed by qualified employees with a thorough knowledge of handling the products concerned.

Intended Use of e!COCKPIT Libraries

Libraries created for the e!COCKPIT software are used to simplify the development of application projects in the IEC 61131-3 programming languages.

For automation tasks, WAGO offers programmable logic controllers in a wide variety of performance classes. In combination with a wide range of I/O modules, the controllers can process standard types of field signals. Controllers can be implemented centrally or in decentralized configurations. The controllers offer interfaces for the most commonly used fieldbuses for use in decentralized configurations. Fieldbus independent I/O modules are then linked via fieldbus couplers. WAGO controllers offer a runtime environment for user programs called e!RUNTIME. Software projects for implementation in e!RUNTIME environments can be created in e!COCKPIT. The programming environment in e!COCKPIT is based on the established CODESYS 3 industrial standard. Users with a previous knowledge of CODESYS 3 will thus find this environment largely familiar. The following programming languages of the IEC 61131-3 standard are available:

- Structured Text (ST)
- Ladder Diagram (LD)
- Function Block Diagram (FBD)
- Instruction List (IL)
- Sequential Function Chart (SFC)
- Continuous Function Chart (CFC)

The individual programming languages can also be combined as required during the development of the software. A portfolio of prepared libraries can be accessed for many frequently used functions in order to make software development more efficient. This document provides an overview of the WagoAppDigitalImpulseInterface that WAGO offers for e!COCKPIT.
Handling module 750-635

Further library information are summarized here:

   Company   WAGO
   Title     WagoAppDigitalImpulseInterface
   Version   1.7.1.0
   Categories Application; WAGO FunctionalViewDeviceIO; WAGO LayerViewApp
   Author    WAGO/u010663
   Placeholder WagoAppDigitalImpulseInterface
20 Program Organization Units

2.1 FbMainDriver (FB)

Interface variables

<table>
<thead>
<tr>
<th>Scope</th>
<th>Name</th>
<th>Type</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>xEnable</td>
<td>BOOL</td>
<td>Enable function block</td>
</tr>
<tr>
<td></td>
<td>I_Port</td>
<td>WagoTypesModule_75x_635.Module_75x_635</td>
<td>basic interface</td>
</tr>
<tr>
<td></td>
<td>typConfiguration</td>
<td>typConfiguration</td>
<td>Configuration values</td>
</tr>
<tr>
<td></td>
<td>usiMagnet</td>
<td>USINT</td>
<td>Show position from this sensor.</td>
</tr>
<tr>
<td></td>
<td>xUseOffset</td>
<td>BOOL</td>
<td>The offset value, will be taken into account to display the actual position</td>
</tr>
<tr>
<td>Inout</td>
<td>xWriteConfiguration</td>
<td>BOOL</td>
<td>Write configuration values, mandatory on power up</td>
</tr>
<tr>
<td></td>
<td>xResetError</td>
<td>BOOL</td>
<td>Reset an error</td>
</tr>
<tr>
<td>Output</td>
<td>xValid</td>
<td>BOOL</td>
<td>Position is valid</td>
</tr>
<tr>
<td></td>
<td>xBusy</td>
<td>BOOL</td>
<td>Function block active</td>
</tr>
<tr>
<td></td>
<td>xError</td>
<td>BOOL</td>
<td>An error occurred</td>
</tr>
<tr>
<td></td>
<td>oStatus</td>
<td>WagoSysErrorBase.FbResult</td>
<td>Status details</td>
</tr>
<tr>
<td></td>
<td>diPosition</td>
<td>DINT</td>
<td>Actual position according to “usiMagnets”</td>
</tr>
</tbody>
</table>

Function

Reading the actual position from a sensor

Graphical Illustration

![Function Block Diagram]

**Function Description** This function block allows to read the position from up to 4 magnets mounted on a transonar sensor. Setting the ultrasonic speed as well as the number of mounted magnets is mandatory and must be done each time by power up.
2.2 typConfiguration (STRUCT)

