

VARIABLE SPEED DRIVES

Power up



The Johnson Controls Variable Speed Drive Series

Your HVAC System Never Had It So Good

The use of variable speed drives in HVAC systems gives building owners the opportunity to increase energy savings and reduce maintenance compared to constant-speed systems. The Johnson Controls Variable Speed Drive (VSD) Series, featuring the innovative start-up wizard, is the intelligent drive technology engineered specifically for HVAC fan, pump and temperature control applications. As part of a total control solution, the VSD Series will save energy and operating costs. With the VSD Series, even systems with less than one horsepower can now benefit from the performance advantages provided by variable speed drives. Plus, it's an ideal retrofit solution to improve the efficiency of inlet guide vane air handling systems. You can experience payback as soon as one year.

- Networkable with N2, XT, SA Bus, BACnet® and LonWorks® to cover a wide range of applications
- Smallest Open and IntelliPass Drives (with bypass) mean fast and simple field installation
- Start-up wizard features most commonly used motor nameplate parameters to simplify set-up
- Easy navigation and plain English digital display featuring common HVAC terminology
- Innovative P.I.D. control loops seamlessly to integrate with building management system technology
- Fully programmable inputs and outputs for application flexibility
- Standard EMI/RFI (up to FR9) and 3% impedance filters reduce total harmonic distortion
- Soft start reduces wear and tear on motors
- Electronic bypass optimizes uptime on critical applications (manual bypass optional)
- Flexible design options and engineered drive solutions for healthcare and other critical applications



VARIABLE SPEED OPEN DRIVES AVAILABLE IN TYPE 1 & TYPE 12



DRIVES WITH BYPASS AVAILABLE IN TYPE 12 & TYPE 3R



TYPE 1 INTELLIPASS DRIVES

Totally Integrated Performance

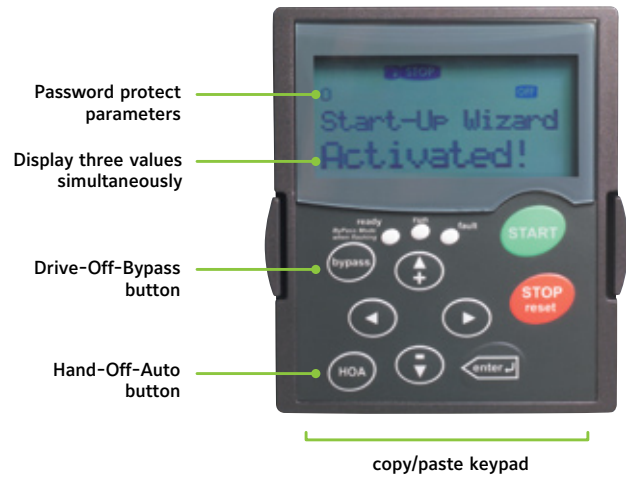
The VSD Series was designed to meet the requirements of your building system. It can be seamlessly integrated into a variety of building management systems to improve your control flexibility. And because these drives are from Johnson Controls, we'll consult with you to ensure that the drives fit with the mechanical equipment in your building. By integrating power management technology with building automation system technology, you can quickly and easily achieve more productive building environments, energy and efficiency to better meet your strategic needs.

