S-Flex enclosed drive

The best drive for commercial pump, fan, and scroll compressor applications

altivardrives.com

Life Is On | Schneider Electric

For more than 100 years the Square D™ by Schneider Electric brand has been known for the most reliable electrical products.

Our industry-leading electrical expertise and commitment to quality fuels our passion for drives. The S-Flex™ enclosed drive, designed with input from HVAC consultants and contractors, was developed specifically for commercial pump, fan, and scroll compressor applications, providing the most effective solution with the fastest return on investment.

S-Flex innovation

New features including remote indication when an operator has placed the unit in "hand" mode and two new enclosures expanding the offer to include UL Type 12 and 3R options are some of the latests enhancements incorporated into the product.

Save time   Save money   Save space   Think green

Save money

Offering unmatched value in installed cost and functionality, the S-Flex drive allows building owners, consulting engineers, and contractors to focus on the essentials of demanding commercial building applications.

More than dollars and cents, you'll save with:
- Industry-leading reduced harmonic technology — eliminating the need for line reactors and DC chokes
- Energy savings — designed with energy-economizing motor algorithms — maximizing energy savings by reducing electricity usage
- Internal PID regulator — allowing flow rates to be adjusted for actual needs without additional hardware
- Reduced equipment maintenance cost and downtime
- 24/7 live technical support

Save time

Because specifying drives can be time-consuming, the S-Flex drive includes the most common requirements in HVAC specifications for pump and fan applications, such as:
- Simple start-up including preprogrammed parameters for pump, fan, and scroll compressor applications
- Windows®-based SoMove software that allows you to:
  - Adjust parameters
  - Store and transfer drive configuration files
  - Monitor drive performance, including historical data
  - Configure, adjust, and control remotely
  - Store drive configuration programs
- Easy wiring conduit knockouts on the enclosure
- Dedicated wiring terminal block
- Stock availability so that the S-Flex drive is ready when you are

Save space

The most slender design in the Flex drive family, the S-Flex enclosed drive offers a compact product with just the right features for most HVAC applications. When space is a concern, we've got you covered with:
- Slender design for minimal wall space
- Nominal space requirements between drives for side-by-side wall mounting
- Retrofitting of HVAC systems into existing mechanical rooms

Think green

The S-Flex enclosed drive assists with Leadership in Energy and Environmental Design (LEED®) certification. Green buildings enhance occupant comfort and health, decrease vacancy rates, increase building valuation, and improve the bottom line by reducing operating costs. A building that runs smoothly ensures comfortable tenants, and comfortable tenants mean less vacancy.

Going green with the S-Flex drive offers:
- Building owners the ability to take advantage of state and local government energy incentives
- More marketable buildings to tenants seeking energy-efficient/sustainable facilities
- Retrofitting of HVAC systems into existing mechanical rooms
- The most efficient method of partial load control

Certified performance ratings

Schneider Electric is the first VFD manufacturer to receive AHRI certification for drive performance. S-Flex drives that feature the AHRI logo have been certified to AHRI Standard 1210 and are backed by independent data verifying performance for three critical drive performance measures: total harmonic distortion, efficiency, and dv/dt motor output waveform. Like other AHRI certification programs, this third-party verification ensures that listed products have been tested to defined procedures and their performance has been verified by an AHRI certified laboratory.

> Industry-leading reduced harmonic technology

The S-Flex drive revolutionizes harmonic mitigation with its innovative reduced harmonic technology (RHT). Significant harmonic reduction is achieved within the diode capacitor and power conversion section of the variable frequency drive, eliminating the need for a line reactor or bus reactor, which results in:

- Higher equipment efficiency
- Reduced equipment cost
- Fewer points of electrical failure
- Smaller enclosure size
- Lighter weight

Harmonics can be present in voltage, current, or both. Any power source that converts AC to DC can generate harmonics. Typical sources include:

- Office equipment
- Computers
- Medical equipment
- Microprocessors
- Uninterruptible power supplies
- Fluorescent lamp ballasts

Harmonic currents do not add additional power to the electrical system, but additional current flows through electrical wires. Effects may include:

- Overheating of electrical distribution system wiring
- Shortened transformer life
- Decreased power factor
- Disturbance of power measuring systems

