Foreword
Thank you for purchasing the Control Toolkit for MATLAB (Model 707747).
This user’s manual describes the installation procedure, the program model, and the functions of the
Control Toolkit for MATLAB. Read this manual along with the Model 707741 WE Control API User’s
Manual (IM 707741-61E).
After reading the manual, keep it in a convenient location for quick reference whenever a question
arises during operation.

Notes
• The contents of this manual describe the Control Toolkit for MATLAB Ver. 1.03. If you are using
another version of the Control Toolkit for MATLAB, the information given in this manual may differ
from the version that you are using.
• The contents of this manual are subject to change without prior notice as a result of continuing
improvements to the instrument’s performance and functions.
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How to Read This Manual

This manual covers only the settings that are specific to the software and functions for MATLAB. The manual has been prepared with the premise that it be read along with the Model 707741 WE Control API User’s Manual (IM 707741-61E).
For details on the settings of functions and settings of ASCII commands, see the WE Control API User’s Manual (IM 707761-61E).
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1. Overview

The Control Toolkit for MATLAB is a toolkit based on the interface functions (WE Control API) for controlling the WE7000. By using this toolkit, software applications on MATLAB by MathWorks, Inc. can be created.

mex Function Groups that are Installed

The WE Control Toolkit for MATLAB consists of the following mex function groups. Each mex function corresponds to a single WE Control API function (one-to-one correspondence).

- **Initialization**
  Enables you to select the communication method or set communication parameters according to the communication module that you are using. Initializes the measuring station.

- **Handle/Link**
  Retrieves the station handle, retrieves the module handle, retrieves the link handle, and releases the handle.

- **Measuring Station Control**
  Retrieves a list of measuring station names or information, controls the standby power of the measuring station, restarts the measuring station, and so on.

- **Module Control**
  Retrieves the module information.

- **Settings**
  Initializes the current settings, initializes preset values, saves/updates/copies the setup data, sets or retrieves the scale conversion information, sets various settings, and retrieves the setup data.

- **Synchronization between Modules**
  Sets the trigger bus of the measuring station, sets the input/output of the EXT I/O connector, sets the input and polarity of the TRIG IN terminal, sets the time base, sets the arming signal, and retrieves settings.

- **GUI Control**
  Shows/Hides the module operation panel, shows/hides the trigger setting dialog box, and shows/hides the scale conversion setting dialog box.

- **Measurement Control**
  Starts/Stops/Single-start of measurement module operation, issues latch commands, retrieves acquisition data, retrieves instantaneous data, retrieves data after scale conversion, retrieves automated measurement values of waveform parameters, saves/loads pattern data, and sets overrun detection.

- **Waveform Parameter Computation**
  Executes waveform parameter computation and waveform parameter computation using raw data.

- **Filter API for the WE7281 4-CH, 100kS/s D/A Module**
  Converts the waveform data of a specified file into s16, w32, w7281 format.

- **Others**
  Queries whether the measurement of the block has been completed.

In addition, the file operation functions are included.

**Supported OSs**

Microsoft Windows 95/98/Me, Windows NT 4.0, Windows 2000 Pro or Windows XP Professional/Home Edition

**Development Environments Supported**

MATLAB 6.1 (R12.1) or 6.5 (R13)

**Note**

The WE Control API (707741) sold separately is required for using this software.
Installed Files
When you install the Control Toolkit for MATLAB, the directory \YOKOGAWA\WE7000 is created under the directory where MATLAB is saved (the default directory for MATLAB 6.5 is C:\MATLAB6p5\toolbox), and the following files are copied to the directory.

<table>
<thead>
<tr>
<th>File Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM707747-61E.pdf</td>
<td>User’s Manual</td>
</tr>
<tr>
<td>*.dll</td>
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<td>readme *.txt</td>
<td>Information about the sample programs</td>
</tr>
</tbody>
</table>

*Note*
If MATLAB is installed to a directory other than the default directory, change the directory in which the toolkit is installed accordingly.
2. **Installation**

This chapter explains the procedure for installing the Control Toolkit for MATLAB. WE Control API must be installed before you install the Control Toolkit for MATLAB.

1. Start Windows.
2. Insert the “Control toolkit for MATLAB” setup disk into the CD-ROM drive. An installer automatically starts and the following dialog box opens. If the program does not start automatically, choose Start > Run, then type setup.exe in the Name box and click **OK**. The following dialog box appears. Click **Next**.

3. The following dialog box appears containing license agreement information. Confirm the license agreement, click the I accept the terms in the license agreement option button, and click **Next**.

![Image of install dialog box]

---

2 Installation

This chapter explains the procedure for installing the Control Toolkit for MATLAB. WE Control API must be installed before you install the Control Toolkit for MATLAB.

1. Start Windows.
2. Insert the “Control toolkit for MATLAB” setup disk into the CD-ROM drive. An installer automatically starts and the following dialog box opens. If the program does not start automatically, choose Start > Run, then type setup.exe in the Name box and click **OK**. The following dialog box appears. Click **Next**.

![Image of install dialog box]

3. The following dialog box appears containing license agreement information. Confirm the license agreement, click the I accept the terms in the license agreement option button, and click **Next**.
4. The following dialog box appears for registering the name and the organization of the user. After entering the appropriate information into each box, click **Next**.

5. A dialog box appears for you to confirm the start of the installation. To proceed with the default installation (Complete), click **Next**. To select which components to install, or to change the installation destination, choose the Custom option then click **Next**.

6. A dialog box appears confirming that you wish to begin installation. Click **Install**.
7. The installation starts and a dialog box appears indicating the progress of the installation. A dialog box appears notifying you that the installation has been completed. Click **Finish**.

![InstallShield Wizard Completed](image)

**Note**

If you installed MATLAB to a directory other than the default directory, change the installation directory of the Control Toolkit for MATLAB.
3. Setting the Path

The path defines the location where MATLAB automatically searches for files. The path is specified by starting MATLAB after installing the Control Toolkit. Normally, MATLAB searches for files in the current directory when a program or command is executed. If the file does not exist in the current directory, the path is searched.

1. From the File menu, choose Set Path or type “pathtool” in the command prompt window. The Set Path dialog box opens.

2. Click Add Folder to specify the installation destination folder that was specified during installation (C:\MATLAB6p1\toolbox\YOKOGAWA\WE7000 or C:\MATLAB6p5\toolbox\YOKOGAWA\WE7000 by default).

3. Return to the Set Path dialog box and click Save followed by Close to complete the setting.
4. Executing the Control Toolkit for MATLAB

On the Control Toolkit for MATLAB, programming is done interactively, which is a feature of MATLAB. Below is an example of function usage on the MATLAB command window and M-files.

**MATLAB Screen**

```matlab
comm = ethernet

>> name = 'Statistical'

name =

'Statistical'

>> x = mexInit(com)

x =

0

>> [x, handle] = mexOpenStation(x)

x =

0

handle =

66652120
```

```matlab
end
```
Execution Example on the Command Window

```matlab
>> comm = 'ethernet'
comm =
    ethernet
>> name = 'Station1'
name =
    Station0
>> r = mexWeInit(comm)
r =
    0
>> [r, handle] = mexWeOpenStation(name)
r =
    0
handle =
    513138704
>> sw = 1
sw =
    1
>> r = mexWePower(handle, sw)
r =
    0
>> module = 'WE7271'
module =
    WE7271
>> [r, mh] = mexWeOpenModule(handle, module, 1)
r =
    0
mh =
    361272136
>> [r, wh] = mexWeShowModuleWindow(mh)
r =
    0
wh =
    459594
>>
```
M-file Example

comm = 'ethernet'
name = 'Station1'
r = mexWeInit(comm)
[r, handle] = mexWeOpenStation(name)
sw = 1
r = mexWePower(handle, sw)

mh7121 = 0
mh7282 = 0
mh = 0
module = 'WE7271'
[r, mh] = mexWeOpenModule(handle, module, 1)
[r, wh] = mexWeShowModuleWindow(mh)
module = 'WE7281';
if mh7282==0 % Skip if already open
    [r, mh7282] = mexWeOpenModule(handle, module, 1);
    r = mexWeSetControl(mh7282, 'Operation Mode', 'FG');
    r = mexWeSetControl(mh7282, 'FG:CH1:Func', 'Sine');
    r = mexWeSetControl(mh7282, 'FG:CH1:Freq Start', '10');
    r = mexWeSetControl(mh7282, 'FG:CH1:On', 'On');
    r = mexWeSetControl(mh7282, 'FG:Output', 'On');
end
[r, sw] = mexWelsModuleWindow(mh7282);
if sw==0 % Open module window if closed
    [r, wh7282] = mexWeShowModuleWindow(mh7282);
end

module = 'WE7271';
if mh==0 % Skip if already open
    [r, mh] = mexWeOpenModule(handle, module, 1);
    r = mexWeSetControl(mh, 'Sampling Interval', '1E-3');
    r = mexWeSetControl(mh, 'Memory Partition', '2');
end
[r, sw] = mexWelsModuleWindow(mh);
if sw==0 % Open module window if closed
    [r, wh] = mexWeShowModuleWindow(mh);
end

