Motors

Automation

Energy Transmission and Distribution

Coatings

SSW900 - AOI

Configuration



Driving efficiency and sustainability



WEG SSW900 AOI Configuration

Prerequisites

Exclusions

This document does not go into detail of setting up a controller in RSLOGIX/STUDIO 5000.

The connection and configuration of the IP network is beyond the scope of this document.

All non-communication specific parameters on the SSW900 are excluded from the configuration requirements of this document.

System Components

This document assumes that the following components are available and configured:

- ControlLogix or CompactLogix PLC controller running version 20 (or higher) firmware
- 10/100 or faster ethernet network with IP connectivity and IP addresses for both the PLC and SSW900

EDS Installation

Begin by adding the EDS file for the SSW900 if it is not already in the project.

Note: please be sure to select the correct version of the EDS file. There are two versions. One is the SSW-CETH-W, and one is the SSW900-CETH-N. This example uses SSW-CETH-W.



From inside Logix Designer, go to Tools -> EDS Hardware Installation Tool





Click Next >

Rockwell Automation's Device Wizard		×
Options What task do you want to complete?		
 Register a device description file(s). This option will add a device(s) to our database. 		
 Unregister a device. This option will remove a device that has been registered by a Device Description File from our database. 		
C Create a device description file. This option creates a new device description file that allows our software to recognize your device.		
Upload device description file(s) from the device. This option uploads and registers the device description file(s) stored in the device.		
	< Back Next >	Cancel

Click Next >

SSW900 AOI Configuration



Rockwell Automation's Device Wizard	×
Registration Device Description file(s) will be added to your system for use in Rockwell Automation applications.	
• Register a single device description file	
C Register a directory of device description files 🛛 🗌 Look in subfolders	
Named:	
Browse	
* If there is an icon file (.ico) with the same name as the file(s) you are registering then this image will be associated with the device.	
To perform an installation test on the file(s), click Next	
< Back Next > Ca	ancel

Click Browse ...

👹 Select a Device description file			×
\leftrightarrow \rightarrow \checkmark \bigstar EDS files \Rightarrow WEG-SSW900-ethernet-ip-eds-v1.5x-application	5 V	Search WEG-SSW900-6	ethernet 🔎
Organize 👻 New folder		-	
 Projects WEG-SSW900-et This PC 3D Objects Desktop Documents Documents Downloads Music Pictures Videos Local Disk (C:) 			
File name: EIP_SSW900_V15X.eds	~	EDS Files (*.eds)	~
		Open	Cancel

Browse to where the downloaded eds file is located and click Open



Rockwell Automation's Device Wizard	×
Registration Device Description file(s) will be added to your system for use in Rockwell Automation applications.	
Register a single device description file	
C Register a directory of device description files 👘 Look in subfolders	
Named:	
C:\EDS files\WEG-SSW900-ethemet-ip-eds-v1.5x-application\EIP_SSW Browse	
If there is an icon file (ico) with the same name as the file(s) you are registering then this image will be associated with the device.	
To perform an installation test on the file(s), click Next	
< Back Next > 0	Cancel

Click Next >



Rockwell Automation's Device Wizard	×
Device Description File Installation Test Results This test evaluates each Device Description File for errors in the device description file. This test does not guarantee Device Description File validity.	
□Ē Installation Test Results	_
c:\eds files\weg-ssw900-ethemet-ip-eds-v1.5x-application\eip_ssw900_v15x.eds	
View file	
< Back Next > Car	ncel

There should be a green checkmark. Click Next >





Rockwell Automation's Device Wizard	×
Change Graphic Image You can change the graphic image that is associated with a device.	
Product Types	
Change icon Vendor Specific Type	
< Back Next >	Cancel

Click Next >



Rockwell Automation's Device Wizard			×
Final Task Summary This is a review of the task you want to complete.			
You would like to register the following device. SSW900			
	< Back	Next >	Cancel

Click Next >





Click Finish

The EDS file is now installed and the SSW900 can be added as an Ethernet/IP device in the device tree.

