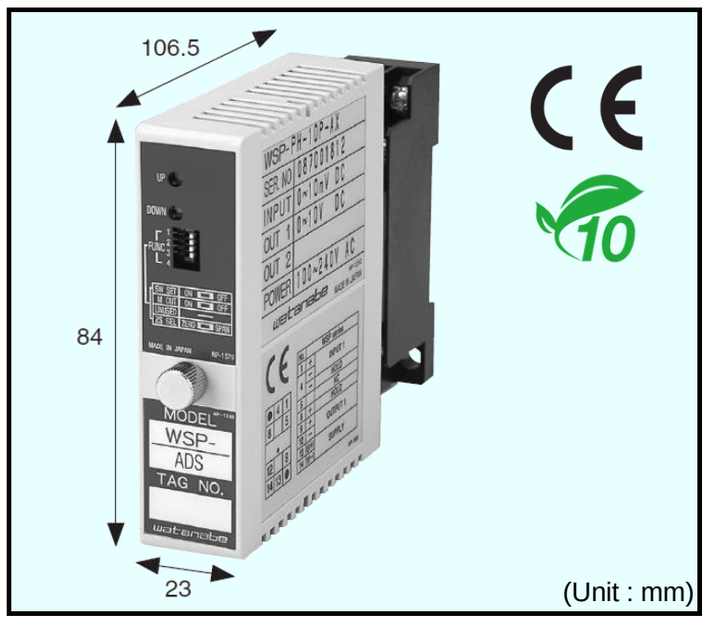
Adder / Subtractor

WSP-ADS/SBS



This compact plug-in converter (isolator) receives two analog input and outputs a signal in proportion to their sum or difference.
For example, WSP-ADS/SBS can be used for addition of flow rates or the calculation of temperature differences, speed differences, etc.

Features

★ Dielectric strength of 2000Vac between input, output and power supply
★ Both AC and DC power supply are available
★ Long operationg time
★ Easy maintenance by plug-in structure
★ CE approved

Ordering code

WSP- □□□ - □□ □ - □□

Code	Model
ADS	Adder
SBS	Subtractor

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
16	0 to 50mVdc	1MΩ
17	0 to 60mVdc	1MΩ
32	0 to 1mAdc	50Ω
33	0 to 10mAdc	50Ω
34	0 to 16mAdc	50Ω
35	0 to 20mAdc	50Ω
36	4 to 20mAdc	50Ω
99 ＊1	Contact us for other than the above Full Scale Range: Current input 1mA to 20mA Voltage input 10mV to 10V	

Code	Output	Allowable Load
A	4 to 20mAdc	750Ω or less
D	0 to 1mAdc Accuracy ±1.6% FS	15kΩ or less
G	0 to 20mAdc	750Ω or less
H	1 to 5Vdc	2.5kΩ or more
L	0 to 1Vdc	500Ω or more
N	0 to 5Vdc	2.5kΩ or more
P	0 to 10Vdc	10kΩ or more
S ＊1	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	100 to 120Vdc ±10%

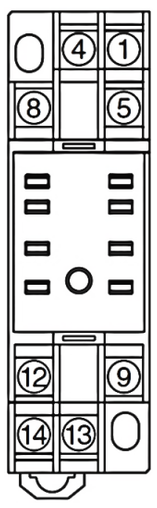
Adder(ADS) : K1 = 50 , K2 = 50
Subtractor(SBS) : K1 = 100 , K2 = 100
* K1, K2 is the factory settings. It can't be changed after shipment.
Contact us for other than the above

＊1･･･CE approval do not adapt input range code 99 and output range code S.

Specifications

Equation	<Adder> Output = K1 / 100 x Input1 + K2 / 100 x Input2 K1, K2 : Specified in the range of 0-100.0% (standard 50%) <Substractor> Output = K1 / 100 x Input1 - K2 / 100 x Input2 K1, K2 : Specified in the range of 0-100.0% (standard 100%)
Accuracy	±0.1% FS (at 23°C) *99, S code depends on span
Response time	Approx. 100ms (0 to 90%)
Allowable load resistance	Current output 15V or less of voltage drop Voltage output Load current 2mA or less For 1V FS or less of output the current is 1mA or less
Zero & span adjustment	±10% FS (Front switch)
Operating temperature	-5 to +55°C
Operating relative humidity	90% or less (non-condensing)
Temperature coefficient	±0.015% FS of span per °C
Isolation	Between input, output, and power supply
Insulation resistance	100MΩ or more with a 500Vdc megger Between input, output, and power supply terminal
Dielectric strength	2000Vac for 1 minute
Power consumption	A : 100 to 240Vac ±10% Approx. 5.5VA D : 24Vdc ±10% Approx. 100mA 8 : 100 to 120Vdc ±10% Approx. 25mA
Power supply variation	±0.1% FS (within the range of rated voltage)
Dimensions	84(H) X 23(W) X 106.5(D)mm
Weight	Approx. 150g
Structure	Plug-in
Connection	M3 SEMS screw part of the base socket
Material of terminal screw	Chromated iron
Case color and material	Ivory, heat-resistant ABS resin(94V-0)
Applicable Directive	EN61326-1, EN61010-1, EN IEC 63000 Installation category : II, Pollution degree : 2
Mounting	DIN rail or wall surface

Terminal connections



No	Signal	Description
1	No.1 INPUT(+)	No.1 Input
4	No.1 INPUT(-) No.2 INPUT(-)	No.2 Input
5	No.2 INPUT(+)	
8	NC	No connection
9	OUTPUT(+)	Output
12	OUTPUT(-)	
13	POWER U(+)	Power Supply
14	POWER V(-)	

＊ Specification is subject to change without notice