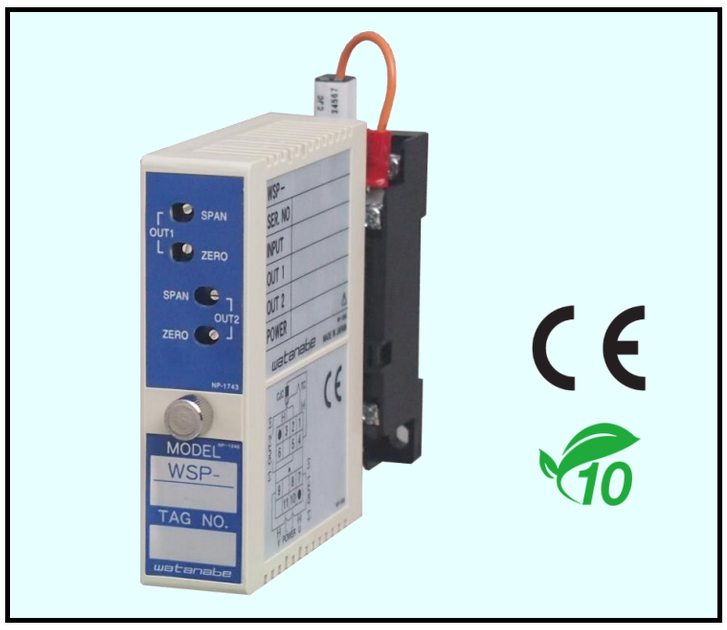
Dual-output Thermocouple Converter

WSP-THW



This compact plug-in converter accepts Thermocouples input conforming to JIS standard and provides optically isolated two DC outputs.
This converter has a linearizer, a cold junction compensation circuit, and a burnout protection circuit as standard equipment which is required to measure temperature.

Features

★ Fine Zero & span adjustment by 15 turn trimmer
★ Zero & span adjustment ±10% full scale
★ Safe design by dielectric strength of 3000Vac
★ 5 years warranty, long life
★ CE approved
★ Linearizer, Cold junction compensation circuit, and Burnout protection circuit built-in

Ordering code

WSP- THW - □ □□ □ □ - □□

Code	Input Signal
T	T (CC) thermocouple
E	E (CRC) thermocouple
J	J (IC) thermocouple
K	K (CA) thermocouple
N	N thermocouple
R	R (PR13) thermocouple
S	S thermocouple
B	B thermocouple
W	WRe 5-26

Code	Power Supply
A	100 to 240Vac ±10% 50/60Hz
D ＊2	24Vdc ±10%　10.8 to 30Vdc
8	110Vdc ±10%

Code	Test Report
X	None
T	With Test report

Measuring Temperature Range	Code	Manufacturable Range by Thermocouple								
		T	**E**	**J**	**K**	**N**	**R**	**S**	**B**	**W**
0 to 100°C	**08**	○	○	○	○					
0 to 150°C	**09**	○	○	○	○	○				
0 to 200°C	**10**	○	○	○	○	○				
0 to 250°C	**11**	○	○	○	○	○				
0 to 300°C	**12**	○	○	○	○	○				
0 to 400°C	**13**		○	○	○	○	○	○		
0 to 500°C	**14**		○	○	○	○	○	○		
0 to 600°C	**15**		○	○	○	○	○	○		○
0 to 800°C	**16**				○	○	○	○	○	○
0 to 1000°C	**17**				○	○	○	○	○	○
0 to 1200°C	**18**				○	○	○	○	○	○
0 to 1300°C	**19**						○	○	○	○
0 to 1400°C	**20**						○	○	○	○
0 to 1600°C	**21**						○	○	○	○
0 to 1800°C	**22**								○	○
0 to 2000°C	**23**									○
0 to 2300°C	**24**									○
Other than above	**99** ＊1	Contact us								

Code	Output 2	Allowable Load Resistance
A	4 to 20mAdc	350Ω or less
G	0 to 20mAdc	350Ω or less
H	1 to 5Vdc	1kΩ or more
N	0 to 5Vdc	1kΩ or more
P	0 to 10Vdc	2kΩ or more
S ＊1	Contact us for other than the above Current output 20mA or less Voltage output 10V or less	