AOI

SSW900

This AOI controls the SSW900 and handles the following additional parameters:

Outputs

- Output Current
- Output Torque
- Output Voltage
- Output Frequency
- Last Fault Code

Create the Ethernet/IP Device



In the device tree, right click on the Ethernet bus that will contain the SSW900 and click New Module....

lect Module Type			
Catalog Module Discovery Favor	ites		
Enter Search Text for Module T	De Clear Filters		Show Filters 🞽
	Citizan Inters		
Catalog Number	Description	Vendor	Category ^
1420-V1P-ENT	Powermonitor 500	Rockwell Autom	PowerMonitor 50(
0001_0073_010D	48MS-SN1PF1-M2	Rockwell Autom	Rockwell Automa
0001_0073_010E	48MS-SN1PF2-M2	Rockwell Autom	Rockwell Automa
0005_007B_0030	SP600	Rockwell Autom	DPI to EtherNet/I
0005_007B_0038	SP600 ER 400V	Rockwell Autom	DPI to EtherNet/I
0005_007B_0039	SP600 ER 200V	Rockwell Autom	DPI to EtherNet/I
0005_007B_003A	SP600 ER 600V	Rockwell Autom	DPI to EtherNet/I
0005_007B_0060	Liquiflo 2.0	Rockwell Autom	DPI to EtherNet/I
0005_007F_0027	MD60	Rockwell Autom	MDI to EtherNet/
0005_007F_0028	MD65	Rockwell Autom	MDI to EtherNet/
100-1167-001	SynapSense Industrial Gateway	Panduit Corporat	Communication
1305-ACDrive-EN1	1305 AC Drive via 1203-EN1	Rockwell Autom	Drive
1336E-IMPACTDrive-EN1	1336 IMPACT Drive via 1203-EN1	Rockwell Autom	Drive
1000E DI LICIIDana ENIT	1000 DELLO IL D202, 422, 1000 ENH	D==1	D.2
			2
671 of 671 Module Types Found	1		Add to Favorites
Close on Create		Create	Close Help

In the Select Module Type dialog box, enter in "SSW900" in the search field

Note: there are two versions of the EthernetIP card for the SSW900. This document assumes the model is the SSW-CETH-W. Using SSW900-CETH-N will require importing a different EDS file and creating a different device in the Ethernet tree. Beyond this, everything else remains the same.



шед

SSW			Clea	r Filter:	5		Hide Filte	rs 🎗
 ✓ ✓ ✓ ✓ ✓ AC Dri ✓ Analog 	Module Ty omm-ER ive Device	vpe Category Filters	^		Moo Advanced Energy Bray International Buerkert Fluid Cor	dule Type Vendor / Industries, Inc. , Inc ntrol Systems	Filters	,
< CIP M	otion Safety Track	Section	>	′ ⊻	Dialight			>
Catalog Nu	mber	Description				Vendor	Category	
SSW90	0-CETH-W	SSW900				WEG	Generic Dev	ice (ke

There should be an entry matching the above screenshot.

Highlight the SSW900-CETH-W and click Create

New Module			×
General*	General		
Connection Module Info Internet Protocol Port Configuration	Type: Vendor: Parent: Name: Description: Description: Revision: Electronic Ke Connections	SSW900-CETH-W SSW900 WEG EN2T SS1	
Status: Creating		OK Cancel Help	

Give the SSW900 a Name and IP address. Before clicking on OK, click on the Change ... button in the module definition.

Module Definition			×			
Revision: 1	~	050 ≑]			
Electronic Keying: Compatible Module						
Connections:						
Name		Size				
110/160 Manufacturer	Input:	2	SINT			
Parameters	Output:	2	Ň			
			SINT INT			
ОК	Canc	el	Help			

Change the type to INT

Module Definition	*				Х
Revision: 1 Electronic Keying: C Connections:	Compat	v [030 🜩		~
Name			Size		
110/160 Manufacture Parameters	er	Input: Output:	16 1	INT	~
Output: 1					
ОК		Cance	el	Help	

The Input and output size should be set to 16 and 1 respectively. Also, change the revision to 1.030. At the time of this publication, this is the firmware version available.

