

VSD Series II Variable Speed Enclosed IntelliPass and IntelliDisconnect Drives

Product Bulletin

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The Johnson Controls® VSD Series II Variable Speed Enclosed IntelliPass and IntelliDisconnect drives, powered by Eaton® technology, provide a premier intelligent drive integrated with a reliable bypass configuration. The IntelliDisconnect variable speed drive combines a premier quality drive with a manual motor protector (MMP) and disconnect (no bypass). The IntelliPass bypass is a two- or three-contactor design using the Eaton 24 VDC Series of contactors and power supplies. The features, function, and form allow the drive and bypass to become an integrated design. The IntelliPass drives come standard with an Eaton/Cutler-Hammer® MMP integrated into the drive and bypass design.



Figure 1: VSD Series II IntelliPass and IntelliDisconnect Drives

Table 1: Features and Benefits

| Features | Benefits |
|--|--|
| Network Connectivity for Drive and Bypass (BACnet®, SA Bus, N2, and LON) | Allows for compatibility with current and future Johnson Controls network architecture. |
| Software Parameters That Utilize Engineering Units Common to the HVAC Industry | Allow for quick and easy startup using the onboard startup wizard with engineering units transmitted over a communications bus. |
| Top and Bottom Removal Conduit Plate | Provides access to cabling and components for ease of installation. |
| Johnson Controls Support That Includes Ordering, Estimating, and Project Management Tools: Advanced Order Management System (AOMS), Advanced Installation Management (AIM) Tools - QuickLIT, Catalog, PRESTO, and STORE | Allows users to easily identify and order products. |
| Closed-Loop Control Programmed with Engineering Units for Specific HVAC Applications: Standard, PID, or multi-pump | Provides software parameters using engineering units common to the HVAC industry. |
| Standard TYPE 12 Keypad on all Drives with Copy and Paste Function; Capable of Monitoring Three Parameters Simultaneously | Allows easy transfer of parameter settings from one drive to another drive. |
| Drive Programming Capability Using Auxiliary 24 V Power Supply (VS-AUX24V) | Allows variable speed drive programming (including network communication validation) prior to wiring 3-phase power to the drive. |

Additional IntelliPass and IntelliDisconnect Features

- Plenum rated
- EMI/RFI Filters standard on all drives
- I/O and communication cards provide plug-and-play functionality
- Serial communication interface that can control both the drive and all bypass features so that the remote operator can fully control the motor whether the motor is operated by the drive or the bypass
- Top and bottom conduit entry for ease of installation
- Copy and paste keypad function that allows you to transfer parameter settings from one drive to another
- Keypad that displays up to nine monitored parameters simultaneously
- Standard TYPE12 keypad on all drives
- Anti-trip DC bus regulation
- Input surge protection against voltage spikes varistor input
- Onboard RS-485 (BACnet, N2, Modbus®)
- Onboard Ethernet-based communications (BACnet/IP, Modbus/TCP)
- Standard I/O, 6DI, 2AI, 1AO 2 Form C RO (NO/NC), 1 Form A RO (NO)
- Hard-wired external/damper interlock
- Circuit breaker provides flexible drive isolation configurations
- Standard DC link choke for enhanced transient and harmonic distortion protection
- Optional fusing — fuse rating 200 kAIC
- Simplified operating menu allows for typical programming changes
- Accommodates a wide variety of expander boards and adapter boards

- Control logic can be powered from an external auxiliary control panel
- DB chopper standard frames (frame 4 through frame 9) for USA application
 - 1.5 to 40 hp, 2.1 to 52 A, 480 VAC
 - 1 to 20 hp, 4.2 to 54 A, 230 VAC
 - 1 to 20 hp, 4.6 to 60 A, 208 VAC

Additional IntelliPass Only Features

- HAND/OFF/AUTO and DRIVE/BYPASS selector on keypad that simplifies control
- Two power sources for control ensures redundancy and provides additional ride-through capability
- Programmable Automatic Restart Options — choose from disable; automatically transfer to Bypass; reset drive only; or reset drive and, if fails, then transfer to Bypass (IntelliPass only)
- Fully rated, mechanically interlocked contacts
- Self-healing power supplies
- Bypass circuit current interrupting rating up to 65 kAIC without fusing
- Fully featured mechanically interlocked bypassing featuring Eaton's XT contactors
- Pre-engineered options to allow for custom configurations
- Robust steel enclosure for simple installation

IMPORTANT: Use this VSD Series II Variable Speed Enclosed IntelliPass and IntelliDisconnect Drives only as an operating control. Where failure or malfunction of the Series II open drive could lead to personal injury or property damage to the controlled equipment or other property, additional precautions must be designed into the control system. Incorporate and maintain other devices, such as supervisory or alarm systems or safety or limit controls, intended to warn of or protect against failure or malfunction of the Series II open drive.

Catalog Number Selection

VSD Series II Enclosed Drives Selection Chart (Frames 4 to 7)

| | Code Number | V | S | | | | 0 | 0 | B | — | 0 | 0 | 0 | 0 | 0 |
|-------------------------|---|---|---|--|--|--|---|---|---|---|---|---|---|---|---|
| Base Product | VS = Series II Variable Speed Enclosed IntelliPass and IntelliDisconnect Drive prefix | | | | | | | | | | | | | | |
| Amps/hp/kW | 2D1 = 2.1 A, 1 hp, 0.75 kW ¹ 3D4 = 3.4 A, 2 hp, 1.5 kW ¹ 4D2 = 4.2 A, 1 hp, 0.75 kW ² 4D6 = 4.6 A, 1 hp, 0.75 kW ³ 5D6 = 4.8 A, 3 hp, 2.2 kW ¹ 6D8 = 6.8 A, 2 hp, 1.5 kW ² 7D5 = 7.5 A, 2 hp, 1.5 kW ³ 7D6 = 7.6 A, 5 hp, 4 kW ¹ 9D6 = 9.6 A, 3 hp, 2.2 kW ² 011 = 10.6 A, 3 hp, 2.2 kW ³ 011 = 11 A, 7.5 hp, 5.5 kW ¹ 014 = 14 A, 10 hp, 7.5 kW ¹ 016 = 15.2 A, 5 hp, 4 kW ² 017 = 16.7 A, 5 hp, 4 kW ³ 021 = 21 A, 15 hp, 11 kW ¹ 022 = 22 A, 7.5 hp, 5.5 kW ² 025 = 24.2 A, 7.5 hp, 5.5 kW ³ 027 = 27 A, 20 hp, 15 kW ¹ 028 = 28 A, 10 hp, 7.5 kW ² 031 = 30.8 A, 10 hp, 7.5 kW ³ 034 = 34 A, 25 hp, 18.5 kW ¹ 040 = 40 A, 30 hp, 22 kW ¹ 042 = 42 A, 15 hp, 15 kW ² 047 = 46.2 A, 15 hp, 11 kW ³ 052 = 52 A, 40 hp, 30 kW ¹ 054 = 54 A, 20 hp, 15 kW ² 060 = 59.4 A, 20 hp, 15 kW ³ 065 = 65 A, 50 hp, 37 kW ¹ 068 = 68 A, 25 hp, 18.5 kW ² 075 = 74.8 A, 25 hp, 18.5 kW ³ 077 = 77 A, 60 hp, 45 kW ¹ 080 = 80 A, 30 hp, 22 kW ² 088 = 88 A, 30 hp, 22 kW ³ 096 = 96 A, 75 hp, 55 kW ¹ 104 = 104 A, 40 hp, 30 kW ² | | | | | | | | | | | | | | |
| Voltage | 1 = 208 V 2 = 230 V 4 = 480 V | | | | | | | | | | | | | | |
| Enclosure Rating | 2 = NEMA Type 12 (IP54) ⁴ 3 = NEMA Type 3R (IP22) ⁴ | | | | | | | | | | | | | | |
| Drive Style | 1 = IntelliPass 2 = IntelliDisconnect | | | | | | | | | | | | | | |
| Revision # | B = Rev. 2 (Americas) D = Rev. 2 (Canada) | | | | | | | | | | | | | | |
| Separator (—) | | | | | | | | | | | | | | | |
| Communications | 0 = STD (BACnet/Legacy N2/Modbus) S = SA Bus, CS Card (added to JC-VSD) | | | | | | | | | | | | | | |
| Options | 00 = None M1 = Manual Bypass Switch, on front door (for frames 4 to 7 IntelliPass that includes L4 option = HMAX Pilot Lights and P6 option = third contactor for drive isolation) P3 = Drive Isolation Fuses, (for frames 4 to 7 IntelliPass and IntelliDisconnect, not available with IntelliPass, P6 option) P4 = Drive Output Contactor (IntelliDisconnect only) P6 = Drive Isolation Contactor includes drive test switch (for frames 4 to 7 IntelliPass, not available with P3 option) P7 = Drive Isolation Fuses and Drive Output Contactor (IntelliDisconnect only) P9 = Both P3 and P6 available only in Type 3R (or larger frame 8 and frame 9 Type 12 boxes) L3 = HMAX Pilot Lights (IntelliDisconnect only) L4 = HMAX Pilot Lights (IntelliPass only) | | | | | | | | | | | | | | |

1. 480 Volts 3-phase.
2. 230 Volts 3-phase.
3. 208 Volts 3-phase.
4. Contact your local Johnson Controls representative for product availability.

VSD Series II Enclosed Drives Selection Chart (Frames 8 and 9)

| | Code Number | V | S | | | | 0 | 0 | B | — | 0 | 0 | 0 | 0 | 0 |
|-------------------------|---|---|---|--|--|--|---|---|---|---|---|---|---|---|---|
| Base Product | VS = Series II Variable Speed Enclosed IntelliPass and IntelliDisconnect Drive prefix | | | | | | | | | | | | | | |
| Amps/hp/kW | 114 = 114 A, 40 hp, 30 kW ¹ 124 = 124 A, 100 hp, 75 kW ² 130 = 130 A, 50 hp, 37 kW ³ 143 = 143 A, 50 hp, 37 kW ¹ 154 = 154 A, 60 hp, 45 kW ³ 156 = 156 A, 125 hp, 90 kW ² 169 = 169 A, 50 hp, 45 kW ¹ 180 = 180 A, 150 hp, 110 kW ² 192 = 192 A, 75 hp, 55 kW ³ 211 = 211 A, 75 hp, 55 kW ¹ 240 = 240 A, 200 hp, 132 kW ² 248 = 248 A, 100 hp, 75 kW ³ 302 = 302 A, 250 hp, 155 kW ² | | | | | | | | | | | | | | |
| Voltage | 1 = 208 V 2 = 230 V 4 = 480 V | | | | | | | | | | | | | | |
| Enclosure Rating | 2 = NEMA Type 12 (IP54) ⁴ 3 = NEMA Type 3R (IP22) ⁴ | | | | | | | | | | | | | | |
| Drive Style | 1 = IntelliPass 2 = IntelliDisconnect | | | | | | | | | | | | | | |
| Revision # | B = Rev. 2 (Americas) D = Rev. 2 (Canada) | | | | | | | | | | | | | | |
| Separator (—) | | | | | | | | | | | | | | | |
| Communications | 0 = STD (BACnet/Legacy N2/Modbus) S = SA Bus, CS Card (added to JC-VSD) | | | | | | | | | | | | | | |
| Options | 00 = None M1 = Manual Bypass Switch, on front door (for frames 4 to 7 IntelliPass that includes L4 option = HMAX Pilot Lights and P6 option = third contactor for drive isolation) P3 = Drive Isolation Fuses, (for frames 4 to 7 IntelliPass and IntelliDisconnect, not available with IntelliPass, P6 option) P4 = Drive Output Contactor (IntelliDisconnect only) P6 = Drive Isolation Contactor includes drive test switch (for frames 4 to 7 IntelliPass, not available with P3 option) P7 = Drive Isolation Fuses and Drive Output Contactor (IntelliDisconnect only) P9 = Both P3 and P6 available only in Type 3R (or larger frame 8 and frame 9 Type 12 boxes) L3 = HMAX Pilot Lights (IntelliDisconnect only) L4 = HMAX Pilot Lights (IntelliPass only) | | | | | | | | | | | | | | |

1. 208 Volts 3-phase.
2. 480 Volts 3-phase.
3. 230 Volts 3-phase.
4. Contact your local Johnson Controls representative for product availability.