% Set the scaling parameters
para = struct('a', 1.0, 'b', 0.0, 'ch', 0);
para(1).a = 1.0;
para(1).b = 0.0;
para(2).a = 1.0;
para(2).b = 0.0;
para(3).a = 1.0;
para(3).b = 0.0;
para(4).a = 1.0;
para(4).b = 0.0;

% Set the X-axis value
X(1:1000) = 0:0.001:0.999;
N = 30; % Set the repetition count
for n=1:N
    % Single start
    r = mexWeStartSingle(mh, 30);
    % Retrieve raw data
    [r, outPara, recSize, buf] = mexWeGetScaleData(mh, -1, 0, para, 32000, 50);
Y1(1:1000) = buf(1:1000);
Y2(1:1000) = buf(1001:2000);
Y3(1:1000) = buf(2001:3000);
Y4(1:1000) = buf(3001:4000);
% Display on graph
plot(X,Y1,X,Y2,X,Y3,X,Y4)
drawnow
end
5. Details of Functions

The function names obtained by removing “mex” from the mex function names correspond to the WE Control API functions.

For details on mex functions, see chapter 6, “Details of Functions” in the WE Control API User’s Manual (IM 707741-61E). However, there is no API function that corresponds to mexWelSBlockEnd.

5.1 The List of Functions

Initialization

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<tr>
<th>mex Function Name</th>
<th>API Function Name</th>
<th>Description</th>
<th>Page</th>
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Handle/Link

<table>
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<th>API Function Name</th>
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<th>Page</th>
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<tbody>
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<td>Get the station handle.</td>
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<td>Get the module handle.</td>
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<td>WeLinkStation</td>
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<td>WeLinkModule</td>
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<td>WeCloseHandle</td>
<td>Release handles.</td>
<td>5-7</td>
</tr>
</tbody>
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Station Control

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## Filter API for the WE7281 4-CH, 100kS/s D/A Module

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### Note

There are no mex functions that correspond to the following API functions.

- **WeSetQueryControl** Set the setup data and get the data.
- **WeStopEx** Stop the measurement module operation (extended).
- **WeStartWithEvent** Start with end notify event.
- **WeCreateEvent** Request generation of an event.
- **WeSetEventPattern** Set the factor that triggers the event.
- **WeResetEventPattern** Clear the factor that triggers the event.
- **WeSetEventMode** Set the event mode.
- **WeReleaseEvent** Release the event handle.
- **WeGetHandle** Get the handle from the second parameter of the event.
- **WelsNan** Check whether the data is non-numeric.
5.2 Initialization

mexWeInit

Description
Initialization function. This function must be executed first when using the Control Toolkit for MATLAB from an application program. Execution of this function initializes the network, automatically identifies the stations that are connected, initializes the Control Toolkit execution environment, etc.

Syntax
ret = mexWeInit(comm)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
comm: Communication interface type

mexWeExit

Description
Termination function. Terminates the communication driver and Control Toolkit execution environment. Be sure to execute this function at the end of the application program.

Syntax
ret = mexWeExit

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
None
### 5.3 Handle/Link

**mexWeOpenStation**

**Description**

Gets the station handle for controlling the measuring station by specifying the station name. You can also get the handle (broadcast handle) for controlling all the measuring stations on the network.

**Syntax**

\[
\text{[ret, stationHandle]} = \text{mexWeOpenStation(name)}
\]

**Output Parameters**

- **ret:** Returns 0 if successful. Returns an error code if unsuccessful.
- **stationHandle:** Station handle retrieved.

**Input Parameters**

- **name:** Station name

**mexWeOpenModule**

**Description**

Gets the handle for controlling the module (opens the module).

**Syntax**

\[
\text{[ret, moduleHandle]} = \text{mexWeOpenModule(stationHandle, name, connection)}
\]

**Output Parameters**

- **ret:** Returns 0 if successful. Returns an error code if unsuccessful.
- **moduleHandle:** Module handle retrieved.

**Input Parameters**

- **stationHandle:** Station handle
- **name:** Module’s product name [:number] or slot number
- **connection:** The number of modules you wish to link.

**mexWeLinkStation**

**Description**

Gets the station link handle. This handle can be used to control multiple measuring stations simultaneously.

**Syntax**

\[
\text{[ret, stationLinkHandle]} = \text{mexWeLinkStation(num, stationHandle)}
\]

**Output Parameters**

- **ret:** Returns 0 if successful. Returns an error code if unsuccessful.
- **stationLinkHandle:** Station link handle retrieved.

**Input Parameters**

- **num:** The number of stations you wish to link.
- **stationHandle:** An array of the station handles of the stations you wish to link.
mexWeLinkModule

**Description**
Gets the module link handle. This handle can be used to control multiple modules simultaneously.

**Syntax**
```
[ret, moduleLinkHandle] = mexWeLinkModule(num, moduleHandle)
```

**Output Parameters**
- `ret`: Returns 0 if successful. Returns an error code if unsuccessful.
- `moduleLinkHandle`: Module link handle retrieved.

**Input Parameters**
- `num`: The number of modules you wish to link.
- `moduleHandle`: An array of the module handles of the modules you wish to link.

mexWeCloseHandle

**Description**
Releases the station handle, module handle, or link handle. Releasing the station handle also releases the module handles and module link handles within the measuring station.

**Syntax**
```
ret = mexWeCloseHandle(hHandle)
```

**Output Parameters**
- `ret`: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
- `hHandle`: Station handle, station link handle, module handle, or module link handle.
5.4 Station Control

mexWeGetStationList

Description
Gets a list of measuring station names within the network.

Syntax
[ret, num, stationList] = mexWeGetStationList

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
num: The number of measuring stations (including the controller) included in the list
stationList: Structure containing a list of measuring station names

Input Parameters
None

mexWeGetStationInfo

Description
Gets the measuring station information such as the installed module’s product names and the number of channels per module.

Syntax
[ret, stationInfo] = mexWeGetStationInfo(stationHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
stationInfo: Station information structure retrieved.

Input Parameters
stationHandle: Station handle

mexWePower

Description
Turns ON/OFF of the standby power of the measuring station.

Syntax
ret = mexWePower(stationHandle, sw)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
stationHandle: Station handle
sw: Power state 0 = OFF, 1 = ON
mexWeRestart

**Description**
Restarts the measuring station. Executes a procedure similar to power-on reset. However, the communication module is not restarted.

**Syntax**
ret = mexWeRestart(hHandle)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
hHandle: Station handle, station link handle, or broadcast handle.

mexWeSetStationName

**Description**
Sets the station name and the comment for the measuring station.

**Syntax**
ret = mexWeSetStationName(stationHandle, name, comment)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
stationHandle: Station handle
name: Module’s product name [:number] or slot number
comment: Comment

mexWeGetStationName

**Description**
Gets the station name and the comment for the measuring station.

**Syntax**
[ret, name, comment] = mexWeGetStationName(stationHandle)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.
name: Station name
comment: Comment

**Input Parameters**
stationHandle: Station handle
mexWeIdentifyStation

Description
For measuring station identification, the LED of the optical interface module of the specified measuring station blinks. This is valid only when the optical interface module is being used as the communication interface.

Syntax
ret = mexWeIdentifyStation(stationHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
stationHandle: Station handle or station link handle

mexWeGetPower

Description
Gets the ON/OFF state of the standby power of the measuring station.

Syntax
[ret, sw] = mexWeGetPower(stationHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
sw: Power supply state 0 = OFF, 1 = ON

Input Parameters
stationHandle: Station handle
5.5 Module Control

mexWeGetModuleInfo

**Description**

Gets the module information.

**Syntax**

```
[ret, moduleInfo] = mexWeGetModuleInfo(moduleHandle, position)
```

**Output Parameters**

- `ret`: Returns 0 if successful. Returns an error code if unsuccessful.
- `moduleInfo`: Extended module information structure retrieved.

