

★ UNI-WIRE has been renewed from H to W series ★

Succeeding the transmission system of H series, W series raises the following functions as standard.

- Basic specification is 256 points correspondence.
- Adoption of a Self-lifting screw Terminal block.
- An input terminal unit without derating limitation.
- STW and PTW configuration makes it connectable up to 50 terminals.
- W series can be operated together with the old H series.

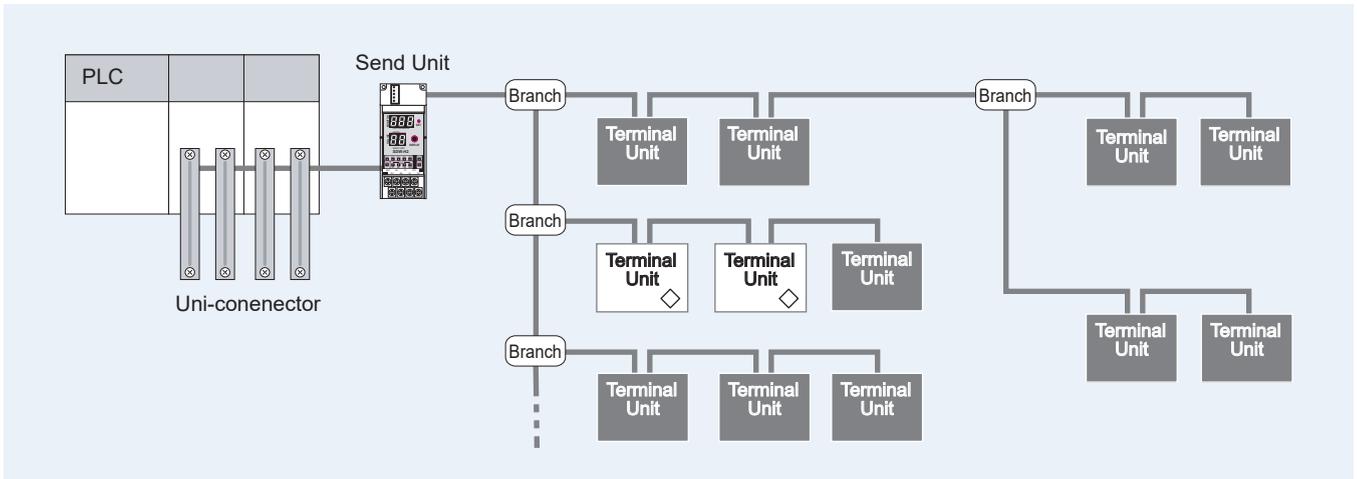
Note : The old H series will be obsoleted when the stock is running out.
The new W series can take over basic units of H series.

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UNI-WIRE SYSTEM Structure and H-feature



The UNI-WIRE SYSTEM is a highly reliable wire saving system. Data transmission is performed using two signal wires (D and G), and the system uses a simple concept and structure which makes long-distance data transmission possible. The "H-feature" has disconnection detection function point indicator function that further enhances the safety and flexibility of the UNI-WIRE SYSTEM.

Features of the UNI-WIRE H-feature

- > Detection of abnormal conditions at each terminal (each Terminal Unit) is possible.
- > Each Terminal Unit has its own ID number and the location of abnormal condition (such as disconnection) is indicated by the ID number.
- > Disconnection detection is possible even when there are branches in the transmission line.
- > Units without the H-feature may be used in a UNI-WIRE SYSTEM that has the H function (by connecting the End Unit ED-H2)

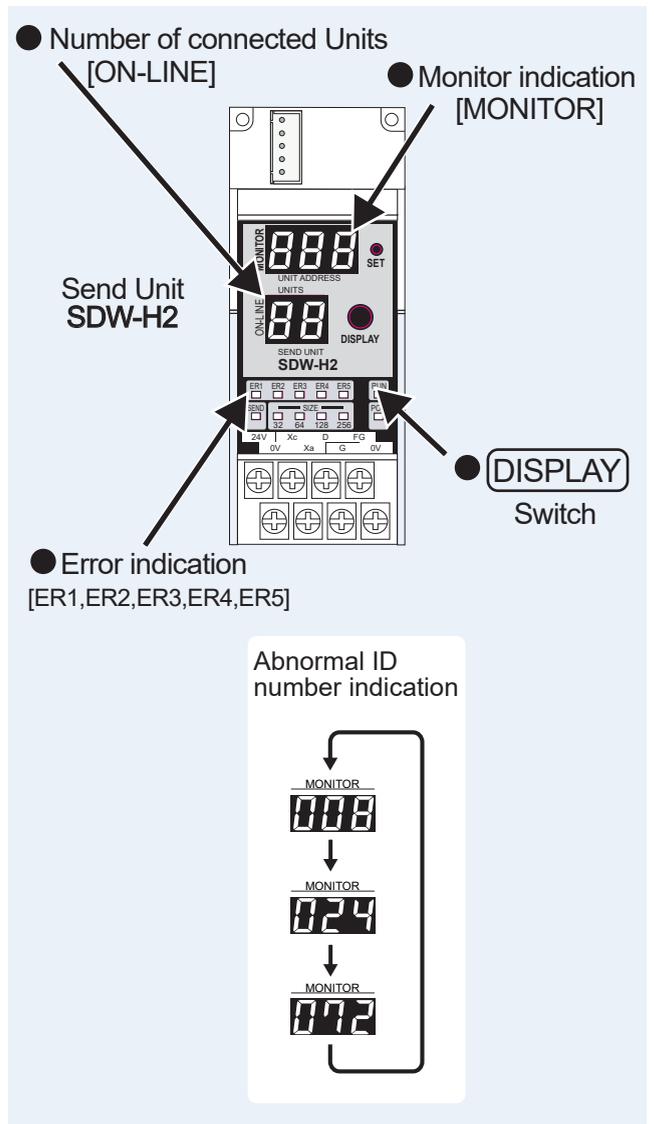
Method of abnormal condition detection by H-feature

To detect the disconnection in transmission lines, the UNI-WIRE SYSTEM exchanges the ID numbers between the Control Unit and the respective Terminal Units on the transmission line, and continually monitors whether transmission is successful.