Simplicity = Value

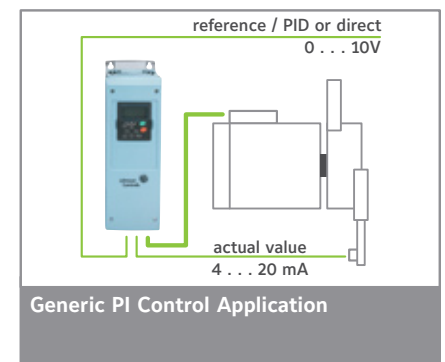
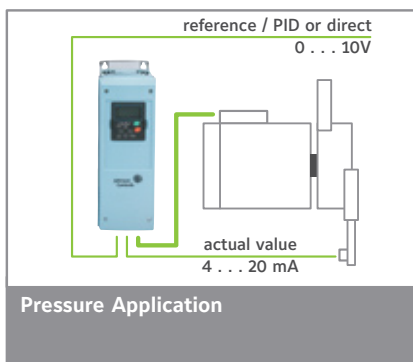
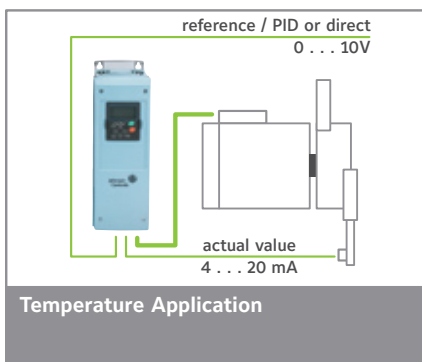
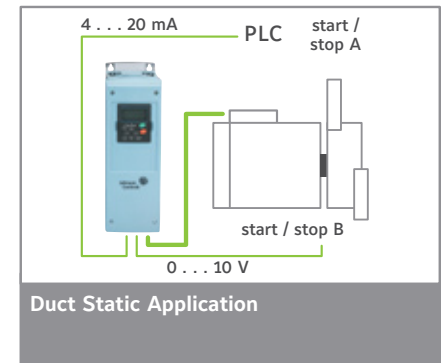
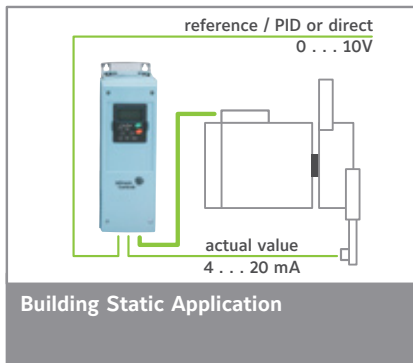
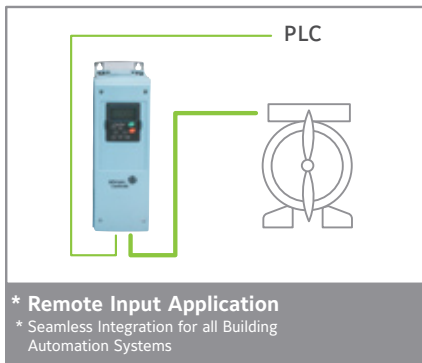
The VSD Series combines power and durability with programming ease. The IntelliPass bypass features a menu-structured alphanumeric keypad control with backlit digital display. Functions are programmable for custom applications. Quick-start wizard programming of the drive ensures fast and easy startups. Operational mode indication eliminates the need to add additional lights and switches to the enclosure.

Removable Keypad/Display with E2 Flash Memory

Menu-structured keypad with commands in plain English. Includes dozens of the most commonly used HVAC control parameters for quick set-up and trouble shooting.



CLOSED LOOP CONTROL PROGRAMMING



Variable Speed Drive Features at a Glance

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| <ul style="list-style-type: none"> • Modular design with common control components. • Drive-Off-Bypass / Hand-Off-Automatic selection buttons on keypad simplify control. • Large selection of “plug and play” option cards and pre-engineered options. • External 24 VDC can be used to power up the drive processor allowing easy drive programming without applying high voltage to the drive. • Standard keypad has copy/paste capability and is TYPE 12 rated. • One touch keypad navigation for quick changes. | <ul style="list-style-type: none"> • Keypad can display up to three monitored parameters simultaneously. • Plenum rated drives. • Start-up wizard simplifies drive programming. • Identical control panel operation for all VSD Series horsepower ratings. • Standard factory loaded software for out-of-the-box operation. • Run permissive damper control standard in drive and bypass mode. • Temperature controlled heat sink cooling fan features snap-in screw-less design. | <ul style="list-style-type: none"> • 30-fault history retention with operating status at runtime of fault. • A 3% AC line reactor is standard throughout the full HP range. • EMI/RFI filter standard on all VSD Series drives. • Ability to password protect parameters. • Timer functions on digital outputs. • Simultaneously connect keypad and PC with optional serial card. • Compare parameter changes to default values. • One touch HOA drive functionality. | <ul style="list-style-type: none"> • Intuitive parameter menus. • Wide variety of communications protocols available. • I/O connections with quick connection terminals. • RS-232 terminal behind keypad for PC connection (9000XLoad and 9000XDrive software tools). • TYPE 12 conversion and flange mounting kits available for field installation. • TYPE 1, TYPE 12 and TYPE 3R enclosures available. • Full range of custom engineered solutions available. |
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20-Hp Variable Speed Drive with Bypass Comparison



The IntelliPass family is 70% lighter and has a footprint that is one-third the size of other typical bypass offerings. The comparison shown here illustrates the dramatic size difference between Johnson Controls and the competition.

The packaging mounts to a standard Variable Speed Drive without increasing the width of the drive. The design also significantly reduces the weight of the bypass drive, decreasing shipping costs and making the units fast and easy for contractors to install.

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