**Input Parameters**

- `moduleHandle`: Module handle
- `position`: Link position of the module you wish to retrieve.
5.6 Settings

**mexWeInitSetup**

**Description**
Resets the current settings of the measuring station or module to default values.

**Syntax**
ret = mexWeInitSetup(hHandle, position)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
hHandle: Module handle, module link handle, station handle, or station link handle.
position: Module link position

**mexWeInitPreset**

**Description**
Replaces preset values of the measuring station or module with default values.

**Syntax**
ret = mexWeInitPreset(hHandle, position)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
hHandle: Module handle, module link handle, station handle, or station link handle.
position: Module link position

**mexWeSaveSetup**

**Description**
Saves the current setup data of the measuring station or module to a file or updates the preset values with the current settings. When saving to a file, the file is saved with .set extension.

**Syntax**
ret = mexWeSaveSetup(hHandle, position, filename)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
hHandle: Module handle or station handle.
position: Module link position
filename: File name
mexWeLoadSetup

**Description**
Updates the current settings of the measuring station or module with the contents of the setup data file or preset values.

**Syntax**
```
ret = mexWeLoadSetup(hHandle, position, filename)
```

**Output Parameters**
`ret`: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
- `hHandle`: Module handle or station handle.
- `position`: Module link position
- `filename`: File name

mexWeCopySetup

**Description**
Copies the current settings of the specified module to a specified module of the same type.

**Syntax**
```
ret = mexWeCopySetup(hSrcModule, hDesModule)
```

**Output Parameters**
`ret`: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
- `hSrcModule`: Copy source module handle
- `hDesModule`: Copy destination module handle.

mexWeCopyChSetup

**Description**
Copies the current setup data of a channel of a module to the specified channel. This function is valid only when the modules are linked.

**Syntax**
```
ret = mexWeCopyChSetup(moduleHandle, srcCh, desCh)
```

**Output Parameters**
`ret`: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
- `moduleHandle`: Module handle
- `srcCh`: Channel number of the copy source
- `desCh`: Channel number of the copy destination
mexWeCopyChSetupEx

Description
Copies the current setup data of a channel of a module to the specified channel. This function can be used even when the modules are not linked.

Syntax
ret = mexWeCopyChSetupEx(moduleHandle, srcCh, desStartCh, desEndCh)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
srcCh: Channel number of the copy source
desStartCh: Channel number of the copy destination
desEndCh: Last channel number of the copy destination

mexWeSetControl

Description
Sets the setup parameters of a module (character string only).

Syntax
ret = mexWeSetControl(moduleHandle, command, param)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle or module link handle.
command: ASCII command name (string)
param: Parameter dependent on the command (string)

mexWeGetControl

Description
Gets the module information (character string only).

Syntax
[ret, param] = mexWeGetControl(moduleHandle, command)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
param: Parameter dependent on the command (string)

Input Parameters
moduleHandle: Module handle
command: ASCII command name (string)
mexWeSetControlEx

Description
Sets the setup parameters of a module. You can set the setup parameters by specifying the data type.

Syntax
ret = mexWeSetControlEx(moduleHandle, command, ptype, paramNum, param)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
command: ASCII command name (string)
ptype: 255=WE_NULL No parameter
0=WE_UBYTE 8-bit unsigned integer
1=WE_SBYTE 8-bit signed integer
16=WE_UWORD 16-bit unsigned integer
17=WE_SWORD 16-bit signed integer
32=WE_ULONG 32-bit unsigned integer
33=WE_SLONG 32-bit signed integer
34=WE_FLOAT 32-bit real number
50=WE_DOUBLE 64-bit real number
paramNum: Number of data points
param: Data

mexWeGetControlEx

Description
Gets the setup data of the module. You can retrieve the setup parameters by specifying the data type.

Syntax
[ret, param] = mexWeGetControlEx(moduleHandle, command, ptype, paramNum)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
param: Data

Input Parameters
moduleHandle: Module handle
command: ASCII command name (string)
ptype: 255=WE_NULL No parameter
0=WE_UBYTE 8-bit unsigned integer
1=WE_SBYTE 8-bit signed integer
16=WE_UWORD 16-bit unsigned integer
17=WE_SWORD 16-bit signed integer
32=WE_ULONG 32-bit unsigned integer
33=WE_SLONG 32-bit signed integer
34=WE_FLOAT 32-bit real number
50=WE_DOUBLE 64-bit real number
paramNum: Number of data points to be retrieved
mexWeSetScaleInfo

Description
Sets scale conversion information to the measurement module. This function is equivalent to the settings in the convert scale dialog box. The information is stored to the module through operations such as update preset.

Syntax
ret = mexWeSetScaleInfo(moduleHandle, ch, scaleInfo)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
ch: Channel number
scaleInfo: Scale conversion table information structure

mexWeGetScaleInfo

Description
Gets scale conversion information of the measurement module.

Syntax
[ret, scaleInfo] = mexWeGetScaleInfo(moduleHandle, ch)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
ch: Channel number
scaleInfo: Scale conversion table information structure
5.7 Synchronization between Modules

mexWeExecManualTrig

Description
Generates a manual trigger signal to the trigger bus common to modules in the measuring station. This causes a trigger to be activated on modules whose trigger source is set to the trigger bus.

Syntax
ret = mexWeExecManualTrig(stationHandle, busNo, pulse)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
stationHandle: Station handle, station link handle, or broadcast handle.
busNo: 1=WE_TRG1, BUSTRG1 2=WE_TRG2, BUSTRG2
pulse: 0=WE_MANTRGDOWN Manual trigger down 1=WE_MANTRGUP Manual trigger up 2=WE_MANTRGONESHOT Manual trigger one-shot

mexWeSetModuleBus

Description
Sets the trigger source/time base source (sampling clock) and the input/output setting of the arming signal of the module.
If a module that does not have trigger signal, time base, and arming signal input/output functions is specified, the setting is discarded.

Syntax
ret = mexWeSetModuleBus(moduleHandle, InItem, OutItem, InClock, ArmItem)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle or module link handle.
InItem: 0=WE_TRGNONE No bus trigger 1=WE_TRG1 Use bus trigger 1 2=WE_TRG2 Use bus trigger 2
OutItem: 0=WE_TRGNONE No bus trigger 1=WE_TRG1 Use bus trigger 1 2=WE_TRG2 Use bus trigger 2 3=WE_BOTH Use bus trigger 1 and 2
InClock: 0=WE_CMNCLKNONE Not use the common clock 1=WE_CMNCLK Use the common clock
ArmItem: 0=WE_ARMNONE Not use arming 1=WE_ARM Use arming
**mexWeGetModuleBus**

**Description**

Gets the trigger source/time base source (sampling clock) and the input/output setting of the arming signal of the module.

If a module is specified that does not have a trigger source, time base source, or an arming signal input/output function, a “0” is returned for each setting.

**Syntax**

\[
\text{[ret, InItem, OutItem, InClock, ArmItem]} = \text{mexWeGetModuleBus(moduleHandle)}
\]

**Output Parameters**

- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.
- **InItem**: 0=WE_TRGNONE No bus trigger  
  1=WE_TRG1 Use bus trigger 1  
  2=WE_TRG2 Use bus trigger 2
- **OutItem**: 0=WE_TRGNONE No bus trigger  
  1=WE_TRG1 Use bus trigger 1  
  2=WE_TRG2 Use bus trigger 2  
  3=WE_BOTH Use bus trigger 1 and 2
- **InClock**: 0=WE_CMNCLKNONE Not use the common clock  
  1=WE_CMNCLK Use the common clock
- **ArmItem**: 0=WE_ARMNONE Not use arming  
  1=WE_ARM Use arming

**Input Parameters**

- moduleHandle: Module handle or module link handle.

**mexWeSetTrigBusLogic**

**Description**

Sets the trigger and/or condition of the trigger bus.

This function is valid when multiple modules are using the trigger bus. You can specify the trigger to occur when all trigger conditions are satisfied (AND operation) or when one of the trigger conditions is satisfied (OR operation).

**Syntax**

\[
\text{ret} = \text{mexWeSetTrigBusLogic(stationHandle, item, logic)}
\]

**Output Parameters**

- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**

- stationHandle: Station handle or station link handle
- **item**: 1=WE_TRG1 BUSTRG1  
  2=WE_TRG2 BUSTRG2
- **logic**: 0=WE_TRGOR Bus logic OR  
  1=WE_TRGAND Bus logic AND
mexWeGetTrigBusLogic

Description
Gets the trigger and/or condition of the trigger bus.

