CP1W TEMPERATURE SENSOR EXPANSION

Product Data Sheet

CP1W-TS002

Four-channel thermocouple input unit

THERMOCOUPLE INPUT CHANNELS	SENSOR TYPES	K WIDE INPUT RANGE	K DECIMAL INPUT RANGE
4	**K or J; the same type on all four inputs**	**-200 to 1300 deg C, rotary setting 0**	**0.0 to 500.0 deg C, rotary setting 1**

Omron CP1W-TS002 is a four-channel thermocouple input unit for the CP-series expansion bus. It converts temperatures from K-type or J-type thermocouples into binary values that the connected CPU reads from four consecutive input words. All four channels use the same sensor type and selected range.

01 TECHNICAL DATA

Thermocouple input channels	4
Sensor types	K or J; the same type on all four inputs
K wide input range	-200 to 1300 deg C, rotary setting 0
K decimal input range	0.0 to 500.0 deg C, rotary setting 1
J wide input range	-100 to 850 deg C, rotary setting 2
J decimal input range	0.0 to 400.0 deg C, rotary setting 3
Indication accuracy	Larger of +/-0.5% of converted value or +/-2 deg C, plus/minus 1 digit max.
Low-temperature K accuracy	+/-4 deg C plus/minus 1 digit max. at -100 deg C or below
Conversion time	250 ms for all four input points
Temperature data format	16-bit binary, 4 hexadecimal digits in normal mode

OMRON W462 CP1L CPU Unit Operation Manual, Section 7-5, printed pages 473-479.

02 ADDITIONAL PRODUCT DATA

Input allocation	4 consecutive input words; no output words
5 VDC consumption	40 mA max.
24 VDC consumption	59 mA max.
Open-circuit indication	7FFF hexadecimal in normal mode
Startup conversion status	7FFE hexadecimal for approximately 1 second after power-on

03 PRODUCT FUNCTION

A rotary switch selects the temperature range, while DIP switches select Celsius or Fahrenheit and the data presentation mode. The unit converts all four inputs in 250 ms, uses a fixed expansion connecting cable, and retains its individually calibrated cold-junction compensator. In normal mode, open circuits are reported as 7FFF hexadecimal and startup conversion is indicated by 7FFE.

04 SYSTEM COMPATIBILITY

Select one K or J range for all four channels before wiring. Follow the terminal drawing for input polarity, keep unused NC terminals unwired, and leave the factory-matched cold-junction compensator in place.

05 REFERENCE

OMRON W462 CP1L CPU Unit Operation Manual, Section 7-5, printed pages 473-479.

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