

### Product Discontinuation

Programmable Controller



**CJ1W-ADG41**



### Recommended Replacement

Programmable Controller  
Machine Automation Controller

**CJ1W-AD042**  
**NX-HAD401/402**

#### [ Final order entry date ]

The end of March 2024

#### [ Date of The Last Shipping ]

The end of September 2024

#### [ Scheduled date of maintenance close ]

The end of March 2031

#### [ Caution on recommended replacement ]

1. For CJ1W-AD042

CJ1W-AD042 does not support some of the functions of CJ1W-ADG41.

Please make sure there are no problems with the actual ladder program of the CPU Unit.

2. NX-HAD401/402

It is necessary to configure the system which is included in the CPU Unit.

For details, please refer to the NX-Series Analog I/O Units User's Manual for High-speed Analog Input Units (Cat. No. W592) and other related manuals.

#### [ Difference from discontinued product ]

Recommended replacement model	Body Color	Dimensions	Wire connection	Mounting dimensions	Characteristics	Operation ratings	Operation methods
1. CJ1W-AD042	**	**	--	**	*	--	*
2. NX-HAD401/402	*	--	--	--	--	--	--

\*\* : Compatible

\* : The change is a little/Almost compatible

-- : Not compatible

- : No corresponding specification

#### [ Product Discontinuation and recommended replacement ]

Product discontinuation	Recommended replacement
CJ1W-ADG41	CJ1W-AD042
	NX-HAD401
	NX-HAD402

# 1. Comparison with CJ1W-AD042

## [ Wire connection ]

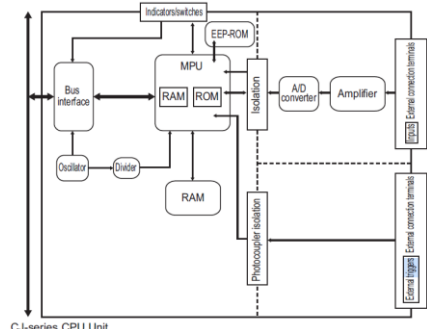
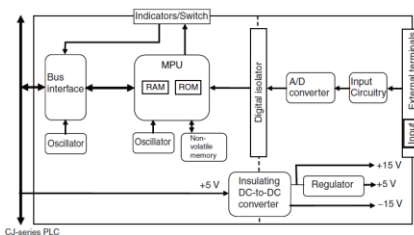
Product discontinuation CJ1W-ADG41				Recommended replacement 1 CJ1W-AD042			
<b>Terminal Arrangement</b>				<b>Terminal Arrangement</b>			
Input I 2+	B1	A1	Input I 1+	Current input 2 (+) *	B1	A1	Current input 1 (+) *
Input V 2+	B2	A2	Input V 1+	Voltage input 2 (+)	B2	A2	Voltage input 1 (+)
Input 2 -	B3	A3	Input 1 -	Input 2 (-)	B3	A3	Input 1 (-)
Input I 4+	B4	A4	Input I 3+	AG	B4	A4	AG
Input V 4+	B5	A5	Input V 3+	Current input 4 (+) *	B5	A5	Current input 3 (+) *
Input 4 -	B6	A6	Input 3 -	Voltage input 4 (+)	B6	A6	Voltage input 3 (+)
External input trigger 2	B7	A7	External input trigger 1	Input 4 (-)	B7	A7	Input 3 (-)
External input trigger 4	B8	A8	External input trigger 3	AG	B8	A8	AG
COM	B9	A9	COM	NC	B9	A9	N.C.

