Documentación proyecto

Table of Contents

1. Project description

No description found (add content in project description)

2. Code component descriptions

2.1. DQMH® modules

This section describes DQMH® module responsibilities and relationships.

2.1.1. Preamble

A DQMH module is the main component of an architecture based on DQMH® framework. A DQMH module is used to implement a section of the application that has one responsibility.

DQMH® framework defines two different type of DQMH module.

Singleton:

A Singleton DQMH module can have only one instance running at any given time.

Cloneable:

A Cloneable DQMH module can have one or multiple instances running in parallel.

DQMH® framework defines two different ways to carry data throughout the application and with both other DQMH modules and non-DQMH based code.

Request events:

A request is a code that fires an event requesting the DQMH module to do something. Multiple locations in the code can send events to the DQMH module.

Request events are many-to-one.

Requests are usually named using imperative tense.

Broadcast events:

A broadcast is a code that fires an event broadcasting that the DQMH module did something. Multiple Event Structures can register to handle the Broadcast Events.

Broadcast Events are one-to-many.

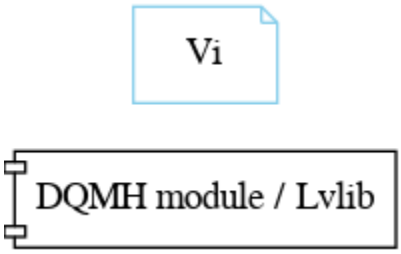
Broadcasts are usually named using past tense or passive voice.

Refer to the DQMH® framework official documentation (http://delacor.com/documentation/dqmh-html/) to find more details on how the framework works

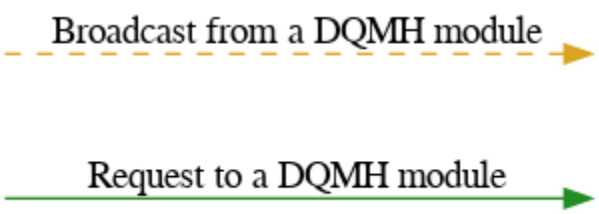
The following section gives you details on the project architecture relying on this framework. It gives you an overview of the modules' interaction and detailed information on each module.

Graphs used in this section have the following legend:

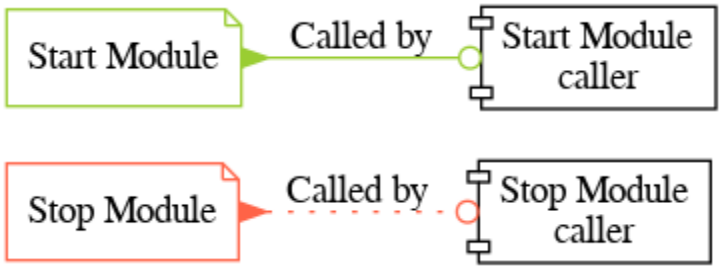
Components:



Events:



Start and Stop module callers:



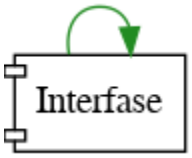
2.1.2. Modules overview

This project contains the following modules.

Table 1. Modules list

Singleton	Cloneable
	Interfase.lvlib

This graph represents the links between all DQMH modules.



2.1.3. Interfase.lvlib

Type: Cloneable

Responsibility: No description found (add content in DQMH module lvlib description)

Module Start/Stop calls

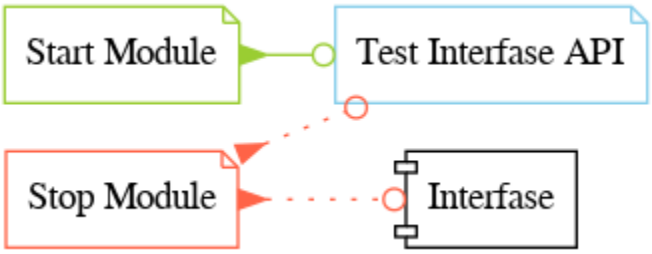


Table 2. Start and Stop module callers

Function	Callers
Interfase.lvlib:Start Module.vi	Test Interfase API.vi
Interfase.lvlib:Stop Module.vi	Interfase.lvlib:Handle Exit.vi Test Interfase API.vi

