



Mitsubishi Electric FA Website e-learning Motion Control Software SWM-G Basic Supplementary Document

[Title] How to check SWM-G manuals

[Document number] BCN-B11260-051EN

[Version] -

[Relevant Model] Motion Control Software SWM-G

This document is a supplementary document for the e-learning Motion Control Software SWM-G Basic course which is available on the Mitsubishi Electric FA website.

The contents of this document are intended to supplement the above e-learning course. For information which is not described in this document, refer to the e-learning course.

This document describes how to check SWM-G User Manual, user's manual, and operating manual.

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How to view SWM-G User Manual

SWM-G User Manual describes the functions of SWM-G. When you install SWM-G, SWM-G User Manual in the following two languages are installed at the same time.

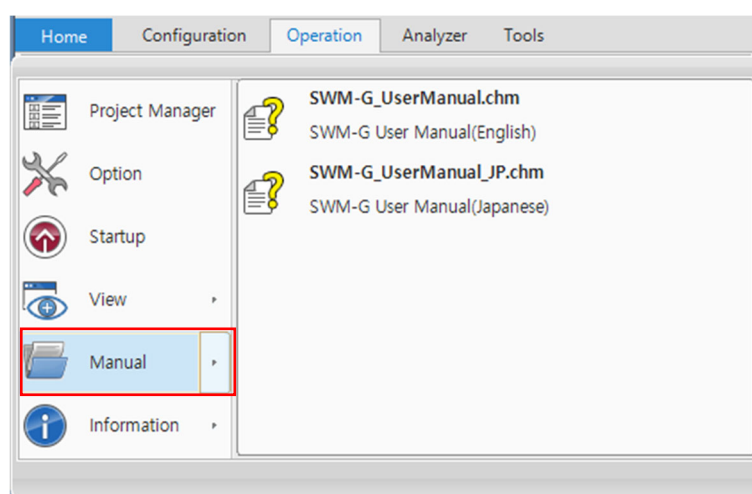
SWM-G User Manual described in this document is the Japanese edition of the following version. If the versions differ, the location of description and contents may be different.

Language	File name	Version (As of January 2024)
English	SWM-G_UserManual.chm	1.005F
Japanese	SWM-G_UserManual_JP.chm	1.005F

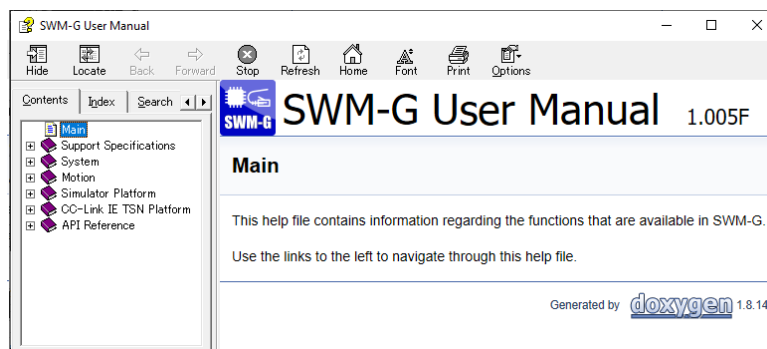
There are the following two ways to view SWM-G User Manual.

- Viewing from SWMOS

Select [Home] → [Manual] in the ribbon of SWMOS, and select the manual in the language you want to view.

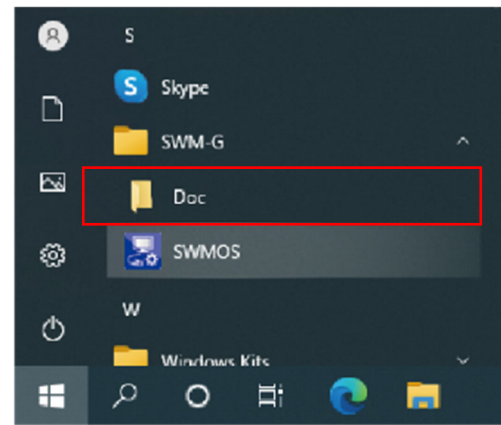


- SWM-G User Manual is displayed.

