

ARTESYN ADN-C SERIES 3-PHASE

120-960 Watts



The ADN-C series of three-phase DIN rail mounting AC-DC power supplies is ideal for a wide range of heavy duty industrial applications – especially those involving large inductive loads – including machine control, semiconductor fabrication, conveyor and material handling systems. These highly efficient ultra compact 24 Vdc output power supplies operate directly from three-phase inputs and accommodate virtually all standard line voltages worldwide.

DATA SHEET

Total Power:

120-960 Watts

Input Voltage:

380-480 Vac

Outputs:

Single

SPECIAL FEATURES

- Slim form factor
- Five year warranty
- High efficiency up to 94%
- Full power at 60 °C
- Power Boost™
- Industrial grade design
 - Metal case
- MTBF > 500,000h
- Adjustable output
- Overvoltage protection with auto recovery
- Continuous short circuit and overload protection
- New visual diagnostic LED
- Three Status LEDs
 - Input
 - Output
 - Alarm

- DC OK relay
- Parallel operation capability
- Screw terminal connections
- RoHS compliant
- No tools required for mounting

SAFETY

- UL508, cULus Listed
- UL 60950-1, cURus 2nd edition
- IEC60950-1 2nd edition
- Class I, Div 2 Hazardous Locations
- IP20
- CE



ELECTRICAL SPECIFICATIONS

Input	
Nominal voltage	380 - 480 Vac
AC input range	320 - 540 Vac
DC input range	450 - 760 Vdc for ADN5, ADN10 & ADN20
Frequency	50 - 60 Hz
Efficiency	Up to 94%
PFC	Active power factor correction for ADN20 & ADN40; meet EN61000-3-2 Class A
Phase input	ADN5 and ADN10 will operate with single phase input at 100% load Derate to 75% and 50% for ADN20 and ADN40 respectively under loss of 1 phase; Units will shut down if thermal threshold is exceeded under this condition
Output	
Nominal voltage	24 V (24.0 - 28.0 Vdc Adj.)
Hold-up time	> 20 ms for ADN5, ADN10 & ADN20; > 15 ms for ADN40
Voltage regulation	< $\pm 2\%$ overall
Ripple	< 100 mVpp
Current limit	PowerBoost™
Peak current	2x nominal current for < 2 sec for ADN5 & ADN10; 1.5x nominal current for 4 seconds minimum while holding voltage > 20 Vdc for ADN20 & ADN40
Parallel operation	Single or parallel operation selectable via front switch. For redundant operation use of external diode module is preferred; ADN40 uses active paralleling
Power back immunity	< 35 V
Overvoltage protection	> 30.5 Vdc, but < 33 Vdc, auto recovery

GENERAL SPECIFICATIONS

EMC emissions	EN61000-6-3:2001, Class B EN55011, EN55022 Radiated and Conducted including Annex. A, EN61000-3-2
EMC immunity	EN61000-6-1:2001, EN61000-6-2:2001, EN61000-4-2 Level 4, EN61000-4-3 Level 3, EN61000-4-6 Level 3, EN61000-4-4 Level 4 input and level 3 output. EN61000-4-5 Isolation class 4, EN61000-4-11, Semi F47 sag immunity
Warranty	5 Years
General protection safety	Protected against continuous short-circuit, overload, open-circuit. Protection Class 1 (IEC536), degree of protection IP20 (IEC 60529) Safe low voltage: SELV (acc. EN60950)
Status indicators	Visual: 3 status LEDs (Input, Output, Alarm) Relay: SSR or dry relay contact, signal active when Vout = 18.5 vdc + 5%

LED DIAGNOSTICS

LED	OK	Loss of Ac	Low Ac	No Dc	High Load	Overload	Hot	Too Hot
Input	Green	---	Yellow	Green	Green	Green	Green	Green
Output	Green	---	Green	---	Yellow	Yellow	Green	---
Alarm	---	---	---	Red	Yellow	Red	Yellow	Yellow

ENVIRONMENTAL SPECIFICATIONS

Storage/shipment	-40 °C to + 85 °C
Operation (convection)	Full Load -25 °C to + 60 °C derate to 50% load at +70 °C Up to 50% load permissible with horizontal or on top mounting orientation
Humidity	< 90% RH, non-condensing IEC 60068-2-2, 68-2-3
Altitude	Operating: 0 to 10,000 feet (0 to 3000 m) above sea level