- > The Send Unit (controller side) sends the ID numbers to the Terminal Units (terminal side).
- > When a Terminal Unit receives the ID number that matches its own ID, it sends back a confirmation response to the Send Unit.
- > If the Send Unit does not receive a confirmation response for an ID number, it judges that the corresponding Terminal Unit is disconnected.

Send Unit display

ID numbers of the Terminal Units that the Send Unit has detected as being disconnected can be displayed on Send Unit (under MONITOR). Press the DISPLAY switch to step through the ID numbers of the Terminal Units that did not send a response to the Send Unit.



SPECIFICATION

Specifications

General specifications

Item	Specification
Supply voltage	DC 24V -10% to +15%
Ambient temperature	0 to +50 degrees Celsius
Storage temperature	-20 to +70 degrees Celsius
Ambient humidity	35 to 85%RH No dewing
Atmosphere	Void of conductive dust and corrosive gases
Vibration resistance	JIS C 0040
Shock resistance	100m/s ² (10G)
Insurance resistance	20MΩ or more between terminal and frame
Withstand Voltage	1000V AC for 1 minute between terminal and frame
Noise immunity	1200V p-p (1μs pulse width)

Transmission specification

Item	Specification
Transmission method	Bidirectional time-division multiplex
Synchronization method	Bit synchronization
Transmission protocol	UNI-WIRE protocol
Connection method	Multi-drop for each Terminal Unit
Numbers of connections	Max. 20 Terminal Units (STW and PTW configuration makes it connectable up to 50 terminals)
Transmission speed	29.4kbps (Basic with H-feature) 28.5kbps (Basic without H-feature)
Transmission cable length	200m max. for each Terminal Unit

Transmission delay

● Transmission delay (ms) : with H-feature

Points	Transmission distance		
	200m	500m	1km
32	1.8 - 4.5	3.5 - 8.8	6.7 - 17.5
64	2.9 - 6.7	5.4 - 13.2	11.1 - 26.2
96	4.0 - 8.9	7.8 - 17.5	15.4 - 34.9
128	5.1 - 11.0	10.0 - 21.9	19.8 - 43.6
256	9.4 - 19.7	18.7 - 39.3	37.2 - 78.4

NOTE1: The above figures are given in the construction of SD-120 and Uni-connectors.
NOTE2: The mark shows the delay time of basic models (basic specification)

Selection Specifications

The UNI-WIRE SYSTEM has wide range of specification selections to ensure suitability to a wide range of applications. These include the H-feature, number of I/O points, and maximum transmission distance. Refer to the list below for details.

Selection of H-feature

Item	Difference in UNI-WIRE Terminal Units by H-feature		
	Units with H-feature	Units without H-feature	Units for general purpose
Detection of the disconnection on branch lines	Available	Not Available	---
Indication of the point of disconnection	Available	Not Available	---
Detection of power failure at Terminal Units	Available for the Terminal Units W type	Not Available	---
H-feature symbol in this catalog	If a control unit with the H-feature(e.g. SDW-H2) is used, detection of disconnection position is possible.	for 120 series	This mark indicates the units which can be used regardless of H-feature availability.

Point / Distance Selection (maximum points / maximum distance)

Specification	Difference of specification in UNI-WIRE Terminal Units by points/distance		
	Basic(C-spec*)	M-Spec(S-spec*)	Z58-spec.(Z12-spec*)
I/O points	256	256	256
Transmission distance (m)	200	500	1000
Transmission speed (kbps)	29.4	14.7	7.35
Selection symbol in this catalog	☆	← Points/sidntance specifications are all selectable. → Any of the following cases may be selected : I/O: 128 points/ 256 points. Distance:200m/500m/1km	
	✕	←----- Partial specifications can be selected. -----→ Basic specification is possible but please contact us regarding of selection of other specifications.	
	○	General purpose This mark indicates that the unit can be used for any specification without model designation.	

Note : The terminal unit of different specification on one transmission line is not connectable.
The specification of mark * serve as 128-point correspondence of series conventionally.

SPECIFICATION

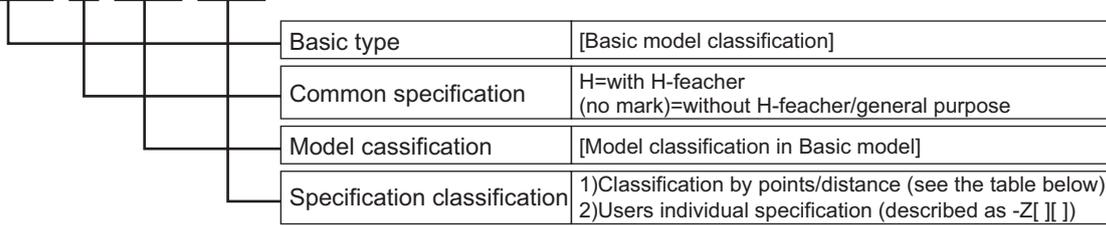
■ Model No. Representation when ordering

● Example of representation of Model No.