☑ Horsepower range:
  - 1 – 40 hp at 208 VAC and 230 VAC
  - 1 – 100 hp at 460 VAC

☑ Optional three-phase AC line reactor for line transient protection and even further line harmonic reduction

☑ S-Flex drive uses an Altivar 212 drive power converter with RHT and an IGBT inverter with pulse-width modulated output

☑ Optional LCD text keypad

☑ Built-in Modbus, BACnet®, Metasys® N2, APOGEE® P1 communication capability, and options for LonWorks®

☑ Smoke purge override and fan damper control in both adjustable frequency controller (AFC) and bypass modes of operation

☑ Simple Hand/Off/Auto and VFD/ByPass selector switch for operational mode control

☑ Optional drive input disconnect switch provides an input line power disconnect switch between the main power disconnect and the power converter

☑ Optional line contactor provides an electrically interlocked line contactor between the main power disconnect and the power converter

☑ Power-on mode red LED indicator

☑ Bypass mode green LED indicator

☑ Terminal block for customer's control connections

☑ Full-voltage bypass contactors

☑ 100 kA SCCR and full voltage bypass

☑ Square D circuit breaker for disconnect and overcurrent protection

☑ Available in Type 1, 12 and 3R enclosures

☑ Conduit knockouts on bottom of the enclosure for quick and easy wiring

> Selection guide

Type 1 enclosure

460 V Catalog Number	HP	Full Load A	Height in.	Height mm	Width in.	Width mm	Depth in.	Depth mm	Weight lb	Weight kg	Options
SFD212CG4Y*	1	2.1	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	A06 = BACnet
SFD212DG4Y*	2	3.4	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	B06 = LonWorks
SFD212EG4Y*	3	4.8	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	C06 = Metasys N2
SFD212FG4Y*	5	7.6	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	D06 = APOGEE P1
SFD212GG4Y*	7.5	11	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	N06 = Modbus monitoring
SFD212HG4Y*	10	14	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	W = Without bypass
SFD212JG4Y*	15	21	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	Y = Full-voltage bypass
SFD212KG4Y*	20	27	45.797	1,163.20	12.538	318.5	8.725	221.6	111	50.349	A07 = Drive input disconnect switch
SFD212LG4Y*	25	34	45.797	1,163.20	12.538	318.5	8.725	221.6	111	50.349	B07 = Line contactor
SFD212MG4Y*	30	40	62.006	1,575.00	12.532	318.3	10.916	277.3	140	63.503	D07 = LCD text keypad
SFD212NG4Y*	40	52	62.006	1,575.00	12.532	318.3	10.916	277.3	140	63.503	X07 = Three-phase AC line reactor
SFD212PG4Y*	50	65	62.006	1,575.00	12.532	318.3	10.916	277.3	140	63.503	
SFD212QG4Y*	60	77	62.006	1,575.00	12.532	318.3	10.916	277.3	140	63.503	
SFD212RG4Y	75	96	65.555	1,665.10	15.243	387.2	11.915	302.7	206	93.44	
SFD212SG4Y	100	124	65.555	1,665.10	15.243	387.2	11.915	302.7	206	93.44	

230 V Catalog Number	HP	Full Load A	Height in.	Height mm	Width in.	Width mm	Depth in.	Depth mm	Weight lb	Weight kg	Options
SFD212CG3Y	1	4.2	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	A06 = BACnet
SFD212DG3Y	2	6.8	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	B06 = LonWorks
SFD212EG3Y	3	9.6	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	C06 = Metasys N2
SFD212FG3Y	5	15.2	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	D06 = APOGEE P1
SFD212GG3Y	7.5	22	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	N06 = Modbus monitoring
SFD212HG3Y	10	28	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	W = Without bypass
SFD212JG3Y	15	42	45.797	1,163.20	12.538	318.5	8.725	221.6	111	50.349	Y = Full-voltage bypass
SFD212KG3Y	20	54	45.797	1,163.20	12.538	318.5	8.725	221.6	111	50.349	A07 = Drive input disconnect switch
SFD212LG3Y	25	68	45.797	1,163.20	12.538	318.5	8.725	221.6	111	50.349	B07 = Line contactor
SFD212MG3Y	30	80	62.006	1,575.00	12.532	318.3	10.916	277.3	140	63.503	D07 = LCD text keypad
SFD212NG3Y	40	104	65.555	1,665.10	15.243	387.2	11.915	302.7	206	93.44	X07 = Three-phase AC line reactor