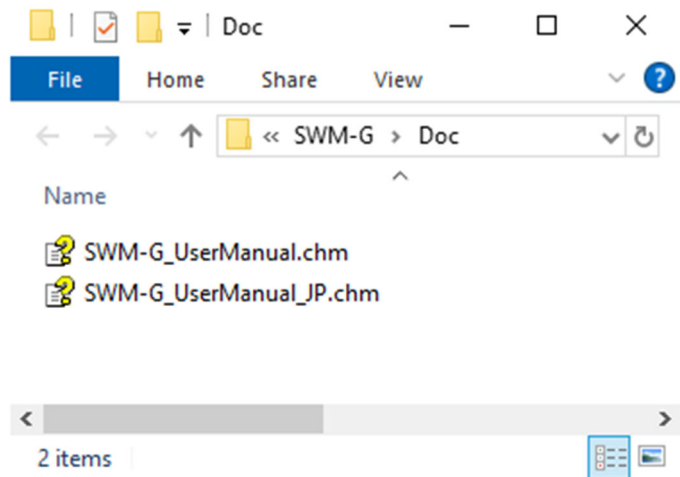


- Viewing from the Windows start menu

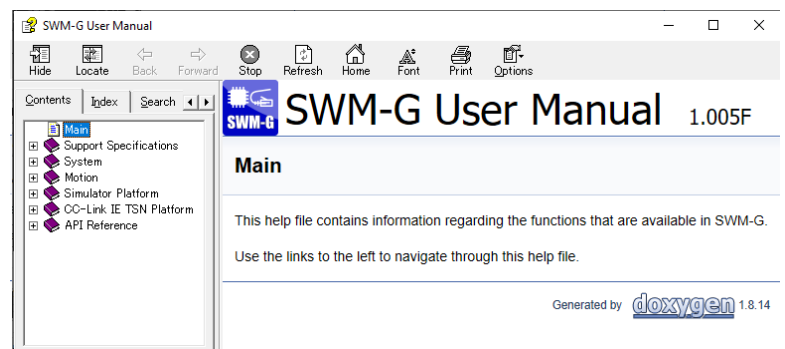
1. Select [SWM-G] → [Doc] from the Windows start menu.



2. In the Doc folder, open the file in the language you want to view.



- SWM-G User Manual is displayed.



What is API?

API is equivalent to the function block (FB) of the programmable controller and the Motion module.

Using API allows you to perform motion control without any concern for the network processing and communication between Windows and RTX.

How to check API Reference

In SWM-G User Manual, you can check the following information on each class of API Reference (class of function levels).

- Class (sub class)
 - Public member function
 - Public variables
 - Function explanation
- How to check the information on each class

In this section, Home class is used as an example.

1. In the contents tab, select [API Reference] → [sscApi] → [CoreMotion] → [Home].
2. Click the item to be checked.

SWM-G User Manual

Hide Locate **Back** Forward Stop Refresh Home Font Print Options

Contents Index

Main

- Support Specifications
- System
- Motion
- Simulator Platform
- CC-Link IE TSN Platform
- API Reference
 - sscApi
 - constants
 - Compensation
 - CoreMotion
 - AxisControl
 - Config
 - Home**
 - Motion
 - Sync
 - Velocity
 - Torque
 - AdvancedMotion
 - EventControl
 - Io
 - Log
 - UserMemory
 - PMMotion
 - SSCApi
 - simuApi
 - cclinkApi

User Manual 1.005F

sscApi Home

Home Class Reference

Classes | Public Member Functions | Public Attributes | List of all members

This class contains homing functions.

Classes

class	AxisHomeData	This class contains homing related data for a single axis.
class	Home	This class contains homing related functions for the motion module.

Public Member Functions

Home (CoreMotion *f)	
bool	IsDeviceValid ()
SSCAPIFUNC	StartHome (int axis) Start homing an axis. The axis will search for the home position. If found, the home position will become the zero position for that axis. More...
SSCAPIFUNC	StartHome (Axis Selection *pAxisSelection) Start homing multiple axes. The axes will search for the home position. If found, the home position will become the zero position for that axis. More...

How to use the search function

With the search function of SWM-G User Manual, you can check the description of the item including the word searched for.

- How to search

In this section, "StartPos" is used as an example.

