



Variable Frequency Drive Solutions for PennBarry Fans



VSC

115V, 0.5 to 1.5HP*
230V, 0.5 to 15HP
460V, 1 to 30HP

VSA

230V, 1 to 7.5HP
460V, 1 to 15HP
575V, 1 to 20HP

Overview

The contactor style power wiring with top entry and bottom exit helps optimize panel layout and streamline installation.

Removable I/O terminal blocks facilitate easy integration of the VFD into your equipment.

* All single phase applications are single-phase in and 3-phase out

The DIN Rail mount capability (FS1 & FS2) minimizes design time & reduces assembly burden.

RS-485/Modbus® is built in.
Optional on the VSA: Modbus® TCP or BACnet IP.

All 3 phase models are 100K AIC rated with the addition of Type 1 fuses.

Equipment designs demanding a high IP rating can take advantage of IP66 versions of both drives. All versions receive conformal coating on the boards.



VSC & VSA

Description	Specification
Protections	
Load Overload	150% for 60 s; 175% for 2 s
Short-circuit withstand	100k AIC with Type 1 fuses
Input Ratings	
Voltage	+/-10%
Frequency	48-62 Hz
Output Rating	
Frequency/Resolution	0-500Hz / 0.1 Hz
Control Characteristics	
Operation Mode	V/f with slip compensation
Switching Frequency	4 to 32 kHz
Analog Reference	0-10 VDC or 4-20 mA
Accel/Decel	0.1 to 600 s
Ambient Temperature	
Operating	14°F to 122°F (-10°C to 50°C) IP20
Storage	-40°F to 140°F (-40°C to +60°C)
Relative Humidity	0 to 95%, non-condensing, non-corrosive, no dripping water

VSC & VSA

Programmable Parameters

- Reference scaling
 - Start/Stop
 - DC brake
 - V/Hz curve
 - Switching frequency
 - Auto restart
 - Protections
 - Fault Indication
 - External Fault
 - BMS communication
 - Second deceleration
 - Analog input range
 - PI controller
 - Skip Frequencies
- VSC I/O**
- Digital Inputs 4
 - Analog Inputs 2 (0-10VDC / 4-20mA)
 - Outputs 1 (analog or digital)
 - Relay Output 1
- VSA adds 2 more DI's & 2 more outputs*

VSC Selection

JCI Code Number	HP	Input Amps	230V 3 phase Input & 230V 3 Phase Output	Output Amps	Enclosure	Integral Disconnect	Frame Size	Nominal Dimensions H x W x D inches
VSC322D3NNA20C	0.5	3.0		2.3	IP20	N	FS1	7.24 x 3.19 x 4.88
VSC322D3NNA6SC					IP66/NEMA 4X	Y		9.13 x 6.34 x 7.24
VSC324D3NNA20C	1	4.5		4.3	IP20	N		7.24 x 3.19 x 4.88
VSC324D3NNA6SC					IP66/NEMA 4X	Y		9.13 x 6.34 x 7.24
VSC327D0NNA20C	2	7.3		7.0	IP20	N		7.24 x 3.19 x 4.88
VSC327D0NNA6SC					IP66/NEMA 4X	Y		9.13 x 6.34 x 7.24
VSC32011NBA20C	3	11		10.5	IP20	N	FS2	9.09 x 4.21 x 5.98
VSC32011NBA6SC					IP66/NEMA 4X	Y	10.12 x 7.4 x 7.56	
VSC32018NBA20C	5	18.8		18.0	IP20	N	FS3	10.75 x 5.16 x 6.89
VSC32018NBA6SC					IP66/NEMA 4X	Y	12.2 x 8.27 x 9.45	
VSC32024NBA20C	7.5	24		24.0	IP20	N	FS4	16.48 x 6.81 x 8.31
VSC32030NBA20C	10	30		30.0				
VSC32046NBA20C	15	46		46.0				