NOTE) There are exceptions in some models.

STW-H 16T-Z58

PTW- 08T- M



> Symbol of specification classification by points / distance

	Symbol of specification classification		
UNI-WIRE Terminal Units	Basic	M-spec.	Z58-spec.
Common Terminal Units	---	-M	-Z58

Master Unit

<Connectable PLC Makers and Models>

> Uni-connector Basic Model No.

UCW-32S [] [] : Input Uni-connector
UCW-32P [] [] : Output Uni-connector
 ([] []) means the symbols designating connectable PLC

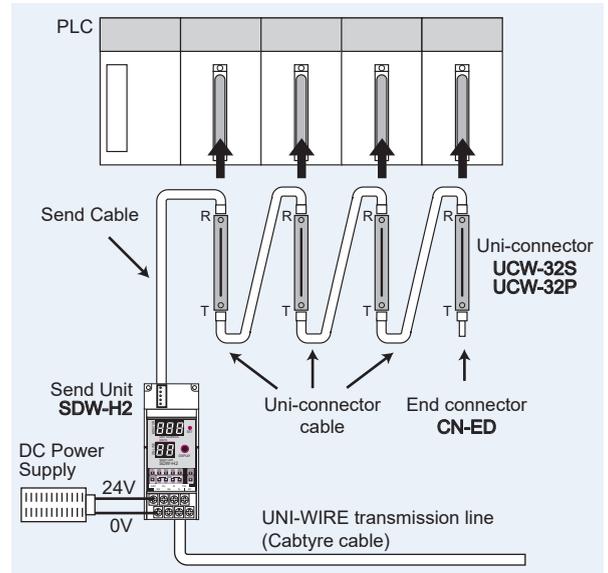
<Connectable PLC>

Symbol [] []	PLC Makers	PLC input unit	PLC output unit
MI	Mitsubishi Electric Corp.	AX42,AH42(X side)	AY42,AH42 (Y side)
		A1SX41	A1SY41
		A1SX42	A1SY42
		A1SH42(F side)	A1SH42 (L side)
O	Omron Corp.	C500-ID219	C500-OD213
		C200H-ID216	C200H-OD218
		C200H-ID217	C200H-OD219
		CQM1-ID213	CQM1-OD213
XL	Yokogawa Electric Copr.	ST-6(ST-5) *1	ST-7(ST-5) *1
CA	Wide use PLC	24V input module*2 (for cable wire)	24V output module*2 (for cable wire)

*1 Use Uni-connector adapter UA-XL(ref. Page 11)

*2 Use cable adaptor CA-32 and PLC cable to connect.(ref. Page 11)

<Example of System Configuration>



Appearance	Name				Dimention(W×D×H mm)	
	Name	Model No. of W series (with H-feature)	Model No. of 120 series (without H-feature)	Spec. Selection	Specification	Price (JPY)



Uni-Connector, Send Unit, End Unit						
Uni-Connector	◆ UCW-32S	◆ UCW-32S	☆	Input Uni-connector	32 point	20,000
	◆ UCW-32P	◆ UCW-32P	☆	Output Uni-connector	32 point	20,000
Uni-Connector Cable	◆ CND-05-07	◆ CND-05-07	○	Uni-connector Cable	7 cm	400
	◆ CND-05-15	◆ CND-05-15	○	Uni-connector Cable	15 cm	400
	◆ CND-05-25	◆ CND-05-25	○	Uni-connector Cable	25 cm	400
End Connector	◆ CN-ED	◆ CN-ED	○	End Connector for Uni-connector		100
Send Unit	◆ SDW-H2	-----	☆	Send Unit (with H-feature)		16,800
Send Cable	◆ HKCN-05-1K	-----	○	1m (for SDW-H2 Send Unit)		900
	◆ HKCN-05-2K	-----	○	2m (for SDW-H2 Send Unit)		1,200
End Unit	-----	◆ ED-120	☆	End Unit		3,500

NOTE) [model No.] column : ◆ =stocked items

[spec. selection] column : ☆ =Points/distance specifications mentioned on Page2 are all selectable.

※ =Part of the specification are selectable. ○ =General purpose

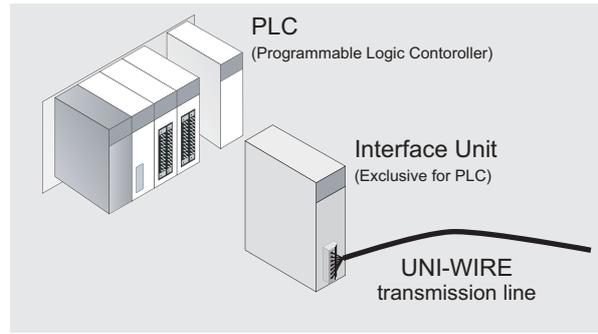
Master Unit

<Features>

- > This is an interface unit for UNI-WIRE SYSTEM control which attaches to the extension slot of PLC.
- > Interface units for PLCs made by various manufacturers are available.
- > Uni-connector and Send Unit are not required.
- > Connection to transmission line via terminal block connector.