Module relationship

Table 3. Requests callers

Request Name	Callers
Interfase.lvlib:Show Panel.vi	Test Interfase API.vi
Interfase.lvlib:Hide Panel.vi	Test Interfase API.vi
Interfase.lvlib:Show Diagram.vi	Test Interfase API.vi
Interfase.lvlib:Read ADC.vi	Test Interfase API.vi
Interfase.lvlib:Set Port Status.vi	Test Interfase API.vi
Interfase.lvlib:Get Port Status.vi	Test Interfase API.vi
Interfase.lvlib:Set Pin.vi	Test Interfase API.vi

Request Name	Callers
Interfase.lvlib:Get Pin Status.vi	Test Interfase API.vi

Table 4. Broadcasts Listeners

Broadcast Name	Listeners
Interfase.lvlib:Module Did Init.vi	Test Interfase API.vi
Interfase.lvlib:Status Updated.vi	Test Interfase API.vi
Interfase.lvlib:Error Reported.vi	Test Interfase API.vi
Interfase.lvlib:Module Did Stop.vi	Test Interfase API.vi
Interfase.lvlib:Update Module Execution Status.vi	Test Interfase API.vi

Table 5. Used requests

Module	Broadcasts
—	—

Table 6. Registered broadcast

Module	Broadcasts
—	—

2.2. Libraries

This section describes the libraries contained in the project.

2.3. Classes

This section describes the classes contained in the project.

2.3.1. Serial device.lvclass

Es la clase papá de la que heredan los hijos que son las implementaciones

2.3.2. Cypress.lvclass

Clase hija donde se implementaron los overrides del papá adecuados al micro de Cypress

2.3.3. NXP.lvclass

Clase hija donde se implementaron los overrides del papá adecuados al micro de NXP

2.3.4. Simulado.lvclass

Clase hija donde se implementaron los overrides del papá adecuados al micro Simulado

2.3.5. Delacor_lib_QMH_Cloneable Module Admin.lvclass

No description found (add content in lvlib description)

2.3.6. Delacor_lib_QMH_Message Queue.lvclass

No description found (add content in lvlib description)

2.3.7. Delacor_lib_QMH_Module Admin.lvclass

No description found (add content in lvlib description)

3. VI descriptions

3.1. DQMH® modules

This section describes DQMH® modules events.

3.1.1. Interfase.lvlib

Interfase.lvlib:Start Module.vi

Event type: Not a DQMH Event

Description:

Launches the Module Main.vi. _____ Based on Delacor QMH Project Template 5.0.0.82.

Interfase.lvlib:Stop Module.vi

Event type: Not a DQMH Event

Description:

Send the Stop request to the Module's Main.vi. _____ Based on Delacor QMH Project Template 5.0.0.82.

Interfase.lvlib:Show Panel.vi

Event type: Request

Description:

Send the Show Panel request to the Module's Main.vi. _____ Based on Delacor QMH Project Template 5.0.0.82.

Interfase.lvlib:Hide Panel.vi

Event type: Request

Description:

Send the Hide Panel request to the Module's Main.vi. _____ Based on Delacor QMH Project Template 5.0.0.82.

Interfase.lvlib:Show Diagram.vi

Event type: Request

Description:

This VI tells the Module to show its block diagram to facilitate troubleshooting (add probes, breakpoints, highlight execution, etc). _____ Based on Delacor QMH Project Template 5.0.0.82.

Interfase.lvlib:Read ADC.vi

Event type: Request

Interfase.lvlib:Read ADC.vi

Description:

Request creada para leer el ADC del micro con el que se esté trabajando

Interfase.lvlib:Set Port Status.vi

Event type: Request


Interfase.lvlib:Set Port Status.vi

Description:

Request creada para escribir el puerto del micro con el que se esté trabajando

Interfase.lvlib:Get Port Status.vi

Event type: Request


Interfase.lvlib:Get Port Status.vi

Description:

Request creada para leer el estado del puerto del micro con el que se esté trabajando

Interfase.lvlib:Set Pin.vi

Event type: Request


Interfase.lvlib:Set Pin.vi

Description:

Request creada para escribir un pin de un puerto del micro con el que se esté trabajando

Interfase.lvlib:Get Pin Status.vi

Event type: Request


Interfase.lvlib:Get Pin Status.vi

Description:

Request creada para leer un pin de un puerto del micro con el que se esté trabajando

Interfase.lvlib:Module Did Init.vi

Event type: Broadcast


Interfase.lvlib:Module Did Init.vi

Description:

Send the Module Did Init event to any VI registered to listen to this module's broadcast events. _____ Based on Delacor QMH Project Template 5.0.0.82.