VSD Series II IntelliDisconnect Drives Product Selection

Table 2: VSD Series II 208 V Enclosed IntelliDisconnect Drives - Frame 4

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS4D6112B-xxxxx | 1 hp (0.75 kW) | 4.6 | NEMA Type 1 |
| VS4D6122B-xxxxx ³ | 1 hp (0.75 kW) | 4.6 | NEMA Type 12 |
| VS4D6132B-xxxxx ³ | 1 hp (0.75 kW) | 4.6 | NEMA Type 3R |
| VS7D5112B-xxxxx | 2 hp (1.5 kW) | 7.5 | NEMA Type 1 |
| VS7D5122B-xxxxx ³ | 2 hp (1.5 kW) | 7.5 | NEMA Type 12 |
| VS7D5132B-xxxxx ³ | 2 hp (1.5 kW) | 7.5 | NEMA Type 3R |
| VS011112B-xxxxx | 3 hp (2.2 kW) | 10.6 | NEMA Type 1 |
| VS011122B-xxxxx ³ | 3 hp (2.2 kW) | 10.6 | NEMA Type 12 |
| VS011132B-xxxxx ³ | 3 hp (2.2 kW) | 10.6 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 3: VSD Series II 208 V Enclosed IntelliDisconnect Drives - Frame 5

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS017112B-xxxxx | 5 hp (4 kW) | 16.7 | NEMA Type 1 |
| VS017122B-xxxxx ³ | 5 hp (4 kW) | 16.7 | NEMA Type 12 |
| VS017132B-xxxxx ³ | 5 hp (4 kW) | 16.7 | NEMA Type 3R |
| VS025112B-xxxxx | 7.5 hp (5.5 kW) | 24.2 | NEMA Type 1 |
| VS025122B-xxxxx ³ | 7.5 hp (5.5 kW) | 24.2 | NEMA Type 12 |
| VS025132B-xxxxx ³ | 7.5 hp (5.5 kW) | 24.2 | NEMA Type 3R |
| VS031112B-xxxxx | 10 hp (7.5 kW) | 30.8 | NEMA Type 1 |
| VS031122B-xxxxx ³ | 10 hp (7.5 kW) | 30.8 | NEMA Type 12 |
| VS031132B-xxxxx ³ | 10 hp (7.5 kW) | 30.8 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 4: VSD Series II 208 V Enclosed IntelliDisconnect Drives - Frame 6

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS047112B-xxxxx | 15 hp (11 kW) | 46.2 | NEMA Type 1 |
| VS047122B-xxxxx ³ | 15 hp (11 kW) | 46.2 | NEMA Type 12 |
| VS047132B-xxxxx ³ | 15 hp (11 kW) | 46.2 | NEMA Type 3R |
| VS060112B-xxxxx | 20 hp (15 kW) | 59.4 | NEMA Type 1 |
| VS060122B-xxxxx ³ | 20 hp (15 kW) | 59.4 | NEMA Type 12 |
| VS060132B-xxxxx ³ | 20 hp (15 kW) | 59.4 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 5: VSD Series II 208 V Enclosed IntelliDisconnect Drives - Frame 7

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS075112B-xxxxx | 25 hp (18.5 kW) | 74.8 | NEMA Type 1 |
| VS075122B-xxxxx ³ | 25 hp (18.5 kW) | 74.8 | NEMA Type 12 |
| VS075132B-xxxxx ³ | 25 hp (18.5 kW) | 74.8 | NEMA Type 3R |
| VS088112B-xxxxx | 30 hp (22 kW) | 88 | NEMA Type 1 |
| VS088122B-xxxxx ³ | 30 hp (22 kW) | 88 | NEMA Type 12 |
| VS088132B-xxxxx ³ | 30 hp (22 kW) | 88 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 6: VSD Series II 208 V Enclosed IntelliDisconnect Drives - Frame 8

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS114122B-xxxxx ³ | 40 hp (0.75 kW) | 114 | NEMA Type 12 |
| VS114132B-xxxxx ³ | 40 hp (0.75 kW) | 114 | NEMA Type 3R |
| VS143122B-xxxxx ³ | 50 hp (37 kW) | 143 | NEMA Type 12 |
| VS143132B-xxxxx | 50 hp (37 kW) | 143 | NEMA Type 3R |
| VS169122B-xxxxx ³ | 60 hp (45 kW) | 169 | NEMA Type 12 |
| VS169132B-xxxxx ³ | 60 hp (1.5 kW) | 169 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 7: VSD Series II 208 V Enclosed IntelliDisconnect Drives - Frame 9

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS211122B-xxxxx ³ | 75 hp (55 kW) | 211 | NEMA Type 12 |
| VS211132B-xxxxx ³ | 75 hp (55 kW) | 210 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 8: VSD Series II 230 V Enclosed IntelliDisconnect Drives - Frame 4

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS4D2212B-xxxxx | 1 hp (0.75 kW) | 4.2 | NEMA Type 1 |
| VS4D2222B-xxxxx ³ | 1 hp (0.75 kW) | 4.2 | NEMA Type 12 |
| VS4D2232B-xxxxx ³ | 1 hp (0.75 kW) | 4.2 | NEMA Type 3R |
| VS6D8212B-xxxxx | 2 hp (1.5 kW) | 6.8 | NEMA Type 1 |
| VS6D8222B-xxxxx ³ | 2 hp (1.5 kW) | 6.8 | NEMA Type 12 |
| VS6D8232B-xxxxx ³ | 2 hp (1.5 kW) | 6.8 | NEMA Type 3R |
| VS9D6212B-xxxxx | 3 hp (2.2 kW) | 9.6 | NEMA Type 1 |
| VS9D6222B-xxxxx ³ | 3 hp (2.2 kW) | 9.6 | NEMA Type 12 |
| VS9D6232B-xxxxx ³ | 3 hp (2.2 kW) | 9.6 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 9: VSD Series II 230 V Enclosed IntelliDisconnect Drives - Frame 5

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS016212B-xxxxx | 5 hp (4 kW) | 15.2 | NEMA Type 1 |
| VS016222B-xxxxx ³ | 5 hp (4 kW) | 15.2 | NEMA Type 12 |
| VS016232B-xxxxx ³ | 5 hp (4 kW) | 15.2 | NEMA Type 3R |
| VS022212B-xxxxx | 7.5 hp (5.5 kW) | 22 | NEMA Type 1 |
| VS022222B-xxxxx ³ | 7.5 hp (5.5 kW) | 22 | NEMA Type 12 |
| VS022232B-xxxxx ³ | 7.5 hp (5.5 kW) | 22 | NEMA Type 3R |
| VS028212B-xxxxx | 10 hp (7.5 kW) | 28 | NEMA Type 1 |
| VS028222B-xxxxx ³ | 10 hp (7.5 kW) | 28 | NEMA Type 12 |
| VS028232B-xxxxx ³ | 10 hp (7.5 kW) | 28 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 10: VSD Series II 230 V Enclosed IntelliDisconnect Drives - Frame 6

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS042212B-xxxxx | 15 hp (11 kW) | 42 | NEMA Type 1 |
| VS042222B-xxxxx ³ | 15 hp (11 kW) | 42 | NEMA Type 12 |
| VS042232B-xxxxx ³ | 15 hp (11 kW) | 42 | NEMA Type 3R |
| VS054212B-xxxxx | 20 hp (15 kW) | 54 | NEMA Type 1 |
| VS054222B-xxxxx ³ | 20 hp (15 kW) | 54 | NEMA Type 12 |
| VS054232B-xxxxx ³ | 20 hp (15 kW) | 54 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 11: VSD Series II 230 V Enclosed IntelliDisconnect Drives - Frame 7

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS068212B-xxxxx | 25 hp (18.5 kW) | 68 | NEMA Type 1 |
| VS068222B-xxxxx ³ | 25 hp (18.5 kW) | 68 | NEMA Type 12 |
| VS068232B-xxxxx ³ | 25 hp (18.5 kW) | 68 | NEMA Type 3R |
| VS080212B-xxxxx | 30 hp (22 kW) | 80 | NEMA Type 1 |
| VS080222B-xxxxx ³ | 30 hp (22 kW) | 80 | NEMA Type 12 |
| VS080232B-xxxxx ³ | 30 hp (22 kW) | 80 | NEMA Type 3R |
| VS104212B-xxxxx | 40 hp (30 kW) | 104 | NEMA Type 1 |
| VS104222B-xxxxx ³ | 40 hp (30 kW) | 104 | NEMA Type 12 |
| VS104232B-xxxxx ³ | 40 hp (30 kW) | 104 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 12: VSD Series II 230 V Enclosed IntelliDisconnect Drives - Frame 8

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS130222B-xxxxx ³ | 50 hp (37 kW) | 130 | NEMA Type 12 |
| VS130232B-xxxxx ³ | 50 hp (37 kW) | 130 | NEMA Type 3R |
| VS154222B-xxxxx ³ | 60 hp (45 kW) | 154 | NEMA Type 12 |
| VS154232B-xxxxx ³ | 60 hp (45 kW) | 154 | NEMA Type 3R |
| VS192222B-xxxxx ³ | 75 hp (55 kW) | 192 | NEMA Type 12 |
| VS192232B-xxxxx ³ | 75 hp (55 kW) | 192 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 13: VSD Series II 230 V Enclosed IntelliDisconnect Drives - Frame 9

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS248222B-xxxxx ³ | 100 hp (75 kW) | 248 | NEMA Type 12 |
| VS248232B-xxxxx ³ | 100 hp (75 kW) | 248 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 14: VSD Series II 480 V Enclosed IntelliDisconnect Drives - Frame 4 (Part 1 of 2)

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS2D1412B-xxxxx | 1 hp (0.75 kW) | 2.1 | NEMA Type 1 |
| VS2D1422B-xxxxx ³ | 1 hp (0.75 kW) | 2.1 | NEMA Type 12 |
| VS2D1432B-xxxxx ³ | 1 hp (0.75 kW) | 2.1 | NEMA Type 3R |
| VS3D4412B-xxxxx | 2 hp (1.5 kW) | 3.4 | NEMA Type 1 |
| VS3D4422B-xxxxx ³ | 2 hp (1.5 kW) | 3.4 | NEMA Type 12 |

Table 14: VSD Series II 480 V Enclosed IntelliDisconnect Drives - Frame 4 (Part 2 of 2)

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS3D4432B-xxxxx ³ | 2 hp (1.5 kW) | 3.4 | NEMA Type 3R |
| VS5D6412B-xxxxx | 3 hp (2.2 kW) | 4.8 | NEMA Type 1 |
| VS5D6422B-xxxxx ³ | 3 hp (2.2 kW) | 4.8 | NEMA Type 12 |
| VS5D6432B-xxxxx ³ | 3 hp (2.2 kW) | 4.8 | NEMA Type 3R |
| VS7D6412B-xxxxx | 5 hp (4 kW) | 7.6 | NEMA Type 1 |
| VS7D6422B-xxxxx ³ | 5 hp (4 kW) | 7.6 | NEMA Type 12 |
| VS7D6432B-xxxxx ³ | 5 hp (4 kW) | 7.6 | NEMA Type 12 |
| VS011412B-xxxxx | 7.5 hp (5.5 kW) | 11 | NEMA Type 1 |
| VS011422B-xxxxx ³ | 7.5 hp (5.5 kW) | 11 | NEMA Type 12 |
| VS011432B-xxxxx ³ | 7.5 hp (5.5 kW) | 11 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 15: VSD Series II 480 V Enclosed IntelliDisconnect Drives - Frame 5