<Manufacturers of compatible PLCs>

Yokogawa Electric Corporation, Toshiba Corporation
Omron Corporation



Appearance	Name					Dimention(W×D×H mm)
	Name	Model No. of W series (with H-feature)	Model No. of 120 series; (without H-feature)	for DB series *	Spec. Selection	

Interface Unit						
 PLC Interface	◆F3SVH64A	◆F3SVH64A	-----	○	For Yokogawa PLC FA-M3	
	-----	-----	◆AFSR01	○		
	◆AF611Y21	-----	-----	☆	For Toshiba PLC ST2	
	-----	-----	◆AF611	☆		
 ISA-Bus Interface	◆XT-HUW	◆XT-UW	-----	○	For ISA Bus	
	-----	-----	AI48-01	○		
 PCI-Bus Interface	-----	-----	AP48-01	○	For PCI Bus	

Gateway						140×57×44
 CC-Link Gateway	◆AG42-C1Y17	-----	-----	○	For CC-Link	
	-----	-----	◆AG42-C1	○		
DeviceNet Gateway	-----	-----	AG42-D1	○	For DeviceNet	

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※=Part of the specification are selectable. ○=General purpose

* : Please confirm specification by another catalog for DB the goods corresponding to DB series.

Slave Unit

Appearance	Name				Dimension(W×D×H mm)				
	Name	Model No. of W series (with H-feature)	Model No. of 120 series (without H-feature)	Spec. Selection	Specification				
 <p>DC input</p>	Terminal block type 4 points: 65×40×60 <for 3-wire sensor> 8 points: 100×40×60 8 points: 140×40×60 16 points: 140×40×60 16 points: 190×40×60 32 points: 190×40×60								
	Input Terminal	◆STW-H04T	◆STW-04T	☆	4 points	Terminal block			
		◆STW-H08T	◆STW-08T	☆	8 points				
		◆STW-H16T	◆STW-16T	☆	16 points				
		◆STW-H32T	◆STW-32T	☆	32 points				
		◆STW-H04T-1	◆STW-04T-1	☆	4 points			Self-lifting screw type	
		◆STW-H08T-1	◆STW-08T-1	☆	8 points				
		◆STW-H16T-1	◆STW-16T-1	☆	16 points				
		◆STW-H32T-1	◆STW-32T-1	☆	32 points				
	Input Terminal for 3-wire sensor	◆STWD-H08T	◆STWD-08T	☆	8 points	Terminal block for 3-wire sensor			
		◆STWD-H16T	◆STWD-16T	☆	16 points	Terminal block for 3-wire sensor			
		◆STWD-H08T-1	◆STWD-08T-1	☆	8 points	Self-lifting screw type Terminal block for 3-wire sensor			
		◆STWD-H16T-1	◆STWD-16T-1	☆	16 points	Terminal block for 3-wire sensor			
	 <p>Transistor output</p>	Output Terminal	◆PTW-H04T	◆PTW-04T	☆	4 points	Terminal block		
			◆PTW-H08T	◆PTW-08T	☆	8 points			
			◆PTW-H16T	◆PTW-16T	☆	16 points			
◆PTW-H32T			◆PTW-32T	☆	32 points				
◆PTW-H04T-1			◆PTW-04T-1	☆	4 points	Self-lifting screw type			
◆PTW-H08T-1			◆PTW-08T-1	☆	8 points				
◆PTW-H16T-1			◆PTW-16T-1	☆	16 points				
◆PTW-H32T-1			◆PTW-32T-1	☆	32 points				
 <p>Relay output</p>	Relay Output Terminal 4 points: 65×40×60 8 points: 100×40×60 16 points: 140×40×60 PKM-(H)16R: 167×64×55								
	Output Terminal	PTW-H04R	PTW-04R	☆	4 points	Terminal block			
		◆PTW-H08R	◆PTW-08R	☆	8 points				
		PKM-H16R	◆PKM-16R	☆	16 points	Terminal block with relays			
		PTW-H04R-1	PTW-04R-1	☆	4 points	Self-lifting screw type			
		PTW-H08R-1	PTW-08R-1	☆	8 points				
	Output Terminal Individual circuit	◆PTW-H04RS	PTW-04RS	☆	4 points	Terminal block Individual circuit			
		PTW-H08RS	PTW-08RS	☆	8 points	Terminal block Individual circuit			
		◆PTW-H16RS	◆PTW-16RS	☆	16 points	Terminal block Individual circuit			
		◆PTW-H04RS-1	PTW-04RS-1	☆	4 points	Self-lifting screw type Individual circuit			
		◆PTW-H08RS-1	PTW-08RS-1	☆	8 points				
		PTW-H16RS-1	PTW-16RS-1	☆	16 points				
 <p>DC input Transistor output</p>	Compact Terminal 22×52×79.5								
	Input Terminal	◆C1SW-H08FP	-----	☆	8 points	e-CON type connector			
		◆C1SW-H08FP-1	-----	☆	8 points	Individual connector			
		C1SW-H08FP-2	-----	☆	8 points	MIL type connector			
		◆C1SW-H16FP-2	-----	☆	16 points				
	Output Terminal	◆C1PW-H08P	-----	☆	8 points	e-CON type connector			
		◆C1PW-H08P-1	-----	☆	8 points	Individual connector			
		C1PW-H08P-2	-----	☆	8 points	MIL type connector			
		◆C1PW-H16P-2	-----	☆	16 points				

NOTE) [model No.] column : ◆ =stocked items
 [spec. selection] column : ☆ =Points/distance specifications mentioned on Page2 are all selectable.
 ※ =Part of the specification are selectable. ○ =General purpose

Slave Unit

Appearance	Name				Dimension(W×D×H mm)	
	Name	Model No. of W series (with H-feature)	Model No. of 120 series (without H-feature)	Spec. Selection	Specification	

