VSD Series Variable Speed IntelliPass/IntelliDisconnect Drives

Product Bulletin

Code No. LIT-1201795
Issued August 6, 2012
Supersedes March 1, 2006

The VSD Series variable speed IntelliPass/IntelliDisconnect drives, powered by Eaton®/Cutler-Hammer® technology, provide a premier intelligent drive integrated with a reliable bypass configuration. The IntelliDisconnect variable speed drive combines a premier quality drive with an integrated circuit breaker disconnect (no bypass). The IntelliPass bypass is a two- or three-contactor design using the Eaton/Cutler-Hammer 24 VDC Series of contactors and power supplies. The features, function, and form allow the drive and bypass to become an integrated design, the world's smallest drive and bypass package. The IntelliPass drives come standard with an Eaton/Cutler-Hammer circuit breaker/disconnect integrated into the drive and bypass design.



Figure 1: VSD Series IntelliPass Drive

Table 1: Features and Benefits

Features	Benefits
True Full Network Connectivity for Both Drive and Bypass N2, XT, SA Bus, LON, and BACnet® Protocol	Allow for compatibility with current and future Johnson Controls® network architecture.
Software Parameters 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.
Hinged Cover and Removable Top and Bottom Conduit Plates	Provide access to cabling and components for ease of installation.
Johnson Controls Support Includes Ordering, Estimating, and Project Management Tools: Advanced Order Management System (AOMS), Advanced Installation Management (AIM) Tools - QUICKLIT, Catalog, PRESTO, and STORE	Allow to easily identify and order products.
Closed-Loop Control Programmed with Engineering Units for Specific HVAC Applications: Duct Static, Building Static, Pressure Control, and Temperature Control	Provide 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.

Johnson Controls

Additional Features

- Run permissive damper control in drive or bypass mode
- Up to six user-defined skip frequencies
- Selectable Analog Input (AI) Min/Max/Averaging feature
- Digital inputs can be defined for normally open (N.O.) or normally closed (N.C.) operation
- Automatic fault display captures 16 drive operating parameters at time of fault
- Solid-state motor overload relay provides motor protection while in bypass
- HAND/OFF/AUTO and DRIVE/ BYPASS selector on keypad simplifies control
- Plenum rated
- Standard 3% line reactors for enhanced transient and harmonic distortion protection
- EMI/RFI Filters standard on all drives
- Standard drive current rating of 100 kAIC, bypass rating of 65 kAIC
- Lockable disconnect in OFF position
- 3rd Contactor drive isolation option
- Input/Output (I/O) and communication cards provide plug-and-play functionality

Catalog Number Selection

Table 2: VSD Series IntelliPass/IntelliDisconnect Drives Selection Chart

Code Number	V	S	0				1	1	A	—					
Base Product	VS = Variable Speed Drive prefix														
Horsepower (VT)[1]			001 = 1.0 hp to 075 = 75 hp[2]												
Voltage							1 = 208 V 2 = 230 V 4 = 480 V								
Enclosure Rating								1 = NEMA TYPE 1							
Enclosure Style									1 = IntelliPass (with 2 or 3 contactor bypass) 4 = IntelliDisconnect (no bypass includes circuit breaker/disconnect)						
Revision #										A = Rev. 1					
Separator (—)															
Communications[3]											0 = None N = N2/XT/SA Bus Communication(N2 by default) B = MS/TP BACnet Communications L = LONWORKS® Network				
Option 1												See Options List.			
Option 2													See Options List.		

1. All horsepower ratings are Variable Torque (VT).
2. 1 to 30 hp at 208/230 V; 1 to 75 hp at 480 V.
3. N2/XT/SA Bus, MS/TP BACnet, or LONWORKS Communications selectable on drive keypad based on installed communication card.

Option List

Table 3: Option List

Option Number	Description
00	None
P6	Third Contactor Drive Isolation



Figure 2: VSD Series IntelliPass Drive

Product Selection

Table 4: VSD Series 208/230 V IntelliPass Drives - Frame 4 (Part 1 of 2)

Code Number	Description[1]	Current (A)[1]
VS001111A-00000	VSD ByPass 1 hp 208 V TYPE 1	4.6
VS001111A-0P600	VSD ByPass 1 hp 208 V TYPE 1, 3rd Contactor	4.6
VS001111A-L0000	VSD ByPass 1 hp 208 V TYPE 1, LON	4.6
VS001111A-LP600	VSD ByPass 1 hp 208 V TYPE 1, LON, 3rd Contactor	4.6
VS001111A-N0000	VSD ByPass 1 hp 208 V TYPE 1, N2/XT/SA Bus	4.6
VS001111A-NP600	VSD ByPass 1 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	4.6
VS001111A-B0000	VSD ByPass 1 hp 208 V, TYPE 1, MS/TP BACnet	4.6
VS001111A-BP600	VSD ByPass 1 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	4.6
VS001211A-0P600	VSD ByPass 1 hp 230 V, TYPE 1, 3rd Contactor	4.2
VS001211A-L0000	VSD ByPass 1 hp 230 V, TYPE 1, LON	4.2
VS001211A-LP600	VSD ByPass 1 hp 230 V, TYPE 1, LON, 3rd Contactor	4.2
VS001211A-N0000	VSD ByPass 1 hp 230 V, TYPE 1, N2/XT/SA Bus	4.2
VS001211A-NP600	VSD ByPass 1 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	4.2
VS001211A-B0000	VSD ByPass 1 hp 230 V, TYPE 1, MS/TP BACnet	4.2
VS001211A-BP600	VSD ByPass 1 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	4.2
VS002111A-00000	VSD ByPass 2 hp 208 V, TYPE 1	7.5
VS002111A-0P600	VSD ByPass 2 hp 208 V, TYPE 1, 3rd Contactor	7.5
VS002111A-L0000	VSD ByPass 2 hp 208 V, TYPE 1, LON	7.5
VS002111A-LP600	VSD ByPass 2 hp 208 V, TYPE 1, LON, 3rd Contactor	7.5
VS002111A-N0000	VSD ByPass 2 hp 208 V, TYPE 1, N2/XT/SA Bus	7.5
VS002111A-NP600	VSD ByPass 2 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	7.5
VS002111A-B0000	VSD ByPass 2 hp 208 V, TYPE 1, MS/TP BACnet	7.5
VS002111A-BP600	VSD ByPass 2 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	7.5
VS002211A-00000	VSD ByPass 2 hp 230 V, TYPE 1	6.8
VS002211A-0P600	VSD ByPass 2 hp 230 V, TYPE 1, 3rd Contactor	6.8
VS002211A-L0000	VSD ByPass 2 hp 230 V, TYPE 1, LON	6.8
VS002211A-LP600	VSD ByPass 2 hp 230 V, TYPE 1, LON, 3rd Contactor	6.8
VS002211A-N0000	VSD ByPass 2 hp 230 V, TYPE 1, N2/XT/SA Bus	6.8
VS002211A-NP600	VSD ByPass 2 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	6.8
VS002211A-B0000	VSD ByPass 2 hp 230 V, TYPE 1, MS/TP BACnet	6.8
VS002211A-BP600	VSD ByPass 2 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	6.8
VS003111A-00000	VSD ByPass 3 hp 208 V, TYPE 1	10.6
VS003111A-0P600	VSD ByPass 3 hp 208 V, TYPE 1, 3rd Contactor	10.6
VS003111A-L0000	VSD ByPass 3 hp 208 V, TYPE 1, LON	10.6
VS003111A-LP600	VSD ByPass 3 hp 208 V, TYPE 1, LON, 3rd Contactor	10.6
VS003111A-N0000	VSD ByPass 3 hp 208 V, TYPE 1, N2/XT/SA Bus	10.6
VS003111A-NP600	VSD ByPass 3 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	10.6
VS003111A-B0000	VSD ByPass 3 hp 208 V, TYPE 1, MS/TP BACnet	10.6
VS003111A-BP600	VSD ByPass 3 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	10.6

Table 4: VSD Series 208/230 V IntelliPass Drives - Frame 4 (Part 2 of 2)

Code Number	Description[1]	Current (A)[1]
VS003211A-00000	VSD ByPass 3 hp 230 V, TYPE 1	9.6
VS003211A-0P600	VSD ByPass 3 hp 230 V, TYPE 1, 3rd Contactor	9.6
VS003211A-L0000	VSD ByPass 3 hp 230 V, TYPE 1, LON	9.6
VS003211A-LP600	VSD ByPass 3 hp 230 V, TYPE 1, LON, 3rd Contactor	9.6
VS003211A-N0000	VSD ByPass 3 hp 230 V, TYPE 1, N2/XT/SA Bus	9.6
VS003211A-NP600	VSD ByPass 3 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	9.6
VS003211A-B0000	VSD ByPass 3 hp 230 V, TYPE 1, MS/TP BACnet	9.6
VS003211A-BP600	VSD ByPass 3 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	9.6

1. All horsepower and current ratings are Variable Torque (VT).

Table 5: VSD Series 208/230 V IntelliPass Drives - Frame 5 (Part 1 of 2)