Interfase.lvlib:Status Updated.vi

Event type: Broadcast

 Interfase.lvlib:Status Updated.vi

Description:

Send the Status Updated event to any VI registered to listen to events from the owning module. _____ Based on Delacor QMH Project Template 5.0.0.82.

Interfase.lvlib:Error Reported.vi

Event type: Broadcast

 Interfase.lvlib:Error Reported.vi

Description:

Send the Error Reported event to any VI registered to listen to events from the owning module. _____ Based on Delacor QMH Project Template 5.0.0.82.

Interfase.lvlib:Module Did Stop.vi

Event type: Broadcast

 Interfase.lvlib:Module Did Stop.vi

Description:

Send the Module Did Stop event to any VI registered to listen to this module's broadcast events. _____ Based on Delacor QMH Project Template 5.0.0.82.

Interfase.lvlib:Update Module Execution Status.vi

Event type: Broadcast

 Interfase.lvlib:Update Module Execution Status.vi

Description:

Fire the Get Module Execution Status request. _____ Created using Delacor QMH Event Scripter 3.0.0.12. _____ Based on Delacor QMH Project Template 5.0.0.82.

3.2. Libraries

This section describes libraries public VIs.

3.3. Classes

This section describes classes public VIs.

3.3.1. Serial device.lvclass

Serial device.lvclass:Read Serial Device Brand.vi

 Serial device.lvclass:Read Serial Device Brand.vi

Description:

Vi para leer el tipo de dispostivo con el que se trabajará

Serial device.lvclass:Write Serial Device Brand.vi

 Serial device.lvclass:Write Serial Device Brand.vi

Description:

Es para escribir el dispositivo con el que se trabajará

Serial device.lvclass:Read Visa com port.vi

 Serial device.lvclass:Read Visa com port.vi

Description:

Lee el puerto com con el que se trabaja

Serial device.lvclass:Write Visa com port.vi

 Serial device.lvclass:Write Visa com port.vi

Description:

Escribe el puerto com con el que se trabaja

Serial device.lvclass:Get Pin Status Response.vi

 Serial device.lvclass:Get Pin Status Response.vi

Description:

Metodo del papá dynamic dispatch para recibir la cadena del estado de un pin del dispositivo serial.

Serial device.lvclass:Get Port Status Response.vi

 Serial device.lvclass:Get Port Status Response.vi

Description:

Metodo del papá dynamic dispatch para recibir la cadena del estado de un puerto del dispositivo serial.

Serial device.lvclass:Get Port Status.vi

 Serial device.lvclass:Get Port Status.vi

Description:

Metodo del papá dynamic dispatch para mandar la cadena del estado de un puerto del dispositivo serial.

Serial device.lvclass:Set Pin Status.vi

 Serial device.lvclass:Set Pin Status.vi

Description:

Metodo del papá dynamic dispatch para mandar la cadena de escribir el estado de un pin del dispositivo serial.

Serial device.lvclass:Set Port Status.vi

 Serial device.lvclass:Set Port Status.vi

Description:

Metodo del papá dynamic dispatch para mandar la cadena de escribir el estado de un puerto del dispositivo serial.

Serial device.lvclass:Read ADC Response.vi

 Serial device.lvclass:Read ADC Response.vi

Description:

Metodo del papá dynamic dispatch para recibir la cadena del estado del ADC del dispositivo serial.

Serial device.lvclass:Read ADC.vi

 Serial device.lvclass:Read ADC.vi

Description:

Metodo del papá dynamic dispatch para mandar la cadena del estado del ADC del dispositivo serial.

Serial device.lvclass:Get Pin Status.vi

 Serial device.lvclass:Get Pin Status.vi

Description:

Metodo del papá dynamic dispatch para mandar la cadena del estado de un pin del dispositivo serial.

Serial device.lvclass:Close Connection.vi

 Serial device.lvclass:Close Connection.vi

Description:

Metodo del papá dynamic dispatch para cerrar la conexión del dispositivo serial.

Serial device.lvclass:Initialize.vi

 Serial device.lvclass:Initialize.vi

Description:

Metodo del papá dynamic dispatch para inicializar el dispositivo serial.