Syntax
\[ \text{ret, logic} = \text{mexWeGetTrigBusLogic}(\text{stationHandle, item}) \]

Output Parameters
\- ret: Returns 0 if successful. Returns an error code if unsuccessful.
\- logic: \n  \- 0=WE_TRGOR Bus logic OR
  \- 1=WE_TRGAND Bus logic AND

Input Parameters
\- stationHandle: Station handle or station link handle
\- item: \n  \- 1=WE_TRG1 BUSTRG1
  \- 2=WE_TRG2 BUSTRG2

mexWeSetEXTIO

Description
Sets the input/output condition of the trigger input/output pin and the time base input/output pin of the external input/output connector (EXT. I/O) on the front panel of the measuring station.
These signal pins can input or output signals. These signal pins can be used to (1) pass the external signals to the trigger and clock buses in the station, (2) output the trigger signal or the clock, and (3) provide input signals for other measuring stations to achieve synchronization.

Syntax
\[ \text{ret, logic} = \text{mexWeGetTrigBusLogic}(\text{stationHandle, item}) \]

Output Parameters
\- ret: Returns 0 if successful. Returns an error code if unsuccessful.
\- logic: \n  \- 0=WE_TRGOR Bus logic OR
  \- 1=WE_TRGAND Bus logic AND

Input Parameters
\- stationHandle: Station handle or station link handle
\- item: \n  \- 1=WE_TRG1 BUSTRG1
  \- 2=WE_TRG2 BUSTRG2
mexWeGetEXTIO

**Description**

Gets the input/output condition of the trigger input/output pin and the time base input/output pin of the external input/output connector (EXT. I/O) on the front panel of the measuring station.

**Syntax**

```matlab
[ret, trig1, trig2, clock] = mexWeGetEXTIO(stationHandle)
```

**Output Parameters**

- `ret`: Returns 0 if successful. Returns an error code if unsuccessful.
- `trig1`: 0=WE_EXTIOTRGOUT EXTIO connector output
  1=WE_EXTIOTRGIN EXTIO connector input
- `trig2`: 0=WE_EXTIOTRGOUT EXTIO connector output
  1=WE_EXTIOTRGIN EXTIO connector input
- `clock`: 0=WE_CMNCLKOUT Set to output pin.
  1=WE_CMNCLKIN Set to input pin.

**Input Parameters**

- `stationHandle`: Station handle or station link handle

mexWeSetTRIGIN

**Description**

Sets the trigger signal input from the external trigger input terminal (TRIG IN) on the front panel of the measuring station to the trigger bus and the polarity of the input signal.

**Syntax**

```matlab
ret = mexWeSetTRIGIN(stationHandle, item, polarity)
```

**Output Parameters**

- `ret`: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**

- `stationHandle`: Station handle or station link handle
- `item`: 0=WE_TRGNONE No bus trigger
  1=WE_TRG1 Use bus trigger 1
  2=WE_TRG2 Use bus trigger 2
  3=WE_BOTH Use bus trigger 1 and 2
- `polarity`: 0=WE_TRGPOS TRGIN pin positive polarity
  1=WE_TRGNEG TRGIN pin negative polarity
mexWeGetTRIGIN

Description
Gets the trigger signal input setting from the external trigger input terminal (TRIG IN) on the front panel of the station to the trigger bus and the polarity setting of the input signal.

Syntax
[ret, item, polarity] = mexWeGetTRIGIN(stationHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
item: 0=WE_TRGNONE No bus trigger
1=WE_TRG1 Use bus trigger 1
2=WE_TRG2 Use bus trigger 2
3=WE_BOTH Use bus trigger 1 and 2
polarity: 0=WE_TRGPOS TRGIN pin positive polarity
1=WE_TRGNEG TRGIN pin negative polarity

Input Parameters
stationHandle: Station handle or station link handle

mexWeSetClockBusSource

Description
Sets the time base source that is output to the clock bus (CMNCLK). Only a single source can be specified for the time base source.

Syntax
ret = mexWeSetClockBusSource(stationHandle, source)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
stationHandle: Station handle or station link handle
source: 0=WE_CMNCLKSRC_NONE No bus clock source
1=WE_CMNCLKSRC_TRIGIN Input from the TRIG IN terminal
2=WE_CMNCLKSRC_EXTIO Input time base from the EXT I/O connector
3=WE_CMNCLKSRC_SLOT0 Slot 0
4=WE_CMNCLKSRC_SLOT1 Slot 1
5=WE_CMNCLKSRC_SLOT2 Slot 2
6=WE_CMNCLKSRC_SLOT3 Slot 3
7=WE_CMNCLKSRC_SLOT4 Slot 4
8=WE_CMNCLKSRC_SLOT5 Slot 5
9=WE_CMNCLKSRC_SLOT6 Slot 6
10=WE_CMNCLKSRC_SLOT7 Slot 7
11=WE_CMNCLKSRC_SLOT8 Slot 8
mexWeGetClockBusSource

Description
Gets the time base source setting.

Syntax
[ret, source] = mexWeGetClockBusSource(stationHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
source: 0=WE_CMNCLKSRC_NONE No bus clock source
1=WE_CMNCLKSRC_TRIGIN Input from the TRIG IN terminal
2=WE_CMNCLKSRC_EXTIO Input time base from the EXT I/O connector
3=WE_CMNCLKSRC SLOT0 Slot 0
4=WE_CMNCLKSRC SLOT1 Slot 1
5=WE_CMNCLKSRC SLOT2 Slot 2
6=WE_CMNCLKSRC SLOT3 Slot 3
7=WE_CMNCLKSRC SLOT4 Slot 4
8=WE_CMNCLKSRC SLOT5 Slot 5
9=WE_CMNCLKSRC SLOT6 Slot 6
10=WE_CMNCLKSRC SLOT7 Slot 7
11=WE_CMNCLKSRC SLOT8 Slot 8

Input Parameters
stationHandle: Station handle or station link handle

mexWeSetRcvTrigPacket

Description
Sets the receive station for trigger packets.
Up to 8 receiving stations can be specified.
mexWeFireTrigPacket can be used to generate a trigger packet and send it to the stations specified here. The trigger packet can also be generated from the specified trigger source station using mexWeSetSndTrigPacket.

Syntax
ret = mexWeSetRcvTrigPacket(stationHandle, num, name)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
stationHandle: Station handle, station link handle, or broadcast handle.
um: Number of stations to be specified (up to 8).
name: Station name structure
mexWeSetSndTrigPacket

Description
Sets the source station for trigger packets.
Up to 8 trigger packet source stations can be specified.
When the trigger bus (BUSTRG 1 or BUSTRG 2) in the measuring station becomes active, the station
generates the trigger packet. The receiving station outputs a trigger signal according to the trigger
source to the trigger bus (BUSTRG1 or BUSTRG2).

Syntax
ret = mexWeSetSndTrigPacket(stationHandle, num, name)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
stationHandle: Station handle, station link handle, or broadcast handle.
num: Number of stations to be specified (up to 8).
name: Station name structure

mexWeFireTrigPacket

Description
Issues a (software) trigger packet.
The trigger packets are sent to the measuring stations specified by mexWeSetRcvTrigPacket.

Syntax
ret = mexWeFireTrigPacket(stationHandle, item)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
stationHandle: Station handle, station link handle, or broadcast handle.
item: 1=WE_TRG1 Use bus trigger 1
      2=WE_TRG2 Use bus trigger 2

mexWeSetSndClockPacket

Description
Sets the source station for time base packets.
The specified measuring station generates time base packets using its own time base signal. Up to 8
clock packet source stations can be specified.

Syntax
ret = mexWeSetSndClockPacket(stationHandle, num, name)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
stationHandle: Station handle, station link handle, or broadcast handle.
num: Number of stations to be specified (up to 8).
name: Station name structure
mexWeSetRcvClockPacket

**Description**
Sets the receive station for time base packets.
Up to 8 receiving stations can be specified.
The measuring station receiving the time base packet generates one pulse of time base signal on its own clock bus for each packet.

**Syntax**
ret = mexWeSetRcvClockPacket(stationHandle, num, name)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
- stationHandle: Station handle, station link handle, or broadcast handle.
- num: Number of stations to be specified (up to 8).
- name: Station name structure

mexWeFireClockPacket

**Description**
Issues a (software) time base packet.

**Syntax**
ret = mexWeFireClockPacket(stationHandle)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
- stationHandle: Station handle, station link handle, or broadcast handle.

mexWeOutputEXTIOEvent

**Description**
Outputs a (software) event signal to the event output pin of the EXT. I/O connector on the front panel of the measuring station.