Analog Unit

140×57×44

A/D Converter [Current Input]	AXW-HJ4A1	----	○	4ch	4 - 20mA input
	AXW-HJ8A1	----	○	8ch	4 - 20mA input
	AXW-HJ4A2	----	○	4ch	0 - 20mA input
	AXW-HJ8A2	----	○	8ch	0 - 20mA input
A/D Converter [Voltage Input]	◆ AAX-H13-14AV1	----	○	4ch	4 - 20mA / 1 - 5V input
	◆ AAX-H13-14V3	----	○	8ch	0 - 10V input
	AXW-HJ4V1	----	○	4ch	1 - 5V input
	AXW-HJ8V1	----	○	8ch	1 - 5V input
	AXW-HJ4V2	----	○	4ch	0 - 5V input
	AXW-HJ8V2	----	○	8ch	0 - 5V input
	AXW-HJ4V3	----	○	4ch	0 - 10V input
	AXW-HJ8V3	----	○	8ch	0 - 10V input
D/A Converter [Current Output]	AYW-HJ4A1	----	○	4ch	4 - 20mA output
	AYW-HJ8A1	----	○	8ch	4 - 20mA output
	AYW-HJ4A2	----	○	4ch	0 - 20mA output
	AYW-HJ8A2	----	○	8ch	0 - 20mA output
D/A Converter [Voltage Output]	AYW-HJ4V1	----	○	4ch	1 - 5V output
	AYW-HJ8V1	----	○	8ch	1 - 5V output
	AYW-HJ4V2	----	○	4ch	0 - 5V output
	AYW-HJ8V2	----	○	8ch	0 - 5V output
	AYW-HJ4V3	----	○	4ch	0 - 10V output
	AYW-HJ8V3	----	○	8ch	0 - 10V output



Current Input

Current Output

Voltage Input

Voltage Output

Mini Terminal

51×40×21

Input Terminal	N3SW-H04	----	☆	4 points	Cable wiring type
Output Terminal	N3PW-H04	----	☆	4 points	
Input/Output Terminal	N3XW-H04	----	☆	4 points	
DIN rail adapter	ADP-19	----	○	DIN rail adapter for Mini Terminal 5pcs./pack	



DC Input

Transistor Output

Module

61×15.3×38

Input Terminal	<Under developing>	----	---	16 points	Mountable to printed circuit board
	<Under developing>	----	---	16 points	
Output Terminal	<Under developing>	----	---	16 points	
	<Under developing>	----	---	16 points	



DC Input

Transistor Output

UNI-WIRE buffer for Torolley Duct devices

140×57×44

Master Unit	A115T-T1	A115T-T1	○	Transmission-signal voltage conversion	24V→100V
Slave Unit	A115T-R1	A115T-R1	○		100V→24V



Terminal Unit for Spatter-proof specification

8 points:100×40×54
16 points:140×40×54
A117XB:160×60×54

Input Terminal	A117SB-08T-7	----	☆	8 points	for spatter-proof
	A117SB-16T-7	----	☆	16 points	
Output Terminal	A117PB-08T-7	----	☆	8 points	
	A117PB-16T-7	----	☆	16 points	
Input/Output Terminal	A117XB-1608T-7	----	☆	Input 16 points /Output 8 points	



DC Input

Transistor Output

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■ Pneumatic Unit



UW-A05G/A12G series / UNI-WIRE Manifold

<Features>

- > Manifolds for pneumatic components which connect directly to the UNI-WIRE transmission line.
- > Various selection of values.
- > Valves are plug-in type, with ON-OFF indication and indicator light of circle normal operation.
- > Manifold body is made from plastic with push-in fitting.

H-feature	H	Selection	☆
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NOTE) Prices differ depending on the type of solenoid valve. Please inquire for details.

▼ UW-A05G UNI-WIRE Manifold

Type of manifold		◆ DHS-A05G(with H-feature) ◆ DTS-A05G(without H-feature)	DHX-A05G(with H-feature) DTX-A05G(without H-feature)
		Common supply port (1) Common exhaust port (3/5) Pilot valve captured exhaust 2 & 4 ports on side	Common supply port (1) Common exhaust port (3/5) Common external pilot Pilot valve captured exhaust 2 & 4 ports on side
Mountable solenoid valve	Single solenoid (C[dm ³ /(s/bar)])	◆ A05GS25 (1.16)	A05GS25X (1.16)
	Double solenoid (C[dm ³ /(s/bar)])	◆ A05GD25 (1.16)	A05GD25X (1.16)
	Center close (C[dm ³ /(s/bar)])	◆ A05GD35 (0.9)	A05GD35X (0.9)
	Center exhaust (C[dm ³ /(s/bar)])	◆ A05GE35 (0.9)	A05GE35X (0.9)
	Center open (C[dm ³ /(s/bar)])	◆ A05GO35 (1.34)	A05GO35X (1.34)

▼ UW-A12G UNI-WIRE Manifold

Type of manifold		◆ DHS-A12G(with H-feature) ◆ DTS-A12G(without H-feature)	DHX-A12G(with H-feature) DTX-A12G(without H-feature)
		Single solenoid (C[dm ³ /(s/bar)])	◆ A12GS25 (2.2)
Mountable solenoid valve	Double solenoid (C[dm ³ /(s/bar)])	◆ A12GD25 (2.2)	A12GD25X (2.2)
	Center close (C[dm ³ /(s/bar)])	◆ A12GD35 (1.52)	A12GD35X (1.52)
	Center exhaust (C[dm ³ /(s/bar)])	◆ A12GE35 (1.52)	A12GE35X (1.52)
	Center open (C[dm ³ /(s/bar)])	◆ A12GO35 (2.82)	A12GO35X (2.82)



Rotary Joint

<Features>

- > Air and electric power and UNI-WIRE serial transmission signals can be sent to rotation part through this Rotary Joint.
- > Air part is designed to be long life and low torque.
- > Electric part has metallic mercury connector, which can be connected directly to UNI-WIRE transmission line.
- > Rotary Joint can easily realize multiple point control on the rotary equipment.

