

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.

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

DATA SHEET

Total Power:

120-960 Watts

Input Voltage:

380-480 Vac

Outputs:

Single



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 | < ± 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 |

ADN-C SERIES 3-PHASE

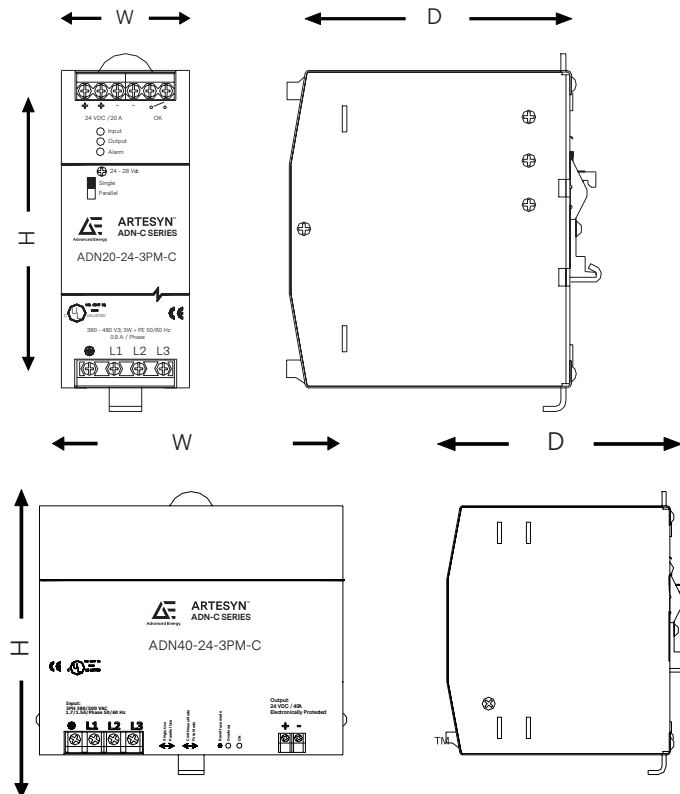
ORDERING INFORMATION

| 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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