

Redesign 1st group

watanabe

Plug-in type compact signal converter



$\pm 5\%$   
 **$\pm 10\%$**   
Expanded zero & span adjustment

※Changed 1 turn trimmer to 15 turn trimmer

High reliability!



Improvement of functions!

Signal converter

**WSP** Series

Low cost by redesigned circuit!

$2\text{kV}$   
 **$3\text{kV}$**   
Safe design by high dielectric strength

**5** Years  
Long warranty & long life

**DC  $30\text{V}$**   
Power supply available

※Can be used for 24Vdc battery of automobiles

Manufacturer specializing in Converters

watanabe

Long term stable supply!

<http://en.watanabe-electric.co.jp/>



※Tentative specification

**Isolator**

- WSP-IS** Isolator
- WSP-DS** Isolator
- WSP-DSW** Dual-output Isolator
- WSP-DE** High-speed Response Isolator
- WSP-DEW** Dual-output High-speed Response Isolator

Wide range trimmer!

Improved efficiency of adjustment!



**Specifications**

<b>Accuracy</b>	±0.1% FS (at 23°C)
<b>Response time</b>	WSP-IS / DS / DSW : Approx. 25ms (0 to 90%) WSP-DE / DEW : Approx. 120µs (0 to 90%)
<b>Allowable load resistance</b>	Current output First output : 15V or less of voltage drop between output Second output : 7V or less of voltage drop between output Voltage output Load current 5mA or less For 1V FS or less of output the current is 1µA or less
<b>Zero &amp; span adjustment</b>	±10% FS (15 turn trimmer)
<b>Operating temperature</b>	-5 to +55°C
<b>Operating relative humidity</b>	90% or less (non-condensing)
<b>Temperature coefficient</b>	±0.015% FS of span per °C

<b>Isolation</b>	Between input, output, and power supply
<b>Insulation resistance</b>	100MΩ or more with a 500Vdc megger
<b>Dielectric strength</b>	Between input, output, and power supply terminal 3000Vac for 1 minute between input/output and power supply, 2000Vac for 1 minute between input and output terminal
<b>Power supply variation</b>	±0.1% FS (within the range of rated voltage)
<b>Dimensions</b>	WSP-IS / DS / DE : 84(H) X 23(W) X 106.5(D)mm WSP-DSW / DEW : 84(H) X 29.5(W) X 106.5(D)mm
<b>Structure</b>	Plug-in
<b>Connection</b>	M3 SEMS screw part of the base socket
<b>Material of terminal screw</b>	Chromated iron
<b>Case color and material</b>	Ivory, heat-resistant ABS resin(94V-0)
<b>Mounting</b>	DIN rail or wall surface

**Ordering code (WSP-DS)**

※Please contact us for other models ordering code

WSP- **DS** - [ ] - [ ] - [ ]

Code	Input	Input Resistance
10	0 to 10mVdc	1MΩ
11	0 to 100mVdc	1MΩ
12	0 to 1Vdc	1MΩ
13	0 to 5Vdc	1MΩ
14	1 to 5Vdc	1MΩ
15	0 to 10Vdc	1MΩ
17	0 to 60mVdc	1MΩ
24	±5Vdc	1MΩ
25	±10Vdc	1MΩ
30	0 to 10µAdc	1kΩ
31	0 to 100µAdc	100Ω
32	0 to 1mAdc	100Ω
33	0 to 10mAdc	50Ω
35	0 to 20mAdc	50Ω
36	4 to 20mAdc	50Ω
40	±1mAdc	100Ω
41	±20mAdc	50Ω
99	Contact us for other than the above Full Scale Range: Current input 10µA to 20mA Voltage input 10mV to 300V	

Code	Output	Allowable Load
A	4 to 20mAdc	750Ω or less
B	1 to 5mAdc	3kΩ or less
D	0 to 1mAdc	15kΩ or less
E	0 to 10mAdc	1.5kΩ or less
G	0 to 20mAdc	750Ω or less
H	1 to 5Vdc	More than 1kΩ
J	0 to 10mVdc	More than 10kΩ
K	0 to 100mVdc	More than 100kΩ
L	0 to 1Vdc	More than 200Ω
N	0 to 5Vdc	More than 1kΩ
P	0 to 10Vdc	More than 2kΩ
R	±10Vdc	More than 2kΩ
S	Contact us for other than the above Current output 20mA or less Voltage output 10V or less	

Code	Test Report
X	None
T	With Test report

Code	Power Supply
A	100 to 240Vac ±10% 50/60Hz
D	24Vdc ±10%
8	110Vdc ±10%

※CE marking is unavailable for Input range "99" and Output range "S"  
 Also, CE marking is available only for Power supply voltage code "D".

**Current loop supply (Distributor)**

**WSP-DBZ**

Current loop supply (distributor)

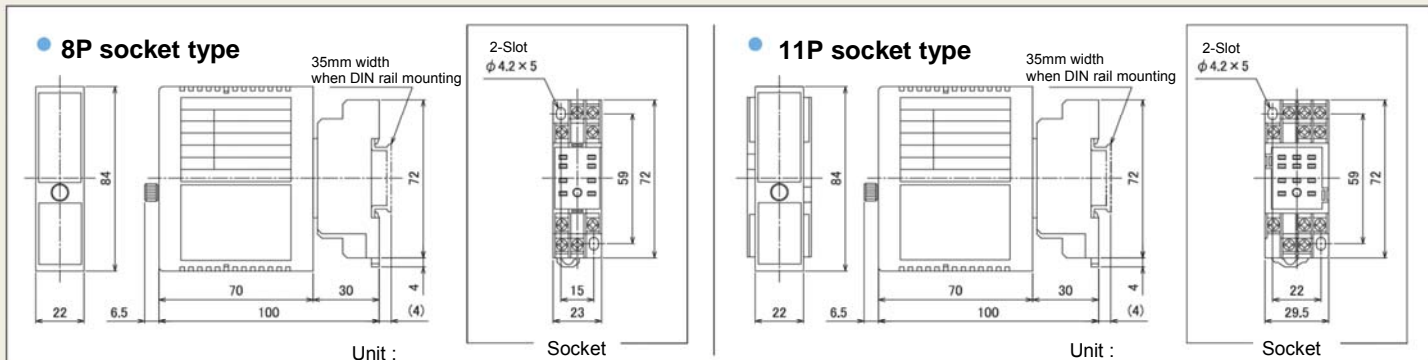
**WSP-DBZW**

Dual-output current loop supply (distributor)

**Specifications**

<b>Input Signal</b>	4-20mAdc (Transmitter signal)
<b>Accuracy</b>	±0.1% FS (at 23°C)
<b>Response time</b>	Approx. 25ms (0 to 90%)
<b>Zero &amp; span adjustment</b>	±10% FS (15 turn trimmer)
<b>Transmitter power supply</b>	24Vdc ±1V, max approx. 25mA

**Dimensions**



All contents in this catalog are subject to change without notice

**watanabe**

<http://en.watanabe-electric.co.jp/>

Mail : [support@watanabe-electric.co.jp](mailto:support@watanabe-electric.co.jp)

**Watanabe Electric Industry Co., Ltd.**  
 6-16-19 Jinguumae Shibuya-ku Tokyo, 150-0001 Japan.  
 Tel: +81-3-3400-6147 | Fax: +81-3-3409-3156.

Please contact our distributor about the product