

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	Contactor, 3-Phase, Full-Voltage, Non-Returning, 7A, Frame B, 1 N.C. Switch, 24 VDC Coil
VS-XTCE009B01TD	Contactor , 3-Phase, Full-Voltage, Non-Returning, 9A, Frame B, 1 N.C. Switch, 24 VDC Coil
VS-XTCE012B01TD	Contactor , 3-Phase, Full-Voltage, Non-Returning, 12A, Frame B, 1 N.C. Switch, 24 VDC Coil
VS-XTCE018C01TD	Contactor , 3-Phase, Full-Voltage, Non-Returning, 18A, Frame B, 1 N.C. Switch, 24 VDC Coil
VS-XTCE025C01TD	Contactor , 3-Phase, Full-Voltage, Non-Returning, 25A, Frame B, 1 N.C. Switch, 24 VDC Coil
VS-XTCE032C01TD	Contactor , 3-Phase, Full-Voltage, Non-Returning, 32A, Frame B, 1 N.C. Switch, 24 VDC Coil
VS-XTCE040D00TD	Contactor , 3-Phase, Full-Voltage, Non-Returning, 40A, Frame B, 24 VDC Coil
VS-XTCE050D00TD	Contactor, 3-Phase, Full-Voltage, Non-Returning, 50A, Frame B, 24 VDC Coil
VS-XTCE065D00TD	Contactor, 3-Phase, Full-Voltage, Non-Returning, 65A, Frame B, 24 VDC Coil
VS-XTCE080F00TD	Contactor, 3-Phase, Full-Voltage, Non-Returning, 80A, Frame F, 24 VDC Coil
VS-XTCE095F00TD	Contactor, 3-Phase, Full-Voltage, Non-Returning, 95A, Frame F, 24 VDC Coil
VS-XTCE115G00TD	Contactor, 3-Phase, Full-Voltage, Non-Returning, 115A, Frame G, 24 VDC Coil
VS-XTCEXFAC11	Contactor Accessory, Front Aux Seq A, Frame B-C
VS-XTCEXFAG11	Contactor Accessory, Front Aux Seq A, Frame D-G
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

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

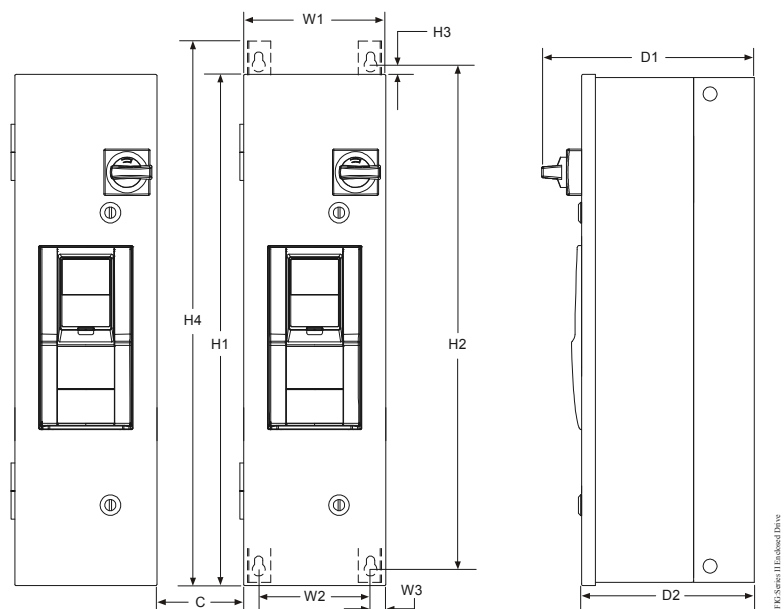


Figure 2: VSD Series II Enclosed IntelliPass and IntelliDisconnect Drive Dimensions (Frame 4 to Frame 8)