H-feature	H/without H	Selection	○
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> Main unit

Type	RJP-061L-RC4	RJP-061L-RC6	
Working media	Air		
Rated pressure	1MPa		
Rotation rate	200rpm		
Number of passage	1		
Pipe diameter	Rc 1/4		
Ambient temperature	5 - 50 °C		
Direction of mounting	Vertical or horizontal(Rotary connector has top and bottom)		
Wiring	Connector	430	630
	Rotary side	4-wire cable(0.5mm ²), 1m length	Crimpe terminals attached as accessory*
	Static side	Crimpe terminals attached as accessory*	
Weight	About 3.2kg		
Price	282,000	380,000	

*: for AWG14-16

> Rotary connector (Made by Mercotac inc.® USA)

Type	430	630
Number of connectable lines	4 (2 lines:30A, 2 lines:4A)	6 (2 lines:30A, 2 lines:4A)
Min. working voltage	10 ⁻¹ V	
Max. working voltage	240 V	
Min. working current	10 ⁻¹¹ A	
Max. working current	LG.30A SM.4A (240V AC resistance load)	
Working frequency	DC - 100MHz	
Contact resistance	1mΩ max.	

Note : The above -mentioned specification is the specification in the case of using it only by the rotary connector.

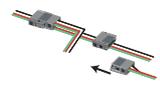
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WARNING

- > Never rigid mount stator of RJP-061L as this will cause RJP-061L failure.
- > Do not solder to the Rotary connector as such misuse may cause Rotary connector failure and voids the warranty.
- > In food and packaging applications; Rotary connector contain mercury and other fluids. Isolate connector from any possibility of leakage contaminating the product. Short circuit failure at or in connection with a Rotary connector may result in leakage.
- > Rotary connector contain metallic mercury and should be disposed of properly through.
- > Use air line filter with less than 5-micron element for the RJP-061L.

■ Auxiliary Unit

Appearance	Name			Dimension(W×D×H mm)	
	Name	Model No. of W series (with H-feature)	Model No. of 120 series (without H-feature)	Spec. Selection	Specification
	Adaputer				
	Uni-coneector adaputer	UA-XL	UA-XL	○	For Yokogawa DCS unit ST-5,6,7
		UA-32XL	UA-32XL	○	For Yokogawa DCS unit fADM12C,ADM52C
		◆UA-32XL II	◆UA-32XL II	○	For Yokogawa DCS unit ADV169,ADV569,ADV869
		◆UAW-1616XL	◆UAW-1616XL	○	For Yokogawa DCS unit ADV159
		◆UAW-32XLHI	◆UAW-32XLHI	○	For Hitach Higt-Technologies DCS unit PDI640,PDO640
Cabel adaputer	◆CA-32	◆CA-32	○	40P connectors	
PLC cable	◆CN-40-2K	◆CN-40-2K	○	40P connectors, cable length 2m	
 	Parts for Connection				
	LP connector	◆LP4-BK-1P	◆LP4-BK-1P	○	Link connector for four-wire system ribbon cable
	Flat cable	◆FK4-075-100	◆FK4-075-100	○	For four-wire system ribbon cable (black,red,white,green) / 0.75mm ² 100m/roll
	EP connector	◆EP4-RE-8P	◆EP4-RE-8P	○	Red dia 0.8-1.0 / 0.14-0.2mm ² 8 pcs./pack
		◆EP4-YE-8P	◆EP4-YE-8P	○	Yellow dia 1.0-1.2 / 0.14-0.2mm ² 8 pcs./pack
		◆EP4-OR-8P	◆EP4-OR-8P	○	Orange dia 1.2-1.6 / 0.14-0.2mm ² 8 pcs./pack
		◆EP4-GR-8P	◆EP4-GR-8P	○	Green dia 1.0-1.2 / 0.3-0.5mm ² 8 pcs./pack
		◆EP4-BL-8P	◆EP4-BL-8P	○	Blue dia 1.2-1.6 / 0.3-0.5mm ² 8 pcs./pack
◆EP4-GL-8P	◆EP4-GL-8P	○	Gray dia 1.6-2.0 / 0.3-0.5mm ² 8 pcs./pack		
	Loop wiring disconnection detection unit				40×100×40
	Loop wiring disconnection detection unit	◆LOKW-01	---	☆	Loop wiring desconnection detection unit

NOTE) [model No.] column : ◆ =stocked items

[spec. selection] column : ☆ =Points/distance specifications mentioned on Page2 are all selectable.

※=Part of the specification are selectable. ○=General purpose

OPERATION

Starting Point for Operation

NOTE

Perform the following procedure when first installing the UNI-WIRE W series or modifying it. An improper usage may effect the system performance(e.g.; the disconnection can not be detected; etc.)

1) Turn on the power.

Check wiring and connections are correct before turning on the system power source.

2) Check the lamps on the Send Unit.

The POWER and ER4 are on.
SEND flickers.

3) Sizing(SET switch)

Push the SET switch with a pin or pen to perform Sizing. This shall be done for all Terminal Units in order to register its ID number.