Click OK

RSLogix 5	RSLogix 5000 X -					
	These changes will cause module data types and properties to change. Data will be set to default values unless it can be recovered from the existing module properties. Verify module properties before Applying changes.					
	Change module definition?					
	Yes No					

Click Yes

At this point, no other changes are required. However, changing the RPI can be done, if the need arises.

Once satisfied with the settings, Click OK





There should now be an instance of the SSW900 in the device tree



In the device tree, right click on Add-On Instructions and click on Import Add-On Instruction...

👹 Import Add-On Instruction 🛛 🕹				
Look in:	V1.0	~	G 👂 🖻 🛄 -	
*	Name SSW900.L5X	^	Date modified 9/19/2024 9:52 AM	Type RSLoi
Quick access	-			
Desktop				
-				
Libraries				
This PC				
				
Network	<			>
	File name:	SSW900	~	Import
	Files of type:	RSLogix 5000 XML Files (*.L5X)	\sim	Cancel
	Files containing:	Add-On Instruction	~	Help
	Into:	🗀 Add-On Instructions	~	
				.:



Select the appropriate add-on instruction (SSW900.L5X) and click Import....

Import Configuration X						
Z Z	Find: Find Within: Final Name, Descript	ion	Find/Replace			
Import C	ontent:					
- 🔄	Add-On Instructions	Configure Add-Or	n Instruction Properties			۰.
	Parameters and Local Tage	Import Name:	SSW900			
	- Boutines	Operation:	Create ~			
	Errors/Warnings	Final Name:	SSW900 🗸	Properties		
		Description:	WEG ADI SSW900			
			×			
		Revision:	v1.0 Release			
		Revision Note:				
		Vendor:				
<	>					
					OK Cancel Help	
Ready						

Review the proposed changes and click OK



There should now be this add-on instruction in the project.



AOI Usage



On an empty rung of ladder, add an instance of the newly imported add-on instruction by clicking on the Add-On bar and clicking the SSW900 symbol

	b=Branch, c=CTU, d=GEQ, f=XIO, I=OTL, o=OTE, r=RUNG, t=TON, u=OTU, x=XIC			
	е	SSW900		
0	е	WEG AOI SSW900		
	е	SSW900	?	<pre>(sts_Connection_Faulted)—</pre>
	е	ConnectionFaulted	?	-(sts_Faulted)
	е		??	-(sts_Local)
	е	Inputs	?	-(sts_Connection_Ready)-
	е	Outputs	?	-(sts_InitTest)
	е	cmd_Enable	??	-(sts_Ctrl_from_net)
	е	cmd_NetCtrl	??	-(sts_RunningForward)
	е	cmd_Fault_Reset	??	-(sts_RunningReverse)
	е	cmd_RunForward	??	-(sts_JoggingForward)
	е	cmd_RunReverse	??	-(sts_JoggingReverse)
	е	cmd_JogForward	??	-(sts_FailedToStart)
	е	cmd_JogReverse	??	-(sts_FailedToStop)
	е	cfg_FaiToStartDelay	??	-(sts_Alarm)
	е	cfg_FaiToStopDelay	??	-(AutoFaultResetExceed)
	е	cfg_AutoFaultResetNum	??	-(sts_Enabled)
	е	val_R_PhaseCurrent	??	-(sts_rampUp)
	е	val_S_PhaseCurrent	??	-(sts_fullVoltage)
	е	val_T_PhaseCurrent	??	-(sts_Bypass)
	е	val_CurrentAvg	??	-(sts_rampDown)
	е	val_R_S_Line	??	-(sts_remote)
	е	vaLS_T_Line	??	-(sts_braking)
	е	val_T_R_Line	??	-(sts_fwd_rev_Switch)
	е	val_Avg_Line_Volt	??	-(sts_Ton)
	е	val_Avg_Out_Volt	??	-(sts_Toff)
	е	val_SCR_Temp	??	
	е	val_FaultCode	??	
	е	Sign	ature ID: E811	A091
	е		atore ib. For	A001
	е			