**Syntax**
ret = mexWeOutputEXTIOEvent(stationHandle, pulse)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
- stationHandle: Station handle, station link handle, or broadcast handle.
- pulse:
  0=WE_EXTIO_OFF EXTIO output OFF
  1=WE_EXTIO_ON EXTIO output ON
  2=WE_EXTIO_PULSE EXTIO output PULSE
mexWeExecManualArming

**Description**
Generates a manual arming signal.

**Syntax**

```matlab
ret = mexWeExecManualArming(stationHandle)
```

**Output Parameters**

ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**

stationHandle: Station handle, station link handle, or broadcast handle.

mexWeSetArmingSource

**Description**
Sets the arming signal source.

**Syntax**

```matlab
ret = mexWeSetArmingSource(stationHandle, item)
```

**Output Parameters**

ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**

stationHandle: Station handle, station link handle, or broadcast handle.

```matlab
item: 0=WE_TRGNONE No bus trigger  
      1=WE_TRG1 Use bus trigger 1  
      2=WE_TRG2 Use bus trigger 2
```

mexWeGetArmingSource

**Description**
Retrieves the arming signal source setting.

**Syntax**

```matlab
[ret, item] = mexWeGetArmingSource(stationHandle)
```

**Output Parameters**

ret: Returns 0 if successful. Returns an error code if unsuccessful.

```matlab
item: 0=WE_TRGNONE No bus trigger  
      1=WE_TRG1 Use bus trigger 1  
      2=WE_TRG2 Use bus trigger 2
```

**Input Parameters**

stationHandle: Station handle, station link handle, or broadcast handle.
5.8 GUI Control

mexWeShowModuleWindow

Description
Shows the operation panel for controlling the measurement module.

Syntax
[ret, windowHandle] = mexWeShowModuleWindow(moduleHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
windowHandle: Handle of the operation panel shown

Input Parameters
moduleHandle: Module handle

mexWeCloseModuleWindow

Description
Closes the operation panel for controlling the measurement module.

Syntax
ret = mexWeCloseModuleWindow(moduleHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle

mexWeIsModuleWindow

Description
Gets whether the operation panel for controlling the module is shown.

Syntax
[ret, sw] = mexWeIsModuleWindow(moduleHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
sw: Operation panel status 1 = Shown, 0 = Hidden

Input Parameters
moduleHandle: Module handle
mexWeShowTrigWindow

Description
Shows the trigger setting dialog box used to set module linking (trigger source, time base source, and arming) within the measuring station.

Syntax
[ret, windowHandle] = mexWeShowTrigWindow(stationHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
windowHandle: Handle of the trigger setting dialog box shown

Input Parameters
stationHandle: Station handle

mexWeCloseTrigWindow

Description
Closes the trigger setting dialog box used to set module linking (trigger source, time base source, and arming) within the measuring station.

Syntax
ret = mexWeCloseTrigWindow(stationHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
stationHandle: Station handle

mexWeIsTrigWindow

Description
Gets whether the trigger setting dialog box used to set module linking (trigger source, time base source, and arming) within the measuring station is open.

Syntax
[ret, sw] = mexWeIsTrigWindow(stationHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
sw: Operation panel status  1 = Shown, 0 = Hidden

Input Parameters
stationHandle: Station handle
mexWeShowLinearScaleWindow

Description
Shows the convert scale dialog box.

Syntax
[ret, windowHandle] = mexWeShowLinearScaleWindow(moduleHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
windowHandle: Handle of the convert scale dialog box shown

Input Parameters
moduleHandle: Module handle

mexWeCloseLinearScaleWindow

Description
Closes the convert scale dialog box.

Syntax
ret = mexWeCloseLinearScaleWindow(moduleHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle

mexWelsLinearScaleWindow

Description
Gets whether the convert scale dialog box is open.

Syntax
[ret, sw] = mexWelsLinearScaleWindow(moduleHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
sw: Convert scale dialog box status 1 = Shown, 0 = Hidden

Input Parameters
moduleHandle: Module handle
5.9 Measurement Control

mexWeStart

Description
Starts the measurement module operation.

Syntax
ret = mexWeStart(hHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
hHandle: Module handle, module link handle, station handle, or station link handle.

mexWeStop

Description
Stops the measurement module operation.

Syntax
ret = mexWeStop(hHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
hHandle: Module handle, module link handle, station handle, or station link handle.

mexWeStartEx

Description
Starts the measurement module operation (extended).

Syntax
ret = mexWeStartEx(hHandle, blockLen, blockCount, acqCount)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
hHandle: Module handle, module link handle, station handle, or station link handle.
blockLen: Number of data points per block (record length)
blockCount: Number of memory partitions (blocks)
acqCount: Specify the exponent of the 2’s power.

Note
To stop the measurement module operation, use mexWeStop.
mexWeStartSingle

Description
Acquires the data once on the data acquisition measurement module. When the data acquisition is completed after starting the measurement, the program exits from this function.

Syntax
ret = mexWeStartSingle(hHandle, timeout)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
hHandle: Module handle, module link handle, station handle, or station link handle.
timeout: Timeout value (s)

mexWelsRun

Description
 Gets the execution status (Run status/Stop status) of the measurement module.

Syntax
[ret, state] = mexWelsRun(moduleHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
state: 1 = Run, 0 = Stop

Input Parameters
moduleHandle: Module handle

mexWeLatchData

Description
Issues the latch command that specifies the range of acquisition data to be retrieved when the acquisition mode is set to free run.

Syntax
ret = mexWeLatchData(moduleHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
mexWeGetAcqDataInfo

Description
Reads the acquisition data information of the measurement module.

Syntax
[ret, info, infoNum] = mexWeGetAcqDataInfo(moduleHandle, ch, blockNo)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
info: Data information structure
infoNum: The number of data information structure retrieved

Input Parameters
moduleHandle: Module handle
ch: Channel number
blockNo: Block number

mexWeGetAcqDataSize

Description
Reads the acquisition data size (number of bytes) of the measurement module.
The number of data bytes is adjusted according to the data type.

Syntax
[ret, pointNum, dataSize, ptype, chNum] = mexWeGetAcqDataSize(moduleHandle, ch, blockNo)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
pointNum: Number of data points to be retrieved
dataSize: Total number of bytes to be retrieved.
ptype: Type of data to be retrieved
  255= WE_NULL  No parameter
  0=WE_UBYTE  8-bit unsigned integer
  1=WE_SBYTE  8-bit signed integer
  4=WE_BIT8  8-bit logic type
  16=WE_UWORD  16-bit unsigned integer
  17=WE_SWORD  16-bit signed integer
  20=WE_BIT16  16-bit logic type
  32=WE_ULONG  32-bit unsigned integer
  33=WE_SLONG  32-bit signed integer
  36=WE_BIT32  32-bit logic type
  34=WE_FLOAT  32-bit real number
  50=WE_DOUBLE  64-bit real number
  52=WE_BIT64  64-bit logic type
chNum: Total number of channels that can currently acquire data

Input Parameters
moduleHandle: Module handle
ch: Channel number
blockNo: Block number
mexWeGetAcqData

Description
Reads the acquisition data from the measurement module.
The data is raw data that is obtained after A/D conversion. The data format depends on the measurement module. The relevant information can be obtained with the mexWeGetAcqDataInfo function.

Syntax
[ret, recSize, buf, ptype] = mexWeGetAcqData(moduleHandle, ch, blockNo, bufSize)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
recSize: Data size (number of bytes) received.
buf: Data buffer
ptype: Type of data to be retrieved
255=WE_NULL No parameter
0=WE_UBYTE 8-bit unsigned integer
1=WE_SBYTE 8-bit signed integer
4=WE_BIT8 8-bit logic type
16=WE_UWORD 16-bit unsigned integer
17=WE_SWORD 16-bit signed integer
20=WE_BIT16 16-bit logic type
32=WE_ULONG 32-bit unsigned integer
33=WE_SLONG 32-bit signed integer
36=WE_BIT32 32-bit logic type
34=WE_FLOAT 32-bit real number
50=WE_DOUBLE 64-bit real number
52=WE_BIT64 64-bit logic type

Input Parameters
moduleHandle: Module handle
ch: Channel number
blockNo: Block number
bufSize: Data buffer size
mexWeGetAcqDataEx

Description
Reads the acquisition data from the measurement module. Unlike mexWeGetAcqData, this function can read the interpolated data (Peak-to-peak (MIN-MAX) data).