1. Enter "StartPos" in the text entry box (1) in the search tab and click the [List Topics] button (2).

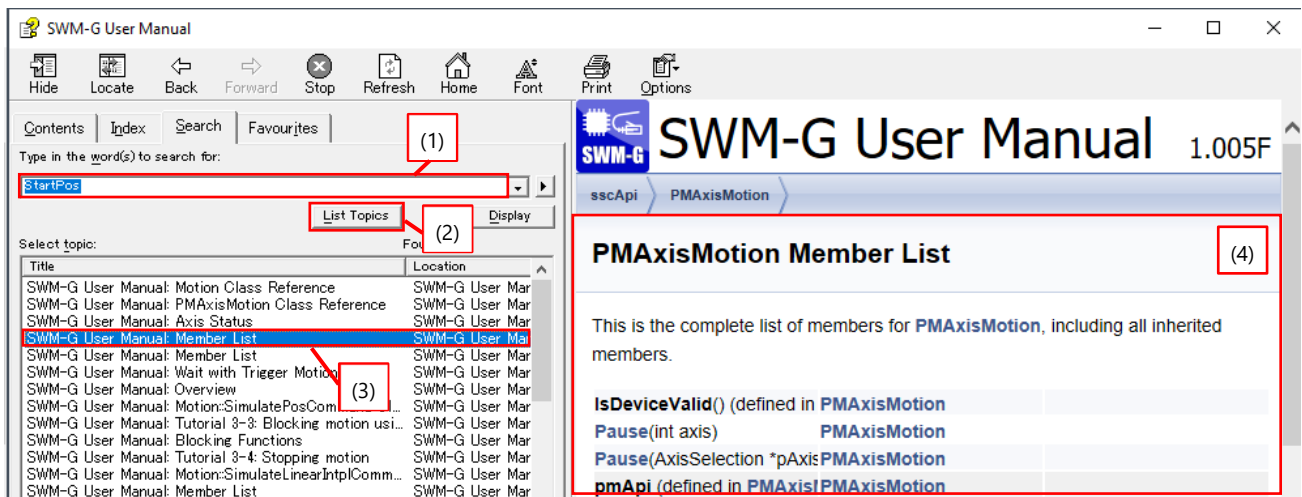
- The list of relevant pages is displayed in the "Select topic" section.

2. Click the item to be checked (3) in the "Select topic" list.

- The detailed explanation (4) is displayed on the right side.
- To search the detailed explanation for a word

Click the detailed explanation on the right side once and press the "Ctrl" and "F" keys to display the search window.

Enter the word to be searched for on the text entry box.



Tutorial

In SWM-G User Manual, basic sample programs are provided as tutorials.

These tutorials are ready-to-use sample programs. When using any of the sample programs, change the setting values as necessary.