Serial device.lvclass:Serial Read.vi

 Serial device.lvclass:Serial Read.vi

Description:

SubVI para facilitar la realización de leer la respuesta del micro

Serial device.lvclass:Command.vi

 Serial device.lvclass:Command.vi

Description:

Template de un comando

Serial device.lvclass:Command Template.vit

 Serial device.lvclass:Command Template.vit

Description:

Template del vi de Command para facilitar la realización de los métodos

3.3.2. Cypress.lvclass

Cypress.lvclass:Close Connection.vi

Cypress.lvclass:Close Connection.vi

Description:

Método heredado del padre con un override

Cypress.lvclass:Get Pin Status Response.vi

Cypress.lvclass:Get Pin Status Response.vi

Description:

Método heredado del padre con un override

Cypress.lvclass:Get Pin Status.vi

Cypress.lvclass:Get Pin Status.vi

Description:

Método heredado del padre con un override

Cypress.lvclass:Get Port Status Response.vi

Cypress.lvclass:Get Port Status Response.vi

Description:

Método heredado del padre con un override

Cypress.lvclass:Get Port Status.vi

Cypress.lvclass:Get Port Status.vi

Description:

Método heredado del padre con un override

Cypress.lvclass:Initialize.vi

Cypress.lvclass:Initialize.vi

Description:

Método heredado del padre con un override

Cypress.lvclass:Read ADC Response.vi

Cypress.lvclass:Read ADC Response.vi

Description:

Método heredado del padre con un override

Cypress.lvclass:Read ADC.vi

Cypress.lvclass:Read ADC.vi

Description:

Método heredado del padre con un override

Cypress.lvclass:Set Pin Status.vi

Cypress.lvclass:Set Pin Status.vi

Description:

Método heredado del padre con un override

Cypress.lvclass:Set Port Status.vi

Cypress.lvclass:Set Port Status.vi

Description:

Método heredado del padre con un override

3.3.3. NXP.lvclass

NXP.lvclass:Close Connection.vi

NXP.lvclass:Close Connection.vi

Description:

Método heredado del padre con un override

NXP.lvclass:Get Pin Status Response.vi

NXP.lvclass:Get Pin Status Response.vi

Description:

Método heredado del padre con un override

NXP.lvclass:Get Pin Status.vi

NXP.lvclass:Get Pin Status.vi

Description:

Método heredado del padre con un override

NXP.lvclass:Get Port Status Response.vi

NXP.lvclass:Get Port Status Response.vi

Description:

Método heredado del padre con un override

NXP.lvclass:Get Port Status.vi

NXP.lvclass:Get Port Status.vi

Description:

Método heredado del padre con un override

NXP.lvclass:Initialize.vi

NXP.lvclass:Initialize.vi

Description:

Método heredado del padre con un override

NXP.lvclass:Read ADC Response.vi


NXP.lvclass:Read ADC Response.vi

Description:

Método heredado del padre con un override

NXP.lvclass:Read ADC.vi


NXP.lvclass:Read ADC.vi

Description:

Método heredado del padre con un override

NXP.lvclass:Set Pin Status.vi


NXP.lvclass:Set Pin Status.vi

Description:

Método heredado del padre con un override

NXP.lvclass:Set Port Status.vi


NXP.lvclass:Set Port Status.vi

Description:

Método heredado del padre con un override

3.3.4. Simulado.lvclass

Simulado.lvclass:Read Command Responses.vi


Simulado.lvclass:Read Command Responses.vi

Description: No description found (add content in VI description)

Simulado.lvclass:Write Command Responses.vi


Simulado.lvclass:Write Command Responses.vi

Description: No description found (add content in VI description)

Simulado.lvclass:Close Connection.vi


Simulado.lvclass:Close Connection.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:FGV Variant.vi


Simulado.lvclass:FGV Variant.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:Get Pin Status Response.vi


Simulado.lvclass:Get Pin Status Response.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:Get Pin Status.vi


Simulado.lvclass:Get Pin Status.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:Get Port Status Response.vi


Simulado.lvclass:Get Port Status Response.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:Get Port Status.vi


Simulado.lvclass:Get Port Status.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:Initialize.vi


Simulado.lvclass:Initialize.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:Read ADC Response.vi


Simulado.lvclass:Read ADC Response.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:Read ADC.vi


Simulado.lvclass:Read ADC.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:Set Pin Status.vi


Simulado.lvclass:Set Pin Status.vi

Description:

Método heredado del padre con un override

Simulado.lvclass:Set Port Status.vi


Simulado.lvclass:Set Port Status.vi

Description:

Método heredado del padre con un override

3.3.5. Delacor_lib_QMH_Cloneable Module Admin.lvclass

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Get Close Master Reference.vi


Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Get Close Master Reference.vi

Description:

Specifies whether or not the master VI reference used for launching clones should be closed by the Close Module VI when the cloneable module is shutting down. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Set Close Master Reference.vi


Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Set Close Master Reference.vi

Description:

Specifies whether or not the master VI reference used for launching clones should be closed by the Close Module VI when the cloneable module is shutting down. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Get First.vi


Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Get First.vi

Description:

Specifies whether or not this clone is the first one that was launched. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Set First.vi


Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Set First.vi

Description:

Specifies whether or not this clone is the first one that was launched. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Get Module ID.vi


Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Get Module ID.vi

Description:

The numeric identifier of a running instance of a cloneable module. If the module is running as a singleton, the value will be 0. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Set Module ID.vi


Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Set Module ID.vi

Description:

The numeric identifier of a running instance of a cloneable module. If the module is running as a singleton, the value will be 0. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Cloneable Admin Class—constant.vi


Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Cloneable Admin Class—constant.vi

Description:

____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Cloneable Admin Class—control.vi


Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Cloneable Admin Class—control.vi

Description:

____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Reset.vi

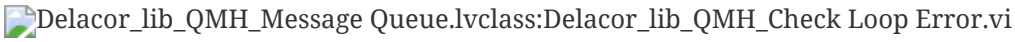

Delacor_lib_QMH_Cloneable Module Admin.lvclass:Delacor_lib_QMH_Reset.vi

Description:

____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

3.3.6. Delacor_lib_QMH_Message Queue.lvclass

Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Check Loop Error.vi


Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Check Loop Error.vi

Description:

Check the 'error to process' to see if its code value matches any of the values in the 'Ignore Errors' array. If so, do nothing. If not, send an "Error" message containing the error data to the Message Handling Loop for further processing. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Error Handler - Event Handling Loop.vi


Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Error Handler - Event Handling Loop.vi

Description:

Process an error that occurred in the Event Handling Loop, either by ignoring it, or generating an "Error" message. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Error Handler - Message Handling Loop.vi


Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Error Handler - Message Handling Loop.vi

Description:

Process an error that occurred in the Message Handling Loop, either by ignoring it, or generating an "Error" message. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

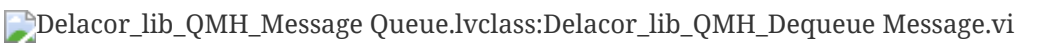
Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Create Message Queue.vi


Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Create Message Queue.vi

Description:

This VI creates and initializes the message queue for a QMH Module. If the message needs to be different for the given module, then create a child class of Message Queue and override the appropriate methods. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Dequeue Message.vi


Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Dequeue Message.vi

Description:

This VI pulls messages off the Message Queue. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Flush Messages.vi


Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Flush Messages.vi

Description:

Flush the message queue. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Release Message Queue.vi


Delacor_lib_QMH_Message Queue.lvclass:Delacor_lib_QMH_Release Message Queue.vi

Description:

Release the message queue. ____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

3.3.7. Delacor_lib_QMH_Module Admin.lvclass

Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Get External Launch.vi


Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Get External Launch.vi

Description:

____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Set External Launch.vi


Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Set External Launch.vi

Description:

____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Admin Class—constant.vi


Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Admin Class—constant.vi

Description:

____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Admin Class—control.vi


Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Admin Class—control.vi

Description:

____ Delacor QMH Palette 5.0.0.7 Copyright (c) 2020, Delacor

Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Reset.vi


Delacor_lib_QMH_Module Admin.lvclass:Delacor_lib_QMH_Reset.vi

Description:

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4. Legal Information

4.1. Document creation

This document has been generated using the following tools.

4.1.1. Antidoc

Project website: Antidoc (https://wovalab.gitlab.io/open-source/labview-doc-generator/)

Maintainer website: Wovalab (https://wovalab.com)

4.1.2. Asciidoc for LabVIEW™

Project website: Asciidoc toolkit (https://wovalab.gitlab.io/open-source/asciidoc-toolkit/)

Maintainer website: Wovalab (https://wovalab.com)

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4.1.3. Graph Builder

Project website: Graph Builder (https://gitlab.com/cgambini/graph-builder)

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4.2. Product used in the project

The documented project has been developed with the following products.

4.2.1. DQMH®

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