Code Number	Description	Current (A)[1]
VS005111A-00000	VSD ByPass 5 hp 208 V, TYPE 1	16.7
VS005111A-0P600	VSD ByPass 5 hp 208 V, TYPE 1, 3rd Contactor	16.7
VS005111A-L0000	VSD ByPass 5 hp 208 V, TYPE 1, LON	16.7
VS005111A-LP600	VSD ByPass 5 hp 208 V, TYPE 1, LON, 3rd Contactor	16.7
VS005111A-N0000	VSD ByPass 5 hp 208 V, TYPE 1, N2/XT/SA Bus	16.7
VS005111A-NP600	VSD ByPass 5 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	16.7
VS005111A-B0000	VSD ByPass 5 hp 208 V, TYPE 1, MS/TP BACnet	16.7
VS005111A-BP600	VSD ByPass 5 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	16.7
VS005211A-00000	VSD ByPass 5 hp 230 V, TYPE 1	15.2
VS005211A-0P600	VSD ByPass 5 hp 230 V, TYPE 1, 3rd Contactor	15.2
VS005211A-L0000	VSD ByPass 5 hp 230 V, TYPE 1, LON	15.2
VS005211A-LP600	VSD ByPass 5 hp 230 V, TYPE 1, LON, 3rd Contactor	15.2
VS005211A-N0000	VSD ByPass 5 hp 230 V, TYPE 1, N2/XT/SA Bus	15.2
VS005211A-NP600	VSD ByPass 5 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	15.2
VS005211A-B0000	VSD ByPass 5 hp 230 V, TYPE 1, MS/TP BACnet	15.2
VS005211A-BP600	VSD ByPass 5 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	15.2
VS007111A-00000	VSD ByPass 7-1/2 hp 208 V, TYPE 1	24.2
VS007111A-0P600	VSD ByPass 7-1/2 hp 208 V, TYPE 1, 3rd Contactor	24.2
VS007111A-L0000	VSD ByPass 7-1/2 hp 208 V, TYPE 1, LON	24.2
VS007111A-LP600	VSD ByPass 7-1/2 hp 208 V, TYPE 1, LON, 3rd Contactor	24.2
VS007111A-N0000	VSD ByPass 7-1/2 hp 208 V, TYPE 1, N2/XT/SA Bus	24.2
VS007111A-NP600	VSD ByPass 7-1/2 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	24.2
VS007111A-B0000	VSD ByPass 7-1/2 hp 208 V, TYPE 1, MS/TP BACnet	24.2
VS007111A-BP600	VSD ByPass 7-1/2 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	24.2
VS007211A-00000	VSD ByPass 7-1/2 hp 230 V, TYPE 1	22
VS007211A-0P600	VSD ByPass 7-1/2 hp 230 V, TYPE 1, 3rd Contactor	22
VS007211A-L0000	VSD ByPass 7-1/2 hp 230 V, TYPE 1, LON	22

Table 5: VSD Series 208/230 V IntelliPass Drives - Frame 5 (Part 2 of 2)

Code Number	Description	Current (A)[1]
VS007211A-LP600	VSD ByPass 7-1/2 hp 230 V, TYPE 1, LON, 3rd Contactor	22
VS007211A-N0000	VSD ByPass 7-1/2 hp 230 V, TYPE 1, N2/XT/SA Bus	22
VS007211A-NP600	VSD ByPass 7-1/2 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	22
VS007211A-B0000	VSD ByPass 7-1/2 hp 230 V, TYPE 1, MS/TP BACnet	22
VS007211A-BP600	VSD ByPass 7-1/2 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	22

1. All horsepower and current ratings are Variable Torque (VT).

Table 6: VSD Series 208/230 V IntelliPass Drives - Frame 6 (Part 1 of 2)

Code Number	Description	Current (A)[1]
VS010111A-00000	VSD ByPass 10 hp 208 V, TYPE 1	30.8
VS010111A-0P600	VSD ByPass 10 hp 208 V, TYPE 1, 3rd Contactor	30.8
VS010111A-L0000	VSD ByPass 10 hp 208 V, TYPE 1, LON	30.8
VS010111A-LP600	VSD ByPass 10 hp 208 V, TYPE 1, LON, 3rd Contactor	30.8
VS010111A-N0000	VSD ByPass 10 hp 208 V, TYPE 1, N2/XT/SA Bus	30.8
VS010111A-NP600	VSD ByPass 10 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	30.8
VS010111A-B0000	VSD ByPass 10 hp 208 V, TYPE 1, MS/TP BACnet	30.8
VS010111A-BP600	VSD ByPass 10 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	30.8
VS010211A-00000	VSD ByPass 10 hp 230 V, TYPE 1	28
VS010211A-0P600	VSD ByPass 10 hp 230 V, TYPE 1, 3 Cent	28
VS010211A-L0000	VSD ByPass 10 hp 230 V, TYPE 1, LON	28
VS010211A-LP600	VSD ByPass 10 hp 230 V, TYPE 1, LON, 3rd Contactor	28
VS010211A-N0000	VSD ByPass 10 hp 230 V, TYPE 1, N2/XT/SA Bus	28
VS010211A-NP600	VSD ByPass 10 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	28
VS010211A-B0000	VSD ByPass 10 hp 230 V, TYPE 1, MS/TP BACnet	28
VS010211A-BP600	VSD ByPass 10 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	28
VS015111A-00000	VSD ByPass 15 hp 208 V, TYPE 1	46.2
VS015111A-0P600	VSD ByPass 15 hp 208 V, TYPE 1, 3 Cent	46.2
VS015111A-L0000	VSD ByPass 15 hp 208 V, TYPE 1, LON	46.2
VS015111A-LP600	VSD ByPass 15 hp 208 V, TYPE 1, LON, 3rd Contactor	46.2
VS015111A-N0000	VSD ByPass 15 hp 208 V, TYPE 1, N2/XT/SA Bus	46.2
VS015111A-NP600	VSD ByPass 15 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	46.2
VS015111A-B0000	VSD ByPass 15 hp 208 V, TYPE 1, MS/TP BACnet	46.2
VS015111A-BP600	VSD ByPass 15 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	46.2
VS015211A-00000	VSD ByPass 15 hp 230 V, TYPE 1	42
VS015211A-0P600	VSD ByPass 15 hp 230 V, TYPE 1, 3 Cent	42
VS015211A-L0000	VSD ByPass 15 hp 230 V, TYPE 1, LON	42
VS015211A-LP600	VSD ByPass 15 hp 230 V, TYPE 1, LON, 3rd Contactor	42
VS015211A-N0000	VSD ByPass 15 hp 230 V, TYPE 1, N2/XT/SA Bus	42
VS015211A-NP600	VSD ByPass 15 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	42
VS015211A-B0000	VSD ByPass 15 hp 230 V, TYPE 1, MS/TP BACnet	42

Table 6: VSD Series 208/230 V IntelliPass Drives - Frame 6 (Part 2 of 2)

Code Number	Description	Current (A)[1]
VS015211A-BP600	VSD ByPass 15 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	42
VS020111A-00000	VSD ByPass 20 hp 208 V, TYPE 1	59.4
VS020111A-0P600	VSD ByPass 20 hp 208 V, TYPE 1, 3 Cent	59.4
VS020111A-L0000	VSD ByPass 20 hp 208 V, TYPE 1, LON	59.4
VS020111A-LP600	VSD ByPass 20 hp 208 V, TYPE 1, LON, 3rd Contactor	59.4
VS020111A-N0000	VSD ByPass 20 hp 208 V, TYPE 1, N2/XT/SA Bus	59.4
VS020111A-NP600	VSD ByPass 20 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	59.4
VS020111A-B0000	VSD ByPass 20 hp 208 V, TYPE 1, MS/TP BACnet	59.4
VS020111A-BP600	VSD ByPass 20 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	59.4
VS020211A-00000	VSD ByPass 20 hp 230 V, TYPE 1	54
VS020211A-0P600	VSD ByPass 20 hp 230 V, TYPE 1, 3 Cent	54
VS020211A-L0000	VSD ByPass 20 hp 230 V, TYPE 1, LON	54
VS020211A-LP600	VSD ByPass 20 hp 230 V, TYPE 1, LON, 3rd Contactor	54
VS020211A-N0000	VSD ByPass 20 hp 230 V, TYPE 1, N2/XT/SA Bus	54
VS020211A-NP600	VSD ByPass 20 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	54
VS020211A-B0000	VSD ByPass 20 hp 230 V, TYPE 1, MS/TP BACnet	54
VS020211A-BP600	VSD ByPass 20 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	54

1. All horsepower and current ratings are Variable Torque (VT).

Table 7: VSD Series 208/230 V IntelliPass Drives - Frame 7 (Part 1 of 2)

Code Number	Description	Current (A)[1]
VS025111A-00000	VSD ByPass 25 hp 208 V, TYPE 1	74.8
VS025111A-0P600	VSD ByPass 25 hp 208 V, TYPE 1, 3rd Contactor	74.8
VS025111A-L0000	VSD ByPass 25 hp 208 V, TYPE 1, LON	74.8
VS025111A-LP600	VSD ByPass 25 hp 208 V, TYPE 1, LON, 3rd Contactor	74.8
VS025111A-N0000	VSD ByPass 25 hp 208 V, TYPE 1, N2/XT/SA Bus	74.8
VS025111A-NP600	VSD ByPass 25 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	74.8
VS025111A-B0000	VSD ByPass 25 hp 208 V, TYPE 1, MS/TP BACnet	74.8
VS025111A-BP600	VSD ByPass 25 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	74.8
VS025211A-00000	VSD ByPass 25 hp 230 V, TYPE 1	68
VS025211A-0P600	VSD ByPass 25 hp 230 V, TYPE 1, 3rd Contactor	68
VS025211A-L0000	VSD ByPass 25 hp 230 V, TYPE 1, LON	68
VS025211A-LP600	VSD ByPass 25 hp 230 V, TYPE 1, LON, 3rd Contactor	68
VS025211A-N0000	VSD ByPass 25 hp 230 V, TYPE 1, N2/XT/SA Bus	68
VS025211A-NP600	VSD ByPass 25 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	68
VS025211A-B0000	VSD ByPass 25 hp 230 V, TYPE 1, MS/TP BACnet	68
VS025211A-BP600	VSD ByPass 25 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	68
VS030111A-00000	VSD ByPass 30 hp 208 V, TYPE 1	88
VS030111A-0P600	VSD ByPass 30 hp 208 V, TYPE 1, 3rd Contactor	88
VS030111A-L0000	VSD ByPass 30 hp 208 V, TYPE 1, LON	88