OTHER FEATURES

Fusing	Input externally fused; output not fused, output is capable of providing high currents (PowerBoost) for motor load startup
Mounting orientation	Standard: Vertical, Optional: Horizontal or on Top Simple snap-on to DIN TS35/7.5 or TS35/15 rail system
Ventilation	Normal convection, No fan required
Cooling spacing	ADN5: 15 mm in front, 25 mm above and below ADN10: 15 mm in front, 25 mm above and below ADN20: 25 mm in front, left and right; 70 mm above and below ADN40: 15 mm in front, 70 mm above and below, 25 mm left and right
Connections	Input: Screw terminals, connector size range: 16-10 AWG (1.5-6 mm ²) for solid conductors Output: Connector size range: 16-10 AWG (1.5-6 mm ²) for ADN5, ADN10 and ADN20 solid conductors; 6-7 AWG for ADN40

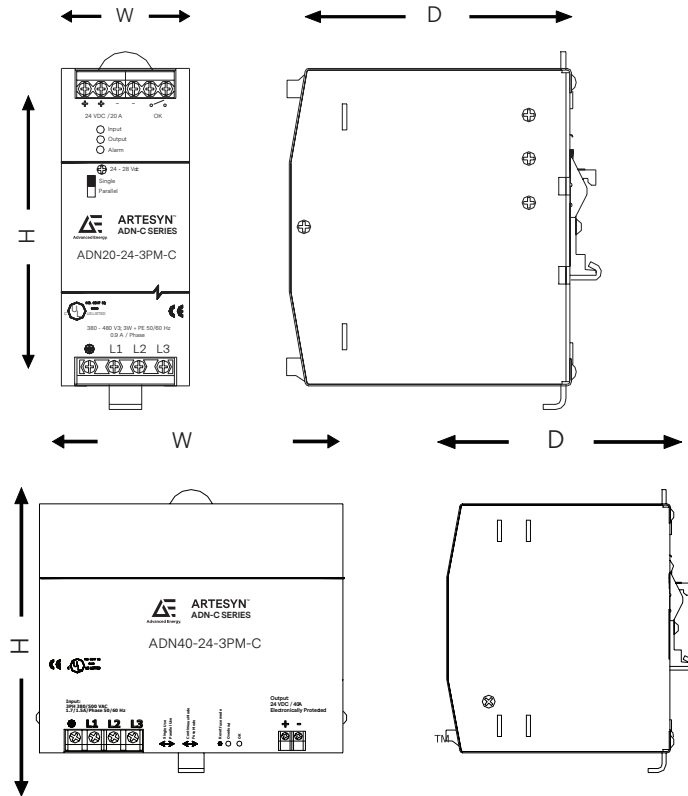
ORDERING INFORMATION

Model Number	Power	Input Voltage	Weight	Current	Efficiency	Case Type	MTBF
ADN5-24-3PM-C	120 W	320 - 540 Vac 450 - 760 Vdc	1.15 lbs (520 g)	5 A @ 24 Vdc	85.0%	Metal	> 500,000 hours Nominal voltage, full load, Tamb=25 oC
ADN10-24-3PM-C	240 W		1.54 lbs (700 g)	10 A @ 24 Vdc	91.2%		
ADN20-24-3PM-C	480 W		2.8 lbs (1300 g)	20 A @ 24 Vdc	93.0%		
ADN40-24-3PM-C	960 W	320 - 540 Vac	5.3 lbs (2400 g)	40 A @ 24 Vdc	94.0%		

DIMENSIONS

	Height	Width	Depth
ADN5-24-3PM-C	4.85 in (123 mm)	1.97 in (50 mm)	4.36 (111 mm)
ADN10-24-3PM-C	4.85 in (123 mm)	2.36 in (60 mm)	4.36 (111 mm)
ADN20-24-3PM-C	4.85 in (123 mm)	3.34 in (85 mm)	4.68 (119 mm)
ADN40-24-3PM-C	4.85 in (123 mm)	7.09 in (180 mm)	4.85 in (123 mm)

MECHANICAL DRAWING





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ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE

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