4) Check the lamps.

- >Sent Unit SDW-H2
ER4 is OFF.
RUN is lit.(RUN contact closed.)
- >Terminal Units.
Power of POW are lit.
SEND flickers.

5) Check the number of connected units.

Confirm whether the number displayed under ONLINE on the SDW-H2 corresponde to the number of connected Terminal Units(including End Units) in the W series.

6) Check the ID numbers.

- >Intentional disconnection.
Turn off the power and disconnect the wire of the transmission line from terminal D on the SDW-H2.
- >Detection of the disconnected point.
Turn on the power. The SDW-H2 detect the disconnection and the MONITOR display ID numbers of the troubled unit.
- >Confirm the ID numbers.
Press the DISPLAY switch and check ID numbers of the disconnected units. Verify the correspondence between these indicated numbers and the ID numbers assigned to the Terminal Units.

7) Check the normal operation of system.

- >Recovery of the normal connection.
Turn off the power and recover the wire of the transmission line to terminal D of the SDW-H2.
- >Check the noraml status of system.
Check that the error lamps on the Send Unit are OFF and that the POWER lamps are ON and the SEND lamps flicker, on all the Terminal Units.

5) Check the number of connected Units.

6) Check the ID numbers.

2) Check the lamp.

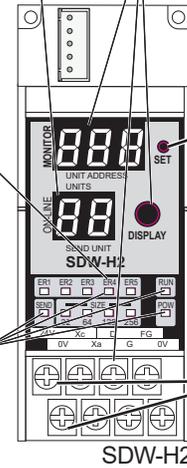
ER4

3) Sizing

4) Check the lamp.

ER4
RUN
POWER
SEND

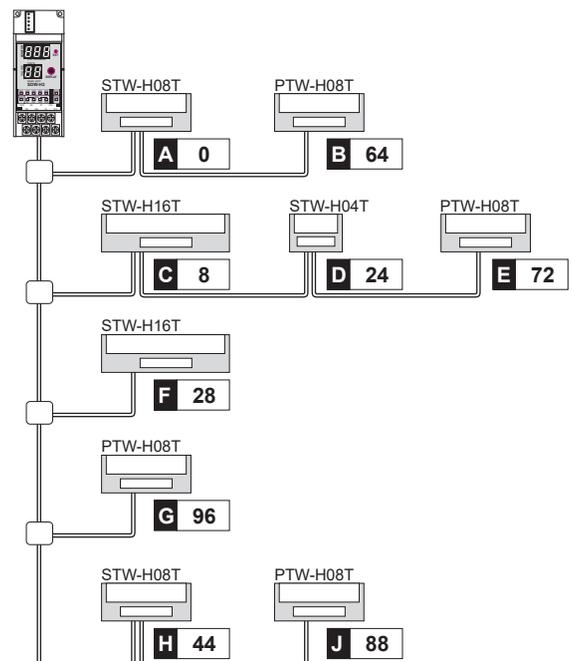
1) Turn on the power.



Example of ID number indication.

By pushing the DISPLAY switch, the disconnected IDs can be showed one by one.

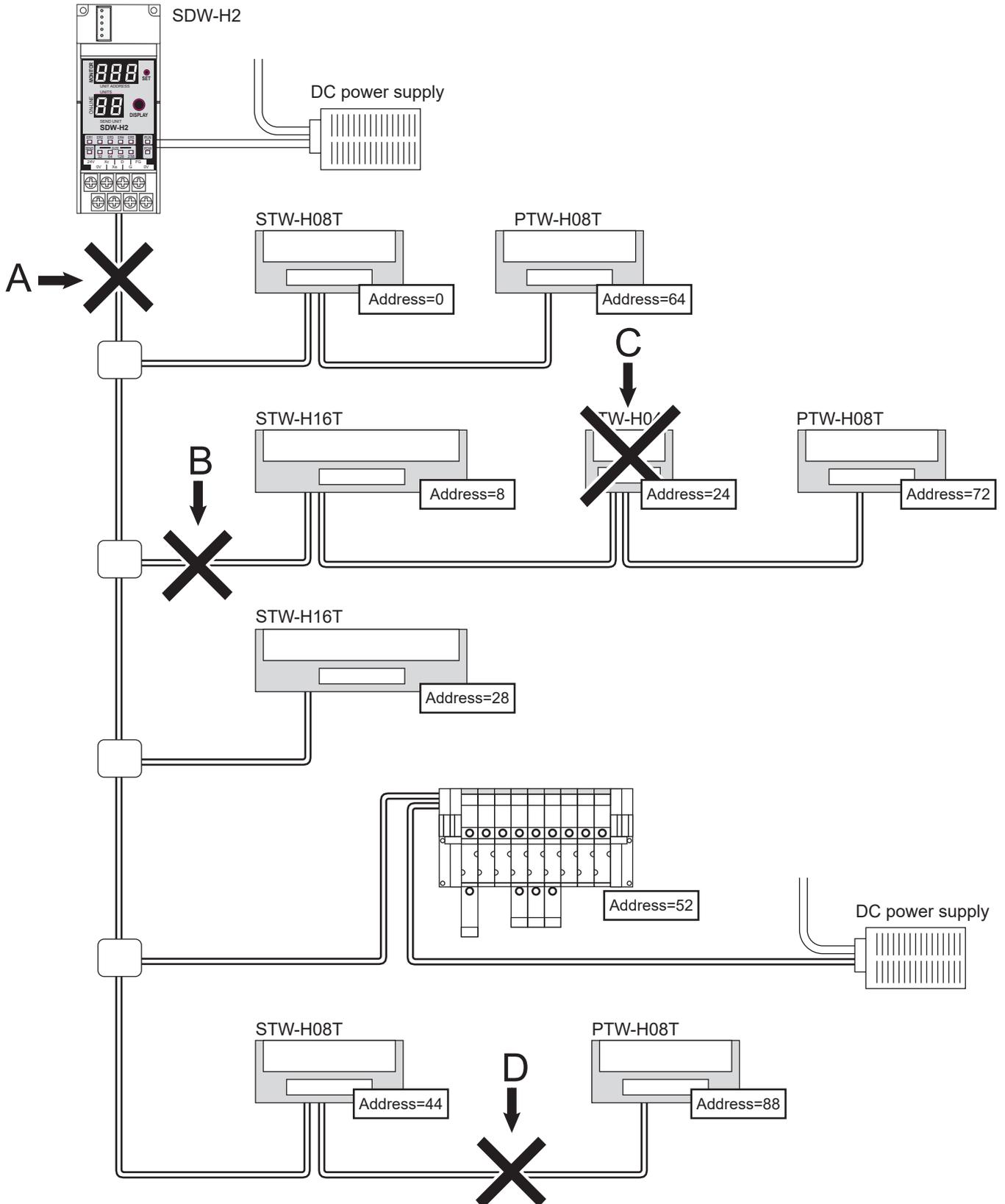
Indicated ID	0	8	24	28	44	64	72	88	96
Unit	A	C	D	F	H	B	E	J	G