Table 7: VSD Series 208/230 V IntelliPass Drives - Frame 7 (Part 2 of 2)

Code Number	Description	Current (A)[1]
VS030111A-LP600	VSD ByPass 30 hp 208 V, TYPE 1, LON, 3rd Contactor	88
VS030111A-N0000	VSD ByPass 30 hp 208 V, TYPE 1, N2/XT/SA Bus	88
VS030111A-NP600	VSD ByPass 30 hp 208 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	88
VS030111A-B0000	VSD ByPass 30 hp 208 V, TYPE 1, MS/TP BACnet	88
VS030111A-BP600	VSD ByPass 30 hp 208 V, TYPE 1, MS/TP BACnet, 3rd Contactor	88
VS030211A-00000	VSD ByPass 30 hp 230 V, TYPE 1	80
VS030211A-0P600	VSD ByPass 30 hp 230 V, TYPE 1, 3rd Contactor	80
VS030211A-L0000	VSD ByPass 30 hp 230 V, TYPE 1, LON	80
VS030211A-LP600	VSD ByPass 30 hp 230 V, TYPE 1, LON, 3rd Contactor	80
VS030211A-N0000	VSD ByPass 30 hp 230 V, TYPE 1, N2/XT/SA Bus	80
VS030211A-NP600	VSD ByPass 30 hp 230 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	80
VS030211A-B0000	VSD ByPass 30 hp 230 V, TYPE 1, MS/TP BACnet	80
VS030211A-BP600	VSD ByPass 30 hp 230 V, TYPE 1, MS/TP BACnet, 3rd Contactor	80

1. All horsepower and current ratings are Variable Torque (VT).

Table 8: VSD Series 208/230 V IntelliDisconnect Drives - Frame 4

Code Number	Description	Current (A)[1]
VS001114A-00000	VSD with Disconnect 1 hp 208 V, TYPE 1	4.8
VS001114A-N0000	VSD with Disconnect 1 hp 208 V, TYPE 1, N2/XT/SA Bus	4.8
VS001114A-B0000	VSD with Disconnect 1 hp 208 V, TYPE 1, MS/TP BACnet	4.8
VS001214A-00000	VSD with Disconnect 1 hp 230 V, TYPE 1	4.8
VS001214A-N0000	VSD with Disconnect 1 hp 230 V, TYPE 1, N2/XT/SA Bus	4.8
VS001214A-B0000	VSD with Disconnect 1 hp 230 V, TYPE 1, MS/TP BACnet	4.8
VS002114A-00000	VSD with Disconnect 2 hp 208 V, TYPE 1	7.8
VS002114A-N0000	VSD with Disconnect 2 hp 208 V, TYPE 1, N2/XT/SA Bus	7.8
VS002114A-B0000	VSD with Disconnect 2 hp 208 V, TYPE 1, MS/TP BACnet	7.8
VS002214A-00000	VSD with Disconnect 2 hp 230 V, TYPE 1	7.8
VS002214A-N0000	VSD with Disconnect 2 hp 230 V, TYPE 1, N2/XT/SA Bus	7.8
VS002214A-B0000	VSD with Disconnect 2 hp 230 V, TYPE 1, MS/TP BACnet	7.8
VS003114A-00000	VSD with Disconnect 3 hp 208 V, TYPE 1	11
VS003114A-N0000	VSD with Disconnect 3 hp 208 V, TYPE 1, N2/XT/SA Bus	11
VS003114A-B0000	VSD with Disconnect 3 hp 208 V, TYPE 1, MS/TP BACnet	11
VS003214A-00000	VSD with Disconnect 3 hp 230 V, TYPE 1	11
VS003214A-N0000	VSD with Disconnect 3 hp 230 V, TYPE 1, N2/XT/SA Bus	11
VS003214A-B0000	VSD with Disconnect 3 hp 230 V, TYPE 1, MS/TP BACnet	11

1. All horsepower and current ratings are Variable Torque (VT).

Table 9: VSD Series 208/230 V IntelliDisconnect Drives - Frame 5

Code Number	Description	Current (A)[1]
VS005114A-00000	VSD with Disconnect 5 hp 208 V, TYPE 1	17.5
VS005114A-N0000	VSD with Disconnect 5 hp 208 V, TYPE 1, N2/XT/SA Bus	17.5
VS005114A-B0000	VSD with Disconnect 5 hp 208 V, TYPE 1, MS/TP BACnet	17.5
VS005214A-00000	VSD with Disconnect 5 hp 230 V, TYPE 1	17.5
VS005214A-N0000	VSD with Disconnect 5 hp 230 V, TYPE 1, N2/XT/SA Bus	17.5
VS005214A-B0000	VSD with Disconnect 5 hp 230 V, TYPE 1, MS/TP BACnet	17.5
VS007114A-00000	VSD with Disconnect 7-1/2 hp 208 V, TYPE 1	25
VS007114A-N0000	VSD with Disconnect 7-1/2 hp 208 V, TYPE 1, N2/XT/SA Bus	25
VS007114A-B0000	VSD with Disconnect 7-1/2 hp 208 V, TYPE 1, MS/TP BACnet	25
VS007214A-00000	VSD with Disconnect 7-1/2 hp 230 V, TYPE 1	25
VS007214A-N0000	VSD with Disconnect 7-1/2 hp 230 V, TYPE 1, N2/XT/SA Bus	25
VS007214A-B0000	VSD with Disconnect 7-1/2 hp 230 V, TYPE 1, MS/TP BACnet	25
VS0101114A-00000	VSD with Disconnect 10 hp 208 V, TYPE 1	31
VS010114A-N0000	VSD with Disconnect 10 hp 208 V, TYPE 1, N2/XT/SA Bus	31
VS010114A-B0000	VSD with Disconnect 10 hp 208 V, TYPE 1, MS/TP BACnet	31
VS010214A-00000	VSD with Disconnect 10 hp 230 V, TYPE 1	31
VS010214A-N0000	VSD with Disconnect 10 hp 230 V, TYPE 1, N2/XT/SA Bus	31
VS010214A-B0000	VSD with Disconnect 10 hp 230 V, TYPE 1, MS/TP BACnet	31

1. All horsepower and current ratings are Variable Torque (VT).

Table 10: VSD Series 208/230 V IntelliDisconnect Drives - Frame 6

Code Number	Description	Current (A)[1]
VS015114A-00000	VSD with Disconnect 15 hp 208 V, TYPE 1	48
VS015114A-N0000	VSD with Disconnect 15 hp 208 V, TYPE 1, N2/XT/SA Bus	48
VS015114A-B0000	VSD with Disconnect 15 hp 208 V, TYPE 1, MS/TP BACnet	48
VS015214A-00000	VSD with Disconnect 15 hp 230 V, TYPE 1	48
VS015214A-N0000	VSD with Disconnect 15 hp 230 V, TYPE 1, N2/XT/SA Bus	48
VS015214A-B0000	VSD with Disconnect 15 hp 230 V, TYPE 1, MS/TP BACnet	48
VS020114A-00000	VSD with Disconnect 20 hp 208 V, TYPE 1	61
VS020114A-N0000	VSD with Disconnect 20 hp 208 V, TYPE 1, N2/XT/SA Bus	61
VS020114A-B0000	VSD with Disconnect 20 hp 208 V, TYPE 1, MS/TP BACnet	61
VS020214A-00000	VSD with Disconnect 20 hp 230 V, TYPE 1	61
VS020214A-N0000	VSD with Disconnect 20 hp 230 V, TYPE 1, N2/XT/SA Bus	61
VS020214A-B0000	VSD with Disconnect 20 hp 230 V, TYPE 1, MS/TP BACnet	61

1. All horsepower and current ratings are Variable Torque (VT).

Table 11: VSD Series 208/230 V IntelliDisconnect Drives - Frame 7

Code Number	Description	Current (A)[1]
VS025114A-00000	VSD with Disconnect 25 hp 208 V, TYPE 1	75
VS025114A-N0000	VSD with Disconnect 25 hp 208 V, TYPE 1, N2/XT/SA Bus	75
VS025114A-B0000	VSD with Disconnect 25 hp 208 V, TYPE 1, MS/TP BACnet	75
VS025214A-00000	VSD with Disconnect 25 hp 230 V, TYPE 1	75
VS025214A-N0000	VSD with Disconnect 25 hp 230 V, TYPE 1, N2/XT/SA Bus	75
VS025214A-B0000	VSD with Disconnect 25 hp 230 V, TYPE 1, MS/TP BACnet	75
VS030114A-00000	VSD with Disconnect 30 hp 208 V, TYPE 1	88
VS030114A-N0000	VSD with Disconnect 30 hp 208 V, TYPE 1, N2/XT/SA Bus	88
VS030114A-B0000	VSD with Disconnect 30 hp 208 V, TYPE 1, MS/TP BACnet	88
VS030214A-00000	VSD with Disconnect 30 hp 230 V, TYPE 1	88
VS030214A-N0000	VSD with Disconnect 30 hp 230 V, TYPE 1, N2/XT/SA Bus	88
VS030214A-B0000	VSD with Disconnect 30 hp 230 V, TYPE 1, MS/TP BACnet	88