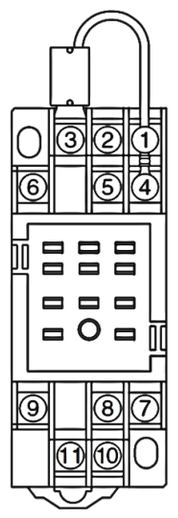
Code	Output 1	Allowable Load Resistance
A	4 to 20mAdc	750Ω or less
B	1 to 5mAdc	3kΩ or less
D	0 to 1mAdc	15kΩ or less
E	0 to 10mAdc	1.5kΩ or less
G	0 to 20mAdc	750Ω or less
H	1 to 5Vdc	1kΩ or more
J	0 to 10mVdc	10kΩ or more
K	0 to 100mVdc	100kΩ or more
L	0 to 1Vdc	200Ω or more
N	0 to 5Vdc	1kΩ or more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

＊**1**･･･CE approval do not adapt input range code 99 and output range code S.
＊**2**･･･CE approval do not adapt when power supply is 10.8Vdc to 30Vdc.

Specifications

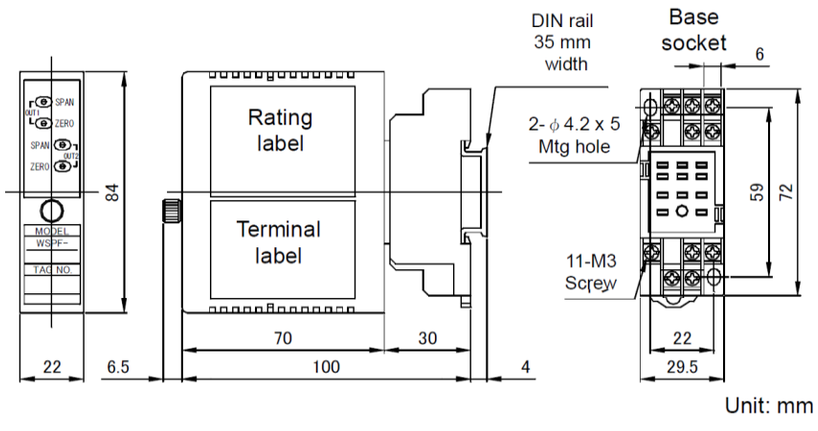
Accuracy	±0.2% FS (at 23±10°C)
Response time	Approx. 25ms (0 to 90%)
Allowable load	Current output First output : 15V or less of voltage drop between output Second output : 11V or less of voltage drop between output Voltage output Load current 5mA or less *1μA or less if the output is less than 1V
Zero & span adjustment	±10% FS (15 turn trimmer)
Operating temperature	-5 to +55°C
Operating relative humidity	90% or less (Non-condensing)
Temperature coefficient	±0.015% FS of span per °C
Cold junction compensation accuracy	±0.5°C or less at 23±10°C（±1°C or less for R, WR and S)
Cold junction compensation temperature	10 to 40°C　*R, S, WR thermocouple : ±1°C
Linearization	Available (30% FS or less of R and W is out of range)
Burnout protection	Upscale / downscale　*Please specify when you order for
Isolation	Between input, output, and power supply
Insulation resistance	100MΩ or more with 500Vdc megger Between input, output, and power supply terminal
Dielectric strength	3000Vac for 1 min between power supply and input/output terminal, 2000Vac for 1 min between input and output terminal
Power consumption	Approx. 5.6VA (AC), Approx. 90mA (DC)
Power supply variation	±0.1% FS (within the range of rated voltage)
Dimensions	84(H) X 29.5(W) X 106.5(D)mm
Weight	Approx. 150g
Structure	Plug-in (Body part and socket part)
Connection	M3 SEMS screw part of the base socket (Tightening torque 0.6N·m)
Mounting	DIN rail or wall surface
Case color and material	Ivory, ABS resin, flame retardant grade UL94V-0
EMC directive	EN61326-1, EN61010-1, EN IEC 63000 Installation category : II, Pollution degree : 2
Rated altitude	2000m or less

Terminal connections



No	Symbol		Description
1	INPUT	+	Input
2	OUTPUT-2	+	No.2 Output
3	INPUT	-	Input
4	CJC		Cold junction compensation
5	OUTPUT-2	-	No.2 Output
6	NC		No connection
7	OUTPUT-1	+	No.1 Output
8	NC		No connection
9	OUTPUT-1	-	No.1 Output
10	POWER	U(+)	Power Supply
11		V(-)	

Demensions



＊ **Specification is subject to change without notice**