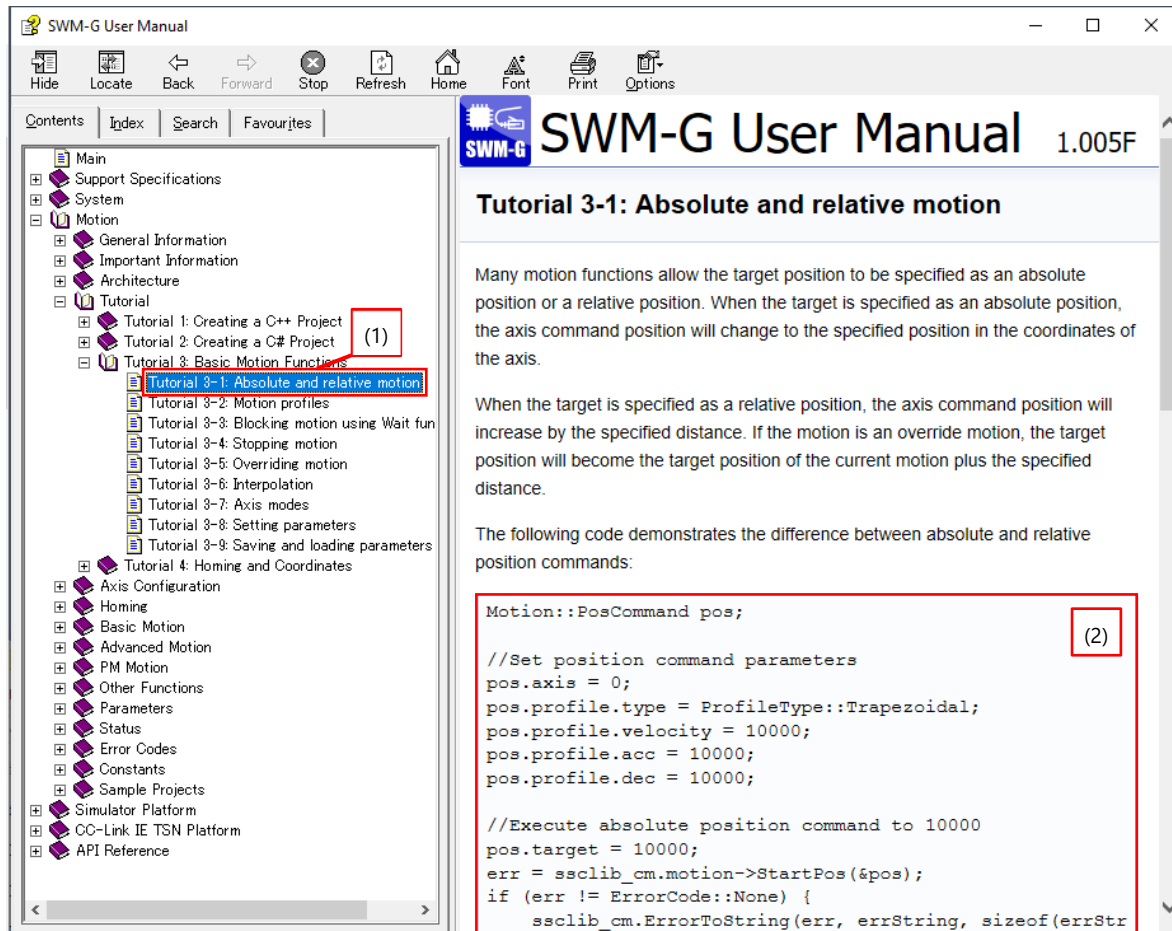
- How to check the tutorial

In this section, "Tutorial 3-1: Absolute and relative motion " is used as an example.

In the contents tab, select [Motion] → [Tutorial] → [Tutorial 3: Basic Motion Functions] →

"Tutorial 3-1: Absolute and relative motion" (1).

- The tutorial (2) is displayed on the right side.



Reference items of SWM-G User Manual

The following table lists the items to be referred to for each function in SWM-G User Manual.

The "Chapter to be referred to" column in the table below shows the chapters in the manual with the version described in "How to view SWM-G User Manual" of this document. If the versions differ, the location of description and contents may be different.

Category	Description	Chapter to be referred to
Motion control by programming	Positioning (ABS/INC)	Overview Motion → Tutorial → Tutorial 3: Basic Motion Functions → Tutorial 3-1: Absolute and relative motion
		API details API Reference → sscApi → CoreMotion → Detailed explanation of Motion StartPos()/StartMov()
	Acceleration/deceleration methods	Overview Motion → Basic Motion → Motion Profiles Select the acceleration/deceleration methods to be checked to display the detailed explanation.
		API details API Reference → sscApi → CoreMotion → Motion PosCommand class
	Interpolation operation (linear)	Overview Motion → Basic Motion → Interpolation → Linear Interpolation
		API details API Reference → sscApi → CoreMotion → Motion LinearIntplCommand class
	Interpolation operation (circular)	Overview Motion → Basic Motion → Interpolation → Circular Interpolation
		API details API Reference → sscApi → CoreMotion → Motion CenterAndEndCircularIntplCommand class /CenterAndLengthCircularIntplCommand class /ThroughAndEndCircularIntplCommand class
	Path interpolation	Overview Motion → Advanced Motion → Path Interpolation → Overview
		API details API Reference → sscApi → AdvancedMotion → AdvMotion PathIntplCommand class
	Trigger motion	Overview Motion → Basic Motion → Trigger Motion → Overview
		API details API Reference → sscApi → CoreMotion → Motion TriggerPosCommand class
	I/O	Overview Motion → Other Functions → I/O
		API details API Reference → sscApi → Io
	Position synchronous output (PSO)	Overview Motion → Other Functions → Position Synchronous Output (PSO)
		API details API Reference → sscApi → EventControl
	Override motion	Overview Motion → Basic Motion → Override Motion
		API details API Reference → sscApi → CoreMotion → Motion → OverrideXXX() function* ¹ *1 "XXX" indicates the item to be updated.
	Synchronous control	Overview Motion → Basic Motion → Synchronization
		API details API Reference → sscApi → CoreMotion → Sync
	E-CAM	Overview Motion → Advanced Motion → E-CAM
		API details API Reference → sscApi → AdvancedMotion → AdvancedMotion
	Data log (logging)	Overview Motion → Other Functions → Data Log
		API details API Reference → sscApi → Log
	Desired data monitor	Overview Motion → Status → Overview
		API details API Reference → sscApi → CoreMotion → GetStatus() function
	Parameter	Overview Motion → Parameters → Overview
		API details API Reference → sscApi → CoreMotion → Config
	System status	Overview Motion → Status → System Status
		API details API Reference → sscApi → CoreMotion Obtain the system status list with the GetStatus() function.
	Axis status	Overview Motion → Status → Axis Status
		API details API Reference → sscApi → CoreMotion Check axisStatus obtained with the GetStatus() function.
	System control (Engine start/stop, communication start/stop)	Overview Motion → Tutorial → Tutorial 1
		API details API Reference → sscApi → SSCApi