1. All horsepower and current ratings are Variable Torque (VT).

Table 12: VSD Series 480 V IntelliPass Drives - Frame 4 (Part 1 of 2)

Code Number	Description	Current (A)[1]
VS014111A-00000	VSD ByPass 1 hp 480 V, TYPE 1	3
VS014111A-0P600	VSD ByPass 1 hp 480 V, TYPE 1, 3rd Contactor	3
VS014111A-L0000	VSD ByPass 1 hp 480 V, TYPE 1, LON	3
VS014111A-LP600	VSD ByPass 1 hp 480 V, TYPE 1, LON, 3rd Contactor	3
VS014111A-N0000	VSD ByPass 1 hp 480 V, TYPE 1, N2/XT/SA Bus	3
VS014111A-NP600	VSD ByPass 1 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	3
VS014111A-B0000	VSD ByPass 1 hp 480 V, TYPE 1, MS/TP BACnet	3
VS014111A-BP600	VSD ByPass 1 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	3
VS002411A-00000	VSD ByPass 2 hp 480 V, TYPE 1	3.5
VS002411A-0P600	VSD ByPass 2 hp 480 V, TYPE 1, 3 Cent	3.5
VS002411A-L0000	VSD ByPass 2 hp 480 V, TYPE 1, LON	3.5
VS002411A-LP600	VSD ByPass 2 hp 480 V, TYPE 1, LON, 3rd Contactor	3.5
VS002411A-N0000	VSD ByPass 2 hp 480 V, TYPE 1, N2/XT/SA Bus	3.5
VS002411A-NP600	VSD ByPass 2 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	3.5
VS002411A-B0000	VSD ByPass 2 hp 480 V, TYPE 1, MS/TP BACnet	3.5
VS002411A-BP600	VSD ByPass 2 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	3.5
VS003411A-00000	VSD ByPass 3 hp 480 V, TYPE 1	5
VS003411A-0P600	VSD ByPass 3 hp 480 V, TYPE 1, 3 Cent	5
VS003411A-L0000	VSD ByPass 3 hp 480 V, TYPE 1, LON	5
VS003411A-LP600	VSD ByPass 3 hp 480 V, TYPE 1, LON, 3rd Contactor	5
VS003411A-N0000	VSD ByPass 3 hp 480 V, TYPE 1, N2/XT/SA Bus	5
VS003411A-NP600	VSD ByPass 3 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	5
VS003411A-B0000	VSD ByPass 3 hp 480 V, TYPE 1, MS/TP BACnet	5
VS003411A-BP600	VSD ByPass 3 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	5

Table 12: VSD Series 480 V IntelliPass Drives - Frame 4 (Part 2 of 2)

Code Number	Description	Current (A)[1]
VS005411A-00000	VSD ByPass 5 hp 480 V, TYPE 1	8
VS005411A-0P600	VSD ByPass 5 hp 480 V, TYPE 1, 3 Cent	8
VS005411A-L0000	VSD ByPass 5 hp 480 V, TYPE 1, LON	8
VS005411A-LP600	VSD ByPass 5 hp 480 V, TYPE 1, LON, 3rd Contactor	8
VS005411A-N0000	VSD ByPass 5 hp 480 V, TYPE 1, N2/XT/SA Bus	8
VS005411A-NP600	VSD ByPass 5 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	8
VS005411A-B0000	VSD ByPass 5 hp 480 V, TYPE 1, MS/TP BACnet	8
VS005411A-BP600	VSD ByPass 5 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	8
VS007411A-00000	VSD ByPass 7-1/2 hp 480 V, TYPE 1	11
VS007411A-0P600	VSD ByPass 7-1/2 hp 480 V, TYPE 1, 3 Cent	11
VS007411A-L0000	VSD ByPass 7-1/2 hp 480 V, TYPE 1, LON	11
VS007411A-LP600	VSD ByPass 7-1/2 hp 480 V, TYPE 1, LON, 3rd Contactor	11
VS007411A-N0000	VSD ByPass 7-1/2 hp 480 V, TYPE 1, N2/XT/SA Bus	11
VS007411A-NP600	VSD ByPass 7-1/2 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	11
VS007411A-B0000	VSD ByPass 7-1/2 hp 480 V, TYPE 1, MS/TP BACnet	11
VS007411A-BP600	VSD ByPass 7-1/2 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	11

1. All horsepower and current ratings are Variable Torque (VT).

Table 13: VSD Series 480 V IntelliPass Drives - Frame 5 (Part 1 of 2)

Code Number	Description	Current (A)[1]
VS010411A-00000	VSD ByPass 10 hp 480 V, TYPE 1	15
VS010411A-0P600	VSD ByPass 10 hp 480 V, TYPE 1, 3rd Contactor	15
VS010411A-L0000	VSD ByPass 10 hp 480 V, TYPE 1, LON	15
VS010411A-LP600	VSD ByPass 10 hp 480 V, TYPE 1, LON, 3rd Contactor	15
VS010411A-N0000	VSD ByPass 10 hp 480 V, TYPE 1, N2/XT/SA Bus	15
VS010411A-NP600	VSD ByPass 10 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	15
VS010411A-B0000	VSD ByPass 10 hp 480 V, TYPE 1, MS/TP BACnet	15
VS010411A-BP600	VSD ByPass 10 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	15
VS015411A-00000	VSD ByPass 15 hp 480 V, TYPE 1	21
VS015411A-0P600	VSD ByPass 15 hp 480 V, TYPE 1, 3 Cent	21
VS015411A-L0000	VSD ByPass 15 hp 480 V, TYPE 1, LON	21
VS015411A-LP600	VSD ByPass 15 hp 480 V, TYPE 1, LON, 3rd Contactor	21
VS015411A-N0000	VSD ByPass 15 hp 480 V, TYPE 1, N2/XT/SA Bus	21
VS015411A-NP600	VSD ByPass 15 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	21
VS015411A-B0000	VSD ByPass 15 hp 480 V, TYPE 1, MS/TP BACnet	21
VS015411A-BP600	VSD ByPass 15 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	21
VS020411A-00000	VSD ByPass 20 hp 480 V, TYPE 1	27
VS020411A-0P600	VSD ByPass 20 hp 480 V, TYPE 1, 3 Cent	27
VS020411A-L0000	VSD ByPass 20 hp 480 V, TYPE 1, LON	27

Table 13: VSD Series 480 V IntelliPass Drives - Frame 5 (Part 2 of 2)

Code Number	Description	Current (A)[1]
VS020411A-LP600	VSD ByPass 20 hp 480 V, TYPE 1, LON, 3rd Contactor	27
VS020411A-N0000	VSD ByPass 20 hp 480 V, TYPE 1, N2/XT/SA Bus	27
VS020411A-NP600	VSD ByPass 20 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	27
VS020411A-B0000	VSD ByPass 20 hp 480 V, TYPE 1, MS/TP BACnet	27
VS020411A-BP600	VSD ByPass 20 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	27

1. All horsepower and current ratings are Variable Torque (VT).

Table 14: VSD Series 480 V IntelliPass Drives - Frame 6

Code Number	Description	Current (A)[1]
VS025411A-00000	VSD ByPass 25 hp 480 V, TYPE 1	34
VS025411A-0P600	VSD ByPass 25 hp 480 V, TYPE 1, 3rd Contactor	34
VS025411A-L0000	VSD ByPass 25 hp 480 V, TYPE 1, LON	34
VS025411A-LP600	VSD ByPass 25 hp 480 V, TYPE 1, LON, 3rd Contactor	34
VS025411A-N0000	VSD ByPass 25 hp 480 V, TYPE 1, N2/XT/SA Bus	34
VS025411A-NP600	VSD ByPass 25 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	34
VS025411A-B0000	VSD ByPass 25 hp 480 V, TYPE 1, MS/TP BACnet	34
VS025411A-BP600	VSD ByPass 25 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	34
VS030411A-00000	VSD ByPass 30 hp 480 V, TYPE 1	40
VS030411A-0P600	VSD ByPass 30 hp 480 V, TYPE 1, 3 Cent	40
VS030411A-L0000	VSD ByPass 30 hp 480 V, TYPE 1, LON	40
VS030411A-LP600	VSD ByPass 30 hp 480 V, TYPE 1, LON, 3rd Contactor	40
VS030411A-N0000	VSD ByPass 30 hp 480 V, TYPE 1, N2/XT/SA Bus	40
VS030411A-NP600	VSD ByPass 30 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	40
VS030411A-B0000	VSD ByPass 30 hp 480 V, TYPE 1, MS/TP BACnet	40
VS030411A-BP600	VSD ByPass 30 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	40
VS040411A-00000	VSD ByPass 40 hp 480 V, TYPE 1	52
VS040411A-0P600	VSD ByPass 40 hp 480 V, TYPE 1, 3 Cent	52
VS040411A-L0000	VSD ByPass 40 hp 480 V, TYPE 1, LON	52
VS040411A-LP600	VSD ByPass 40 hp 480 V, TYPE 1, LON, 3rd Contactor	52
VS040411A-N0000	VSD ByPass 40 hp 480 V, TYPE 1, N2/XT/SA Bus	52
VS040411A-NP600	VSD ByPass 40 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	52
VS040411A-B0000	VSD ByPass 40 hp 480 V, TYPE 1, MS/TP BACnet	52
VS040411A-BP600	VSD ByPass 40 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	52