<b>Input Circuit Diagram</b>				<b>Input Circuit Diagram</b>			

## [ Characteristics ]

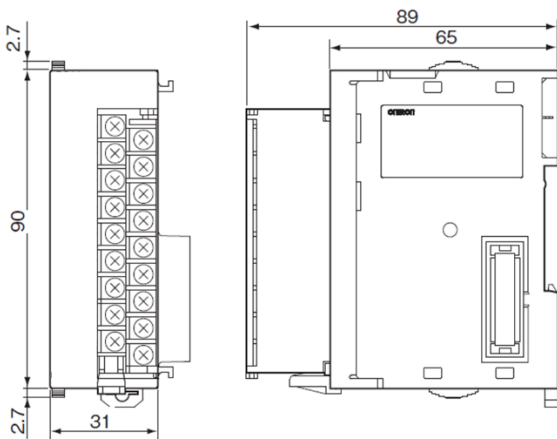
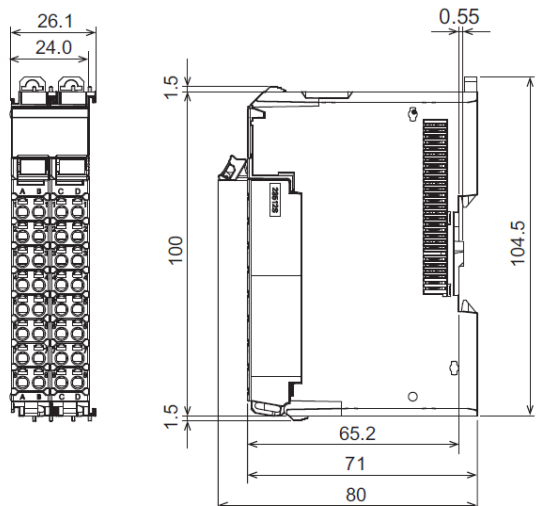
Item		Product discontinuation CJ1W-ADG41	Recommended replacement 1 CJ1W-AD042
<b>Unit group</b>		CJ-series CPU Bus Units	CJ-series Special I/O Unit
<b>Isolation</b>		Isolation between input and PLC signals	Isolation between input and PLC signals
<b>Analog Inputs specification</b>			
<b>Number of inputs</b>		4	4
<b>Signal ranges and resolutions</b>	<b>-10 to 10V</b>	1/60,000	1/40,000
	<b>0 to 10V</b>	1/30,000	1/20,000
	<b>0 to 5V</b>	1/30,000	N/A
	<b>1 to 5V</b>	1/24,000	1/10,000
	<b>4 to 20mA</b>	1/24,000	1/10,000
	<b>-5 to 5V</b>	N/A	1/20,000
<b>Input impedance</b>		Voltage inputs : 1MΩ min, Current inputs: 250 Ω (typ)	Voltage inputs : 1MΩ min, Current inputs: 250 Ω (typ)
<b>A/D conversion data</b>		16 bits binary	16 bits binary
<b>Overall accuracy of Full Scale</b>		25°C ±0.05%	Voltage inputs: ±0.2% Current inputs: ±0.4%

Item		Product discontinuation CJ1W-ADG41	Recommended replacement 1 CJ1W-AD042
	0 to 55°C	±0.1%	Voltage inputs: ±0.4% Current inputs: ±0.6%
Conversion period		80 us max. for 2 points 160 us max. for 4 points	20 us max for 1 point 25 us max for 2 points 30 us max for 3 points 35 us max for 4 points
Analog input function			
	Mean value processing	The number of averaged buffers 2, 4, 8, 16, 32, or 64	The number of averaged buffers 2, 4, 8, 16, 32, 64, 128, 256, or 512
	Scaling	Between -32,768 and 32,767	Between -32,768 and 32,767
	Comparator function		N/A
	Comparator Interrupts function		N/A
	Input Disconnection Detection function	1 to 5V: Less than 0.3V 4 to 20mA: Less than 1.2mA	1 to 5V: Less than 0.3V 4 to 20mA: Less than 1.2mA
	Data Buffering function		N/A
	Zero and Span Adjustments function		N/A
External trigger inputs			
	Number of inputs	4	N/A
	Input voltage	24 VDC	N/A
	Input impedance	3.3kΩ	N/A
	ON/OFF response time	ON: 0.05ms (max) OFF:0.5ms (max)	N/A
Data exchange with CPU Unit		Words Allocated to CPU Bus Unit Area in CIO Area (CIO 1500 to 1899) : 25 words/Unit  Words Allocated to CPU Bus Unit Area in DM Area (D30000 to D31599) : 100 words/Unit	Special I/O Unit Area in CIO Area (CIO 2000 to 2959) : 10 words/Unit  Special I/O Unit Area in DM Area (D20000 to D29599) : 100 words/Unit
Internal structure			
Available PLC		CJ series	CJ series/ NJ series
Reference manual		W543	W345

Please refer to the manual about operation ratings and operation methods.

## 2. Comparison with NX-HAD401/402

### [ Dimensions ]

Product discontinuation CJ1W-ADG41	Recommended replacement 2 NX-HAD401/402
 <p>Dimensions of CJ1W-ADG41: Height 90, Width 31, Depth 2.7, Mounting hole spacing 89, Terminal block width 65.</p>	 <p>Dimensions of NX-HAD401/402: Height 100, Width 80, Depth 1.5, Mounting hole spacing 104.5, Terminal block width 71, Mounting hole offset 26.1, 24.0, 0.55.</p>

### [ Mounting dimensions ]

Product discontinuation CJ1W-ADG41	Recommended replacement 2 NX-HAD401/402
<p>Attached to an CJ-series CPU Unit. For details, please refer to the manual of CJ-series CPU Unit.</p>	<p>Attach to an NX-series CPU Unit or NX-series Communications Coupler Unit. Please refer the relevant manuals for the NX series.</p>