VSC342D2NNA20C	1	2.4	2.2	IP20	N	FS1	7.24 x 3.19 x 4.88	
VSC342D2NNA6SC				IP66/NEMA 4X	Y		9.13 x 6.34 x 7.24	
VSC344D1NNA20C	2	4.3	4.1	IP20	N	FS2	9.09 x 4.21 x 5.98	
VSC344D1NNA6SC				IP66/NEMA 4X	Y		10.12 x 7.4 x 7.56	
VSC345D8NBA20C	3	6.1	5.8	IP20	N		9.09 x 4.21 x 5.98	
VSC345D8NBA6SC				IP66/NEMA 4X	Y		10.12 x 7.4 x 7.56	
VSC349D5NBA20C	5	9.8	9.5	IP20	N		9.09 x 4.21 x 5.98	
VSC349D5NBA6SC				IP66/NEMA 4X	Y		10.12 x 7.4 x 7.56	
VSC34014NBA20C	7.5	14.6	14.0	IP20	N	FS3	10.75 x 5.16 x 6.89	
VSC34014NBA6SC				IP66/NEMA 4X	Y		12.2 x 8.27 x 9.45	
VSC34018NBA20C	10	18.1	18.0	IP20	N		10.75 x 5.16 x 6.89	
VSC34018NBA6SC				IP66/NEMA 4X	Y		12.2 x 8.27 x 9.45	
VSC34024NBA20C	15	24.7	24.0	IP20	N		FS4	16.48 x 6.81 x 8.31
VSC34030NBA20C	20	30	30.0					
VSC34039NBA20C	25	39	39.0					
VSC34046NBA20C	30	46	46.0					

Notes: RFI Filter option is available as special order

IP66/NEMA 4X models in the tables include switch. To order IP66/NEMA 4X version without disconnect, select '66' for the enclosure type.

VSC Selection Continued

JCI Catalog Number	HP	Input Amps	115V Input & 230V 3 Phase Output	Output Amps	Enclosure	Integral Disconnect	Frame Size	Nominal Dimensions H x W x D inches
VSC1D2D3NNA20C	0.5	11.0		2.3	IP20	N	FS1	7.24 x 3.19 x 4.88
VSC1D2D3NNA6SC					IP66/NEMA 4X	Y		9.13 x 6.34 x 7.24
VSC1D4D3NNA20C	1.0	19.0		4.3	IP20	N		7.24 x 3.19 x 4.88
VSC1D4D3NNA6SC					IP66/NEMA 4X	Y		9.13 x 6.34 x 7.24
VSC1D5D8NBA20C	1.5	25.0		5.8	IP20	Y	FS2	9.09 x 4.21 x 5.98
VSC1D5D8NBA6SC					IP66/NEMA 4X	Y		10.12 x 7.4 x 7.56

VSC122D3NNA20C	0.5	5.0	230V 1 phase Input & 230V 3 Phase Output	2.3	IP20	N	FS1	7.24 x 3.19 x 4.88
VSC122D3NNA6SC	0.5				IP66/NEMA 4X	Y		9.13 x 6.34 x 7.24
VSC124D3NNA20C	1	8.5		4.3	IP20	N		7.24 x 3.19 x 4.88
VSC124D3NNA6SC	1				IP66/NEMA 4X	Y		9.13 x 6.34 x 7.24
VSC127D0NNA20C	2	13.9		7.0	IP20	N	FS2	7.24 x 3.19 x 4.88
VSC127D0NNA6SC	2				IP66/NEMA 4X	Y		9.13 x 6.34 x 7.24
VSC12011NBA20C	3	19.5		10.5	IP20	N		9.09 x 4.21 x 5.98
VSC12011NBA6SC	3		IP66/NEMA 4X		Y	10.12 x 7.4 x 7.56		
VSC12015NBA20C	5	30.5	15.0	IP20	N	FS3	10.75 x 5.16 x 6.89	
VSC12015NBA6SC	5			IP66/NEMA 4X	Y		12.2 x 8.27 x 9.45	

Notes: RFI Filter option is available as special order

IP66/NEMA 4X models in the tables include switch. To order IP66/NEMA 4X version without disconnect, select '66' for the enclosure type.