208 V Catalog Number	HP	Full Load A	Height in.	Height mm	Width in.	Width mm	Depth in.	Depth mm	Weight lb	Weight kg	Options
SFD212CG2Y*	1	4.6	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	A06 = BACnet
SFD212DG2Y*	2	7.5	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	B06 = LonWorks
SFD212EG2Y*	3	10.6	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	C06 = Metasys N2
SFD212FG2Y*	5	16.7	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	D06 = APOGEE P1
SFD21GG2Y*	7.5	24.2	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	N06 = Modbus monitoring
SFD212HG2Y*	10	30.8	40.375	1,025.50	9.038	229.6	7.876	200.1	52	23.587	W = Without bypass
SFD212JG2Y*	15	46.2	45.797	1,163.20	12.538	318.5	8.725	221.6	111	50.349	Y = Full-voltage bypass
SFD212KG2Y*	20	59.2	45.797	1,163.20	12.538	318.5	8.725	221.6	111	50.349	A07 = Drive input disconnect switch
SFD212LG2Y*	25	74.8	45.797	1,163.20	12.538	318.5	8.725	221.6	111	50.349	B07 = Line contactor
SFD212MG2Y	30	88	62.006	1,575.00	12.532	318.3	10.916	277.3	140	63.503	D07 = LCD text keypad
SFD212NG2Y	40	114	65.555	1,665.10	15.243	387.2	11.915	302.7	206	93.44	X07 = Three-phase AC line reactor

* - AHRI certified

> Selection guide

Type 12 enclosure

460 V Catalog Number	HP	Full Load A	Height in.	Height mm	Width in.	Width mm	Depth in.	Depth mm	Weight lb	Weight kg	Options
SFD212CA4Y*	1	2.1	31.898	810.22	16.287	413.68	20.053	509.33	135	61	A06 = BACnet
SFD212DA4Y*	2	3.4	31.898	810.22	16.287	413.68	20.053	509.33	135	61	B06 = LonWorks
SFD212EA4Y*	3	4.8	31.898	810.22	16.287	413.68	20.053	509.33	135	61	C06 = Metasys N2
SFD212FA4Y*	5	7.6	31.898	810.22	16.287	413.68	20.053	509.33	135	61	D06 = APOGEE P1
SFD212GA4Y*	7.5	11	31.898	810.22	16.287	413.68	20.053	509.33	135	61	N06 = Modbus monitoring
SFD212HA4Y*	10	14	47.649	1,210.29	16.287	413.68	20.053	509.33	175	79.4	W = Without bypass
SFD212JA4Y*	15	21	47.649	1,210.29	16.287	413.68	20.053	509.33	175	79.4	Y = Full-voltage bypass
SFD212KA4Y*	20	27	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	A07 = Drive input disconnect switch
SFD212LA4Y*	25	34	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	B07 = Line contactor
SFD212MA4Y*	30	40	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	D07 = LCD text keypad
SFD212NA4Y*	40	52	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	X07 = Three-phase AC line reactor
SFD212PA4Y*	50	65	71.268	1,810.21	16.287	413.68	20.053	509.33	330	149.7	T07 = 50C Ambient temp
SFD212QA4Y*	60	77	71.268	1,810.21	16.287	413.68	20.053	509.33	330	149.7	
SFD212RA4Y	75	96	71.268	1,810.21	16.287	413.68	20.053	509.33	330	149.7	
SFD212SA4Y	100	124	71.268	1,810.21	16.287	413.68	20.053	509.33	330	149.7	