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)	—

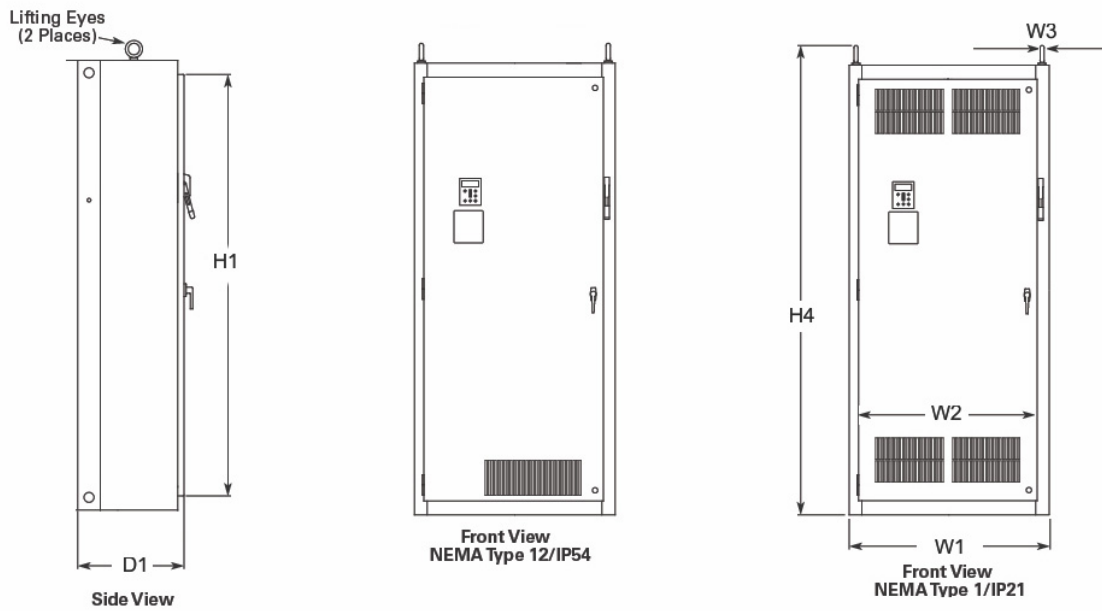


Figure 3: VSD Series II Enclosed IntelliPass and IntelliDisconnect Drive Dimensions (Frame 9)

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

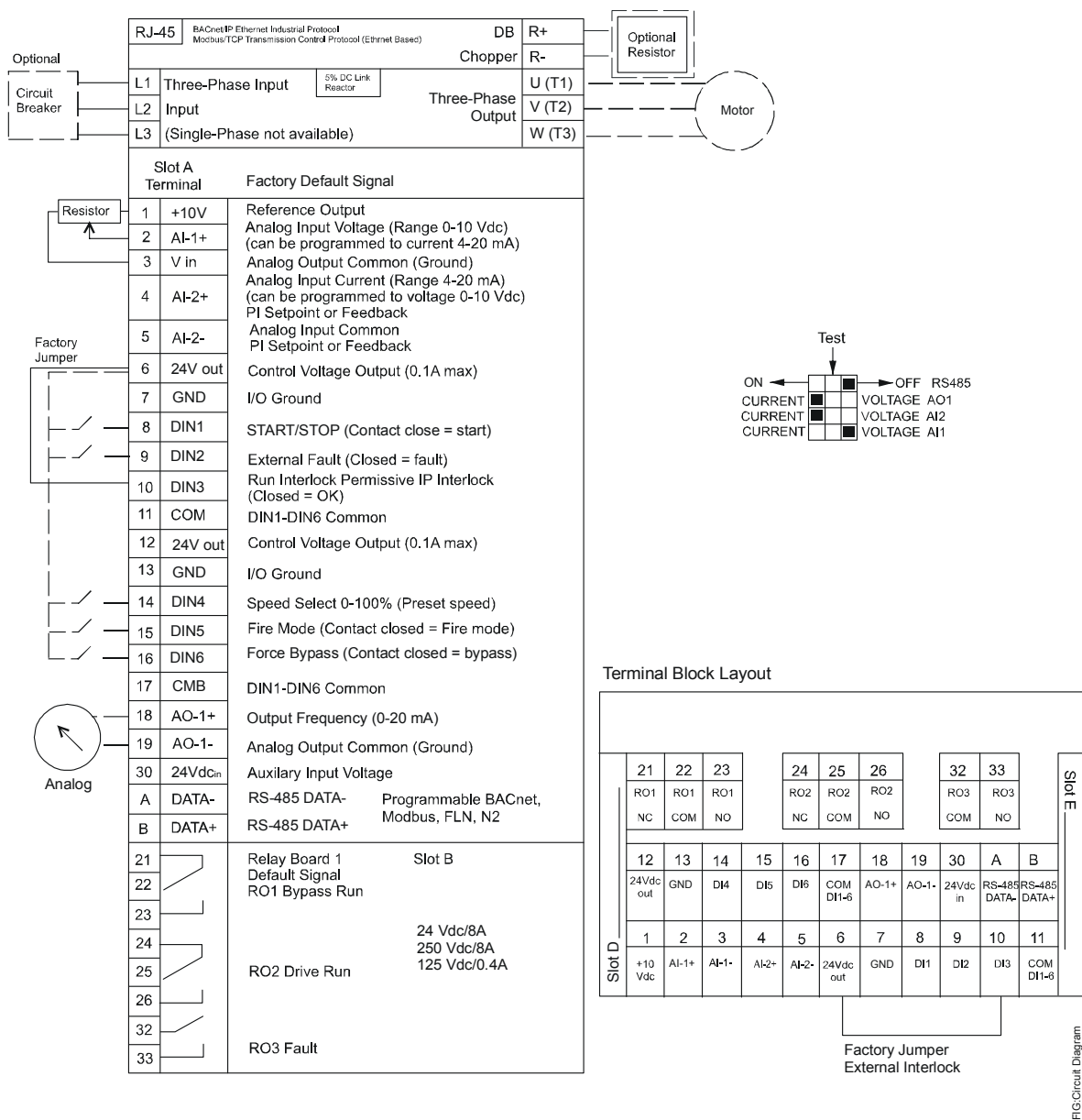


Figure 4: VSD Series II Enclosed Variable Speed IntelliPass and IntelliDisconnect Drives Circuit Diagram