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Initial</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NumberOfMagnets</td>
<td>BYTE</td>
<td>1</td>
<td>Number of mounted magnets</td>
</tr>
<tr>
<td>UltraSonicSpeed</td>
<td>DINT</td>
<td>23500</td>
<td>Ultra sonic speed</td>
</tr>
<tr>
<td>Offset</td>
<td>DINT</td>
<td>0</td>
<td>Offset, allows adjustment of position value</td>
</tr>
</tbody>
</table>
### 3.1 Status (GVL)

<table>
<thead>
<tr>
<th>Scope</th>
<th>Name</th>
<th>Type</th>
<th>Initial</th>
</tr>
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</table>

**Description:** Status information
### 3.2 eStatus (ENUM)

<table>
<thead>
<tr>
<th>Name</th>
<th>Initial</th>
<th>Comment</th>
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</thead>
<tbody>
<tr>
<td>OK</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>StopUnderflow</td>
<td>1</td>
<td>Bit 0</td>
</tr>
<tr>
<td>StopOverflow</td>
<td>2</td>
<td>Bit 1</td>
</tr>
<tr>
<td>ConfigErrorUltraSonicSpeed</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ConfigErrorOffset</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ConfigErrorMagnetCount</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>ParameterErrorMagnet</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ConfigurationActive</td>
<td>7</td>
<td></td>
</tr>
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</table>

**Description:** Status information
VersionHistory (GVL)

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<thead>
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<tbody>
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<td>WagoAppDigitalImpulseInterface.library</td>
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</table>

<table>
<thead>
<tr>
<th>date</th>
<th>version</th>
<th>author</th>
<th>change</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.01.2019</td>
<td>1.7.1.0</td>
<td>u015842</td>
<td>Properties: free placeholder added</td>
</tr>
<tr>
<td>06.06.2017</td>
<td>1.7.0.0</td>
<td>u010663</td>
<td>Compiler Version set to V3.5.9.10</td>
</tr>
<tr>
<td>29.02.2016</td>
<td>1.6.0.0</td>
<td>u010663</td>
<td>Update according to WagoSysErrorBase</td>
</tr>
<tr>
<td>29.09.2015</td>
<td>1.5.0.2</td>
<td>u010663</td>
<td>Libraries inserted by placeholder</td>
</tr>
<tr>
<td>24.08.2015</td>
<td>1.5.0.1</td>
<td>u010663</td>
<td>Placeholder added</td>
</tr>
<tr>
<td>13.08.2015</td>
<td>1.5.0.0</td>
<td>u010663</td>
<td>Released</td>
</tr>
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</table>

Release Notes:
This is a dictionary of all referenced libraries and their name spaces.

**WagoSysErrorBase**

*Library Identification:*
- Placeholder: WagoSysErrorBase
- Default Resolution: WagoSysErrorBase, * (WAGO)
- Namespace: WagoSysErrorBase

*Library Properties:*
- LinkAllContent: False
- QualifiedOnly: False
- SystemLibrary: False
- Optional: False

**WagoSysVersion**

*Library Identification:*
- Name: WagoSysVersion
- Version: 1.0.0.0
- Company: WAGO
- Namespace: WagoSysVersion

*Library Properties:*
- LinkAllContent: False
- QualifiedOnly: False
- SystemLibrary: False
- Optional: False

**WagoTypesErrorBase**

*Library Identification:*
- Placeholder: WagoTypesErrorBase
- Default Resolution: WagoTypesErrorBase, * (WAGO)
- Namespace: WagoTypesErrorBase
Library Properties:

- LinkAllContent: False
- QualifiedOnly: True
- SystemLibrary: False
- Optional: False

WagoTypesModuleBase

Library Identification:
Placeholder: WagoTypesModuleBase
Default Resolution: WagoTypesModuleBase, * (WAGO)
Namespace: WagoTypesModuleBase

Library Properties:

- LinkAllContent: False
- QualifiedOnly: True
- SystemLibrary: False
- Optional: False

Library Parameter:
Parameter: MAX_MBX_SIZE = 18

WagoTypesModule_75x_635

Library Identification:
Placeholder: WagoTypesModule_75x_635
Default Resolution: WagoTypesModule_75x_635, * (WAGO)
Namespace: WagoTypesModule_75x_635

Library Properties:

- LinkAllContent: False
- QualifiedOnly: True
- SystemLibrary: False
- Optional: False

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