

## NTC MODEL TABLE

MODEL	d-c OUTPUT RANGE		OUTPUT IMPEDANCE	
	VOLTS	mA	SERIES R	SERIES L*
NTC 200	0-200	0-10	3.4 ohms	10 $\mu$ H
NTC 2000	0-2000	0-1	343 ohms	100 $\mu$ H

\* For determining dynamic impedance.

## NTC INPUT /OUTPUT CHARACTERISTICS

SPECIFICATION	CONDITION	RATING/DESCRIPTION
<b>INPUT</b>		
a-c voltage	User selectable	105-125, 210-250
Current	Max load, 115 Vac	0.3A
Frequency	Range	47-65 Hz
<b>OUTPUT</b>		
d-c output	Shunt control NTC 200	Transistor type
	Shunt control NTC 2000	Hybrid type
Type of stabilizer	Voltage stabilizer	Current limited
Voltage	Adjustment range for temp. 0-65°C	0 to 100% of rating
Current		0 to 100% of rating
Error Sense		Not applicable
Isolation voltage (Output to ground)	NTC 200	500V d-c or peak
	NTC 2000	1000V d-c or peak
Leakage current, output to ground	rms at 115V a-c	<5 microamperes, NTC 200
	p-p at 115V a-c	<50 microamperes, NTC 2000
	rms at 115V a-c	<30 microamperes, NTC 200
	p-p at 115V a-c	<50 microamperes, NTC 2000
Series connection	Max voltage off grd.	Equals isolation voltage
Parallel connection	—	Not recommended
OVP	—	Not available

## NTC GENERAL SPECIFICATIONS

SPECIFICATION	CONDITION	RATING/DESCRIPTION
<b>CONTROL</b>		
Type	Voltage	Variable input, fixed gain
	Current	Current limit is fixed
Voltage	Local	Not available
	Remote analog	0 to 1mA control current
	Remote digital, 1000V max.	Use SN, SNR interface
Current	Local	Trimmer adjustment
	Remote	0 to 1V d-c
Dynamics	Fast mode only	See dynamics table
References	Two provided	±6.2V, 1mA
Gain	Open loop d-c	500,000
<b>MECHANICAL</b>		
Input connection	Both Models	Detachable IEC type 3-wire Plug pattern #1
Output connections	Front panel	Binding posts, NTC 200 only
	Rear panel	Barrier strip
Meters	—	None
Indicators	Pilot	Neon
Mounting (in std 19" racks)	Both Models	Use RA-24 Rack Adapter
Cooling	Convection	Top surface
Dimensions (HxWxD)	NTC 200 size:	Inches: 5-7/32 x 8-11/32 x 12-7/8 mm: 132.6 x 211.9 x 327
	NTC 2000 size:	Inches: 5-7/32 x 19 x 16-31/32 mm: 132.6 x 482.6 x 431
Finish: Fed Std 595	Front panel	Light gray, color 26440
Weight	Packed for shipment	OPS IXB: 19Lb (8.6kg) OPS X: 45Lb (20.4kg)
* Plug pattern #1		

## NTC STATIC SPECIFICATIONS

INFLUENCE QUANTITY	VOLTAGE AMPLIFIER <sup>(4)</sup>		REFERENCE ±6.2V
	OFFSET VOLTAGE $\Delta E_o$	OFFSET CURRENT $\Delta I_o$	
SOURCE: 105-125/210-250V a-c	<100 $\mu$ V	<10 nA	<0.0005%
LOAD (No load — full load):	<1 mV	<1 nA	—
TIME (8-hour drift):	<20 $\mu$ V	<1 nA	<0.005%
TEMPERATURE, Per °C:	<20 $\mu$ V	<0.5 nA	<0.005%
RIPPLE AND NOISE <sup>(1)</sup>	rms	<0.01% of $E_o$ max. or 5 mV <sup>(3)</sup>	—
	p-p <sup>(2)</sup>	<0.05% of $E_o$ max. or 50 mV <sup>(3)</sup>	—

(1) One terminal grounded or connected so that common mode current does not flow through the load.  
 (2) 20 Hz to 10 MHz.  
 (3) Whichever is greater.  
 (4) The output effect can be calculated by the relationship  $\Delta E_o = \pm \Delta E_r (R_f / R_i) \pm \Delta E_{i_o} (1 + (R_f / R_i)) \pm \Delta I_{i_o} (R_f)$  where  $R_f$  is the feedback resistor, and  $R_i$  is the input resistor from the reference,  $E_r$ .

## NTC DYNAMIC SPECIFICATIONS

	NTC 200	NTC2000
Bandwidth (d-c to $f_{-3dB}$ )	2.8 kHz	800 Hz
Programming Time Constant	70 $\mu$ sec	200 $\mu$ sec
Large Signal Frequency Response	1.8 kHz	480 Hz
Slewing Rate	>1V/ $\mu$ sec	>3V/ $\mu$ sec