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS014412B-xxxxx | 10 hp (7.5 kW) | 14 | NEMA Type 1 |
| VS014422B-xxxxx ³ | 10 hp (7.5 kW) | 14 | NEMA Type 12 |
| VS014432B-xxxxx ³ | 10 hp (7.5 kW) | 14 | NEMA Type 3R |
| VS021412B-xxxxx | 15 hp (11 kW) | 21 | NEMA Type 1 |
| VS021422B-xxxxx ³ | 15 hp (11 kW) | 21 | NEMA Type 12 |
| VS021432B-xxxxx ³ | 15 hp (11 kW) | 21 | NEMA Type 3R |
| VS027412B-xxxxx | 20 hp (15 kW) | 27 | NEMA Type 1 |
| VS027422B-xxxxx ³ | 20 hp (15 kW) | 27 | NEMA Type 12 |
| VS027432B-xxxxx ³ | 20 hp (15 kW) | 27 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 16: VSD Series II 480 V Enclosed IntelliDisconnect Drives - Frame 6

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS034412B-xxxxx | 25 hp (18.5 kW) | 34 | NEMA Type 1 |
| VS034422B-xxxxx ³ | 25 hp (18.5 kW) | 34 | NEMA Type 12 |
| VS034432B-xxxxx ³ | 25 hp (18.5 kW) | 34 | NEMA Type 3R |
| VS040412B-xxxxx | 30 hp (22 kW) | 40 | NEMA Type 1 |
| VS040422B-xxxxx ³ | 30 hp (22 kW) | 40 | NEMA Type 12 |
| VS040432B-xxxxx ³ | 30 hp (22 kW) | 40 | NEMA Type 3R |
| VS052412B-xxxxx | 40 hp (30 kW) | 52 | NEMA Type 1 |
| VS052422B-xxxxx ³ | 40 hp (30 kW) | 52 | NEMA Type 12 |
| VS052432B-xxxxx ³ | 40 hp (30 kW) | 52 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 17: VSD Series II 480 V Enclosed IntelliDisconnect Drives - Frame 7

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS065412B-xxxxx | 50 hp (37 kW) | 65 | NEMA Type 1 |
| VS065422B-xxxxx ³ | 50 hp (37 kW) | 65 | NEMA Type 12 |
| VS065432B-xxxxx ³ | 50 hp (37 kW) | 65 | NEMA Type 3R |
| VS077412B-xxxxx | 60 hp (45 kW) | 77 | NEMA Type 1 |
| VS077422B-xxxxx ³ | 60 hp (45 kW) | 77 | NEMA Type 12 |
| VS077432B-xxxxx ³ | 60 hp (45 kW) | 77 | NEMA Type 3R |
| VS096412B-xxxxx | 75 hp (55 kW) | 96 | NEMA Type 1 |
| VS096422B-xxxxx ³ | 75 hp (55 kW) | 96 | NEMA Type 12 |
| VS096432B-xxxxx ³ | 75 hp (55 kW) | 96 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 18: VSD Series II 480 V Enclosed IntelliDisconnect Drives - Frame 8

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS124422B-xxxxx ³ | 100 hp (75 kW) | 124 | NEMA Type 12 |
| VS124432B-xxxxx ³ | 100 hp (75 kW) | 124 | NEMA Type 3R |
| VS156422B-xxxxx ³ | 125 hp (90 kW) | 156 | NEMA Type 12 |
| VS156432B-xxxxx ³ | 125 hp (90 kW) | 156 | NEMA Type 3R |
| VS180422B-xxxxx ³ | 150 hp (110 kW) | 180 | NEMA Type 12 |
| VS180432B-xxxxx ³ | 150 hp (110 kW) | 180 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 19: VSD Series II 480 V Enclosed IntelliDisconnect Drives - Frame 9

| Code Number¹ | hp (kW)² | Current (A)² | Enclosure Rating |
|------------------------------------|----------------------------|--------------------------------|-------------------------|
| VS240422B-xxxxx³ | 200 hp (75 kW) | 240 | NEMA Type 12 |
| VS240432B-xxxxx³ | 200 hp (75 kW) | 240 | NEMA Type 3R |

1. See Table 20 and Table 21 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

VSD Series II IntelliDisconnect Drives Options

The following tables list the available options for the VSD Series II Enclosed IntelliDisconnect Drives.

Table 20: VSD Series II Options (N2 and BACnet Communications)

| Option Number | Description |
|---------------|---|
| -00000 | N2 and BACnet Com |
| _00000 | N2 and BACnet Com, Space Heater ¹ |
| -0L300 | N2 and BACnet Com, Pilot Lights |
| _0L300 | N2 and BACnet Com, Pilot Lights, Space Heater ¹ |
| -0P300 | N2 and BACnet Com, Isolation Fuses |
| _0P300 | N2 and BACnet Com, Isolation Fuses, Space Heater ¹ |
| -0P3L3 | N2 and BACnet Com, Isolation Fuses, Pilot Lights |
| _0P3L3 | N2 and BACnet Com, Isolation Fuses, Pilot Lights, Space Heater ¹ |
| -0P400 | N2 and BACnet Com, Output Contactor |
| _0P400 | N2 and BACnet Com, Output Contactor, Space Heater ¹ |
| -0P4L3 | N2 and BACnet Com, Output Contactor, Pilot Lights |
| _0P4L3 | N2 and BACnet Com, Output Contactor, Pilot Lights, Space Heater ¹ |
| -0P700 | N2 and BACnet Com, Isolation Fuses, Output Contactor |
| _0P700 | N2 and BACnet Com, Isolation Fuses, Output Contactor, Space Heater ¹ |
| -0P7L3 | N2 and BACnet Com, Isolation Fuses, Output Contactor, Pilot Lights |
| _0P7L3 | N2 and BACnet Com, Isolation Fuses, Output Contactor, Pilot Lights, Space Heater ¹ |

1. The space heater option is only available with the Type 3R enclosure.

Table 21: VSD Series II Options (SAB Communications)

| Option Number ¹ | Description |
|----------------------------|---|
| -S0000 | SAB Com |
| _S0000 | SAB Com, Space Heater ² |
| -SL300 | SAB Com, Pilot Lights |
| _SL300 | SAB Com, Pilot Lights, Space Heater ² |
| -SP300 | SAB Com, Isolation Fuses |
| _SP300 | SAB Com, Isolation Fuses, Space Heater ² |
| -SP3L3 | SAB Com, Isolation Fuses, Pilot Lights |
| _SP3L3 | SAB Com, Isolation Fuses, Pilot Lights, Space Heater ² |
| -SP400 | SAB Com, Output Contactor |
| _SP400 | SAB Com, Output Contactor, Space Heater ² |
| -SP4L3 | SAB Com, Output Contactor, Pilot Lights |
| _SP4L3 | SAB Com, Output Contactor, Pilot Lights, Space Heater ² |
| -SP700 | SAB Com, Isolation Fuses, Output Contactor |
| _SP700 | SAB Com, Isolation Fuses, Output Contactor, Space Heater ² |
| -SP7L3 | SAB Com, Isolation Fuses, Output Contactor, Pilot Lights |
| _SP7L3 | SAB Com, Isolation Fuses, Output Contactor, Pilot Lights, Space Heater ² |

1. Onboard N2 and BACnet communication is included in the application software.

2. The space heater option is only available with the Type 3R enclosure.

VSD Series II IntelliPass Drives Product Selection

Table 22: VSD Series II 208 V Enclosed IntelliPass Drives - Frame 4

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS4D6111B-xxxxx | 1 hp (0.75 kW) | 4.6 | NEMA Type 1 |
| VS4D6121B-xxxxx ³ | 1 hp (0.75 kW) | 4.6 | NEMA Type 12 |
| VS4D6131B-xxxxx ³ | 1 hp (0.75 kW) | 4.6 | NEMA Type 3R |
| VS7D5111B-xxxxx | 2 hp (1.5 kW) | 7.5 | NEMA Type 1 |
| VS7D5121B-xxxxx ³ | 2 hp (1.5 kW) | 7.5 | NEMA Type 12 |
| VS7D5131B-xxxxx ³ | 2 hp (1.5 kW) | 7.5 | NEMA Type 3R |
| VS011111B-xxxxx | 3 hp (2.2 kW) | 10.6 | NEMA Type 1 |
| VS011121B-xxxxx ³ | 3 hp (2.2 kW) | 10.6 | NEMA Type 12 |
| VS011131B-xxxxx ³ | 3 hp (2.2 kW) | 10.6 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 23: VSD Series II 208 V Enclosed IntelliPass Drives - Frame 5

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS017111B-xxxxx | 5 hp (4 kW) | 16.7 | NEMA Type 1 |
| VS017121B-xxxxx ³ | 5 hp (4 kW) | 16.7 | NEMA Type 12 |
| VS017131B-xxxxx ³ | 5 hp (4 kW) | 16.7 | NEMA Type 3R |
| VS025111B-xxxxx | 7.5 hp (5.5 kW) | 24.2 | NEMA Type 1 |
| VS025121B-xxxxx ³ | 7.5 hp (5.5 kW) | 24.2 | NEMA Type 12 |
| VS025131B-xxxxx ³ | 7.5 hp (5.5 kW) | 24.2 | NEMA Type 3R |
| VS031111B-xxxxx | 10 hp (7.5 kW) | 30.8 | NEMA Type 1 |
| VS031121B-xxxxx ³ | 10 hp (7.5 kW) | 30.8 | NEMA Type 12 |
| VS031131B-xxxxx ³ | 10 hp (7.5 kW) | 30.8 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 24: VSD Series II 208 V Enclosed IntelliPass Drives - Frame 6

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS047111B-xxxxx | 15 hp (11 kW) | 46.2 | NEMA Type 1 |
| VS047121B-xxxxx ³ | 15 hp (11 kW) | 46.2 | NEMA Type 12 |
| VS047131B-xxxxx ³ | 15 hp (11 kW) | 46.2 | NEMA Type 3R |
| VS060111B-xxxxx | 20 hp (15 kW) | 59.4 | NEMA Type 1 |
| VS060121B-xxxxx ³ | 20 hp (15 kW) | 59.4 | NEMA Type 12 |
| VS060131B-xxxxx ³ | 20 hp (15 kW) | 59.4 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 25: VSD Series II 208 V Enclosed IntelliPass Drives - Frame 7

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS075111B-xxxxx | 25 hp (18.5 kW) | 74.8 | NEMA Type 1 |
| VS075121B-xxxxx ³ | 25 hp (18.5 kW) | 74.8 | NEMA Type 12 |
| VS075131B-xxxxx ³ | 25 hp (18.5 kW) | 74.8 | NEMA Type 3R |
| VS088111B-xxxxx | 30 hp (22 kW) | 88 | NEMA Type 1 |
| VS088121B-xxxxx ³ | 30 hp (22 kW) | 88 | NEMA Type 12 |
| VS088131B-xxxxx ³ | 30 hp (22 kW) | 88 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 26: VSD Series II 208 V Enclosed IntelliDisconnect Drives - Frame 8

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS114121B-xxxxx ³ | 40 hp (30 kW) | 114 | NEMA Type 12 |
| VS114131B-xxxxx ³ | 40 hp (30 kW) | 114 | NEMA Type 3R |
| VS143121B-xxxxx ³ | 50 hp (37 kW) | 143 | NEMA Type 12 |
| VS143131B-xxxxx ³ | 50 hp (37 kW) | 143 | NEMA Type 3R |
| VS169121B-xxxxx ³ | 60 hp (45 kW) | 169 | NEMA Type 12 |
| VS169131B-xxxxx ³ | 60 hp (45 kW) | 169 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 27: VSD Series II 208 V Enclosed IntelliDisconnect Drives - Frame 9