1. All horsepower and current ratings are Variable Torque (VT).

Table 15: VSD Series 480 V IntelliPass Drives - Frame 7

Code Number	Description	Current (A)[1]
VS050411A-00000	VSD ByPass 50 hp 480 V, TYPE 1	65
VS050411A-0P600	VSD ByPass 50 hp 480 V, TYPE 1, 3rd Contactor	65
VS050411A-L0000	VSD ByPass 50 hp 480 V, TYPE 1, LON	65
VS050411A-LP600	VSD ByPass 50 hp 480 V, TYPE 1, LON, 3rd Contactor	65
VS050411A-N0000	VSD ByPass 50 hp 480 V, TYPE 1, N2/XT/SA Bus	65
VS050411A-NP600	VSD ByPass 50 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	65
VS050411A-B0000	VSD ByPass 50 hp 480 V, TYPE 1, MS/TP BACnet	65
VS050411A-BP600	VSD ByPass 50 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	65
VS060411A-00000	VSD ByPass 60 hp 480 V, TYPE 1	77
VS060411A-0P600	VSD ByPass 60 hp 480 V, TYPE 1, 3 Cent	77
VS060411A-L0000	VSD ByPass 60 hp 480 V, TYPE 1, LON	77
VS060411A-LP600	VSD ByPass 60 hp 480 V, TYPE 1, LON, 3rd Contactor	77
VS060411A-N0000	VSD ByPass 60 hp 480 V, TYPE 1, N2/XT/SA Bus	77
VS060411A-NP600	VSD ByPass 60 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	77
VS060411A-B0000	VSD ByPass 60 hp 480 V, TYPE 1, MS/TP BACnet	77
VS060411A-BP600	VSD ByPass 60 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	77
VS075411A-00000	VSD ByPass 75 hp 480 V, TYPE 1	96
VS075411A-0P600	VSD ByPass 75 hp 480 V, TYPE 1, 3 Cent	96
VS075411A-L0000	VSD ByPass 75 hp 480 V, TYPE 1, LON	96
VS075411A-LP600	VSD ByPass 75 hp 480 V, TYPE 1, LON, 3rd Contactor	96
VS075411A-N0000	VSD ByPass 75 hp 480 V, TYPE 1, N2/XT/SA Bus	96
VS075411A-NP600	VSD ByPass 75 hp 480 V, TYPE 1, N2/XT/SA Bus, 3rd Contactor	96
VS075411A-B0000	VSD ByPass 75 hp 480 V, TYPE 1, MS/TP BACnet	96
VS075411A-BP600	VSD ByPass 75 hp 480 V, TYPE 1, MS/TP BACnet, 3rd Contactor	96

1. All horsepower and current ratings are Variable Torque (VT).

Table 16: VSD Series 480 V IntelliDisconnect Drives - Frame 4 (Part 1 of 2)

Code Number	Description	Current (A)[1]
VS001414A-00000	VSD with Disconnect 1 hp 480 V, TYPE 1	3.3
VS001414A-N0000	VSD with Disconnect 1 hp 480 V, TYPE 1, N2/XT/SA Bus	3.3
VS001411A-B0000	VSD with Disconnect 1hp 480 V, TYPE 1, MS/TP BACnet	3.3
VS002414A-00000	VSD with Disconnect 2 hp 480 V, TYPE 1	4.3
VS002414A-N0000	VSD with Disconnect 2 hp 480 V, TYPE 1, N2/XT/SA Bus	4.3
VS002411A-B0000	VSD with Disconnect 2 hp 480 V, TYPE 1, MS/TP BACnet	4.3
VS003414A-00000	VSD with Disconnect 3 hp 480 V, TYPE 1	5.6
VS003414A-N0000	VSD with Disconnect 3 hp 480 V, TYPE 1, N2/XT/SA Bus	5.6
VS003411A-B0000	VSD with Disconnect 3 hp 480 V, TYPE 1, MS/TP BACnet	5.6
VS005414A-00000	VSD with Disconnect 5 hp 480 V, TYPE 1	7.6

Table 16: VSD Series 480 V IntelliDisconnect Drives - Frame 4 (Part 2 of 2)

Code Number	Description	Current (A)[1]
VS005414A-N0000	VSD with Disconnect 5 hp 480 V, TYPE 1, N2/XT/SA Bus	7.6
VS005411A-B0000	VSD with Disconnect 5 hp 480 V, TYPE 1, MS/TP BACnet	7.6
VS007414A-00000	VSD with Disconnect 7-1/2 hp 480 V, TYPE 1	12
VS007414A-N0000	VSD with Disconnect 7-1/2 hp 480 V, TYPE 1, N2/XT/SA Bus	12
VS007411A-B0000	VSD with Disconnect 7-1/2 hp 480 V, TYPE 1, MS/TP BACnet	12

1. All horsepower and current ratings are Variable Torque (VT).

Table 17: VSD Series 480 V IntelliDisconnect Drives - Frame 5

Code Number	Description	Current (A)[1]
VS010414A-00000	VSD with Disconnect 10 hp 480 V, TYPE 1	16
VS010414A-N0000	VSD with Disconnect 10 hp 480 V, TYPE 1, N2/XT/SA Bus	16
VS010411A-B0000	VSD with Disconnect 10 hp 480 V, TYPE 1, MS/TP BACnet	16
VS015414A-00000	VSD with Disconnect 15 hp 480 V, TYPE 1	23
VS015414A-N0000	VSD with Disconnect 15 hp 480 V, TYPE 1, N2/XT/SA Bus	23
VS015411A-B0000	VSD with Disconnect 15 hp 480 V, TYPE 1, MS/TP BACnet	23
VS020414A-00000	VSD with Disconnect 20 hp 480 V, TYPE 1	31
VS020414A-N0000	VSD with Disconnect 20 hp 480 V, TYPE 1, N2/XT/SA Bus	31
VS020411A-B0000	VSD with Disconnect 20 hp 480 V, TYPE 1, MS/TP BACnet	31

1. All horsepower and current ratings are Variable Torque (VT).

Table 18: VSD Series 480 V IntelliDisconnect Drives - Frame 6

Code Number	Description	Current (A)[1]
VS025414A-00000	VSD with Disconnect 25 hp 480 V, TYPE 1	38
VS025414A-N0000	VSD with Disconnect 25 hp 480 V, TYPE 1, N2/XT/SA Bus	38
VS025411A-B0000	VSD with Disconnect 25 hp 480 V, TYPE 1, MS/TP BACnet	38
VS030414A-00000	VSD with Disconnect 30 hp 480 V, TYPE 1	46
VS030414A-N0000	VSD with Disconnect 30 hp 480 V, TYPE 1, N2/XT/SA Bus	46
VS030411A-B0000	VSD with Disconnect 30 hp 480 V, TYPE 1, MS/TP BACnet	46
VS040414A-00000	VSD with Disconnect 40 hp 480 V, TYPE 1	61
VS040414A-N0000	VSD with Disconnect 40 hp 480 V, TYPE 1, N2/XT/SA Bus	61
VS040411A-B0000	VSD with Disconnect 40 hp 480 V, TYPE 1, MS/TP BACnet	61

1. All horsepower and current ratings are Variable Torque (VT).

Table 19: VSD Series 480 V IntelliDisconnect Drives - Frame 7 (Part 1 of 2)

Code Number	Description	Current (A)[1]
VS050414A-00000	VSD with Disconnect 50 hp 480 V, TYPE 1	72
VS050414A-N0000	VSD with Disconnect 50 hp 480 V, TYPE 1, N2/XT/SA Bus	72
VS050411A-B0000	VSD with Disconnect 50 hp 480 V, TYPE 1, MS/TP BACnet	72
VS060414A-00000	VSD with Disconnect 60 hp 480 V, TYPE 1	87

Table 19: VSD Series 480 V IntelliDisconnect Drives - Frame 7 (Part 2 of 2)

Code Number	Description	Current (A)[1]
VS060414A-N0000	VSD with Disconnect 60 hp 480 V, TYPE 1, N2/XT/SA Bus	87
VS060411A-B0000	VSD with Disconnect 60 hp 480 V, TYPE 1, MS/TP BACnet	87
VS075414A-00000	VSD with Disconnect 75 hp 480 V, TYPE 1	105
VS075414A-N0000	VSD with Disconnect 75 hp 480 V, TYPE 1, N2/XT/SA Bus	105
VS075411A-B0000	VSD with Disconnect 75 hp 480 V, TYPE 1, MS/TP BACnet	105

1. All horsepower and current ratings are Variable Torque (VT).

VSD Series Spare Parts

Table 20: VSD Series Spare Parts (Part 1 of 4)

Code Number	Description
VS-OPTA2	I/O Card, 2 Relay
VS-OPTA9	I/O Card, 6DI 1DO, 2AI, 1AO
VS-OPTB4	I/O Card, 1DI, 2AO
VS-OPTB5	I/O Card, 3 Relay
VS-OPTNX	N2/XT/SA Bus Comm Card
VS-OPTC4	LONWORKS Comm Card
VS-OPTCJ	MS/TP BACnet Comm Card
VS-OPTD3	RS-232 Comm Card
VS-KEYPAD	Hand/Off/Auto Keypad
VS-AUX24V	24 V Aux Power Supply
VS-DEMO	VS Drive Demo[1]
VS-RMTKEYPAD	Remote Keypad Kit
VS-DRIVECABLE	RS-232 Download Cable (6 ft)
VS-KEYPADCABLE	RS-232 Remote Keypad Cable (6 ft)
VS-RIBBONCABLE	IntelliPass Ribbon Cable
VS-TRAINING	3-Day Start-Up Training
VS-PP01060	Fan Assembly FR4
VS-PP01061	Fan Assembly FR5/6
VS-PP01062	Fan Assembly FR6
VS-PP01063	Fan Assembly FR7
VS-PP01123	Fan Assembly FR8
VS-PP01080	Fan Assembly FR9, 10
VS-PP09051	Fan Transformer for PP01080
VS-VB00308	Power Board 1 - 1-1/2 to 2 hp, 230 V
VS-VB00310	Power Board 3 hp, 230 V
VS-VB00313	Power Board 5, 7-1/2, 10 hp, 230 V