The Add-On requires a tag to be created. Create this tag by typing a name in the SSW900 field and rightclicking and selecting <u>N</u>ew "Tag"





SSW900 AOI Configuration

New Tag		×
Name:	SoftStart1	Create 🛛 🔻
Description:	^	Cancel
		Help
	~	
Usage:	<normal> ~</normal>	
Туре:	Base V Connection	
Alias For:	×	
Data Type:	SSW900	
Scope:	🕞 MainProgram 🗸 🗸	
External Access:	Read/Write ~	
Style:	~	
Constant		
Open Conf	iguration	

Give any appropriate description and scope (the tag can be either program or controller scoped)

WEG AOI SSW900				
SSW900		-		
WEG AOI SSW900				
SSW900 S	oftStart1	-(sts_Connection_Faulted)-		
ConnectionFaulted	?	-(sts_Faulted)		
	??	-(sts_Local)		
Inputs	?	-(sts_Connection_Ready)		
Outputs	?	-(sts_InitTest)		
cmd_Enable	0 🗧	-(sts_Ctrl_from_net)		
cmd_NetCtrl	1 🗧	-(sts_RunningForward)		
cmd_Fault_Reset	0 🗧	-(sts_RunningReverse)		
cmd_RunForward	0 🗧	-(sts_JoggingForward)		
cmd_RunReverse	0 🗧	-(sts_JoggingReverse)		
cmd_JogForward	0 🗧	-(sts_FailedToStart)		
cmd_JogReverse	0 🗧	-(sts_FailedToStop)		
cfg_FailToStartDelay	0 🗧	-(sts_Alarm)		
cfg_FailToStopDelay	0 🗧	-(AutoFaultResetExceed)		
cfg_AutoFaultResetNum	0 🗧	-(sts_Enabled)		
val_R_PhaseCurrent	0.0 🗲	-(sts_rampUp)		
val_S_PhaseCurrent	0.0 🗲	-(sts_fullVoltage)		
val_T_PhaseCurrent	0.0 🗲	-(sts_Bypass)		
val_CurrentAvg	0.0 🗲	-(sts_rampDown)		
val_R_S_Line	0.0 🗲	-(sts_remote)		
val_S_T_Line	0.0 🗲	-(sts_braking)		
val_T_R_Line	0.0 🗲	-(sts_fwd_rev_Switch)		
val_Avg_Line_Volt	0.0 🗲	-(sts_Ton)		
val_Avg_Out_Volt	0.0 🗲	-(sts_Toff)		
val_SCR_Temp	0 🗧			
val_FaultCode	0 🗲			
Sign	ature ID: F811	Å091		

Next the Connection Faulted, Inputs, and Outputs need to be populated as follows:



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WEG AOI SSW900

SSW900		1
WEG AOI SSW900		
SSW900	SoftStart1	-(sts_Connection_Faulted)-
ConnectionFaulted SS1:I.Conn	ectionFaulted	-(sts_Faulted)
	0 🗲	-(sts_Local)
Inputs	SS1:I.Data	-(sts_Connection_Ready)-
Outputs	SS1:0.Data	-(sts_InitTest)
cmd_Enable	0 🗲	-(sts_Ctrl_from_net)
cmd_NetCtrl	1 🗲	-(sts_RunningForward)
cmd_Fault_Reset	0 🗲	-(sts_RunningReverse)
cmd_RunForward	0 🗲	-(sts_JoggingForward)
cmd_RunReverse	0 🗲	-(sts_JoggingReverse)
cmd_JogForward	0 🗧	-(sts_FailedToStart)
cmd_JogReverse	0 🗧	-(sts_FailedToStop)
cfg_FailToStartDelay	0 🗧	-(sts_Alarm)
cfg_FailToStopDelay	0 🗧	-(AutoFaultResetExceed)
cfg_AutoFaultResetNum	0 🗧	-(sts_Enabled)
val_R_PhaseCurrent	0.0 🗲	-(sts_rampUp)
val_S_PhaseCurrent	0.0 🗲	-(sts_fullVoltage)
val_T_PhaseCurrent	0.0 🗲	-(sts_Bypass)
val_CurrentAvg	0.0 🗲	-(sts_rampDown)
val_R_S_Line	0.0 🗲	-(sts_remote)
val_S_T_Line	0.0 🗲	-(sts_braking)
val_T_R_Line	0.0 🗲	-(sts_fwd_rev_Switch)
val_Avg_Line_Volt	0.0 🗲	-(sts_Ton)
val_Avg_Out_Volt	0.0 🗲	-(sts_Toff)
val_SCR_Temp	0 🗲	
val_FaultCode	0 🗲	
		1