Syntax
[ret, recSize, buf, ptype] = mexWeGetAcqDataEx(moduleHandle, ch, blockNo, startPoint, endPoint, ppNum, interpolation, bufSize)

Output Parameters
- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.
- **recSize**: Data size (number of bytes) received.
- **buf**: Data buffer
- **ptype**: Type of data to be retrieved
  - 255 = WE_NULL: No parameter
  - 0 = WE_UBYTE: 8-bit unsigned integer
  - 1 = WE_SBYTE: 8-bit signed integer
  - 4 = WE_BIT8: 8-bit logic type
  - 16 = WE_UWORD: 16-bit unsigned integer
  - 17 = WE_SWORD: 16-bit signed integer
  - 20 = WE_BIT16: 16-bit logic type
  - 32 = WE_ULONG: 32-bit unsigned integer
  - 33 = WE_SLONG: 32-bit signed integer
  - 36 = WE_BIT32: 32-bit logic type
  - 34 = WE_FLOAT: 32-bit real number
  - 50 = WE_DOUBLE: 64-bit real number
  - 52 = WE_BIT64: 64-bit logic type

Input Parameters
- **moduleHandle**: Module handle
- **ch**: Channel number
- **blockNo**: Block number
- **startPoint**: Start position of the data to be retrieved
- **endPoint**: End position of the data to be retrieved
- **ppNum**: Number of display data sets (Pair of MIN and MAX values)
- **interpolation**: Data interpolation type selection
  - 0 = WE_INTER_LINE: Linear interpolation
  - 1 = WE_INTER_SIN: Sine interpolation
  - 2 = WE_INTER_PULSE: Pulse interpolation
- **bufSize**: Data buffer size
mexWeGetCurrentData

Description
Reads the instantaneous data from the measurement module.
This function reads the newest data.

Syntax
\[ \text{ret, recSize, buf, ptype} = \text{mexWeGetCurrentData} (\text{moduleHandle, ch, bufSize}) \]

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
recSize: Data size (number of bytes) received.
buf: Data buffer
ptype: Type of data to be retrieved
  255=WE_NULL No parameter
  0=WE_UBYTE 8-bit unsigned integer
  1=WE_SBYTE 8-bit signed integer
  16=WE_UWORD 16-bit unsigned integer
  17=WE_SWORD 16-bit signed integer
  32=WE_ULONG 32-bit unsigned integer
  33=WE_SLONG 32-bit signed integer
  34=WE_FLOAT 32-bit real number
  50=WE_DOUBLE 64-bit real number

Input Parameters
moduleHandle: Module handle
ch: Channel number
bufSize: Data buffer size

mexWeGetScaleCurrentData

Description
Reads the data obtained after scaling the instantaneous values of the measurement module.

Syntax
\[ \text{ret, recParam, recSize, buf} = \text{mexWeGetScaleCurrentData} (\text{moduleHandle, ch, ptype, param, bufSize}) \]

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
recParam: Scale parameter information structure received
recSize: Data size (number of bytes) received.
buf: Data buffer

Input Parameters
moduleHandle: Module handle
ch: Channel number
ptype: Type of data being read
  34=WE_FLOAT
  50=WE_DOUBLE
param: Scale parameter information structure
bufSize: Data buffer size
mexWeGetScaleCurrentDataEx

**Description**
Reads the data obtained after scaling the instantaneous values of the measurement module. Uses the scale conversion values that were specified using mexWeSetScaleInfo or mexWeShowLinearScaleWindow, that are stored in the module.

**Syntax**

```
[ret, recSize, buf] = mexWeGetScaleCurrentDataEx(moduleHandle, ch, ptype, bufSize)
```

**Output Parameters**
- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.
- **recSize**: Data size (number of bytes) received.
- **buf**: Data buffer

**Input Parameters**
- **moduleHandle**: Module handle
- **ch**: Channel number
- **ptype**: Type of data being read
  - 34=WE_FLOAT
  - 50=WE_DOUBLE
- **bufSize**: Data buffer size

mexWeGetScaleData

**Description**
Reads the data obtained after scaling the acquisition data of the measurement module. The A/D-converted acquisition data is converted to physical values and then converted using the specified scale values.

**Syntax**

```
[ret, recParam, recSize, buf] = mexWeGetScaleData(moduleHandle, ch, blockNo, param, bufSize, ptype)
```

**Output Parameters**
- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.
- **recParam**: Scale parameter information structure received
- **recSize**: Data size (number of bytes) received.
- **buf**: Data buffer

**Input Parameters**
- **moduleHandle**: Module handle
- **ch**: Channel number
- **blockNo**: Block number
- **param**: Scale parameter information structure
- **bufSize**: Data buffer size
- **ptype**: Type of data being read
  - 34=WE_FLOAT
  - 50=WE_DOUBLE
mexWeGetScaleDataEx

Description
Reads the data obtained after scaling the acquisition data of the measurement module. Uses the scale conversion values that were specified using mexWeSetScaleInfo or mexWeShowLinearScaleWindow, that are stored in the module.

Syntax
\[ \text{ret, recSize, buf} = \text{mexWeGetScaleDataEx(moduleHandle, ch, blockNo, bufSize, ptype)} \]

Output Parameters
- ret: Returns 0 if successful. Returns an error code if unsuccessful.
- recSize: Data size (number of bytes) received.
- buf: Data buffer

Input Parameters
- moduleHandle: Module handle
- ch: Channel number
- blockNo: Block number
- bufSize: Data buffer size
- ptype: Type of data being read
  - 34 = WE_FLOAT
  - 50 = WE_DOUBLE

mexWeGetMeasureParam

Description
Gets the automated measurement values of waveform parameters from the measurement module. The automated measurement values are the results analyzed by the measurement modules. For modules that do not have the automated measurement function, the mexWeExecMeasureParam can be used.

Syntax
\[ \text{[ret, item, itemNum] = mexWeGetMeasureParam(moduleHandle, ch, blockNo, startPoint, endPoint)} \]

Output Parameters
- ret: Returns 0 if successful. Returns an error code if unsuccessful.
- item: Automated measurement information structure of waveform parameters
- itemNum: The number of automated measurement information structures

Input Parameters
- moduleHandle: Module handle
- ch: Channel number
- blockNo: Block number
- startPoint: Start point of the data for the automated measurement of waveform parameters
- endPoint: End point of the data for the automated measurement of waveform parameters.
mexWeSaveAcqData

Description
Saves the acquisition data (raw data) of the measurement module to a file.

Syntax
ret = mexWeSaveAcqData(moduleHandle, ch, blockNo, filename, htype)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
ch: Channel number
blockNo: Block number
filename: File name
htype: Header file creation
0 = Not create the header file
1 = Create the header file

mexWeSaveScaleData

Description
Saves the scaled acquisition data of the measurement module to a file in binary format.

Syntax
[ret, recParam] = mexWeSaveScaleData(moduleHandle, ch, blockNo, param, filename, htype)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
recParam: Scaled value information structure retrieved

Input Parameters
moduleHandle: Module handle
ch: Channel number
blockNo: Block number
param: Scale value information structure
filename: File name
htype: Header file creation
0 = Not create the header file
1 = Create the header file
mexWeSaveScaleDataEx

Description
Saves the scaled acquisition data of the measurement module to a file in binary format. Uses the scale conversion values that were specified using mexWeSetScaleInfo or mexWeShowLinearScaleWindow, that are stored in the module.

Syntax
ret = mexWeSaveScaleDataEx(moduleHandle, ch, blockNo, filename, htype)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
ch: Channel number
blockNo: Block number
filename: File name
htype: Header file creation
0 = Not create the header file
1 = Create the header file

mexWeSaveAsciiData

Description
Saves the acquisition data of the measurement module converted to physical values to a file in ASCII format (CSV format). Physical values are not the scaled values, but values in the measurement unit of the module. For example, the physical value is voltage on the digitizer module.

Syntax
ret = mexWeSaveAsciiData(moduleHandle, ch, blockNo, filename, htype)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
ch: Channel number
blockNo: Block number
filename: File name
htype: Header file creation
0 = Not create the header file
1 = Create the header file
mexWeSaveScaleAsciiData

**Description**
Saves the scaled acquisition data of the measurement module to a file in ASCII format (CSV format).

**Syntax**

```
[ret, recParam] = mexWeSaveScaleAsciiData(moduleHandle, ch, blockNo, param, filename, htype)
```

**Output Parameters**

- `ret`: Returns 0 if successful. Returns an error code if unsuccessful.
- `recParam`: Scaled value information structure retrieved

**Input Parameters**

- `moduleHandle`: Module handle
- `ch`: Channel number
- `blockNo`: Block number
- `param`: Scale value information structure
- `filename`: File name
- `htype`: Header file creation
  - 0 = Not create the header file
  - 1 = Create the header file

mexWeSaveScaleAsciiDataEx

**Description**
Saves the scaled acquisition data of the measurement module to a file in ASCII format (CSV format).
Uses the scale conversion values that were specified using `mexWeSetScaleInfo` or `mexWeShowLinearScaleWindow`, that are stored in the module.