Table 20: VSD Series Spare Parts (Part 2 of 4)

Code Number	Description
VS-VB00316	Power Board 15, 20 hp, 230 V
VS-VB00319	Power Board 25, 30, 40 hp, 230 V
VS-PP01000	Electrolytic Capacitors 5 to 15 hp, 230 to 480 V
VS-PP01001	Electrolytic Capacitors 5 to 7-1/2 hp, 230 to 480 V
VS-PP01002	Electrolytic Capacitors 5 to 15 hp, 230 to 480 V
VS-PP01003	Electrolytic Capacitors 10 to 20 hp, 230 to 480 V
VS-PP01004	Electrolytic Capacitors 15 to 40 hp, 230 to 480 V
VS-PP01005	Electrolytic Capacitors 25 to 250 hp, 230 to 480 V
VS-CP01304	IGBT Module 1 to 3 hp, 230 to 480 V
VS-CP01305	IGBT Module 2 to 5 hp, 230 to 480 V
VS-CP01306	IGBT Module 3 to 10 hp, 230 to 480 V
VS-CP01307	IGBT Module 7-1/2 to 15 hp, 230 to 480 V
VS-CP01308	IGBT Module 10 to 20 hp, 230 to 480 V
VS-PP01022	IGBT Module 15 to 30 hp, 230 to 480 V
VS-PP01023	IGBT Module 20 to 40 hp, 230 to 480 V
VS-PP01024	IGBT Module 25 to 50 hp, 230 to 480 V
VS-PP01025	IGBT Module 30 to 60 hp, 230 to 480 V
VS-PP01029	IGBT Module 40 to 75 hp, 230 to 480 V
VS-VB00242	Rectifying Board 25 to 75 hp, 230 to 480 V

Table 20: VSD Series Spare Parts (Part 3 of 4)

Code Number	Description
VS-CP01367	Chopper/Rectifier 15 to 30 hp, 230 to 480 V
VS-CP01368	Chopper/Rectifier 20 to 40 hp, 230 to 480 V
VS-PP01035	Diode/Thyristor Module 25 to 75 hp, 230 to 480 V
VS-VB00252	Control Board Assembly 230 V, 480 V, 575 V[2]
VS-VB00205	Power Board 1-1/2 hp, 480 V
VS-VB00206	Power Board 2 hp, 480 V
VS-VB00207	Power Board 3 hp, 480 V
VS-VB00208	Power Board 5 hp, 480 V
VS-VB00210	Power Board 7-1/2 hp, 480 V
VS-VB00211	Power Board 10 hp, 480 V
VS-VB00212	Power Board 15 hp, 480 V
VS-VB00213	Power Board 20 hp, 480 V
VS-VB00214	Power Board 25 hp, 480 V
VS-VB00215	Power Board 30 hp, 480 V
VS-VB00216	Power Board 40 hp, 480 V
VS-VB00217	Power Board 50 hp, 480 V
VS-VB00218	Power Board 60 hp, 480 V
VS-VB00219	Power Board 75 hp, 480 V
VS-VB00220	Power Board 100 hp, 480 V
VS-VB00221	Power Board 125 hp, 480 V
VS-VB00236	Power Board 150 hp, 480 V
VS-PP01020	IGBT Module 25 hp, 480 V
VS-PP01026	IGBT Module 100 hp, 480 V
VS-PP01027	IGBT Module 125 to 150 hp, 480 V
VS-VB00227	Rectifying Board 100 to 150 hp, 480 V
VS-VB00459	Rectifying Board 200 to 250 hp, 480 V
VS-CP01268	Diode/Thyristor Module 100 to 150 hp, 480 V
VS-PP01037	Diode/Thyristor Module 200 to 250 hp, 480 V
VS-FR09810	Rectifying Module 200 to 250 hp, 480 V
VS-FR09800	Power Module 200 hp, 480 V
VS-FR09801	Power Module 250 hp, 480 V

Table 20: VSD Series Spare Parts (Part 4 of 4)

Code Number	Description
VS-VB00404	Power Board 3 to 30 hp, 575 V
VS-VB00419	Power Board 40 to 50 hp, 575 V
VS-VB00422	Power Board 60, 75, 100 hp, 575 V
VS-VB00425	Power Board 125 to 200 hp, 575 V
VS-PP01093	Electrolytic Capacitors 3 to 30 hp, 575 V
VS-PP01041	Electrolytic Capacitors 40 to 200 hp, 575 V
VS-PP01140	Electrolytic Capacitors 100 hp, 575 V
VS-PP01091	IGBT Module 3 to 30 hp, 575 V
VS-PP01089	IGBT Module 40 to 50 hp, 575 V
VS-PP01127	IGBT Module 60, 75, 100 hp, 575 V
VS-VB00442	Rectifying Board 40 to 50 hp, 575 V
VS-VB00427	Rectifying Board 60, 75, 100 hp, 575 V
VS-VB00460	Rectifying Board 125 to 200 hp, 575 V
VS-PP01092	Diode Module 3 to 30 hp, 575 V
VS-PP01071	Diode/Thyristor Module 40 to 50 hp, 575 V
VS-CP01373	Diode/Thyristor Module 60, 75, 100 hp, 575 V
VS-PP01072	Diode/Thyristor Module 125 to 100 hp, 575 V
VS-FR09812	Rectifying Module 125 to 200 hp, 575 V
VS-FR09802	Power Module 125 hp, 575 V
VS-FR09803	Power Module 150 hp, 575 V
VS-FR09804	Power Module 200 hp, 575 V

1. Includes an RS-232 Comm Card and a N2/XT/SA Bus Comm Card (VS-OPTNX) as standard. Order a VS-OPTB5 (I/O Card 3 Relay) to simulate bypass and a VS-OPTCJ card if MS/TP BACnet is required.
2. Control module is mounted in blue box (no I/O cards included).

VSD Series IntelliPass and IntelliDisconnect Option Boards

The VSD Series IntelliPass/IntelliDisconnect drives can accommodate a wide selection of expander and adapter option boards to customize the drive for your application needs. The drive's control unit is designed to accept a total of five option boards. See Figure 3.

The VSD Series IntelliPass/IntelliDisconnect factory installed standard option board configuration includes an A9 I/O board, A2 relay output board and a B5 output board which are installed in slots A, B, and C respectively. Two slots (D, E) are for extended 1/0 and communication cards.

Note: The B5 board is only shipped with the IntelliPass Drive.

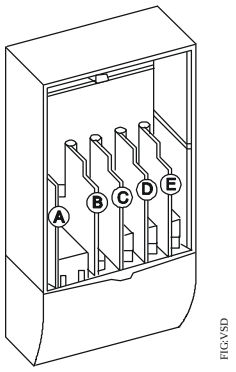


Figure 3: VSD Series IntelliPass/ IntelliDisconnect Drives

Table 21: Option Boards

Description		Allowed Slot Locations[1]	Option Number	Factory Installed Suffix Number
Basic I/O Cards	**2 Relay Output (RO), Normally Closed/Normally Open (N.C./N.O.),**	B	VS-OPTA2	Standard
	6 Digital Outputs (DI), 1 Digital Output (DO), 2 Analog Inputs (AI), 1 Analog Output (AO) Small Terminal Block	A	VS-OPTA9	Standard
	3 RO	C	VS-OPTA5	Standard
Extended I/O Cards	**1 AI, 2 AO**	C, D[2]	VS-OPTB4	B4
	3 RO	C, D[2]	VS-OPTB5	B5
Communication Cards[3]	**Johnson Controls N2/XT/SA Bus Com**	D, E[2]	VS-OPTNX	N
	Johnson Controls MS/TP BACnet Com	D, E[2]	VS-OPTCJ	B
	LONWORKS Network	D, E[2]	VS-OPTC4	L

1. The option card must be installed in one of the slots listed for that card.
2. This is the preferred slot for option board card placement.
3. Only one communication card can be installed.

