



Model N306  
(Model N305 is slightly different)  
Product sold by Novus Automation

### SPECIFICATIONS

**Measurement Range:** ..... -50 °C to 1300 °C, (-58 °F to 1999 °F)  
**Resolution:** ..... 0.1 °C or 0.1 °F (Model 305)  
 ..... 1 °C or 1 °F (Model 306)

#### Accuracy :

Accuracy is specified for operating temperatures over the range of 18 °C to 28 °C (64 °F to 82 °F), for 1 year, not including thermocouple error.

Unit	Range	Resolution	Accuracy
°C	-50 to 199.9 °C	0.1 °C	0.2 % ±1 °C
°F	-50 to 199.9 °F	0.1 °F	0.2 % ±1 °F
°C	-50 to 1000 °C	1 °C	0.3 % ±1 °C
°F	-50 to 1999 °F	1 °F	0.3 % ±1 °F
°C	1000 to 1300 °C	1 °C	0.5 % ±1 °C

#### Temperature Coefficient:

0.1 times the applicable accuracy specification per °C from 0 °C to 18 °C and 28 °C to 50 °C (32 °F to 64 °F and 82 °F to 122 °F).

**Reading Rate:** 2.5 times per second.

#### Input Protection:

60 Vdc or 24 Vrms ac maximum input voltage on any combination of input pins.

**Reading Rate:** 2.5 times per second.

#### Input Connector:

Accepts standard miniature thermocouple connectors (flat blades spaced 7.9 mm, center to center).

### GENERAL

**Display:** ..... 3 1/2 digit liquid crystal display (LCD) with maximum range of 1999

**Battery:** ..... Standard 9 V battery (NEDA 1604, IEC 6F22)

**Battery life:** ..... 200 hours typical with carbon zinc battery

**Dimensions:** ..... 147 mm (H) x 70 mm (W) x 39 mm (D)

**Weight:** ..... 7.6 oz (215 g)

**Supplied Probe:** 4-foot type “K” thermocouple bead probe (teflon tape insulated). Maximum insulation temperature 260 °C (500 °F).

**Probe accuracy:** ±2.2 °C or ±0.75 % of reading (whichever is greater) from 0 °C to 800 °C.

### ENVIRONMENTAL

**Ambient Operating Range:** ..... 0 °C to 50 °C (32 °F to 122 °F)

**Storage Temperature:** ..... -20 °C to 60 °C (-4 °F to 140 °F)

**Relative Humidity:** ..... 0% to 80% (0 °C to 35 °C) (32 °F to 95 °F)  
 ..... 0% to 70% (35 °C to 50 °C) (95 °F to 122 °F)

### SAFETY INFORMATION

It is recommended that you read the safety and operation instructions before using the thermometer.

### OPERATOR MAINTENANCE

#### WARNING

TO AVOID POSSIBLE ELECTRICAL SHOCK, DISCONNECT THE THERMOCOUPLE CONNECTORS FROM THE THERMOMETER BEFORE REMOVING THE COVER.

Power is supplied by a 9 volt “transistor” battery. (NEDA 1604, IEC 6F22). The “xxxx” appears on the LCD display when replacement is needed. To replace the battery, remove the three screws from the back of the meter and lift off the front case. Remove the battery from case bottom.

TO AVOID ELECTRICAL SHOCK, DO NOT USE THIS INSTRUMENT WHEN VOLTAGES AT THE MEASUREMENT SURFACE EXCEED 24 VAC or 60 VDC.

TO AVOID DAMAGE OR BURNS, DO NOT MAKE TEMPERATURE MEASUREMENTS IN MICROWAVE OVENS.

#### CAUTION

Repeated sharp flexing can break the thermocouple leads. To prolong lead life, avoid sharp bends in the leads, especially near the connector.

The symbol on the instrument indicates that the operator must refer to an explanation in this manual.

## OPERATION

ENGLISH

### Selecting the Temperature Scale

Readings are displayed in either degrees Celsius (°C) or degree Fahrenheit (°F). When the thermometer is turned on, it is set to the temperature scale that was in use when the thermometer was last turned off. To change the temperature scale, press the °F/°C key.

### Single-Thermocouple Temperature Measurement

The thermometer displays the temperature of the thermocouple that is connected to the selected input. In model 306, press the T2 key to display the temperature of the thermocouple connected to the T2 input. Press the T1 key to display the temperature of the thermocouple connected to the T1 input. The input selection cursor indicates which input is selected.

### Differential Temperature Measurement (model 306 only)

Differential temperature measurement is selected by pressing the T1-T2 key. This causes the thermometer to display the temperature difference between the two thermocouples (the temperature of thermocouple T1 minus the temperature of thermocouple T2). The selection is indicated by the input selection cursor.