**Syntax**

```
ret = mexWeSaveScaleAsciiDataEx(moduleHandle, ch, blockNo, filename, htype)
```

**Output Parameters**

- `ret`: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**

- `moduleHandle`: Module handle
- `ch`: Channel number
- `blockNo`: Block number
- `filename`: File name
- `htype`: Header file creation
  - 0 = Not create the header file
  - 1 = Create the header file
mexWeSaveAcqHeader

Description
Creates the header file containing the acquisition data waveform information of the measurement module. The file that is created is the same file created using mexWeSaveAcqData.

Syntax
ret = mexWeSaveAcqHeader(moduleHandle, ch, filename)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
ch: Channel number
filename: File name

mexWeSavePatternData

Description
Saves the pattern data that is dependent on the measurement module to a file. The pattern data is different for each module. Some modules do not have pattern data defined. Pattern data is, for example, the arbitrary waveform data of the WE7121 and the digital pattern data of the WE7131.

Syntax
ret = mexWeSavePatternData(moduleHandle, ch, filename)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
ch: Channel number
filename: File name

mexWeLoadPatternData

Description
Loads the pattern data that is dependent on the measurement module. The pattern data is different for each measurement module. Some measurement modules do not have pattern data defined. Pattern data is, for example, the arbitrary waveform data of the WE7121 and the digital pattern data of the WE7131.

Syntax
ret = mexWeLoadPatternData(moduleHandle, ch, filename)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
ch: Channel number
filename: File name
mexWeLoadPatternDataEx

Description
Loads the waveform data that is retrieved using the specified parameter from the specified file (wvf or csv format) to the measurement module.

Syntax
ret = mexWeLoadPatternDataEx(moduleHandle, command, filename, ch, blockNo)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
command: ASCII Command
filename: File name
ch: Channel number
blockNo: Block number

mexWeSetOverRun

Description
Sets whether to detect overruns.

Syntax
ret = mexWeSetOverRun(moduleHandle, sw)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
moduleHandle: Module handle
sw : Overrun detection setting
  0 = Not detected (do not stop even when overrun occurs)
  1 = Detected (stop when overrun occurs)

mexWeGetOverRun

Description
Gets whether overruns are detected.

Syntax
[ret, sw] = mexWeGetOverRun(moduleHandle)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
sw : Overrun detection status
  0 = Not detected (do not stop even when overrun occurs)
  1 = Detected (stop when overrun occurs)

Input Parameters
moduleHandle: Module handle
5.10 Waveform Parameter Computation

mexWeExecMeasureParam

**Description**
Performs waveform parameter computation on physical data.
mexWeGetMeasureParam performs the automated computation of waveform parameters on the measurement module, but this function computes the parameters on the PC.

**Syntax**
\[ [\text{ret}, \text{item}] = \text{mexWeExecMeasureParam}(\text{data}, \text{ptype}, \text{dt}, \text{startPoint}, \text{endPoint}) \]

**Output Parameters**
- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.
- **item**: Structure for storing the computed results of waveform parameters

**Input Parameters**
- **data**: Computed data of waveform parameter
- **ptype**: Parameter type
  - 34=WE_FLOAT 32-bit real number
  - 50=WE_DOUBLE 64-bit real number
- **dt**: Sampling interval (s)
- **startPoint**: Starting point of the data for computing the parameter values.
- **endPoint**: End point of the data for computing the parameter values.

mexWeExecMeasureParamAcqData

**Description**
Performs waveform parameter computation on acquisition data (raw data).
mexWeGetMeasureParam performs the automated computation of waveform parameters on the measurement module, but this function computes the parameters on the PC.

**Syntax**
\[ [\text{ret}, \text{item}] = \text{mexWeExecMeasureParamAcqData}(\text{data}, \text{ptype}, \text{gain}, \text{offset}, \text{dt}, \text{startPoint}, \text{endPoint}) \]

**Output Parameters**
- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.
- **item**: Structure for storing the computed results of waveform parameters

**Input Parameters**
- **data**: Computed data of waveform parameter
- **ptype**: Parameter type
  - 0=WE_UBYTE 8-bit unsigned integer
  - 1=WE_SBYTE 8-bit signed integer
  - 16=WE_UWORD 16-bit unsigned integer
  - 17=WE_SWORD 16-bit signed integer
  - 32=WE_ULONG 32-bit unsigned integer
  - 33=WE_SLONG 32-bit signed integer
- **gain**: Gain (range)
- **offset**: Offset
- **dt**: Sampling interval (s)
- **startPoint**: Starting point of the data for computing the parameter values.
- **endPoint**: End point of the data for computing the parameter values.
5.11 Filter API for the WE7281 4-CH, 100kS/s D/A Module

mexWeWvf2S16GetSize

**Description**
Gets the byte size when waveform data retrieved using the specified parameter from the specified file (wvf or csv format) is converted to the arbitrary waveform data format for the FG mode (s16).

**Syntax**
```
[ret, size] = mexWeWvf2S16GetSize(filename, ch, block)
```

**Output Parameters**
- `ret`: Returns 0 if successful. Returns an error code if unsuccessful.
- `size`: Data size (bytes)

**Input Parameters**
- `filename`: Waveform data file name
- `ch`: Channel number of the input file
- `block`: Block number of the input file

mexWeWvf2W32GetSize

**Description**
Gets the byte size when waveform data retrieved using the specified parameter from the specified file (wvf or csv format) is converted to the sweep waveform data format for the FG mode (w32).

**Syntax**
```
[ret, size] = mexWeWvf2W32GetSize(filename, ch, block)
```

**Output Parameters**
- `ret`: Returns 0 if successful. Returns an error code if unsuccessful.
- `size`: Data size (bytes)

**Input Parameters**
- `filename`: Waveform data file name
- `ch`: Channel number of the input file
- `block`: Block number of the input file
mexWeWvf2W7281GetSize

Description
Gets the byte size when waveform data retrieved using the specified parameter from the specified file (wvf or csv format) is converted to the arbitrary waveform data format (w7281) for the AG mode.

Syntax
[ret, size] = mexWeWvf2W7281GetSize(filename, ch, block)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
size: Data size (bytes)

Input Parameters
filename: Waveform data file name
ch: Channel number of the input file
block: Block number of the input file

mexWeWvf2S16

Description
Converts waveform data retrieved using the specified parameter from the specified file (wvf or csv format) to the arbitrary waveform data format for the FG mode (s16).

Syntax
[ret, buf, recSize] = mexWeWvf2S16(filename, ch, block, bufsize)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
buf: Data retrieved
recSize: Size of the data retrieved (byte size)

Input Parameters
filename: Waveform data file name
ch: Channel number of the input file
block: Block number of the input file
bufsize: Data size (bytes)
mexWeWvf2W32

Description
Converts waveform data retrieved using the specified parameter from the specified file (wvf or csv format) to the sweep waveform data format for the FG mode (w32).

Syntax
[ret, buf, recSize] = mexWeWvf2W32(filename, ch, block, bufSize)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
buf: Data retrieved
recSize: Size of the data retrieved (byte size)

Input Parameters
filename: Waveform data file name
ch: Channel number of the input file
block: Block number of the input file
bufsize: Data size (bytes)

mexWeWvf2W7281

Description
Converts waveform data retrieved using the specified parameter from the specified file (wvf or csv format) to the arbitrary waveform data format for the AG mode (w7281).

Syntax
[ret, buf, recSize] = mexWeWvf2W7281(filename, ch, block, bufsize)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
buf: Data retrieved
recSize: Size of the data retrieved (byte size)

Input Parameters
filename: Waveform data file name
ch: Channel number of the input file
block: Block number of the input file
bufsize: Data size (bytes)
5.12 Others

mexWelsBlockEnd

Description
Gets the end status of the block data read of the measurement module.

Syntax
[ret, sw] = mexWelsBlockEnd(moduleHandle, blockNo)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
sw: End status 0 = Stop, 1 = Run

Input Parameters
moduleHandle: Module handle
blockNo: Block number

Note
This function is an original function of this Control Toolkit. It does not correspond to the WE Control API.
### 6. File Operation Functions

The function names obtained by removing “mex” from the mex function names correspond to the WE Control API functions.

For details on mex functions, see chapter 9, “File Operation Functions” in the WE Control API User’s Manual (IM 707741-61E).

#### 6.1 The List of Functions

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6.2 Single File Access

mexWeDPHeaderReadS

Description
Reads the data from the header file by specifying the block number.

Syntax
\[
[\text{ret}, \text{ComInfo}, \text{ChInfo}] = \text{mexWeDPHeaderReadS}(\text{filename}, \text{blockNo}, \text{ChNum})
\]

Output Parameters
- ret: Returns 0 if successful. Returns an error code if unsuccessful.
- ComInfo: Structure of the read information (ComInfo)
- ChInfo: Structure of the read information (ChInfo)

Input Parameters
- filename: Name of the file to be read without the extension
- blockNo: Block number to be read (0 origin)
- ChNum: Number of channels to be read (number of ChInfo structures)

mexWeDPDataRead

Description
Reads the data from the data file by specifying the block number.