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS211121B-xxxxx ³ | 75 hp (55 kW) | 211 | NEMA Type 12 |
| VS211131B-xxxxx ³ | 75 hp (55 kW) | 211 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 28: VSD Series II 230 V Enclosed IntelliPass Drives - Frame 4

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS4D2211B-xxxxx | 1 hp (0.75 kW) | 4.2 | NEMA Type 1 |
| VS4D2221B-xxxxx ³ | 1 hp (0.75 kW) | 4.2 | NEMA Type 12 |
| VS4D2231B-xxxxx ³ | 1 hp (0.75 kW) | 4.2 | NEMA Type 3R |
| VS6D8211B-xxxxx | 2 hp (1.5 kW) | 6.8 | NEMA Type 1 |
| VS6D8221B-xxxxx ³ | 2 hp (1.5 kW) | 6.8 | NEMA Type 12 |
| VS6D8231B-xxxxx ³ | 2 hp (1.5 kW) | 6.8 | NEMA Type 3R |
| VS9D6211B-xxxxx | 3 hp (2.2 kW) | 9.6 | NEMA Type 1 |
| VS9D6221B-xxxxx ³ | 3 hp (2.2 kW) | 9.6 | NEMA Type 12 |
| VS9D6231B-xxxxx ³ | 3 hp (2.2 kW) | 9.6 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 29: VSD Series II 230 V Enclosed IntelliPass Drives - Frame 5

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS016211B-xxxxx | 5 hp (4 kW) | 15.2 | NEMA Type 1 |
| VS016221B-xxxxx ³ | 5 hp (4 kW) | 15.2 | NEMA Type 12 |
| VS016231B-xxxxx ³ | 5 hp (4 kW) | 15.2 | NEMA Type 3R |
| VS022211B-xxxxx | 7.5 hp (5.5 kW) | 22 | NEMA Type 1 |
| VS022221B-xxxxx ³ | 7.5 hp (5.5 kW) | 22 | NEMA Type 12 |
| VS022231B-xxxxx ³ | 7.5 hp (5.5 kW) | 22 | NEMA Type 3R |
| VS028211B-xxxxx | 10 hp (7.5 kW) | 28 | NEMA Type 1 |
| VS028221B-xxxxx ³ | 10 hp (7.5 kW) | 28 | NEMA Type 12 |
| VS028231B-xxxxx ³ | 10 hp (7.5 kW) | 28 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 30: VSD Series II 230 V Enclosed IntelliPass Drives - Frame 6

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS042211B-xxxxx | 15 hp (11 kW) | 42 | NEMA Type 1 |
| VS042221B-xxxxx ³ | 15 hp (11 kW) | 42 | NEMA Type 12 |
| VS042231B-xxxxx ³ | 15 hp (11 kW) | 42 | NEMA Type 3R |
| VS054211B-xxxxx | 20 hp (15 kW) | 54 | NEMA Type 1 |
| VS054221B-xxxxx ³ | 20 hp (15 kW) | 54 | NEMA Type 12 |
| VS054231B-xxxxx ³ | 20 hp (15 kW) | 54 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 31: VSD Series II 230 V Enclosed IntelliPass Drives - Frame 7

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS068211B-xxxxx | 25 hp (18.5 kW) | 68 | NEMA Type 1 |
| VS068221B-xxxxx ³ | 25 hp (18.5 kW) | 68 | NEMA Type 12 |
| VS068231B-xxxxx ³ | 25 hp (18.5 kW) | 68 | NEMA Type 3R |
| VS080211B-xxxxx | 30 hp (22 kW) | 80 | NEMA Type 1 |
| VS080221B-xxxxx ³ | 30 hp (22 kW) | 80 | NEMA Type 12 |
| VS080231B-xxxxx ³ | 30 hp (22 kW) | 80 | NEMA Type 3R |
| VS104211B-xxxxx | 40 hp (30 kW) | 104 | NEMA Type 1 |
| VS104221B-xxxxx ³ | 40 hp (30 kW) | 104 | NEMA Type 12 |
| VS104231B-xxxxx ³ | 40 hp (30 kW) | 104 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 32: VSD Series II 230 V Enclosed IntelliDisconnect Drives - Frame 8

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS130221B-xxxxx ³ | 50 hp (37 kW) | 130 | NEMA Type 12 |
| VS130231B-xxxxx ³ | 50 hp (37 kW) | 130 | NEMA Type 3R |
| VS154221B-xxxxx ³ | 60 hp (45 kW) | 154 | NEMA Type 12 |
| VS154231B-xxxxx ³ | 60 hp (45 kW) | 154 | NEMA Type 3R |
| VS192221B-xxxxx ³ | 75 hp (55 kW) | 192 | NEMA Type 12 |
| VS192231B-xxxxx ³ | 75 hp (55 kW) | 192 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 33: VSD Series II 230 V Enclosed IntelliDisconnect Drives - Frame 9

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS248221B-xxxxx ³ | 100 hp (75 kW) | 248 | NEMA Type 12 |
| VS248231B-xxxxx ³ | 100 hp (55 kW) | 248 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 34: VSD Series II 480 V Enclosed IntelliPass Drives - Frame 4

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS2D1411B-xxxxx | 1 hp (0.75 kW) | 2.1 | NEMA Type 1 |
| VS2D1421B-xxxxx ³ | 1 hp (0.75 kW) | 2.1 | NEMA Type 12 |
| VS2D1431B-xxxxx ³ | 1 hp (0.75 kW) | 2.1 | NEMA Type 3R |
| VS3D4411B-xxxxx | 2 hp (1.5 kW) | 3.4 | NEMA Type 1 |
| VS3D4421B-xxxxx ³ | 2 hp (1.5 kW) | 3.4 | NEMA Type 12 |
| VS3D4431B-xxxxx ³ | 2 hp (1.5 kW) | 3.4 | NEMA Type 3R |
| VS5D6411B-xxxxx | 3 hp (2.2 kW) | 4.8 | NEMA Type 1 |
| VS5D6421B-xxxxx ³ | 3 hp (2.2 kW) | 4.8 | NEMA Type 12 |
| VS5D6431B-xxxxx ³ | 3 hp (2.2 kW) | 4.8 | NEMA Type 3R |
| VS7D6411B-xxxxx | 5 hp (4 kW) | 7.6 | NEMA Type 1 |
| VS7D6421B-xxxxx ³ | 5 hp (4 kW) | 7.6 | NEMA Type 12 |
| VS7D6431B-xxxxx ³ | 5 hp (4 kW) | 7.6 | NEMA Type 12 |
| VS011411B-xxxxx | 7.5 hp (5.5 kW) | 11 | NEMA Type 1 |
| VS011421B-xxxxx ³ | 7.5 hp (5.5 kW) | 11 | NEMA Type 12 |
| VS011431B-xxxxx ³ | 7.5 hp (5.5 kW) | 11 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 35: VSD Series II 480 V Enclosed IntelliPass Drives - Frame 5

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS014411B-xxxxx | 10 hp (7.5 kW) | 14 | NEMA Type 1 |
| VS014421B-xxxxx ³ | 10 hp (7.5 kW) | 14 | NEMA Type 12 |
| VS014431B-xxxxx ³ | 10 hp (7.5 kW) | 14 | NEMA Type 3R |
| VS021411B-xxxxx | 15 hp (11 kW) | 21 | NEMA Type 1 |
| VS021421B-xxxxx ³ | 15 hp (11 kW) | 21 | NEMA Type 12 |
| VS021431B-xxxxx ³ | 15 hp (11 kW) | 21 | NEMA Type 3R |
| VS027411B-xxxxx | 20 hp (15 kW) | 27 | NEMA Type 1 |
| VS027421B-xxxxx ³ | 20 hp (15 kW) | 27 | NEMA Type 12 |
| VS027431B-xxxxx ³ | 20 hp (15 kW) | 27 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 36: VSD Series II 480 V Enclosed IntelliPass Drives - Frame 6

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS034411B-xxxxx | 25 hp (18.5 kW) | 34 | NEMA Type 1 |
| VS034421B-xxxxx ³ | 25 hp (18.5 kW) | 34 | NEMA Type 12 |
| VS034431B-xxxxx ³ | 25 hp (18.5 kW) | 34 | NEMA Type 3R |
| VS040411B-xxxxx | 30 hp (22 kW) | 40 | NEMA Type 1 |
| VS040421B-xxxxx ³ | 30 hp (22 kW) | 40 | NEMA Type 12 |
| VS040431B-xxxxx ³ | 30 hp (22 kW) | 40 | NEMA Type 3R |
| VS052411B-xxxxx | 40 hp (30 kW) | 52 | NEMA Type 1 |
| VS052421B-xxxxx ³ | 40 hp (30 kW) | 52 | NEMA Type 12 |
| VS052431B-xxxxx ³ | 40 hp (30 kW) | 52 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 37: VSD Series II 480 V Enclosed IntelliPass Drives - Frame 7

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS065411B-xxxxx | 50 hp (37 kW) | 65 | NEMA Type 1 |
| VS065421B-xxxxx ³ | 50 hp (37 kW) | 65 | NEMA Type 12 |
| VS065431B-xxxxx ³ | 50 hp (37 kW) | 65 | NEMA Type 3R |
| VS077411B-xxxxx | 60 hp (45 kW) | 77 | NEMA Type 1 |
| VS077421B-xxxxx ³ | 60 hp (45 kW) | 77 | NEMA Type 12 |
| VS077431B-xxxxx ³ | 60 hp (45 kW) | 77 | NEMA Type 3R |
| VS096411B-xxxxx | 75 hp (55 kW) | 96 | NEMA Type 1 |
| VS096421B-xxxxx ³ | 75 hp (55 kW) | 96 | NEMA Type 12 |
| VS096431B-xxxxx ³ | 75 hp (55 kW) | 96 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliPass options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 38: VSD Series II 480 V Enclosed IntelliDisconnect Drives - Frame 8

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS124421B-xxxxx ³ | 100 hp (75 kW) | 124 | NEMA Type 12 |
| VS124431B-xxxxx ³ | 100 hp (75 kW) | 124 | NEMA Type 3R |
| VS156421B-xxxxx ³ | 125 hp (90 kW) | 156 | NEMA Type 12 |
| VS156431B-xxxxx ³ | 125 hp (90 kW) | 156 | NEMA Type 3R |
| VS180421B-xxxxx ³ | 150 hp (110 kW) | 180 | NEMA Type 12 |
| VS180431B-xxxxx ³ | 150 hp (110 kW) | 180 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

Table 39: VSD Series II 480 V Enclosed IntelliDisconnect Drives - Frame 9

| Code Number ¹ | hp (kW) ² | Current (A) ² | Enclosure Rating |
|------------------------------|----------------------|--------------------------|------------------|
| VS240421B-xxxxx ³ | 200 hp (132 kW) | 240 | NEMA Type 12 |
| VS240431B-xxxxx ³ | 200 hp (132 kW) | 240 | NEMA Type 3R |

1. See Table 40 and Table 41 for available VSD Series II IntelliDisconnect options.
2. All horsepower and current ratings are Variable Torque (VT).
3. Contact your local Johnson Controls representative for product availability.

VSD Series II IntelliPass Drives Options

The following tables list the available options for the VSD Series II Enclosed IntelliPass Drives.