### [ Wire connection ]

## Product discontinuation CJ1W-ADG41

### Terminal Arrangement

Input I 2+	B1	A1	Input I 1+
Input V 2+	B2	A2	Input V 1+
Input 2 -	B3	A3	Input 1 -
Input I 4+	B4	A4	Input I 3+
Input V 4+	B5	A5	Input V 3+
Input 4 -	B6	A6	Input 3 -
External input trigger 2	B7	A7	External input trigger 1
External input trigger 4	B8	A8	External input trigger 3
COM	B9	A9	COM

### Input Circuit Diagram

Input circuit diagram for CJ1W-ADG41. The diagram shows the internal circuitry for the input terminals. The input terminals are: Input (-), Input I (+), Input V (+), External input trigger, and COM. The internal circuit includes resistors (500 Ω, 100 Ω, 1 MΩ, 3.3 KΩ, 1000 PF) and capacitors (0.1 μF). The circuit is connected to a common ground (AG) and a power supply. The diagram is labeled "Input circuit and conversion circuit".

## Recommended replacement 2 NX-HAD401/402

### Terminal Arrangement

A1		B1C1		D1	
IN1	NC	SHT1+	Input1+		
IOV1	IOG1	SHT1-	Input1-		
IN2	NC	SHT2+	Input2+		
IOV2	IOG2	SHT2-	Input2-		
IN3	NC	SHT3+	Input3+		
IOV3	IOG3	SHT3-	Input3-		
IN4	NC	SHT4+	Input4+		
IOV4	IOG4	SHT4-	Input4-		
A8		B8C8		D8	

### Input Circuit Diagram

Input circuit diagram for NX-HAD401/402. The diagram shows the internal circuitry for the input terminals. The input terminals are: Input1+ to 4+, SHT1+ to 4+, SHT1- to 4-, Input1- to 4-, IOV1 to 4, IN1 to 4, IOG1 to 4, I/O power supply +, and I/O power supply -. The internal circuit includes an AMP, a current control circuit, an isolation circuit, and internal circuits. The circuit is connected to a power supply and a common ground (AG1 to 4). The diagram is labeled "Terminal block" and "NX bus connector (left)" and "NX bus connector (right)".

**[ Characteristics ]**

Item		Product discontinuation CJ1W-ADG41	Recommended replacement 2 NX-HAD401/402
Available PLC		CJ series	NX series and NJ series
Terminal block		Screw terminal	Screwless clamping terminal
Isolation		Isolation between input and PLC signals	Isolation between the input circuits and internal circuits and between the input circuits of the Unit.
Analog Inputs specification			
Number of inputs		4	4
Signal ranges and resolutions	-10 to 10V	1/60,000	1/64,000
	0 to 10V	1/30,000	1/32,000
	0 to 5V	1/30,000	1/32,000
	1 to 5V	1/24,000	1/32,000
	4 to 20mA	1/24,000	1/32,000
	-5 to 5V	N/A	1/64,000
Input impedance		Voltage inputs : 1M $\Omega$ min, Current inputs: 250 $\Omega$ (typ)	Voltage inputs : 1M $\Omega$ min, Current inputs: 250 $\Omega$ (typ)
A/D Conversion data		16 bits binary	16 bits binary
Overall accuracy of Full Scale	25°C	±0.05%	±0.1%
	0 to 55°C	±0.1%	±0.2%
Conversion period		80 us max. for 2 points 160 max. for 4 points	5 us max. for 4 points ● Regarding as the number of sampling setting
Analog input function			
Mean value processing		The number of averaged buffers 2, 4, 8, 16, 32, or 64	The moving average filter correspond to this function. The number of moving average filter : 0 to 4096.
Scaling		Between -32,768 and 32,767	Carry out by program of CPU unit
Comparator function		✓	N/A
Comparator Interrupts function		✓	N/A
Input Disconnection Detection function		1 to 5V: Less than 0.3V 4 to 20mA: Less than 1.2mA	1 to 5V: Less than 0.3V 4 to 20mA: Less than 1.2mA
Data Buffering function			N/A
Start Data Buffering		External trigger input Operation CPU unit relay Trigger of analog input level	It is possible to always read to CPU unit without trigger input.
Zero and Span Adjustments function		✓	The user calibration is corresponded to this function.
External trigger inputs		✓	Record analog input value and DC time on external trigger input
Reference manual		W543	W592 and related manuals which are introduced in W592

Please refer to the reference manual and relevant manuals about operation ratings and operation methods.

Specifications and prices in this product news are as of the issue date and are subject to change without notice.  
Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.