Signature ID: F811A091



AOI Parameter Description

InOut Parameters

Parameter	Туре	Description
Inputs	INT[16]	Input Assembly from SSW900
Outputs	INT[1]	Output Assembly to SSW900

Input Parameters

Parameter	Туре	Description
Cfg_FailToStartDelay	DINT	Time in seconds before faulting
		on fail to start if SSW900 does
		not start when commanded
		Set to 0 to disable
Cfg_FailToStopDelay	DINT	Time in seconds before faulting
		on fail to stop if SSW900 does
		not stop when commanded
		Set to 0 to disable
ConnectionFaulted	BOOL	From SSW900 Ethernet Module.
		1 = Connection is faulted
		0 = Connection is OK
cmd_Enable	BOOL	1 = Enable operation of SSW900
		0 = Disable operation of
		SSW900
cmd_Fault_Reset	BOOL	1 = Send Reset Fault Signal to
		SSW900
		0 = No action
cmd_JogForward	BOOL	1 = Jog Forward (if configured)
		0 = No Action / Stop
cmd_JogReverse	BOOL	1 = Jog Reverse (if configured)
		0 = No Action / Stop
cmd_NetCtrl	BOOL	1 = Remote (Ethernet) control
		0 = Local (Other) control
cmd_RunForward	BOOL	1 = Run Forward
		0 = Stop
cmd_RunReverse	BOOL	1 = Run Reverse
		0 = Stop
cfg_AutoFaultResetNum	DINT	Maximum number of tries that
		AOI will send fault reset
		command while being
		maintained

Output Parameters

Parameter	Туре	Description
sts_InitTest	BOOL	1 = Soft start going through
		initialization test



sts_Connection_Faulted	BOOL	Goes high when connections
		interrupted. If "Run" signal is
		set, it must be reset before this
		will clear
		1 = Connection has been faulted
		from SSW900 to PLC
		0 = Connection OK
sts_Connection_Ready	BOOL	1 = Connection from SSW900 to
		PLC is established
		0 = Connection not established
sts_Ctrl_from_net	BOOL	1 = SSW900 controlled remotely
		(PLC)
		0 = SSW900 controlled locally
sts_Bypass	BOOL	1 = Bypass relay active
		0 = Bypass relay not active
sts_fullVoltage	BOOL	1 = Output voltage = Line
		voltage
		0 = Output voltage != Line
		voltage
sts_Faulted	BOOL	1 = SSW900 Fault, connection
		fault, or failedToStart/Stop Fault
		0 = No faults
sts_FailedToStart	BOOL	1 = SSW900 failed to start in
		time allotted
		0 = Normal
sts_FailedToStop	BOOL	1 = SSW900 failed to stop in
		time allotted
		0 = Normal
sts_rampUp	BOOL	1 = SSW900 is Ramping up
		during start
sts_rampDown	BOOL	1 = SSW900 is Ramping down
		during stop
sts_braking	BOOL	1 = SSW900 is actively braking
		to stop
sts_fwd_rev_Switch	BOOL	1 = SSW900 is actively switching
		between FWD and REV
sts_remote	BOOL	1 = SSW900 is in remote mode
_		(PLC)
		0 = SSW900 is in local mode
		(other)
sts_Local	BOOL	1 = Local
		0 = Remote
sts_Ton	BOOL	1 = SSW900 Timer between
		starts preventing operation
sts_Toff	BOOL	1 = SSW900 Timer between
		stops preventing operation
sts_RunningForward	BOOL	1 = Running forward



