NDR POWER SUPPLY

MODELS: NDR-75-24, NDR-120-24, NDR240-24

USER GUIDE – V1.0x A

We Measure, We Control, We Record

1 SAFETY ALERTS

The symbols below are used throughout this manual to draw the user's attention to valuable information related to device safety and use.

		
CAUTION Read the manual fully before installing and operating the device.	**CAUTION OR HAZARD** Risk of electric shock.	**ATTENTION** Electrostatic-sensitive device. Make sure you take the necessary precautions before handling it.

Safety recommendations must be followed to ensure personal safety and prevent damage to the equipment or system. If the equipment is used in a manner other than that specified in this manual, the safety precautions may not be effective.

2 PRESENTATION

The **NDR Sources** are available in three versions, differentiated by load current capacity: 3.2 A, 5 A and 10 A. They have the following features:

- Universal AC input
- Protection against short circuits, overload, overvoltage, and overheating
- Compatible with 7.5 or 15 mm TS-35 DIN rails
- LED indicator to show when the device is on
- Cooling by natural convection

3 INSTALLATION

3.1 ELECTRICAL INSTALLATION

- Electronic and analog signal conductors should run through the plant separately from the supply and load drive conductors. If possible, in grounded conduits.
- The power supply for electronic instruments must come from a network specific to the instrumentation.
- It is recommended to use RC FILTERS (noise suppressors) in contactor coils, solenoids, etc.
- In control applications, it is essential to consider what can happen when any part of the system fails. The internal safety features of the equipment do not guarantee full protection.
- You must detach the connection terminals before making the electrical connections. Before connecting them, make sure that the connections have been made correctly.

4 TECHNICAL SPECIFICATION

FEATURES	NDR-75-24	NDR-120-24	NDR-240-24
OUTPUT SPECIFICATIONS			
Electrical output voltage	24 Vdc	24 Vdc	24 Vdc
Nominal current capability	3.2 A	5 A	10 A
Output voltage tolerance	1 %	1 %	1 %
Maximum wave at full load	120 mVpp	120 mVpp	150 mVpp
Output voltage adjustment range	24 ~ 28 Vdc		
Nominal electrical power	75 W	120 W	240 W
Rise time when switched on with load / without load	1 s / 0.06 s for 230 Vac - 1.8 s 0.06 s for 115 Vac		
Decrease time when switched off (with load)	60 ms for 230 Vac - 12 ms for 115 Vac		
Line regulation (1)	0.5 %	0.5 %	0.5 %
Line regulation (2)	1.0 %	1.0 %	1.0 %
POWER SUPPLY SPECIFICATIONS			
Voltage range	85 ~ 264 Vac / 120 ~ 370 Vdc		
Efficiency	86 %	88 %	89 %
Frequency range	47 ~ 63 Hz		
Inrush current	< 20 A for 115 Vac - < 40 A for 230 Vac		
Leakage current	< 1 mA / 240 Vac		
ENVIRONMENT SPECIFICATIONS			
Operating environment temperature and humidity ranges	-10 ~ 60 °C / 20 ~ 90 % RH		
Temperature and humidity ranges of the storage environment	-20 ~ 85 °C / 10 ~ 90 % RH		
Vibration	10~500 Hz, 2 G, 10 min/cycle, 60 min period, along X, Y, Z axes		
SAFETY SPECIFICATIONS			
Electrical isolation	I/P-O/P: 3 KVac / I/P-FG: 2 KVac / O/P-FG: 0.5 KVac		
Isolation resistance	I/P-O/P, I/P-FG, O/P-FG: 100 M Ohms / 500 Vdc		
Overload protection (3)	105 % ~ 150 %		
Overvoltage protection (4)	29 ~ 33 V		
Overheating protection (5)	≥ 85 °C ± 5 °C		
CERTIFICACIONS			
Safety standards	UL508, EM/EN62368-1		
EMC Standards	EN55011, EN55022, EN61000-3-2, -3, EN61000-4-2, 3, 4, 5, 6, 8, 11, ENV5020 4, EN55024, EN61000-6-2		
Others	CE		
DIMENSIONS			
Dimensions (W x H x L)	32.5 x 125.2 x 102 mm	40 x 125.2 x 113.5 mm	63 x 125.2 x 113.5 mm
Weight	0.51 Kg	0.6 Kg	1 Kg

Table 1 – Technical specifications

(1) Effect of the variation in the supply voltage on the output voltage.

(2) Effect of load variation on output voltage.

(3) Current limiting protection. The device recovers automatically after the failure condition has been eliminated.

(4) The NDR source is switched off and then on again after recovering.

(5) The NDR source is switched off and switches back on automatically after the temperature drops.

Notes:

1. The specification data was obtained in tests with a 220 Vac supply, with a nominal load and an ambient temperature of 25 °C, unless otherwise specified.
2. The ripple and noise are measured at a bandwidth of 20 MHz, using a 12-inch twisted pair with a capacitor of 0.1 µ and 47 µ in parallel.
3. Tolerance: The equipment has a tolerance for the configuration process, line regulation, and load regulation.

4. The power supply is considered a component that will be installed in the final equipment. You must confirm that the final equipment complies with EMC standards.

4.1 CERTIFICATIONS

CE MARK

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

5 WARRANTY

Warranty conditions are available on our website www.novusautomation.com/warranty.