230 V Catalog Number	HP	Full Load A	Height in.	Height mm	Width in.	Width mm	Depth in.	Depth mm	Weight lb	Weight kg	Options
SFD212CA3Y	1	4.2	31.898	810.22	16.287	413.68	20.053	509.33	135	61	A06 = BACnet
SFD212DA3Y	2	6.8	31.898	810.22	16.287	413.68	20.053	509.33	135	61	B06 = LonWorks
SFD212EA3Y	3	9.6	31.898	810.22	16.287	413.68	20.053	509.33	135	61	C06 = Metasys N2
SFD212FA3Y	5	15.2	31.898	810.22	16.287	413.68	20.053	509.33	135	61	D06 = APOGEE P1
SFD212GA3Y	7.5	22	47.649	1,210.29	16.287	413.68	20.053	509.33	175	79.4	N06 = Modbus monitoring
SFD212HA3Y	10	28	47.649	1,210.29	16.287	413.68	20.053	509.33	175	79.4	W = Without bypass
SFD212JA3Y	15	42	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	Y = Full-voltage bypass
SFD212KA3Y	20	54	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	A07 = Drive input disconnect switch
SFD212LA3Y	25	68	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	B07 = Line contactor
SFD212MA3Y	30	80	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	D07 = LCD text keypad
SFD212NA3Y	40	104	71.268	1,810.21	16.287	413.68	20.053	509.33	330	149.7	X07 = Three-phase AC line reactor
											T07 = 50C Ambient temp

208 V Catalog Number	HP	Full Load A	Height in.	Height mm	Width in.	Width mm	Depth in.	Depth mm	Weight lb	Weight kg	Options
SFD212CA2Y*	1	4.6	31.898	810.22	16.287	413.68	20.053	509.33	135	61	A06 = BACnet
SFD212DA2Y*	2	7.5	31.898	810.22	16.287	413.68	20.053	509.33	135	61	B06 = LonWorks
SFD212EA2Y*	3	10.6	31.898	810.22	16.287	413.68	20.053	509.33	135	61	C06 = Metasys N2
SFD212FA2Y*	5	16.7	31.898	810.22	16.287	413.68	20.053	509.33	135	61	D06 = APOGEE P1
SFD212GA2Y*	7.5	24.2	47.649	1,210.29	16.287	413.68	20.053	509.33	175	79.4	N06 = Modbus monitoring
SFD212HA2Y*	10	30.8	47.649	1,210.29	16.287	413.68	20.053	509.33	175	79.4	W = Without bypass
SFD212JA2Y*	15	46.2	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	Y = Full-voltage bypass
SFD212KA2Y*	20	59.2	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	A07 = Drive input disconnect switch
SFD212LA2Y*	25	74.8	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	B07 = Line contactor
SFD212MA2Y	30	88	55.523	1,410.29	16.287	413.68	20.053	509.33	270	122.5	D07 = LCD text keypad
SFD212NA2Y	40	114	71.268	1,810.21	16.287	413.68	20.053	509.33	330	149.7	X07 = Three-phase AC line reactor
											T07 = 50C Ambient temp

* - AHRI certified

> Selection guide

Type 3R enclosure

460 V Catalog Number	HP	Full Load A	Height in.	Height mm	Width in.	Width mm	Depth in.	Depth mm	Weight lb	Weight kg	Options
SFD212CH4Y*	1	2.1	27.532	699.31	21.556	547.52	21.653	549.97	135	61	A06 = BACnet
SFD212DH4Y*	2	3.4	27.532	699.31	21.556	547.52	21.653	549.97	135	61	B06 = LonWorks
SFD212EH4Y*	3	4.8	27.532	699.31	21.556	547.52	21.653	549.97	135	61	C06 = Metasys N2
SFD212FH4Y*	5	7.6	27.532	699.31	21.556	547.52	21.653	549.97	135	61	D06 = APOGEE P1
SFD212GH4Y*	7.5	11	27.532	699.31	21.556	547.52	21.653	549.97	135	61	N06 = Modbus monitoring
SFD212HH4Y*	10	14	43.28	1,099.31	21.556	547.52	21.653	549.97	175	79.4	W = Without bypass
SFD212JH4Y*	15	21	43.28	1,099.31	21.556	547.52	21.653	549.97	175	79.4	Y = Full-voltage bypass
SFD212KH4Y*	20	27	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	A07 = Drive input disconnect switch
SFD212LH4Y*	25	34	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	B07 = Line contactor
SFD212MH4Y*	30	40	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	D07 = LCD text keypad
SFD212NH4Y*	40	52	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	X07 = Three-phase AC line reactor
SFD212PH4Y*	50	65	66.902	1,699.31	21.556	547.52	21.653	549.97	330	149.7	T07 = 50C Ambient temp
SFD212QH4Y*	60	77	66.902	1,699.31	21.556	547.52	21.653	549.97	330	149.7	
SFD212RH4Y	75	96	66.902	1,699.31	21.556	547.52	21.653	549.97	330	149.7	
SFD212SH4Y	100	124	66.902	1,699.31	21.556	547.52	21.653	549.97	330	149.7	