		0 = Not running forward
sts_RunningReverse	BOOL	1 = Running reverse
		0 = Not running reverse
val_FaultCode	DINT	Fault code 1 from SSW900
val_R_PhaseCurrent	REAL	R phase current in Amps
val_S_PhaseCurrent	REAL	S phase current in Amps
val_T_PhaseCurrent	REAL	T phase current in Amps
val_CurrentAvg	REAL	Average of all 3 phase currents
val_R_S_Line	REAL	R-S Line Voltage
val_S_T_Line	REAL	S-T Line Voltage
val_T_R_Line	REAL	T-R Line Voltage
val_Avg_Line_Volt	REAL	Average Line Voltage
val_Avg_Out_Volt	REAL	Average Output Voltage
val_SCR_Temp	REAL	SCR Temperature (Celsius)
AutoFaultResetExceed	BOOL	Indicates when the maximum
		number of automatic fault
		clears has been exceeded.
		Set cmd_Fault_Reset to 0 to
		reset and allow fault clear to
		resume.
		1 = Max number of fault clears
		reached. Fault Reset Disabled
		0 = Under threshold for
		automatic fault clears. Fault
		Reset Allowed.

SSW900 Parameter Requirements

The following parameters must be set in the SSW900:

Parameter	Setting
C3.1 (Net 220) Mode	9 – Slot1 LOC
C3.3 (Net 230) REM Command	4 – Slot 1
C8.1.1.1 (Net 712) Read Slot 1 1 st Word	1
C8.1.1.2 (Net 713) Read Slot 1 Quantity	16
C8.1.2.1 (Net 714) Write Slot 1 1 st Word	1
C8.1.2.2 (Net 715) Write Slot 1 Quantity	1
C8.1.1.5 (Net 1300) Read Word #1	680 – Status Word SSW
C8.1.1.6 (Net 1301) Read Word #2	90 – Fault Code
C8.1.1.7 (Net 1302) Read Word #3	26 – R Phase Current (1 of 2)
C8.1.1.8 (Net 1303) Read Word #4	26 – R Phase Current (2 of 2)
C8.1.1.9 (Net 1304) Read Word #5	28 – S Phase Current (1 of 2)
C8.1.1.10 (Net 1305) Read Word #6	28 – S Phase Current (2 of 2)
C8.1.1.11 (Net 1306) Read Word #7	30 – T Phase Current (1 of 2)
C8.1.1.12 (Net 1307) Read Word #8	30 – T Phase Current (2 of 2)
C8.1.1.13 (Net 1308) Read Word #9	24 – Average Current (1 of 2)
C8.1.1.14 (Net 1309) Read Word #10	24 – Average Current (2 of 2)



C8.1.1.15 (Net 1310) Read Word #11	33 – R-S Line Voltage
C8.1.1.16 (Net 1311) Read Word #12	34 – S-T Line Voltage
C8.1.1.17 (Net 1312) Read Word #13	35 – T-R Line Voltage
C8.1.1.18 (Net 1313) Read Word #14	4 – Average Line Voltage
C8.1.1.19 (Net 1314) Read Word #15	7 – Average Output Voltage
C8.1.1.20 (Net 1315) Read Word #16	60 – SCR Temperature
C8.1.2.6 (Net 1400) Write Word #1	685 – Slot 1 Command Word

 WEG's scope of solutions is not limited to the products and solutions presented in this brochure.
 Contact WEG for information on additional products and solutions.

For WEG's worldwide operations visit our website

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info-us@weg.net

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US.SSW900.A0I.Configuration Information contained hearin is subject to change without notice.