VSD Series IntelliPass/IntelliDisconnect Replacement Part Selection

Table 22: 208/230 V IntelliPass/IntelliDisconnect Drives

Frame	4			5		6			7		Code Number[1]
hp (VT)	1	2	3	5	7-1/2	10	15	20	25	30	
Power Board	1	1									**VS-VB00308**
			1								**VS-VB00310**
				1	1	1					**VS-VB00313**
							1	1			**VS-VB00316**
									1	1	**VS-VB00319**
Electrolytic Capacitors	2	2									**VS-PP01000**
			2								**VS-PP01001**
				2	2						**VS-PP01002**
						2					**VS-PP01003**
							2	2			**VS-PP01004**
									2	2	**VS-PP01005**
IGBT Module	1										**VS-CP01304**
		1									**VS-CP01305**
			1	1							**VS-CP01306**
					1						**VS-CP01307**
						1					**VS-CP01308**
							1				**VS-PP01022**
								1			**VS-PP01023**
									1		**VS-PP01024**
										1	**VS-PP01025**
											VS-PP01029
Rectifying Board									1	1	**VS-VB00242**
Chopper/Rectifier							1				**VS-CP01367**
								1			**VS-PP01368**
Diode/Thyristor Module									3	3	**VS-PP01035**
Control Board	1	1	1	1	1	1	1	1	1	1	**VS-VB00252**
Cooling Fans											
Fan Assembly FR4	1	1	1								**VS-PP01060**
Fan Assembly FR5				1	1	1					**VS-PP01061**
Fan Assembly FR6							1	1			**VS-PP01062**
Fan Assembly FR7									1	1	**VS-PP01063**

1. Each code number is a quantity of one. Order the quantity specified for replacement.

Table 23: 480 V IntelliPass/IntelliDisconnect Drives

Frame	4					5			Code Number[1]
hp (VT)	1	2	3	5	7-1/2	10	15	20	
Power Board	1								**VS-VB00205**
		1							**VS-VB00206**
			1						**VS-VB00207**
				1					**VS-VB00208**
					1				**VS-VB00210**
						1			**VS-VB00211**
							1		**VS-VB00212**
								1	**VS-VB00213**
Electrolytic Capacitors	2	2	2	2					**VS-PP01000**
					2				**VS-PP01001**
						2	2		**VS-PP01002**
								2	**VS-PP01003**
IGBT Module	1	1	1						**VS-CP01304**
				1					**VS-CP01305**
					1	1			**VS-CP01306**
							1		**VS-CP01307**
								1	**VS-CP01308**
Control Board	1	1	1	1	1	1	1	1	**VS-VB00252**
Fans									
Fan Assembly 80 mm FR4	1	1	1	1	1				**VS-PP01060**
Fan Assembly 120 mm FR5						1	1	1	**VS-PP01061**

1. Each code number is a quantity of one. Order the quantity specified for replacement.

Table 24: 480 V IntelliPass/IntelliDisconnect Drives (Part 1 of 2)

Frame	6			7			Code Number[1]
hp (VT)	25	30	40	50	60	75	
Power Board	1						**VS-VB00214**
		1					**VS-VB00215**
			1				**VS-VB00216**
				1			**VS-VB00217**
					1		**VS-VB00218**
						1	**VS-VB00219**
							VS-VB00220
							VS-VB00221
							VS-VB00236
Electrolytic Capacitors	2	2	2				**VS-PP01004**
				2	2	2	**VS-PP01005**
IGBT Module	1						**VS-PP01020**
		1					**VS-PP01022**
			1				**VS-PP01023**

Table 24: 480 V IntelliPass/IntelliDisconnect Drives (Part 2 of 2)

Frame	6			7			Code Number[1]
hp (VT)	**25**	**30**	**40**	**50**	**60**	**75**	
				1			**VS-PP01024**
					1		**VS-PP01025**
						1	**VS-PP01029**
							VS-PP01026
							VS-PP01027
Rectifying Board				1	1	1	**VS-VB00242**
							VS-VB00227
							VS-VB00459
Chopper/Recruiter	1	1					**VS-CP01367**
			1				**VS-CP01368**
Diode/Thyristor				3	3	3	**VS-PP01035**
							VS-CP01268
							VS-PP01037
Rectifying Module Sub-Assembly							**VS-FR09810**
Power Module Sub-Assembly							**VS-FR09800**
							VS-FR09801
Control Board	1	1	1	1	1	1	**VS-VB00252**
Fans							
Fan Assembly 150 mm FR6	1	1	1				**VS-PP01062**
Fan Assembly 150 mm FR7				1	1	1	**VS-PP01063**

1. Each code number is a quantity of one. Order the quantity specified for replacement.

Dimensions

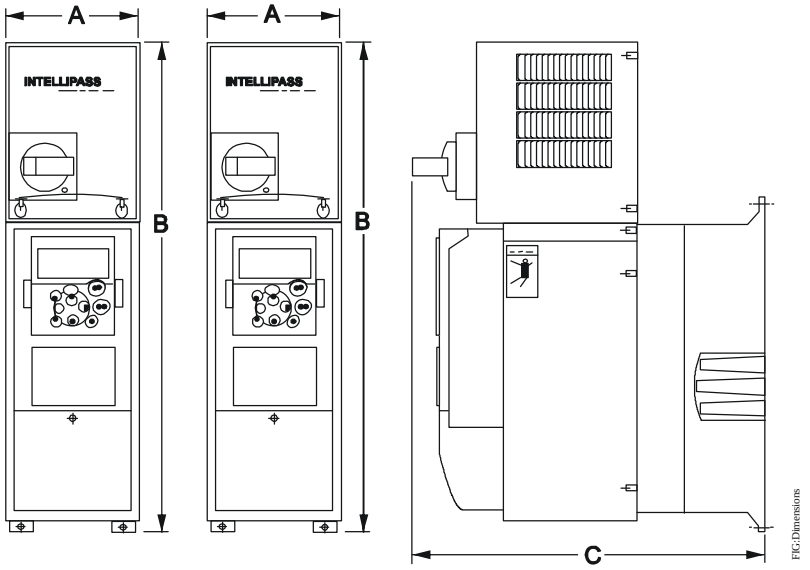


Figure 4: VSD Series IntelliPass Drive Dimensions

Table 25: VSD Series IntelliPass Drive Dimensions

Frame Size	Drive Horsepower (VT)	Dimensions, in. (mm), approximate			Weight, lb (kg)	Distance Between Drives, in. (mm)
		A	B	C		
FR4	1 to 3 hp, 208 V	5-1/16 (128)	18-1/4 (464)	13-1/4 (336)	21 (9.5)	4-5/16 (109.2)
	1 to 3 hp, 230 V					
	1 to 7-1/2 hp, 480 V					
FR5	5 to 7-1/2 hp, 208 V	5-1/2 (140)	23-1/4 (591)	13-1/4 (336)	35 (15.9)	4-25/32 (119.4)
	5 to 10 hp, 230 V					
	10 to 20 hp, 480 V					
FR6	10 to 20 hp, 208 V	7-1/2 (191)	29-3/8 (746)	15-1/4 (387)	67 (30.4)	6-1/2 (165.1)
	15 and 20 hp, 230 V					
	25 to 40 hp, 480 V					
FR7	25 and 30 hp, 208 V	9-3/32 (231)	37-17/32(953)	15-1/4 (387)	108 (49)	8 (203.2)
	25 and 30 hp, 230 V					
	50 to 75 hp, 480 V					