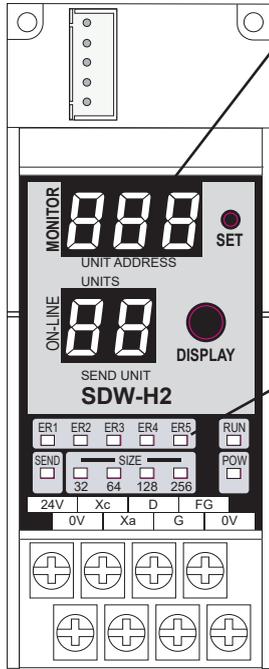
OPERATION

Trouble and Indication

When the disconnection troubles such as below occur, the disconnected ID numbers are indicated on the MONITOR display of the Send Unit by pushing the DISPLAY switch. In case of the centralized power system as shown below, the Send Unit SDW-H2 is capable of verifying the connections not only in the transmission line but also in the power supply line.



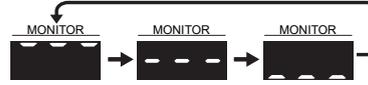
■ Trouble and indication on the Send Unit



SDW-H2

● [MONITOR] Indication

Normal operation : The MONITOR lights cyclically as follows.



When trouble is detected : The MONITOR displays the ID number of the disconnected unit.

DISPLAY switch :

When troubles occur, the troubled addresses (ID numbers) are indicated on the MONITOR display one after another by pushing this switch.

The indication returns again to the starting ID after indicating the last. This switch is effective only When the troubles occur. (*All displayed numbers are decimal numbers.)

● Error Indication

Events	Lamps on the Send Unit						
	ER1	ER2	ER3	ER4	ER5	RUN	SEND
(Normal)	◎					○	◎
Short circuit between D and G					○		×
Short circuit between 24V and D		○	○	○	○		×
No End Connector *		○					◎
No response for ID code				○			◎
Failure of ON data error			○	○	○		◎
Failure of OFF data error				○	○	×	◎
Voltage drop (less than 19V)		◎					×

Note: 1) ○ means ON, no mark means OFF, ◎ means flickering and × means ON or OFF.

2) The SEND lamp normally flickers.(◎)

3) When the error indications are lit, the SIZE lamps of the maximum connected I/O point go OFF.

4) Mark * : The system can operate but at the slow speed.

● Emergency measure for voltage drop

Supplied voltage	Reaction	Indication
Less than 19V	Not operate	Lamp ER2 and 32 flicker alternately
Less than 21V when power on	Operate or not.	Same as above when system does not operate.

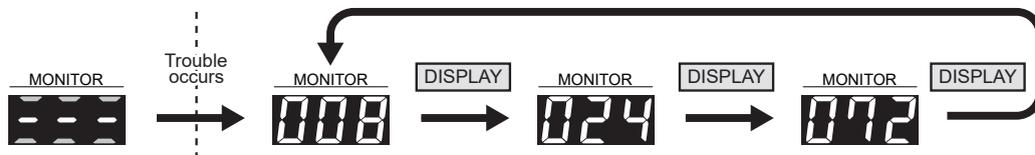
■ Indication of abnormal IDs.

In the case of the disconnection shown in the preceding page, the MONITOR on the Send Unit display the ID number as follows. The disconnected locations are shown as ID numbers one after another by pushing the DISPLAY switch.

Location of trouble	Indication (ID number)
When transmission line is disconnected at A	0,8,24,28,44,52,64,72,88 (all IDs)
When power line is disconnected at A	0,8,24,28,44,64,72,88 (other than 52)
When transmission line is disconnected at B	8,24,72
When the Terminal Unit C breaks down	24
When transmission line is disconnected at D	88

● Example of indication

When the transmission line is disconnected at B, the MONITOR of the Send Unit display the troubled ID numbers one after another as shown below by pushing the DISPLAY switch.



The MONITOR changes and returns to the starting ID by pushing the DISPLAY switch.