Syntax
\[
[\text{ret}, \text{data}] = \text{mexWeDPDataRead}(\text{filename}, \text{blockNo}, \text{ch}, \text{dataForm}, \text{dataNum})
\]

Output Parameters
- ret: Returns 0 if successful. Returns an error code if unsuccessful.
- data: Read data

Input Parameters
- filename: Name of the file to be read without the extension
- blockNo: Number of the block to be read
- ch: Number of the channel to be read
- dataForm: Type of data to be read
  1=WE_UBYTE
  17=WE_SWORD
  33=WE_SLONG
  34=WE_FLOAT
  50=WE_DOUBLE
- dataNum: Number of data points to be read

Note
The parameter dataNum does not exist in the WE Control API function, but is required in the mex function.
mexWeDPHeaderWriteS

Description
Writes the header information at once to the header file by specifying the block.

Syntax
ret = mexWeDPHeaderWriteS(filename, blockNo, ComInfo, ChNum, ChInfo, AcqInfo)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
filename: Name of the file to be written without the extension
blockNo: Block number to be written (0 origin)
ComInfo: Structure of the written information (ComInfo)
ChNum: Number of channels to be written (number of ChInfo structures)
ChInfo: Structure of the written information (ChInfo)
AcqInfo: Data information structure to be written

mexWeDPDataWrite

Description
Writes the data to the data file in units of blocks.

Syntax
ret = mexWeDPDataWrite(filename, blockNo, sampleNum, ChNum, AcqInfo, dataForm, data)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.

Input Parameters
filename: Name of the file to be written without the extension
blockNo: Number of the block to be written
sampleNum: Number of samples to be written
ChNum: Number of channels to be written
AcqInfo: Data information structure to be written
dataForm: Type of data to be written
  1=WE_UBYTE
  17=WE_SWORD
  33=WE_SLONG
  34=WE_FLOAT
  50=WE_DOUBLE
data: Data to be written
6.3 Sequential File Access

mexWeDPHeaderCsReadS

Description
Collectively reads the header information from a header file.

Syntax
\[\text{ret}, \text{ComInfo}, \text{ChInfo}\] = mexWeDPHeaderCsReadS(\text{filename, seriesNo, ChNum})

Output Parameters
- ret: Returns 0 if successful. Returns an error code if unsuccessful.
- ComInfo: Structure of the read information (ComInfo)
- ChInfo: Structure of the read information (ChInfo)

Input Parameters
- filename: Name of the file to be read without the extension
- seriesNo: First sequence number of the file to be read
- ChNum: Number of channels to be read (number of ChInfo structures)

mexWeDPCsRead

Description
Reads the data from the data files (sequential files) by specifying the number of samples.

Syntax
\[\text{ret, data}\] = mexWeDPCsRead(\text{filename, seriesNo, start, length, ch, dataForm, dataNum})

Output Parameters
- ret: Returns 0 if successful. Returns an error code if unsuccessful.
- data: Read data

Input Parameters
- filename: Name of the file to be read without the extension
- seriesNo: First sequence number of the file to be read
- start: Start point of the data to be read
- length: Number of data points to be read
- ch: Number of the channel to be read
- dataForm: Type of data to be read
  - 1=WE_UBYTE
  - 17=WE_SWORD
  - 33=WE_SLONG
  - 34=WE_FLOAT
  - 50=WE_DOUBLE
- dataNum: Number of data points to be read

Note
The parameter dataNum does not exist in the WE Control API function, but is required in the mex function.
**mexWeDPHeaderCsWriteS**

**Description**
Collectively writes the header information to the header file.

**Syntax**
ret = mexWeDPHeaderCsWriteS(filename, seriesNo, ComInfo, ChNum, ChInfo, AcqInfo)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
filename: Name of the file to be written without the extension
seriesNo: First sequence number of the file to be written
ComInfo: Structure of the written information (ComInfo)
ChNum: Number of channels to be written (number of ChInfo structures)
ChInfo: Structure of the written information (ChInfo)
AcqInfo: Data information structure to be written

**mexWeDPCsWrite**

**Description**
Write data to a sequence file.

**Syntax**
ret = mexWeDPCsWrite(filename, seriesNo, sampleNum, ChNum, AcqInfo, dataForm, data)

**Output Parameters**
ret: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**
filename: Name of the file to be written without the extension
blockNo: Number of the block to be written
sampleNum: Number of samples to be written
ChNum: Number of channels to be written
AcqInfo: Data information structure to be written
dataForm: Type of data to be written
   1= WE_UBYTE
   17= WE_SWORD
   33= WE_SLONG
   34= WE_FLOAT
   50= WE_DOUBLE
data: Data to be written
6.4 Access the Specified Item of the Header File

**mexWeDPHeaderItemRead**

**Description**
Reads the information of the specified item name and specified channel from the header information of the header file.

**Syntax**

```
[ret, data] = mexWeDPHeaderItemRead(filename, itemName, ch, blockNo)
```

**Output Parameters**

- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.
- **data**: Read data

**Input Parameters**

- **filename**: Name of the file to be read without the extension
- **itemName**: Name of the item to be read
- **ch**: Number of the channel to be read
- **blockNo**: Number of the block to be read

**mexWeDPHeaderItemWrite**

**Description**
Writes data to the specified item name and specified channel in the header information of the header file.

**Syntax**

```
ret = mexWeDPHeaderItemWrite(filename, itemName, ch, blockNo, data)
```

**Output Parameters**

- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.

**Input Parameters**

- **filename**: Name of the file to be written without the extension
- **itemName**: Name of the item to be written
- **ch**: Number of the channel to be written
- **blockNo**: Number of the block to be written
- **data**: Data to be written
6.5 Data Operation

mexWeDPGetSampleChNum

Description
Gets the number of samples and number of channels of the specified file.

Syntax
[ret, SampleNum, ChNum] = mexWeDPGetSampleChNum(filename, blockNo)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
SampleNum: Number of data points read
ChNum: Number of channels read

Input Parameters
filename: Name of the file to be read without the extension
blockNo: Number of the block to be read

mexWeDPGetBlockNum

Description
Gets the number of blocks of the specified file.

Syntax
[ret, blockNum] = mexWeDPGetBlockNum(filename)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
blockNum: Number of block read

Input Parameters
filename: Name of the file to be read without the extension

mexWeDPInitializeAcqInfo

Description
Stores the required data in the data information structure.

Syntax
[ret, AcqInfo] = mexWeDPInitializeAcqInfo(VMaxData, VMinData, sampleNum, sampInterval, infoNum)

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
AcqInfo: Data information structure

Input Parameters
VMaxData: Max data
VMinData: Min data
sampleNum: Number of data samples
sampInterval: Sampling frequency of the data
infoNum: Number of data information structures
mexWeDPScaleConvert

Description
Scales the specified data and returns the result.

Syntax
\[\text{ret, scaleAcqInfo, scaleData} = \text{mexWeDPScaleConvert} (\text{scaleA, scaleB, dataForm, data, mode, ChNum, dataAcqInfo, scaleDataForm})\]

Output Parameters
ret: Returns 0 if successful. Returns an error code if unsuccessful.
scaleAcqInfo: Data information structure
scaleData: Scaled data

Input Parameters
scaleA: Scaling coefficient A
scaleB: Scaling coefficient B
dataForm: Data type
  1=WE_UBYTE
  17=WE_SWORD
  33=WE_SLONG
  34=WE_FLOAT
  50=WE_DOUBLE
data: Data to be converted
mode: Conversion mode (For details, see the WE Control API User’s Manual (IM707741-61E)).
ChNum: Number of data information structures (number of channels)
dataAcqInfo: Data information structure
scaleDataForm: ScaleData type
  1=WE_UBYTE
  17=WE_SWORD
  33=WE_SLONG
  34=WE_FLOAT
  50=WE_DOUBLE
6.6 Read Acquisition Data Information

mexWeGetAcqDataInfoEx

**Description**
Reads the acquisition data information of the measurement module.

**Syntax**

\[\text{[ret, info, infoNum]} = \text{mexWeGetAcqDataInfoEx(moduleHandle, ch, blockNo)}\]

**Output Parameters**
- **ret**: Returns 0 if successful. Returns an error code if unsuccessful.
- **info**: Data information structure retrieved
- **infoNum**: Number of data information structure retrieved

**Input Parameters**
- **moduleHandle**: Module handle
- **ch**: Number of the channel to be retrieved
- **blockNo**: Number of the block number to be retrieved
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