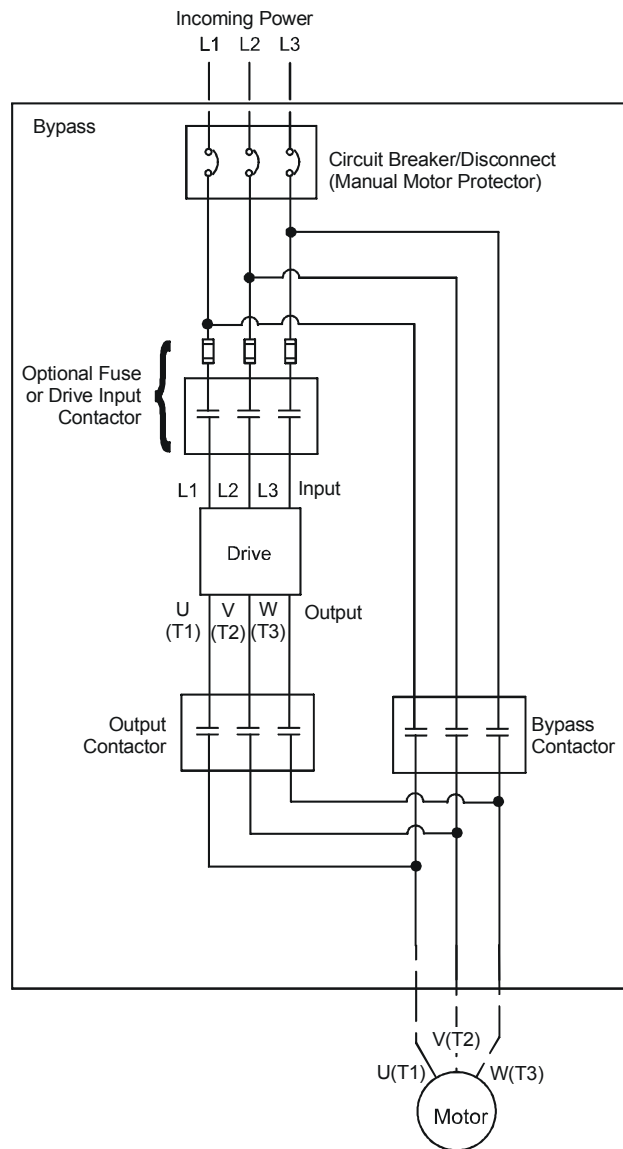


Figure 5: IntelliPass Power and Motor Terminal Wiring Example

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.

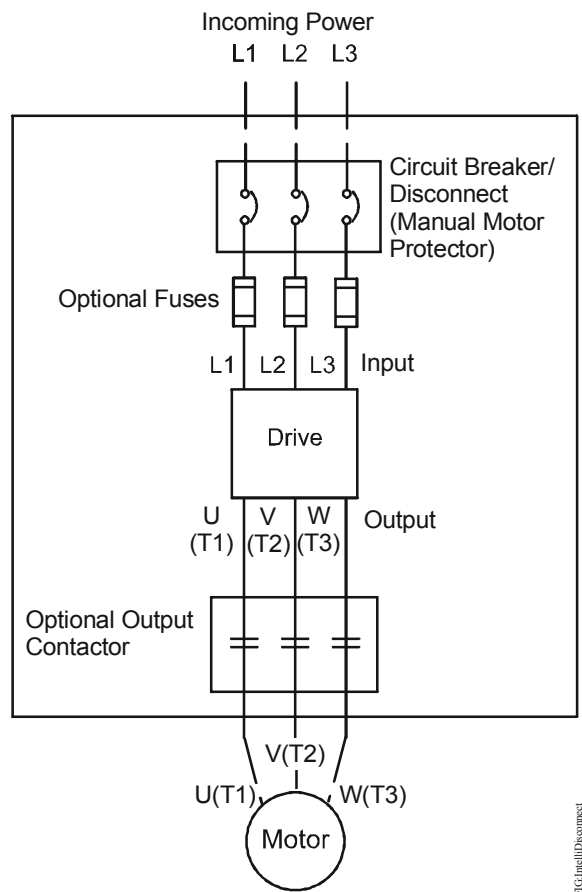


Figure 6: IntelliDisconnect Power Wiring

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	208 V, 1 to 3 hp, 0.75 to 2.2 kW, 4.6 to 10.6 A
		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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