VSA Selection

JCI Catalog Number	HP	Input Amps	230V 1 phase Input & 230V 3 Phase Output	Output Amps	Enclosure	Integral Disconnect	Frame Size	Nominal Dimensions H x W x D inches
VSA124D3FBA20C	1	8.5	230V 3 Phase Output	4.3	IP20	N	FS2	9.09 x 4.21 x 7.32
VSA124D3FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA127D0FBA20C	2	15.2		7.0	IP20	N		9.09 x 4.21 x 7.32
VSA127D0FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA12011FBA20C	3	19.3		10.5	IP20	N		9.09 x 4.21 x 7.32
VSA12011FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA324D3FBA20C	1	4.5	230V 3 phase Input & 230V 3 Phase Output	4.3	IP20	N	FS2	9.09 x 4.21 x 7.32
VSA324D3FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA327D0FBA20C	2	7.3		7.0	IP20	N		9.09 x 4.21 x 7.32
VSA327D0FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA32011FBA20C	3	11.0		10.5	IP20	N		9.09 x 4.21 x 7.32
VSA32011FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA32018FBA20C	5	18.8	18.0	IP20	N	10.75 x 5.16 x 8.03		
VSA32018FBB6SC				IP66/NEMA 4X	Y	12.20 x 8.29 x 7.56		
VSA32024FBA20C	7.5	24.0	24.0	IP20	N	10.75 x 5.16 x 8.03		
VSA342D2FBA20C	1	2.4	460V 3 phase Input & 460V 3 Phase Output	2.2	IP20	N	FS2	9.09 x 4.21 x 7.32
VSA342D2FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA344D1FBA20C	2	4.3		4.1	IP20	N		9.09 x 4.21 x 7.32
VSA344D1FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA345D8FBA20C	3	6.1		5.8	IP20	N		9.09 x 4.21 x 7.32
VSA345D8FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA349D5FBA20C	5	9.8		9.5	IP20	N		9.09 x 4.21 x 7.32
VSA349D5FBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA34014FBA20C	7.5	14.6		14.0	IP20	N		10.75 x 5.16 x 8.03
VSA34014FBB6SC					IP66/NEMA 4X	Y		12.20 x 8.29 x 7.56
VSA34018FBA20C	10	18.1		18.0	IP20	N		10.75 x 5.16 x 8.03
VSA34018FBB6SC					IP66/NEMA 4X	Y		12.20 x 8.29 x 7.56
VSA34024FBA20C	15	24.7	24.0	IP20	N	10.12 x 7.40 x 9.42		
VSA352D1NBA20C	1	2.5	575V	2.1	IP20	N	FS2	9.09 x 4.21 x 7.32
VSA352D1NBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA353D1NBA20C	2	3.7		3.1	IP20	N		9.09 x 4.21 x 7.32
VSA353D1NBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA354D1NBA20C	3	4.9		4.1	IP20	N		9.09 x 4.21 x 7.32
VSA354D1NBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA356D5NBA20C	5	7.8		6.5	IP20	N		9.09 x 4.21 x 7.32
VSA356D5NBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA359D0NBA20C	7.5	10.8		9.0	IP20	N		9.09 x 4.21 x 7.32
VSA359D0NBB6SC					IP66/NEMA 4X	Y		10.12 x 7.40 x 9.42
VSA35012NBA20C	10	14.4		12.0	IP20	N		10.75 x 5.16 x 8.03
VSA35012NBB6SC					IP66/NEMA 4X	Y		12.20 x 8.29 x 7.56
VSA35017NBA20C	15	20.6	17.0	IP20	N	10.75 x 5.16 x 8.03		
VSA35017NBB6SC				IP66/NEMA 4X	Y	12.20 x 8.29 x 7.56		
VSA35022NBA20C	20	26.7	22.0	IP20	N	10.75 x 5.16 x 8.03		