### HOLD Mode

Press the HOLD key to enter the Data Hold mode, and the “D-H” annunciator is displayed.

When HOLD mode is selected, the thermometer holds the present T1, T2, and T1-T2 readings and stops all further measurements. Pressing the HOLD key again cancels HOLD mode, causing the thermometer to resume taking measurements.

### MAX Mode

To select MAX mode, first select the desired input (T1, T2 or T1-T2), then press the MAX key. The thermometer then records and updates the maximum values for that input. The MAX annunciator appears on the display. Pressing the MAX key again to exit the MAX recording mode.

In the MAX mode, press HOLD key to stop the recording of reading, press HOLD again to resume recording.

### Fine Adjustment (OFFSET)

The offset adjustment knob is located under the respective thermocouple connector and allows for minor sensor error correction. This error is found whenever a new sensor is used and can be offset but slightly turning the knob thus zeroing the error.

## OPERACIÓN

ESPAÑOL

Los medidores portátiles modelo N305 y N306 presentan en su display la temperatura medida por un sensor de temperatura tipo termocupla, de acuerdo con la selección realizada por el usuario.

En el modelo 305 existe apenas una entrada de sensor de temperatura (T1). En el modelo 306 existen dos entradas de sensor (T1 y T2). En el modelo 306 las teclas T1 y T2 seleccionan la temperatura medida a ser indicada en el display del medidor.

Como en el modelo 306 existe la posibilidad de utilización de dos sensores, una indicación de la diferencia entre las temperaturas T1 y T2 es posible. La tecla T1-T2 debe ser presionada para acceder a este recurso.

En el modelo 305 las teclas °C y °F seleccionan la unidad de temperatura. En el modelo 306 la tecla F/C permite la selección de la unidad de temperatura, alternando la indicación entre una y otra unidad.

En el modelo 305 las teclas 0.1° y 1° permiten la selección de la resolución de indicación mostrando o no los décimos de grado de la medida de temperatura realizada. En el modelo 306 no es posible seleccionar la indicación de casas decimales.

### Función HOLD

La tecla HOLD permite al usuario congelar la indicación de temperatura en el medidor. Al presionar nuevamente la tecla HOLD el medidor vuelve a operar normalmente.

### Función MAX

La función MAX congela en el display del medidor el mayor valor de temperatura medido por el sensor a partir del último accionamiento de la tecla MAX. Al presionar nuevamente la tecla MAX el medidor vuelve a operar normalmente.

### Ajuste fino (OFFSET)

Los ajustes de OFFSET localizados junto a los conectores de entrada de los sensores no permiten al usuario eliminar pequeños errores de medición. Estos errores son comunes cuando ocurre sustitución de sensores, donde el nuevo sensor presenta una medida de temperatura diferente de la medida por el sensor anterior.

## OPERAÇÃO

PORTUGUÊS

Os medidores portáteis modelo **N305** e **N306** apresentam em seu *display* a temperatura medida por um sensor de temperatura tipo termopar, de acordo com a seleção feita pelo usuário.

No modelo 305 há apenas uma entrada de sensor de temperatura (T1). No modelo 306 há duas entradas de sensor (T1 e T2). As teclas **T1** e **T2** no modelo 306, quando pressionadas, selecionam a temperatura medida a ser indicada no *display* do medidor.

Como no modelo 306 há a possibilidade do uso de dois sensores, uma indicação da diferença entre as temperaturas T1 e T2 é possível. A tecla **T1-T2**, quando pressionada permite este recurso.

No modelo 305 as teclas **°C** e **°F** selecionam a unidade de temperatura. No modelo 306 a tecla **F/C** faz a seleção da unidade de temperatura, alternando a indicação entre uma e outra unidade.

No modelo 305 as teclas **0.1°** e **1°** fazem a seleção da resolução da indicação, mostrando ou não os décimos de grau da medida de temperatura realizada. No modelo 306 não há possibilidade de indicação de decimais.

### Função HOLD

A tecla **HOLD** permite ao usuário congelar a indicação de temperatura no medidor. Um novo pressionar na tecla **HOLD** desativa a função, fazendo o medidor voltar a operação normal.

### Função MAX

A função MAX congela no *display* do medidor o maior valor de temperatura medido pelo sensor a partir do último acionamento da tecla **MAX**. Um novo pressionar na tecla MAX desativa a função, fazendo o medidor voltar a operação normal.

### Ajuste fino (OFFSET)

Os ajustes de OFFSET localizados junto aos conectores de entrada de sensores permitem ao usuário eliminar pequenos erros de medida. Estes erros são comuns quando da substituição de sensores, onde o novo sensor apresenta uma medida de temperatura diferente do medida do sensor anterior.