Table 40: VSD Series II Options (N2 and BACnet Communications)

| Option Number | Description |
|---------------|---|
| -00000 | N2 and BACnet Com |
| _00000 | N2 and BACnet Com, Space Heater ¹ |
| -0L400 | N2 and BACnet Com, Pilot Lights |
| _0L400 | N2 and BACnet Com, Pilot Lights, Space Heater ¹ |
| -0P300 | N2 and BACnet Com, Isolation Fuses |
| _0P300 | N2 and BACnet Com, Isolation Fuses, Space Heater ¹ |
| -0P3L4 | N2 and BACnet Com, Isolation Fuses, Pilot Lights |
| _0P3L4 | N2 and BACnet Com, Isolation Fuses, Pilot Lights, Space Heater ¹ |
| -0P600 | N2 and BACnet Com, 3rd Contactor |
| _0P600 | N2 and BACnet Com, 3rd Contactor, Space Heater ¹ |
| -0P6L4 | N2 and BACnet Com, 3rd Contactor, Pilot Lights |
| _0P6L4 | N2 and BACnet Com, 3rd Contactor, Pilot Lights, Space Heater ¹ |
| -0P900 | N2 and BACnet Com, Isolation Fuses, 3rd Contactor (Type 12 Frame 8 and 9 or Type 3R Only) |
| _0P900 | N2 and BACnet Com, Isolation Fuses, 3rd Contactor, Space Heater ¹ |
| -0P9L4 | N2 and BACnet Com, Isolation Fuses, 3rd Contactor, Pilot Lights (Type 12 Frame 8 and 9 or Type 3R Only) |
| _0P9L4 | N2 and BACnet Com, Isolation Fuses, 3rd Contactor, Pilot Lights, Space Heater ¹ |
| -0M100 | N2 and BACnet Com, Manual 3rd Contactor Bypass, Pilot Lights |
| _0M100 | N2 and BACnet Com, Manual 3rd Contactor Bypass, Pilot Lights, Space Heater ¹ |
| -0M1P3 | N2 and BACnet Com, Manual 3rd Contactor Bypass, Pilot Lights, Isolation Fuses (Type 12 Frame 8 and 9 or Type 3R Only) |
| _0M1P3 | N2 and BACnet Com, Manual 3rd Contactor Bypass, Pilot Lights, Isolation Fuses, Space Heater ¹ |

1. The space heater option is only available with the Type 3R enclosure.

Table 41: VSD Series II Options (SAB Communications)

| Option Number | Description |
|---------------|---|
| -S0000 | SAB Com |
| _S0000 | SAB Com, Space Heater ¹ |
| -SL400 | SAB Com, Pilot Lights |
| _SL400 | SAB Com, Pilot Lights, Space Heater ¹ |
| -SP300 | SAB Com, Isolation Fuses |
| _SP300 | SAB Com, Isolation Fuses, Space Heater ¹ |
| -SP3L4 | SAB Com, Isolation Fuses, Pilot Lights |
| _SP3L4 | SAB Com, Isolation Fuses, Pilot Lights, Space Heater ¹ |
| -SP600 | SAB Com, 3rd Contactor |
| _SP600 | SAB Com, 3rd Contactor, Space Heater ¹ |
| -SP6L4 | SAB Com, 3rd Contactor, Pilot Lights |
| _SP6L4 | SAB Com, 3rd Contactor, Pilot Lights, Space Heater ¹ |
| -SP900 | SAB Com, Isolation Fuses, 3rd Contactor (Type 12 Frame 8 and 9 or Type 3R Only) |
| _SP900 | SAB Com, Isolation Fuses, 3rd Contactor, Space Heater |
| -SP9L4 | SAB Com, Isolation Fuses, 3rd Contactor, Pilot Lights (Type 12 Frame 8 and 9 or Type 3R Only) |
| _SP9L4 | SAB Com, Isolation Fuses, 3rd Contactor, Pilot Lights, Space Heater ¹ |
| -SM100 | SAB Com, Manual 3rd Contactor Bypass, Pilot Lights |
| _SM100 | SAB Com, Manual 3rd Contactor Bypass, Pilot Lights, Space Heater ¹ |
| -SM1P3 | SAB Com, Manual 3rd Contactor Bypass, Pilot Lights, Isolation Fuses (Type 12 Frame 8 and 9 or Type 3R Only) |
| _SM1P3 | SAB Com, Manual 3rd Contactor Bypass, Pilot Lights, Isolation Fuses, Space Heater ¹ |

1. The space heater option is only available with the Type 3R enclosure.

VSD Series II IntelliPass and IntelliDisconnect Accessories and Replacement Parts

Table 42: Conversion Kits

| Product Code Number | Description |
|---------------------|--|
| VS-FS4-N12KIT | Frame 4, Type 1 to Type 12 Conversion Kit – Type 12/IP54 Cover with Gasket and Plastic Plugs |
| VS-FS5-N12KIT | Frame 5, Type 1 to Type 12 Conversion Kit – Type 12/IP54 Cover with Gasket and Plastic Plugs |
| VS-FS6-N12KIT | Frame 6, Type 1 to Type 12 Conversion Kit – Type 12/IP54 Cover with Gasket and Plastic Plugs |

Table 43: Demonstration Kits

| Product Code Number | Description |
|---------------------|--|
| VS-DEMO2 | VSD Series II Bypass Demonstration Kit |
| VSM2-DEMO | VSD Micro Series II Bypass Demonstration Kit |

Table 44: Power Supplies, Cables, and Keypads

| Product Code Number | Description |
|---------------------|---|
| VS-KEYPAD-SER2 | VSD Series II Graphic Hands-Off/Auto Keypad |
| VS-RMT-KEYPAD2 | VSD Series II Remote Keypad Kit |
| VS-REM-USB-LOAD | Remote Download USB to RJ-485 Cable with Software Driver Disk |

Table 45: Fans

| Product Code Number | Description |
|---------------------|-----------------------|
| VS-FS4-FAN | Frame 4, Main Fan |
| VS-FS5-FAN | Frame 5, Main Fan |
| VS-FS6-FAN | Frame 6, Main Fan |
| VS-FS7-FAN | Frame 7, Main Fan |
| VS-FS8-FAN | Frame 8, Main Fan |
| VS-FS9-FAN | Frame 9, Main Fan |
| VS-FS4-INT-FAN | Frame 4, Internal Fan |
| VS-FS5-INT-FAN | Frame 5, Internal Fan |
| VS-FS6-INT-FAN | Frame 6, Internal Fan |
| VS-FS7-INT-FAN | Frame 7, Internal Fan |
| VS-FS8-INT-FAN | Frame 8, Internal Fan |
| VS-FS9-INT-FAN | Frame 9, Internal Fan |

Table 46: Flange Kits

| Product Code Number | Description |
|---------------------|----------------------------------|
| VS-FS4-N12FLKIT | Frame 4, Type 12/IP54 Flange Kit |
| VS-FS5-N12FLKIT | Frame 5, Type 12/IP54 Flange Kit |
| VS-FS6-N12FLKIT | Frame 6, Type 12/IP54 Flange Kit |
| VS-FS7-N12FLKIT | Frame 7, Type 12/IP54 Flange Kit |

Table 47: Communication Cards, Auxiliary Contacts, and I/O Cards

| Product Code Number | Description |
|---------------------|---|
| VS-XXM-B1 | I/O Expander Card, 6 DI/DO, Slot D/E |
| VS-XXM-B2 | I/O Expander Card, 2 RO and Thermistor, Slot D/E |
| VS-XXM-B4 | I/O Expander Card, 1 AI, 2 AO (Isolated), Slot D/E |
| VS-XXM-B5 | I/O Expander Card, 3 RO, Slot D/E |
| VS-XXM-B9 | I/O Expander Card, 1 RO, 5 DI (42 to 240 VAC), Slot D/E |
| VS-XXM-BF | I/O Expander Card, 1 AO, 1 DO, 1 RO, Slot D/E |
| VS-XXM-C4 | LONWORKS® Communications Card, Slot D/E |
| VS-XXM-CS | SA Bus Communications Card |
| VS-XXM-F1 | I/O Expander Card, 3 RO, Slot B |
| VS-XXM-F2 | I/O Expander Card, 2 RO and Thermistor Input, Slot B |
| VS-XXM-K9-FS4-5 | Auxiliary Contact Kit for IPASS Sizes B and C (Output and Bypass) |
| VS-XXM-K9-FS6-9 | Auxiliary Contact Kit for IPASS Sizes D, F, and G (Output and Bypass) |

Table 48: Micro Drives (Part 1 of 2)

| Product Code Number | Description |
|---------------------|--------------------------------|
| VSM2-IP21-FS1 | VSM II Type 1 / IP21 Kit – FS1 |
| VSM2-IP21-FS2 | VSM II Type 1 / IP21 Kit – FS2 |

Table 48: Micro Drives (Part 2 of 2)

| Product Code Number | Description |
|---------------------|--|
| VSM2-IP21-FS3 | VSM II Type 1 / IP21 Kit – FS3 |
| VSM2-KEYADAPTER | VSM II Remote Mounting Kit – Bezel and Cable |
| VSM2-PCADAPTER | VSM II Computer Connection Module |
| VSM2-RJADAPTER | VSM II RJ45 Adapter Module |
| VSM2-TEXTKEYPAD | VSM II Keypad |

Table 49: Power Supplies

| Product Code Number | Description |
|---------------------|--|
| VS-PSG60E | Power Supply – 1 Phase, 90–264 VAC, 24 VDC @ 2.5 A |
| VS-PSG120E | Power Supply – 1 Phase, 90–264 VAC, 24 VDC @ 5 A |
| VS-PSG240E | Power Supply – 1 Phase, 85–264 VAC, 24 VDC @ 10 A |
| VS-PSG60F24 | Power Supply – 3 Phase, 24 VDC, 60 W, IP20 Metal Case |
| VS-PSG120 F24 | Power Supply – 3 Phase, 24 VDC, 120 W, IP20 Metal Case |
| VS-PSG240 F24 | Power Supply – 3 Phase, 24 VDC, 240 W, IP20 Metal Case |

Table 50: Lights, Selector Switches, Relays

| Product Code Number | Description |
|---------------------|---|
| VS-M22-L-A-W | Indicator Light, Amber, 12–30 V AC/DC |
| VS-M22-L-G-G | Indicator Light, Green, 12–30 V AC/DC |
| VS-M22-L-R-R | Indicator Light, Red, 12–30 V AC/DC |
| VS-M22-L-W-W | Indicator Light, White, 12–30 V AC/DC |
| VS-M22-WRK3 | Non-Illuminated 3-Position Maintained Selector Switch, Thumb Grip, Black Bezel |
| VS-M22-CK20 | Contact Block, 2 N.O. Cage Clamp |
| VS-M22-WVK-K10 | Non-Illuminated Vertical Position Maintained Selector Switch, Thumb Grip, Black Bezel, 1 N.O. |
| VS-M22-IVS | DIN Rail Mounting Adapter |
| VS-M22-WRK3-K20 | Non-Illuminated 3-Position Maintained Selector Switch, Thumb Grip, Silver Bezel, 2 N.O. |
| VS-D2RR4A | Ice Cube Relay, 4-Pole Double-Throw Switch, 6A, 120 VAC Coil |
| VS-D2PA6 | 4-Pole Socket for 2- and 4-Pole D2 Relays |

Table 51: Manual Motor Protectors and Accessories (Part 1 of 2)

| Product Code Number | Description |
|---------------------|---|
| VS-XTPR2P5BC1 | Manual Motor Protector, Rotary Frame B, Class 10, 1.6–2.5 A |
| VS-XTPR6P3BC1 | Manual Motor Protector, Rotary Frame B, Class 10, 4–6.3 A |
| VS-XTPR004BC1 | Manual Motor Protector, Rotary Frame B, Class 10, 2.5–4 A |
| VS-XTPR010BC1 | Manual Motor Protector, Rotary Frame B, Class 10, 6.3–10 A |
| VS-XTPR012BC1 | Manual Motor Protector, Rotary Frame B, Class 10, 8–12 A |
| VS-XTPR016DC1 | Manual Motor Protector, Rotary Frame D, Class 10, 10–16 A |
| VS-XTPR025DC1 | Manual Motor Protector, Rotary Frame D, Class 10, 16–25 A |
| VS-XTPR032DC1 | Manual Motor Protector, Rotary Frame D, Class 10, 25–32 A |