230 V Catalog Number	HP	Full Load A	Height in.	Height mm	Width in.	Width mm	Depth in.	Depth mm	Weight lb	Weight kg	Options
SFD212CH3Y	1	4.2	27.532	699.31	21.556	547.52	21.653	549.97	135	61	A06 = BACnet
SFD212DH3Y	2	6.8	27.532	699.31	21.556	547.52	21.653	549.97	135	61	B06 = LonWorks
SFD212EH3Y	3	9.6	27.532	699.31	21.556	547.52	21.653	549.97	135	61	C06 = Metasys N2
SFD212FH3Y	5	15.2	27.532	699.31	21.556	547.52	21.653	549.97	135	61	D06 = APOGEE P1
SFD212GH3Y	7.5	22	43.28	1,099.31	21.556	547.52	21.653	549.97	175	79.4	N06 = Modbus monitoring
SFD212HH3Y	10	28	43.28	1,099.31	21.556	547.52	21.653	549.97	175	79.4	W = Without bypass
SFD212JH3Y	15	42	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	Y = Full-voltage bypass
SFD212KH3Y	20	54	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	A07 = Drive input disconnect switch
SFD212LH3Y	25	68	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	B07 = Line contactor
SFD212MH3Y	30	80	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	D07 = LCD text keypad
SFD212NH3Y	40	104	66.902	1,699.31	21.556	547.52	21.653	549.97	330	149.7	X07 = Three-phase AC line reactor

208 V Catalog Number	HP	Full Load A	Height in.	Height mm	Width in.	Width mm	Depth in.	Depth mm	Weight lb	Weight kg	Options
SFD212CH2Y*	1	4.6	27.532	699.31	21.556	547.52	21.653	549.97	135	61	A06 = BACnet
SFD212DH2Y*	2	7.5	27.532	699.31	21.556	547.52	21.653	549.97	135	61	B06 = LonWorks
SFD212EH2Y*	3	10.6	27.532	699.31	21.556	547.52	21.653	549.97	135	61	C06 = Metasys N2
SFD212FH2Y*	5	16.7	27.532	699.31	21.556	547.52	21.653	549.97	135	61	D06 = APOGEE P1
SFD212GH2Y*	7.5	24.2	43.28	1,099.31	21.556	547.52	21.653	549.97	175	79.4	N06 = Modbus monitoring
SFD212HH2Y*	10	30.8	43.28	1,099.31	21.556	547.52	21.653	549.97	175	79.4	W = Without bypass
SFD212JH2Y*	15	46.2	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	Y = Full-voltage bypass
SFD212KH2Y*	20	59.2	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	A07 = Drive input disconnect switch
SFD212LH2Y*	25	74.8	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	B07 = Line contactor
SFD212MH2Y	30	88	51.154	1,299.31	21.556	547.52	21.653	549.97	270	122.5	D07 = LCD text keypad
SFD212NH2Y	40	114	66.902	1,699.31	21.556	547.52	21.653	549.97	330	149.7	X07 = Three-phase AC line reactor
											T07 = 50C Ambient temp

* - AHRI certified

> Specifications

Software and apps

SoMove™
This software enables the user to configure, set, debug, and organize maintenance tasks for the Altivar and Altistart™ product lines. It can also be used to customize the integrated display terminal menus.

