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- ITAR CERTIFIED SECURE ASSET SOLUTIONS

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## Narrow Footprint Packed with Features



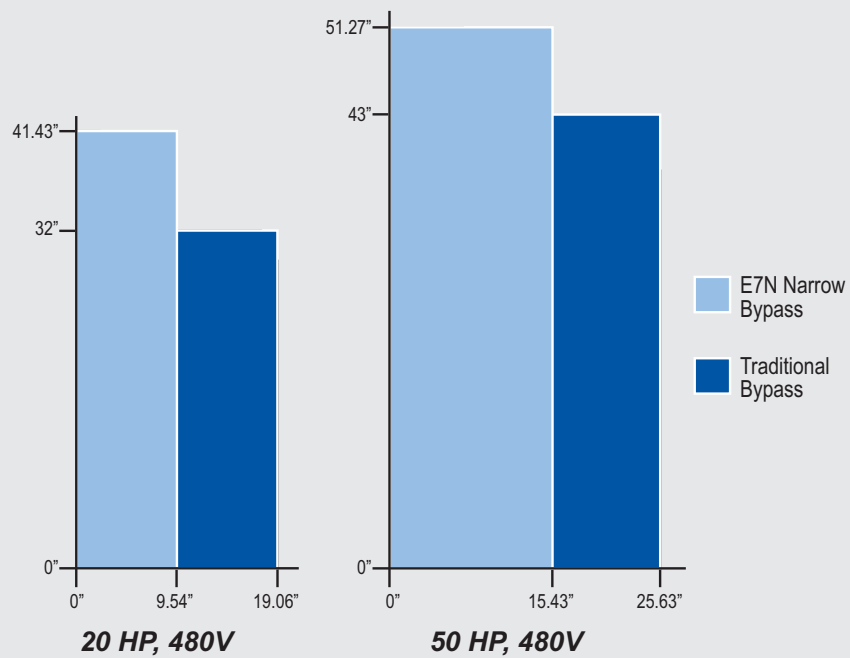
### E7N Narrow Bypass Package 1/2 to 50 HP

The **E7N Narrow Bypass** package is a 2-contactor style bypass with H-O-A touchpad control, allowing motor operation from either the drive or across the line. This allows continued operation even if the E7N Bypass drive is disabled by fault or intention.

The E7N is designed for flexibility in providing the features and options commonly specified by facility designers. The E7N is a variable torque AC drive, designed specifically for HVAC applications in building automation. A new benchmark for size, cost, performance, benefits, and quality, the E7N includes numerous built-in features such as Network Communications, PI control and energy savings functions.

The E7N has embedded communications for the popular building automation protocols, Johnson Controls Metasys N2 and Siemens APOGEE FLN, as well as Modbus. Optional BACnet and LonWorks interface cards are available.

#### Dimensions



**YASKAWA**  
The Drive for Quality™

E7N Bypass

### Performance Features

- Ratings:
  - 1/2-25 HP at 208 VAC,
  - 1/2-50 HP at 480 VAC
- Overload capacity: 110% for 60 sec (150% peak)
- Starting torque: 100% at 3 Hz
- Motor preheat function
- Energy Saving control
- Power loss ride-thru: 2 seconds
- Customizable monitor display
- Sleep function
- Copy keypad

### Protective Features

- Current limited stall prevention
- Heat sink over-temperature, speed fold-back
- Cooling fan operating hours recorded
- Bi-directional start into rotating motor at synchronized speed
- DC bus charge indicator
- Current limiting DC bus fuse
- Optically-Isolated controls
- Short circuit protection: Phase-phase and phase-neutral
- Ground fault protection
- Electronic motor overload: UL
- Current and torque limit
- Fault display: last 10 faults
- Fault trace capabilities
- Over torque and under torque protection
- Program security code
- Input source protection (MOVs)
- Input/output phase loss protection

### Design Features

- Displacement power factor: 0.98
- Output frequency: 0.1 to 120 Hz
- Carrier frequency: selectable to 15 kHz
- Transmitter/Option power supply
- Wait to start timer function
- Embedded Metasys N2, APOGEE FLN, and Modbus
- Volts/hertz ratio: Preset and programmable V/Hz patterns
- Remote speed command: 0-10 VDC or 4-20 mA, direct or reverse-acting
- Setpoint (PI) control with inverse or square root input, differential control via two feedback capability
- Meter Functions: Volt, amp, kilowatt, elapsed run time, speed command
- UL, cUL listed and CE marked; IEC 146
- MTBF: exceeds 28 years

### Bypass Features

- Bypass and Drive are factory assembled, utilizing 2 contactors with Electronic Control System
- NEMA 1 enclosure
- Input disconnect switch with a lockable, through-the-door operating mechanism
- Sealed Bypass Control Keypad mounted on front door
- Integrated Drive touchpad control
- Drive Output and Bypass contactors
- Bi-metallic thermal overload relay, provides motor protection in both the "drive" and "bypass" modes
- Control and safety circuit terminal strip (Selectable for 120 VAC or 24 VDC input)
- Indicator LEDs for Control Power, Drive Ready, Drive Run, Drive Selected, Drive Fault, Drive Test, Bypass Selected, Bypass Run, Motor OL, Safety Open, Damper/BAS, Auto Run, Auto/Rem Transfer, Smoke Purge, Hand Mode, Off Mode, and Auto Mode
- 3 programmable Form C contacts (250 VAC, 1 Amp) for: Motor Run, Damper/BAS, Drive Run, Hand Mode, Auto Mode, Bypass Run, Fault or 1 selectable from the drive menu
- Remote Run/Stop via contact closure or serial communication
- Input speed command via 0-10 VDC, 4-20 mA or serial communication
- 2 Programmable analog outputs (0-10 VDC or 4-20 mA)
- Damper control circuit
- Programmable auto transfer to bypass on drive fault
- Remote transfer to bypass via contact closure
- Smoke purge function via contact closure
- Safety interlock (freezestat, firestat, duct pressure, etc.)
- Building Automation System (BAS) interlock
- Solid Wall Metal Enclosure
- Solid C-Channel Galvanized Subpanel
- High Impact and Flame Retardant Resin Door (UL94VA, PC/abs)
- Enclosure Door with Integral Latches and Lift-Off Door Hinges
- Enclosure Door with Industry First Hidden Ventilation Slots

### Service Conditions

- Ambient Temperature:
  - 10°C to 40°C (14°F to 104°F)
- Humidity: 95% RH, non-condensing
- Altitude: 3300 ft; higher by derate
- Input voltage: +10%/-15%
- Input frequency: 50/60 Hz ± 5%
- 3-phase, 3-wire, phase sequence insensitive

### Options

- Circuit breaker (MCP) disconnect
- Drive input fused disconnect
- Semi-conductor fast acting drive fuses
- Drive input disconnect (internal test switch)
- SCCR: 100k rms sym., 480 VAC max.
- RFI filter
- 3% or 5% line impedance
- LCD "Alpha" drive keypad
- Pneumatic pressure transducer: 3-15 psi
- BACnet, LonWorks communication
- Engraved nameplate
- 3-contactor Bypass



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## E7N Narrow Bypass Package



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