Table 51: Manual Motor Protectors and Accessories (Part 2 of 2)

| Product Code Number | Description |
|---------------------|--|
| VS-XTPR040DC1 | Manual Motor Protector, Rotary Frame D, Class 10, 32–40 A |
| VS-XTPR050DC1 | Manual Motor Protector, Rotary Frame D, Class 10, 40–50 A |
| VS-XTPR058DC1 | Manual Motor Protector, Rotary Frame D, Class 10, 50–58 A |
| VS-XTPAXLSA | Manual Motor Protector, Accessory, Line Side Adapter |
| VS-XTPAXLSAD | Manual Motor Protector, Accessory, Line Side Adapter Frame D |
| VS-XTPAXRHMB | Rotary Handle Mechanism IP65 Black |
| VS-XTPAXRHMSFT | Manual Motor Protector, Accessory Rotary Handle Mech Shaft |
| VS-XTPAXMBM | Manual Motor Protector, Shaft Supporter, Metal |

Table 52: Contactors and Overloads (Part 1 of 2)

| Product Code Number | Description |
|---------------------|--|
| VS-XTCE007B01A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 7A |
| VS-XTCE009B01A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 9A |
| VS-XTCE012B01A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 12A |
| VS-XTCE018C01A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 18A |
| VS-XTCE025C01A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 25A |
| VS-XTCE032C01A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 32A |
| VS-XTCE040C01A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 40A |
| VS-XTCE050DS1A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 50A |
| VS-XTCE065DS1A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 65A |
| VS-XTCE080FS1A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 80A |
| VS-XTCE095FS1A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 95A |
| VS-XTCE0115GS1A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 115A |
| VS-XTCE0170GS1A | Contactor, 3-Phase, Full-Voltage, Non-Returning, 170A |
| VS-XTCEXRSBB | Contactor Accessory, RC Supressor, Frame B, 110–240 V |
| VS-XTCEXRSBC | Contactor Accessory, RC Supressor, Frame B, 240–500 V |
| VS-XTCEXRSCA | Contactor Accessory, RC Supressor, Frame C, 110–130 V |
| VS-XTCEXRSCC | Contactor Accessory, RC Supressor, Frame C, 240–500 V |
| VS-XTCEXRSFA | Contactor Accessory, RC Supressor, Frame F, 110–130 V |
| VS-XTCEXFAC11 | Contactor Accessory, Front Auxiliary Seq A, Frame B-C, 1 N.O. 1 N.C. |
| VS-XTCEXPBB | Contactor Accessory, Paralleling Bridge, Frame B |
| VS-XTCEXPBC | Contactor Accessory, Paralleling Bridge, Frame C |
| VS-XTCEXPBD | Contactor Accessory, Paralleling Bridge, Frame D |
| VS-XTCEXPBG | Contactor Accessory, Paralleling Bridge, Frame G |
| VS-XTOB004BC1 | IEC Overload Frame B Class 10, 2.4–4 A |
| VS-XTOB006BC1 | IEC Overload Frame B Class 10, 4–6 A |
| VS-XTOB010BC1 | IEC Overload Frame B Class 10, 6–10 A |
| VS-XTOB012BC1 | IEC Overload Frame B Class 10, 9–12 A |
| VS-XTOB016CC1 | IEC Overload Frame C Class 10, 10–16 A |
| VS-XTOB024CC1 | IEC Overload Frame C Class 10, 16–24 A |

Table 52: Contactors and Overloads (Part 2 of 2)

| Product Code Number | Description |
|----------------------------|--|
| VS-XTOB032CC1 | IEC Overload Frame C Class 10, 24–32 A |
| VS-XTOB040DC1 | IEC Overload Frame D Class 10, 24–40 A |
| VS-XTOB057DC1 | IEC Overload Frame D Class 10, 40–57 A |
| VS-XTOB065DC1 | IEC Overload Frame D Class 10, 50–65 A |
| VS-XTOB070GC1S | IEC Overload Frame G Class 10, 50–70 A, Sep Mnt |
| VS-XTOB100GC1S | IEC Overload Frame G Class 10 |
| VS-XTOB125GC1S | IEC Overload Frame G Class 10 |
| VS-XTOB150GC1S | IEC Overload Frame G Class 10 |
| VS-XTOB2P4BC1 | IEC Overload Frame B Class 10 |
| VS-XTOB175GC1S | IEC Overload Frame G Class 10 |
| VS-XTCE007B01TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 7A, Frame B, 1 N.C. Switch, 24 VDC Coil |
| VS-XTCE009B01TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 9A, Frame B, 1 N.C. Switch, 24 VDC Coil |
| VS-XTCE012B01TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 12A, Frame B, 1 N.C. Switch, 24 VDC Coil |
| VS-XTCE018C01TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 18A, Frame B, 1 N.C. Switch, 24 VDC Coil |
| VS-XTCE025C01TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 25A, Frame B, 1 N.C. Switch, 24 VDC Coil |
| VS-XTCE032C01TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 32A, Frame B, 1 N.C. Switch, 24 VDC Coil |
| VS-XTCE040D00TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 40A, Frame B, 24 VDC Coil |
| VS-XTCE050D00TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 50A, Frame B, 24 VDC Coil |
| VS-XTCE065D00TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 65A, Frame B, 24 VDC Coil |
| VS-XTCE080F00TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 80A, Frame F, 24 VDC Coil |
| VS-XTCE095F00TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 95A, Frame F, 24 VDC Coil |
| VS-XTCE115G00TD | Contacto, 3-Phase, Full-Voltage, Non-Returning, 115A, Frame G, 24 VDC Coil |
| VS-XTCEXFAC11 | Contacto Accessory, Front Aux Seq A, Frame B-C |
| VS-XTCEXFAG11 | Contacto Accessory, Front Aux Seq A, Frame D-G |
| VS-XTCEXPBB | Contacto Accessory, Paralleling Bridge, Frame B |
| VS-XTCEXPBC | Contacto Accessory, Paralleling Bridge, Frame C |
| VS-XTCEXPBD | Contacto Accessory, Paralleling Bridge, Frame D |
| VS-XTCEXPBG | Contacto Accessory, Paralleling Bridge, Frame G |

Table 53: FP Series II Spares (Part 1 of 2)

| Product Code Number | Description |
|----------------------------|---|
| VS-HFD3080L | Type HFD (Eaton term), 3-Pole, 80A Trip, 600 V Class, 65KA at 480 V, Line |
| VS-HFD3100L | Type HFD, 3-Pole, 100A, 600 V Class, 65KA at 480 V, Line |
| VS-HFD3110L | Type HFD, 3-Pole, 110A, 600 V Class, 65KA at 480 V, Line |
| VS-HFD3125L | Type HFD, 3-Pole, 125A Trip, 600 V Class, 65KA at 480 V, Line |
| VS-HFDMP3080JL | HFD Motor Protector, 3-Pole Switch, 80A, Overload 10–30 with Phase Imbalance |
| VS-HFDMP3100JL | HFD Motor Protector, 3-Pole Switch, 100A, Overload 10–30 with Phase Imbalance |
| VS-HFDMP3160JL | HFD Motor Protector, 3-Pole Switch, 160A, Overload 10–30 with Phase Imbalance |
| VS-FHMVD06B | Black Handle, 6 in. Shaft, F Frame |
| VS-PHR2N12F | Pistol Handle, Red, Size 2, NEMA 3R/12, For Front Oper |

Table 53: FP Series II Spares (Part 2 of 2)

| Product Code Number | Description |
|----------------------------|--|
| VS-SHR0N12 | Selector Handle, Red, Size 0, NEMA 3R/12 (A, B, and C Frame) |
| VS-SF200PH10X10 | Shaft 200 mm (7.9 in.), Use with Size 1 or 2 Pistol Handle, 10x10 |
| VS-SF200SH5X5 | Shaft 200 mm (7.9 in.), Use with Selector Handles for R5/R9, 5x5 |
| VS-SF320 PH10X10 | Shaft 320 mm (12.6 in.), Use with Size 1 or 2 Pistol Handle, 10x10 |
| VS-SF320SH5X5 | Shaft 320 mm (12.6 in.), Use with Selector Handles for R5/R9, 5x5 |
| VS-DHR5 | Direct Handle, for R5 Type Rotary Disconnects |
| VS-DHR9 | Direct Handle, for R9 Type Rotary Disconnects (C Frame Only) |
| VS-DHR9DE | Direct Handle, for R9 Type Rotary Disconnects (Frames D and E) |
| VS-R5A3030U | UL508, A-Frame, 3-Pole Switch, 30 A, Non-Fusible Rotary Disconnect |
| VS-5B3060U | UL508, B-Frame, 3-Pole Switch, 60 A, Non-Fusible Rotary Disconnect |
| VS-R9C3100U | UL98, C-Frame, 3-Pole Switch, 100 A, Non-Fusible Rotary Disconnect |
| VS-R9D3100U | UL98, D-Frame, 3-Pole Switch, 100 A, Non-Fusible Rotary Switch |
| VS-R93200U | UL98, D-Frame, 3-Pole Switch, 200 A, Non-Fusible Rotary Switch |
| VS-R9K3100FJ | UL98, K-Frame, 3-Pole, 100 A, J-Fusible Rotary Disconnect |
| VS-C075E5EFB | 75 VA Type MTE Control Transformer with Primary Fuse Block |
| VS- C0200E5E | 200 VA Type MTE Control Transformer |
| VS- C0200E5EFB | 200 VA Type MTE Control Transformer with Primary Fuse Block |
| VS- C0350E5EFB | 350 VA Type MTE Control Transformer with Primary Fuse Block |
| VS-C0500E5EFB | 500 VA Type MTE Control Transformer with Primary Fuse Block |

VSD Series II IntelliPass and IntelliDisconnect Options

The VSD Series II IntelliPass and IntelliDisconnect drives can accommodate a wide selection of expander and adapter option boards to customize the drive for your application needs.

Note: The options are ordered separately from the drive.