It can be used with a direct connection or a Bluetooth® wireless connection. Free download at www.Schneider-electric.com/en/product-range/2714-somove/

Electrical specifications

Input voltage	208 VAC ±10%, 230 VAC ±10%, 460 VAC ±10%
Displacement power factor	Approximately 0.96
Input frequency	60 Hz ±5%
Output voltage	Three-phase output, maximum voltage equal to input voltage
Galvanic isolation	Galvanic isolation between power and control (inputs, outputs, and power supplies)
Frequency range of the power converter	0.1 Hz to 500 Hz (factory setting of 60 Hz maximum)
Current limit	110% of nominal drive full-load amperage (FLA) for 60 s
Switching frequency	Selectable from 2 kHz to 16 kHz (1)
Speed reference	AI1: 0 V to +10 V, impedance = 30 kOhms; AI3: 4 mA to 20 mA, impedance = 250 kOhms 0 mA to 20 mA (reassignable, X – Y range with keypad display), manual speed control via keypad
Frequency resolution in analog reference	0.1 Hz to 100 Hz (10 bits)
Speed regulation	V/f: determined by motor slip, typically 3% SLFV (sensorless flux vector): 1%
Efficiency	Typically greater than 95%
Inputs and outputs	Three multifunction programmable logic inputs Two analog inputs; VIA (4 mA to 20 mA or 0 V to 10 V), VIB (0 V to 10 V) One analog output; X mA to Y mA or 0 V to 10 V, software selectable Two assignable output relays; one fault relay, one assignable relay, one RJ45 RS485 Modbus port
Acceleration and deceleration ramps	0.1 s to 999.9 s (adjustable in 0.1 s increments)
Motor protection	Class 10 and Class 20 overload protection with bypass in addition to controller internal electronic thermal protection
Keypad display	Self-diagnostics with fault messages in three languages. Refer to instruction manual, 30072-451-61.

Environmental specification

Storage temperature	-13 °F to +158 °F (-25 °C to +70 °C) with vent cover removed and without derating
Operating temperature	+14 to +104 °F (-10 to +40 °C), Types 1, 12, and 3R; +14 to +122 °F (-10 to +50 °C), Types 12, and 3R (Optional)
Humidity	95% with no condensation or dripping water, conforming to IEC 60068-2-3
Altitude	300 ft (100 m) maximum without derating; derate the current by 1% for each additional 330 ft (100 m)
Enclosure	UL Type 1, 12 and 3R
Pollution degree	Pollution degree 2 per NEMA® ICS-1 and IEC 60664-1
Resistance to vibrations (power converter only)	According to IEC 60068-2-6: 1.5 mm zero to peak from 3 Hz to 13 Hz 1 g from 13 Hz to 150 Hz
Resistance to shocks (power converter only)	According to IEC 60068-2: 15 g, 11 ms
Transit test to shock	Conforming to National Safe Transit Association and International Safe Transit Association test for packaging weighing 100 lb or less
Codes and standards	UL listed, incorporating Class 10 and Class 20 electronic and electromechanical overload protection. Conforms to applicable NEMA ICS, NFPA®, IEC, and ISO 9001 standards.

> Features

1 Keypad display for configuration and monitoring
- Optional LCD keypad

2 Through-the-door disconnect
- Electrical disconnect circuit breaker handle with electrical lockout/tagout

3 Front access selector and lights
- Hand/Off/Auto and VFD/ByPass selector switches
- Power-on mode red LED indicator
- Bypass mode green LED indicator

4 EZ-M channel mounting
- Having the interface built into the enclosure makes parallel alignment of multiple drives quick and easy with an EZ-M mounting channel

5 UL Type 1, 12, and 3R rated enclosure options
- Hinged door for quick and easy interior access

6 Conduit knockouts
- Conduit knockouts on bottom of enclosure for quick and easy wiring to line and load terminals and control wiring terminations

7 Short-circuit protection
- Square D circuit breaker offers electrical disconnect and overcurrent protection
- 100,000 A interrupt current (AIC), fully coordinated current rating to UL 508C and NEMA ICS7.1

8 Bypass contactor
- Full-voltage bypass contactors with electrical interlocks allow for emergency full-speed operation
- Damper Control and Smoke Purge relays for BAS interface

9 Terminal block
- Easy customer control wiring interface with terminal block connections

10 Three-phase AC line reactor
- Optional factory mounted and wired to provide increased protection from line transients as well as further reduction in drive-generated line harmonics

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Additional Information 24 Hour Tech Support
1-888-SQUARE-D (1-888-778-2733)

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