Motion control by programming	Axis basic operation (Servo ON/OFF, control mode change)	Overview	Motion → Axis Configuration → Overview
		API details	API Reference → sscApi → CoreMotion → AxisControl
	JOG operation	Overview	-
		API details	API Reference → sscApi → CoreMotion → Motion → StartJog() → JOG start

PDF catalog and manuals

In addition to SWM-G User Manual, the following catalog and manuals in PDF format are available.

The latest versions of the PDF catalog and manuals are available for download at Mitsubishi Electric Factory Automation Global Website.

www.mitsubishielectric.com/fa/worldwide

Type	Document name	Document number	Version (As of January 2024)	Description	Form	Price
New Product Release	Mitsubishi Electric AC Servo System Personal Computer Embedded Type Servo System Controller Motion Control Software SWM-G	SV2102-1	2102	Product lineup, features, system architecture of Motion Control Software SWM-G, and SWM-G compatible products.	PDF	—
Manual	Motion Control Software SWM-G User's Manual (Installation)	IB-0300558	E	Required procedures and settings for installing Motion Control Software SWM-G in a personal computer.	PDF	—
Manual	Motion Control Software SWM-G User's Manual (Startup)	IB-0300559	E	Specifications, procedures before operation, and settings of Motion Control Software SWM-G.	PDF	—
Manual	Motion Control Software SWM-G Operating manual	IB-0300560	E	System configuration, parameter settings, and online function operations of Motion Control Software SWM-G.	PDF	—

Items to be referred to in the PDF catalog and manuals

The following table lists the items to be referred to for each function in the PDF catalog and manuals.

The documents in the "Document" column in the table below are assumed to be with the versions described in "Catalog and Manual PDF" of this document.

If the versions differ, the location of description and contents may be different.

Category	Description	Document	Chapter/page (p) to be referred to
Overview	Product lineup	New Product Release	p.4
		Manual (Installation)	1.1 Product Configuration
	System configuration	Manual (Startup)	1.1 System Configuration
	System architecture	New Product Release	p.5
		Manual (Startup)	1.2 Architecture
Specifications/performance	Performance and specifications	Manual (Startup)	2.1 Performance Specifications
	Motion function list	Manual (Startup)	3. FUNCTION LIST
Installation	Personal computer settings before installation	Manual (Installation)	2.1 Preparation Before Installation
	Installing SWM-G with installer		2.2 Installation Procedure
	Updating RTX		
Network setting	Starting SWMOS	Manual (Operating)	2.1 Start and End
	Switching language		2.2 Switching Display Language
	NIC setting		3.2 Configuration Tab
	Platform setting		4.1 System SWM-G engine
	Network communication setting		
	Engine start/stop, communication start/stop		Appendix 2
	IP communication setting	Manual (Startup)	
Motion control by SWMOS	All-axes monitoring display	Manual (Operating)	3.3 Operating Tab → Axis status monitor
	Axis parameter setting		4.3 Axis Setting
	Home position return/single axis positioning (CSP mode)		4.4 Axis Control Single-axis control
	Single-axis positioning (CSV mode)		
	Single-axis positioning (CST mode)		4.4 Axis Control Multi-axis control
	Multi-axis positioning		
	I/O control		4.6 I/O Control
	Logging function/Graph display		3.4 Analyzer Tab
	PM motion		4.7 Axis Control (PM Motion)
Motion control by programming	Visual Studio setting	Manual (Startup)	Appendix 5

Revision

Version	Date	Description
-	August 2024	First edition