Table 54: VSD Series II Options

| Option Type | Description | Allowed Slot Locations | Option Number |
|-------------------------|---|------------------------|---------------|
| Extended I/O Cards | 6 Digital Outputs (DI), 6 Digital Outputs (DO), 1 ext +24 V DC/EXT +24V DC Programmable | D, E | VS-XXM-B1 |
| | 1 Relay Output (RO), Normally Closed/Normally Open(N.C./N.O.), 1 RO (N.O.), 1 Thermistor | D,E | VS-XXM-B2 |
| | 1 AI (mA Isolated, 2 AO (mA Isolated) | D, E | VS-XXM-B4 |
| | Card - 3 Relay Dry Contact | D, E | VS-XXM-B5 |
| | 1 RO (N.O.), 5 Digital Inputs (DI) 42 to 240V AC Input | D, E | VS-XXM-B9 |
| | Expander IO - 1*AO, 1*DO, 1*RO | D, E | VS-XXM-BF |
| I/O Communication Cards | Johnson Controls SA Bus Com | D, E | VS-XXM-CS |
| | LONWORKS® Network | D, E | VS-XXM-C4 |
| I/O | 3 Relay (Spare /Replacement Part Only - Not an Option with Standard VSD) | B | VS-XXM-F1 |
| | 2 Relay and 1 Thermistor - Not Available with L3 and L4 Pilot Light Options. Replaces Standard Relay 1 pcb in Slot B and Fault Relay Function | B | VS-XXM-F2 |

Dimensions

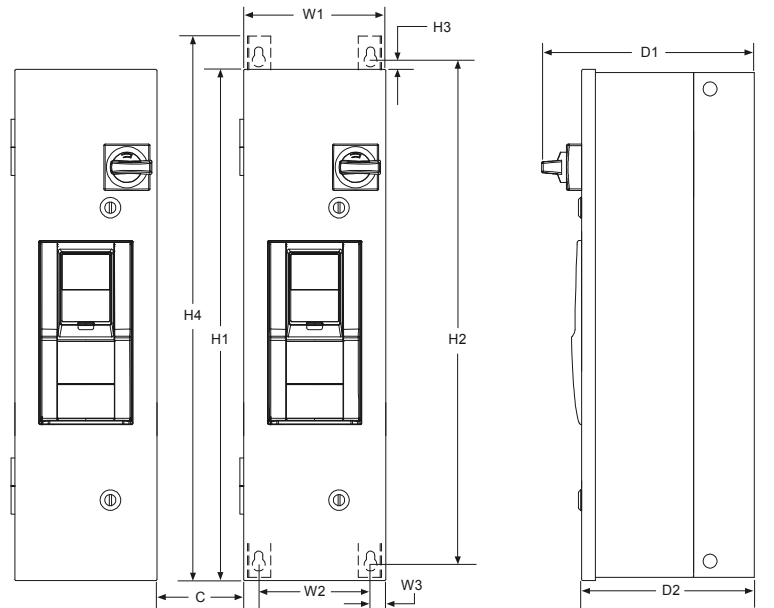


Figure 2: VSD Series II Enclosed IntelliPass and IntelliDisconnect Drive Dimensions (Frame 4 to Frame 8)

Table 55: VSD Series II Enclosed IntelliPass Drive Dimensions - Frame 4 to Frame 8

| Frame Size | Dimensions, in. (mm), approximate | | | | Distance Between Drives (C), in. (mm) |
|------------|-----------------------------------|-------------------|-------------|--------------------|---------------------------------------|
| | H1 | H2 | H3 | H4 | |
| FR4 | 29-11/16 (754.1) | 37-1/8 (942.9) | 1/4 (6.35) | 31 (914.4) | 3 (76.2) |
| FR5 | 37 (939.8) | 34-1/2 (875.5) | 1/4 (6.35) | 38-5/16 (973) | 3 (76.2) |
| FR6 | 45-3/32 (1,145) | 40-9/32 (1,023.1) | 1/4 (6.35) | 46-13/32 (1,178.6) | 4 (101.6) |
| FR7 | 58-5/16 (1,481.3) | 56-5/16 (1,430) | 1/4 (6.35) | 59-15/32 (1,510.3) | 4 (101.6) |
| FR8 | 76-1/4 (1,936.75) | 78 (1,981.2) | 7/8 (22.22) | 80 (2,032) | — |

Table 56: VSD Series II Enclosed IntelliPass Drive Dimensions - Frame 4 to Frame 8

| Frame Size | Dimensions, in. (mm), approximate | | | | |
|------------|-----------------------------------|-----------------|------------|------------------|------------------|
| | W1 | W2 | W3 | D1 | D2 |
| FR4 | 7-7/8 (200.2) | 6-11/32 (160.8) | 3/4 (19.1) | 11-13/32 (289.6) | 9-9/32 (235.5) |
| FR5 | 9-13/32 (238.8) | 7-3/4 (196.9) | 3/4 (19.1) | 15-5/16 (388.6) | 13-3/16 (334.6) |
| FR6 | 10-29/32 (276.9) | 9-3/8 (237.5) | 3/4 (19.1) | 15-3/4 (400) | 13-5/8 (346) |
| FR7 | 13-31/32 (355.1) | 12-3/8 (313.7) | 3/4 (19.1) | 15-1/2 (393.7) | 13-17/32 (344.2) |
| FR8 | 31 (787.4) | 29-5/16 (744) | 7/8 (22) | 16-3/4 (426.2) | — |

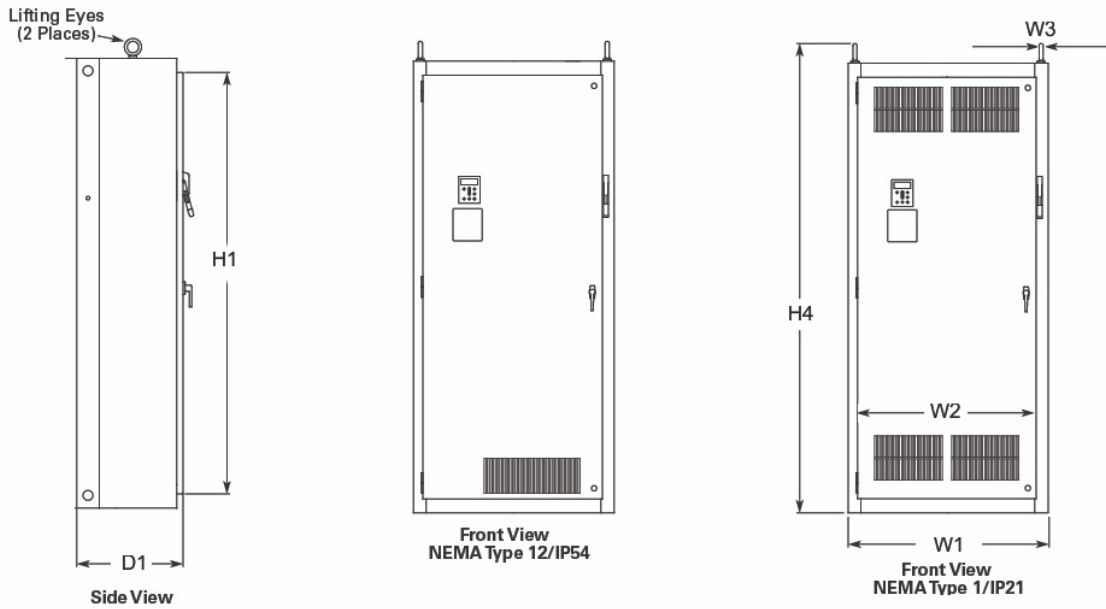


Figure 3: VSD Series II Enclosed IntelliPass and IntelliDisconnect Drive Dimensions (Frame 9)

Table 57: VSD Series II Enclosed IntelliPass Drive Dimensions - Frame 8 to Frame 9

| Frame Size | Dimensions, in. (mm), approximate | | | | Distance Between Drives (C), in. (mm) |
|------------|-----------------------------------|----|----|--------------|---------------------------------------|
| | H1 | H2 | H3 | H4 | |
| FR9 | 90 (2,286) | — | — | 94 (2,387.6) | — |

Table 58: VSD Series II Enclosed IntelliPass Drive Dimensions - Frame 8 to Frame 9

| Frame Size | Dimensions, in. (mm), approximate | | | | |
|------------|-----------------------------------|----------|--------|-----------------|----|
| | W1 | W2 | W3 | D1 | D2 |
| FR9 | 40 (1,016) | 36 (914) | 2 (51) | 21-5/16 (541.3) | — |

Wiring

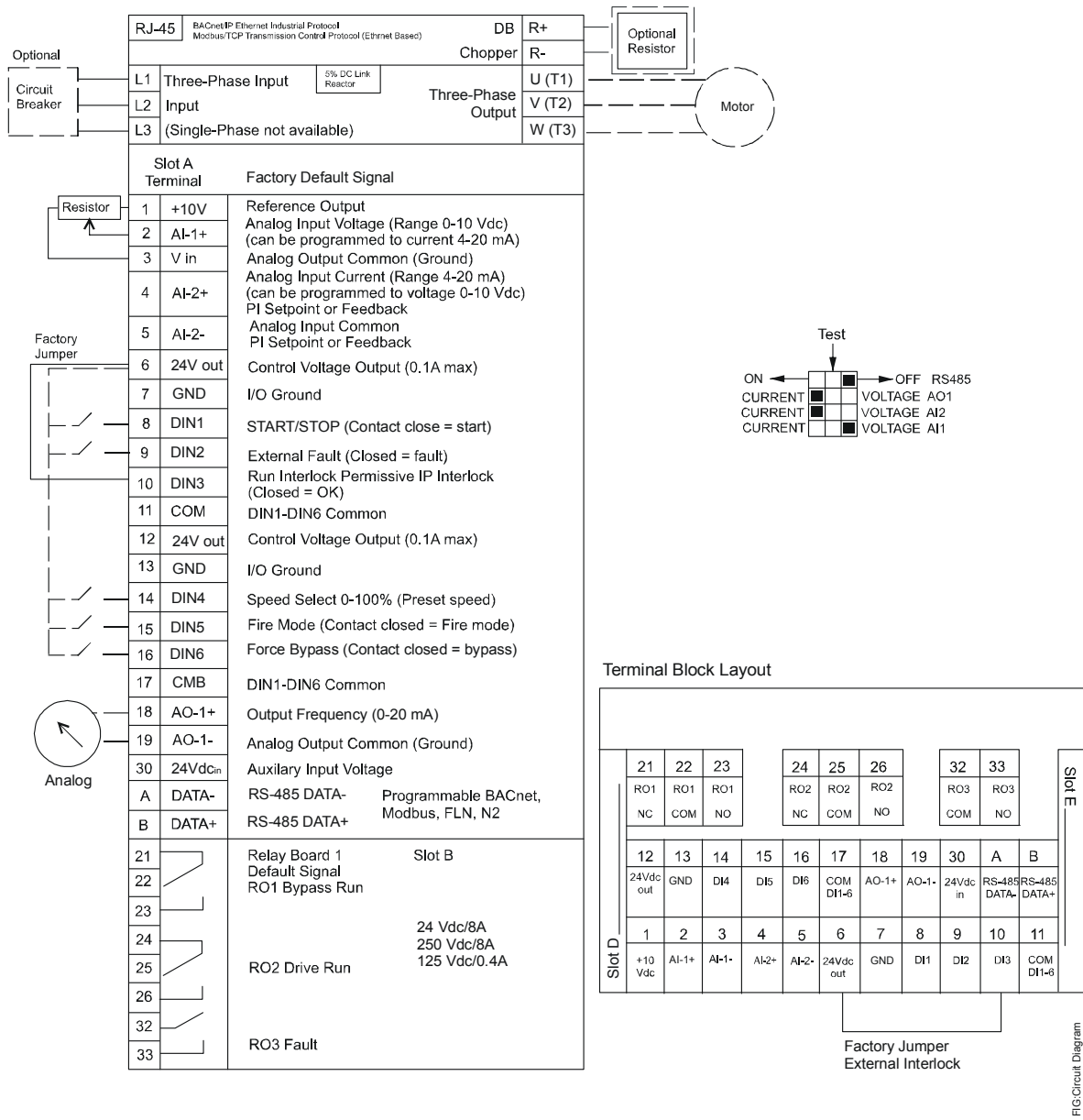


Figure 4: VSD Series II Enclosed Variable Speed IntelliPass and IntelliDisconnect Drives Circuit Diagram

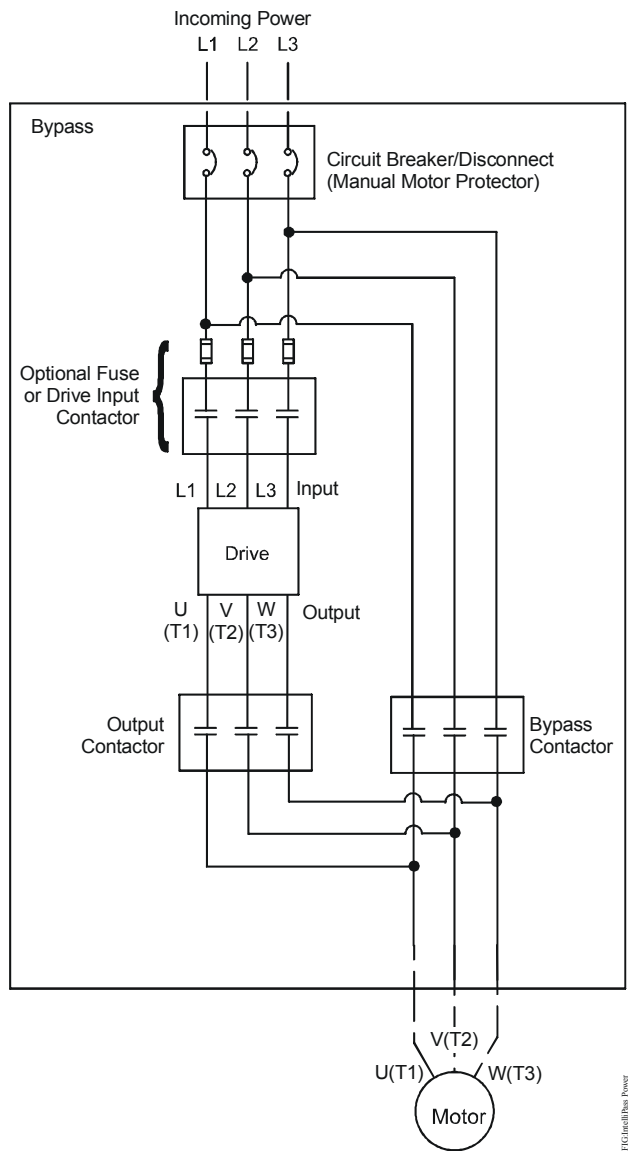


Figure 5: IntelliPass Power and Motor Terminal Wiring Example

IMPORTANT: The VSD Series II Output Terminals U, V, and W correspond to a phase rotation of ABC. If the output terminals L1, L2, and L3 are not wired for ABC, the motor rotation is different when powered from the bypass instead of the VSD Series Drive, which can result in equipment damage. In this situation, the input line wiring must be changed to correspond to ABC rotation.