Wiring

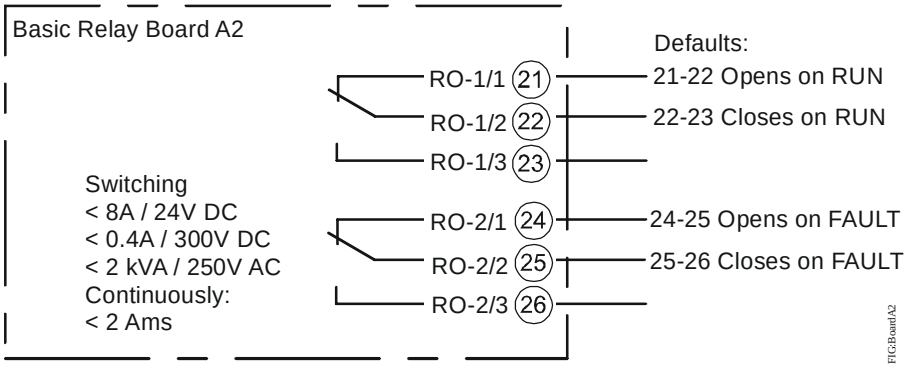


Figure 5: Option Board A2 Wiring Diagram

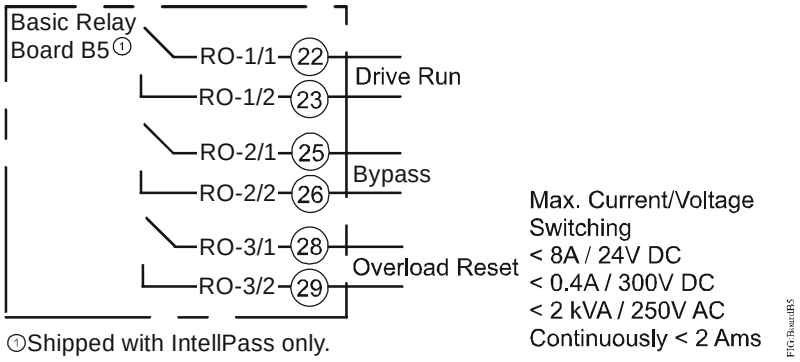


Figure 6: Option Board B5 Wiring Diagram

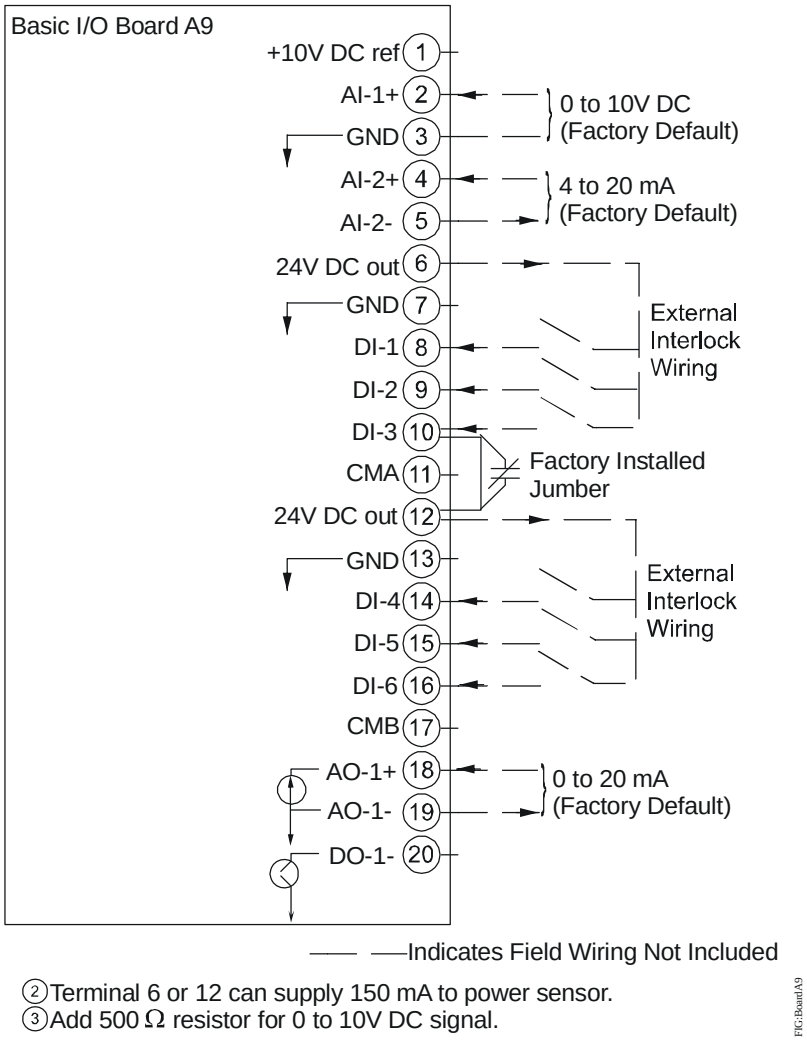


Figure 7: Option Board A9 Wiring Diagram

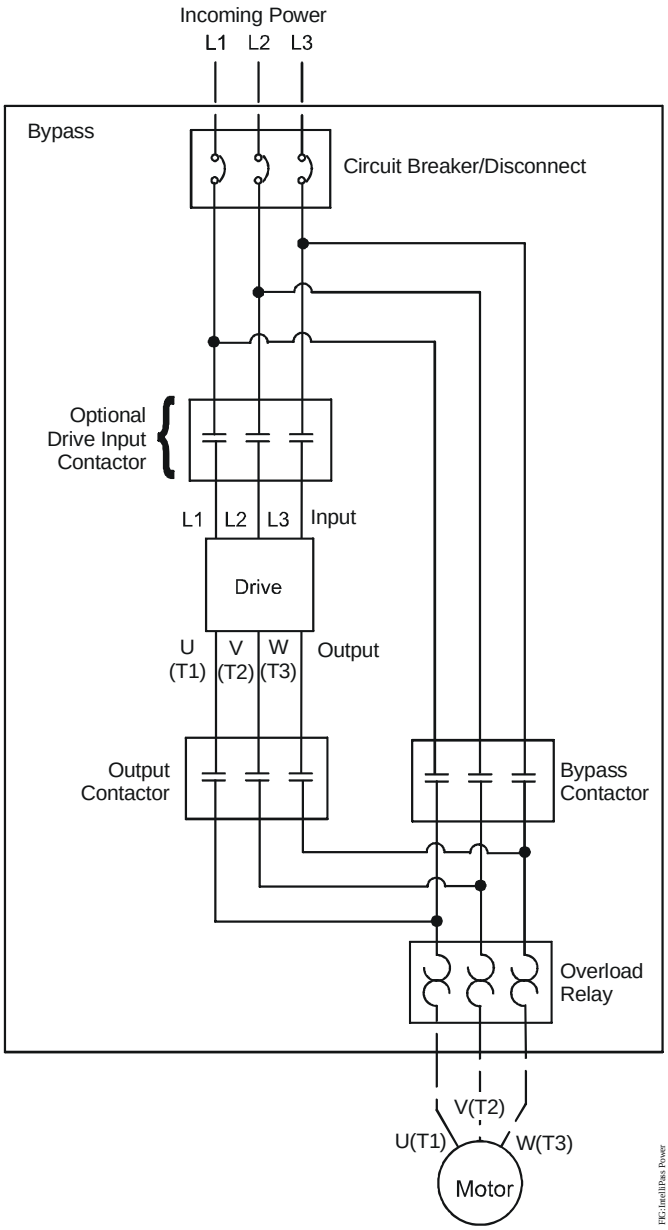


Figure 8: IntelliPass Power and Motor Terminal Wiring Example

IMPORTANT: The VSD Series 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.

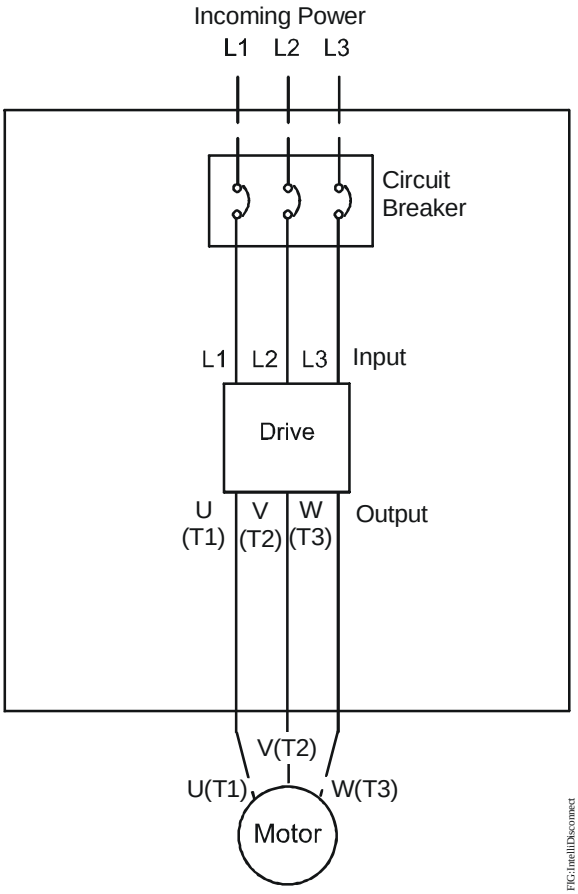


Figure 9: IntelliDisconnect Power Wiring

Technical Specifications

VSD Series Variable Speed IntelliPass/IntelliDisconnect Drives (Part 1 of 2)

Input Voltage (V_{in})	10%/-15%
Input Frequency (f_{in})	50/60 Hz (Variation up to 45 – 66 Hz)
Connection to Power	Once per Minute or Less (Typical Operation)
Current Withstand Rating	65 kAIC
Output Voltage	0 to V_{in}
Continuous Output Current	Ambient Temperature Maximum 104°F (40°C), Overload 1.1 x I_L (1 min./10 min.)
Starting Current	110%
Output Frequency	0 to 320 Hz
Frequency Resolution	0.01 Hz
Control Method	Frequency Control (V/f) Open Loop Sensorless Vector Control
Switching Frequency	Adjustable Parameter 1 to 40 hp: 1 to 16 kHz; Default 10 kHz 50 to 75 hp: 1 to 10 kHz; Default 3.6 kHz
Frequency Reference	Analog Input: Resolution 0.1% (10 bit), Accuracy ± 1% Panel Reference: Resolution 0.01 Hz
Field Weakening Point	30 to 320 Hz
Acceleration Time	0 to 3,000 s
Deceleration Time	0 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 721-3-3, Unit In Operation, Class 3C2; Mechanical Particles: IEC 721-3-3, 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)
Enclosure Class	TYPE 1/IP21
EMC (at default settings)	Immunity: Fulfills All Exhaust Motor Contactor (EMC) Immunity Requirements; Emissions: EN 61800-3, LEVEL H
Safety	UL 508C; CSA C22.2 No. 14
Product	IEC 61800-2; Plenum Rated
Air Quality Chemical Vapors	IEC721-3-3, Unit In Operation, Class 3C2
Mechanical Particles	IEC721-3-3, Unit In Operation, Class 3S2
Analog Input Voltage	0 to 10 V, R = 200 Ohms Differential (-10 to 10 V Joystick Control) Resolution 0.1%; Accuracy ± 1%
Analog Input Current	0 (4) to 20 mA; R_L - 250 Ohms Differential
Digital Inputs (6)	Positive or Negative Logic; 18 to 24 VDC
Auxiliary Voltage	24 V ± 15%, Maximum 250 mA
Output Reference Voltage	10 V 3%, Maximum Load 10 mA
Analog Output	0 (4) to 20 mA; R_L Maximum 500 Ohms; Resolution 10 bit; Accuracy ± 2%

VSD Series Variable Speed IntelliPass/IntelliDisconnect Drives (Part 2 of 2)

Digital Outputs	Open Collector Output, 50 mA/48 V
Relay Outputs	Two Programmable Form C Relay Outputs Switching Capacity: 24 VDC/8 A, 250 VAC/8 A, 125 VDC/0.4 A
Overcurrent Protection	Trip Limit 4.0 x I_H Instantaneously
Overvoltage Protection	Yes
Undervoltage Protection	Yes
Earth Fault Protection	In case of earth fault in motor or motor cable, only the frequency converter is protected.
Input Phase Supervision	Trips if any of the input phases are missing.
Motor Phase Supervision	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 (of the 24 V and 10 V Reference Voltages)
Line Voltage	208/230/480 V
Drive Efficiency	>95%
Reliability	500,000 Hours Mean Time between Failures (MTBF)
Power Factor (Displacement)	0.96
Ratings	UL Listed, File No. E244421; cUL Listed
Warranty	2 Years Standard Terms; 3 Years with Certified Startup

Building Efficiency
507 E. Michigan Street, Milwaukee, WI 53202

Johnson Controls® is a registered trademark of Johnson Controls, Inc.
All other marks herein are the marks of their respective owners. © 2012 Johnson Controls, Inc.

Published in U.S.A. www.johnsoncontrols.com