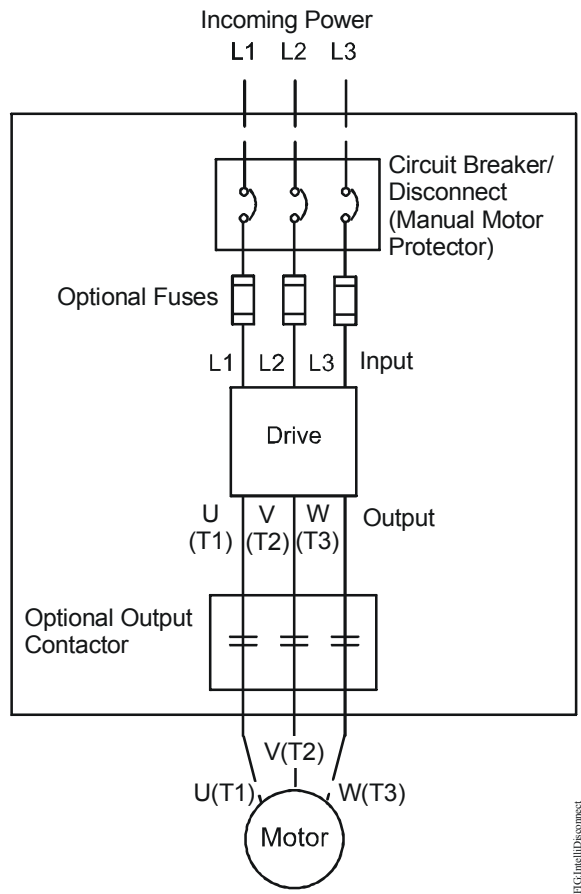


FIG.IntelliDisconnect

Figure 6: IntelliDisconnect Power Wiring

Technical Specifications

VSD Series II Variable Speed Enclosed IntelliPass and IntelliDisconnect Drives (Part 1 of 3)

| | |
|--|--|
| Input Voltage (V_{in}) | 208, 230, 480 VAC, -10%/+10% |
| Input Frequency (f_{in}) | 50/60 Hz (Variation Up to 47-66 Hz) |
| Connection to Power | Once Per Minute or Less (Typical Operation) |
| Current Withstand Rating | 65 kAIC |
| Output Voltage | 0 to V_{in} Line Voltage In |
| Continuous Output Current | Ambient Temperature Maximum 104°F (40°C), Overload 1.1 x I_L (1 min./10 min.) |
| Overload Current | 110% (1 min./10 min.) |
| Initial Output Current | 150% for 2 Seconds |
| Output Frequency | 0 to 320 Hz |
| Frequency Resolution | 0.01 Hz |
| Control Method | Frequency Control (V/f) Open Loop Sensorless Vector Control |
| Switching Frequency | 1 to 310 A adjustable with parameter 2.6.9 Frame 4 to 7: default 6 kHz |
| Frequency Reference | Analog Input: Resolution 0.1% (10 bit), Accuracy +/-1% Panel Reference: Resolution 0.01 Hz |
| Field Weakening Point | 8 to 320 Hz |
| Acceleration Time | 0.1 to 3,000 s |
| Deceleration Time | 0.1 to 3,000 s |
| Braking Torque | DC Brake: 30% x T_n (without Brake Option) |
| Ambient Operating Temperature | 14 (No Frost) to 104°F (-10 to 40°C) |
| Storage Temperature | -40 to 158°F (-40 to 70°C) |
| Relative Humidity | 0 to 95% RH, Noncondensing, Noncorrosive, No Dripping Water |
| Air Quality | Chemical Vapors: IEC 60721-3-3, Unit In Operation, Class 3C2; Mechanical Particles: IEC 60721-3-3, Unit In Operation, Class 3S2 |
| Altitude | 100% Load Capacity (No Derating) Up to 3,280 ft (1,000 m); 1% Derating for Each 328 ft (100 m) Above 3,280 ft (1,000 m); Maximum 9,842 ft (3,000 m), 380 – 480 V |
| Vibration | Frame 4 to 7, EN 61800-5-1, EN 60068-2-6; 5 to 150 Hz, Displacement Amplitude 1 mm (Peak) at 5 to 15.8 Hz, Max. Acceleration Amplitude 1 G at 15.8 to 150 Hz |
| Shock | EN 61800-5-1, EN 60068-2-27 United Parcel Service® (UPS) Drop Test (for Applicable UPS Weights) Storage and Shipping: max. 15 G, 11 ms (in package) |
| Enclosure Class | NEMA Type 1/IP21 or NEMA Type 12/IP54 (keypad required for IP54/Type 12) |
| EMC (at default settings) | Immunity: Fulfills all Electromagnetic Compatibility (EMC) Immunity Requirements; Emissions: EN 61800-3 (2004), LEVEL H (EMC C2) |
| Emissions | EMC Level Dependent: +EMC 2: EN 61800-3 (2004) Category C2, Delivered with Class C2 EMC Filtering as Default |
| Analog Input Voltage | 0 to 10 V, R = 200 kOhms Differential Resolution 0.1%; Accuracy ±1%, Dip Switch Selection (Voltage/Current) |
| Analog Input Current | 0 (4) to 20 mA; R_i - 250 Ohms Differential |

VSD Series II Variable Speed Enclosed IntelliPass and IntelliDisconnect Drives (Part 2 of 3)

| | | |
|---|---|------------------|
| Digital Inputs (6) | Positive or Negative Logic; 18 to 30 VDC | |
| Auxiliary Voltage | 24 V \pm 10%, Maximum 250 mA | |
| Output Reference Voltage | 10 V +3%, Maximum Load 10 mA | |
| Analog Output | 0 to 10 V, 0 (4) to 20 mA; R _L max. 500 Ohms; Resolution 10 bit; Accuracy \pm 2%, Dip Switch Selection (Voltage/Current) | |
| Relay Outputs | 3 Programmable, 2 Form C, 1 Form A Relay Outputs Switching Capacity: 24 VDC/8 A, 250 VAC/8 A, 125 VDC/0.4 A | |
| Hard-Wired Jumper | Between Terminal 6 and 10 (Factory Default) | |
| Dip Switch Setting Default | RS485 = Off A01 = Current A12 = Current A11 = Voltage | |
| Overcurrent Protection | Yes | |
| Overvoltage Protection | Yes | |
| DC Bus Regulation Anti-trip | Yes (Accelerates or Decelerates the Load) | |
| Undervoltage Protection | Yes | |
| Earth Fault Protection | Yes, in case of earth fault in motor or motor cable, only the frequency converter is protected. | |
| Input Phase Supervision | Yes, trips if any of the input phases are missing | |
| Motor Phase Supervision | Yes, trips if any of the output phases are missing | |
| Overtemperature Protection | Yes | |
| Motor Overload Protection | Yes | |
| Motor Stall Protection | Yes | |
| Motor Underload Protection | Yes | |
| Short Circuit Protection | Yes | |
| Surge Protection | Yes (Varistor Input) | |
| Conformed Coated (Varnished) Board | Yes (Prevents Corrosion) | |
| OHSPD Special Seismic Certification Pre-Approval | Yes | |
| Compliance | UL Listed File No 508C; cUL Listed Safety – EN 61800-5-1 (2007) | |
| Warranty | 2 Years Standard Terms; 3 Years with Certified Startup | |
| Reliability | 500,000 Hours Mean Time Between Failures (MTBF) | |
| Weight | FR4 | 45 lb (20.41 kg) |

VSD Series II Variable Speed Enclosed IntelliPass and IntelliDisconnect Drives (Part 3 of 3)

| | | |
|---|-----------------------------------|---|
| | FR5 | 58 lb (26.1 kg) |
| | FR6 | 98 lb (44.45 kg) |
| | FR7 | 165 lb (74.84 kg) |
| | FR8 | IntelliPass Type 12: 950 lb (430.9 kg) |
| | | IntelliPass Type 3R: 1,000 lb (453.6 kg) |
| | | IntelliDisconnect Type 12: 850 lb (385.6 kg) |
| | | IntelliDisconnect Type 3R: 900 lb (408.2 kg) |
| | FR9 | IntelliPass Type 12: 1,275 lb (578.3 kg) |
| | | IntelliPass Type 3R: 1,750 lb (793.8 kg) |
| | | IntelliDisconnect Type 12: 1,175 lb (533 kg) |
| | | IntelliDisconnect Type 3R: 1,650 lb (748.4 kg) |
| | Voltage/Horsepower/Amperes | FR4 |
| 230 V, 1 to 3 hp, 0.75 to 2.2 kW, 4.6 to 9.6 A | | |
| 480 V, 1 to 7.5 hp, 0.75 to 5.5 kW, 2.1 to 11 A | | |
| FR5 | | 208 V, 5 to 10 hp, 4 to 7.5 kW, 16.7 to 30.8 A |
| | | 230 V, 5 to 10 hp, 4 to 7.5 kW, 15.2 to 28 A |
| | | 480 V, 10 to 20 hp, 7.5 to 15 kW, 11 to 21 A |
| FR6 | | 208 V, 15 to 20 hp, 11 to 15 kW, 46.2 to 59.4 A |
| | | 230 V, 15 to 20 hp, 11 to 15 kW, 42 to 54 A |
| | | 480 V, 25 to 40 hp, 18.5 to 30 kW, 34 to 52 A |
| FR7 | | 208 V, 25 to 30 hp, 18.5 to 22 kW, 74.8 to 88 A |
| | | 230 V, 25 to 40 hp, 18.5 to 30 kW, 68 to 104 A |
| | | 480 V, 50 to 75 hp, 37 to 55 kW, 65 to 96 A |
| FR8 | | 208 V, 40 to 60 hp, 30 to 45 kW, 114 to 169 A |
| | | 230 V, 50 to 75 hp, 37 to 55 kW, 130 to 192 A |
| | | 480 V, 100 to 150 hp, 756 to 110 kW, 124 to 180 A |
| FR9 | | 208 V, 75 hp, 55 kW, 211 A |
| | | 230 V, 100 hp, 75 kW, 248 A |
| | | 480 V, 200 hp, 132 kW, 240 A |

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.



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