

P-SERIES LARGE DRIVE



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Franklin Electric

P-SERIES LARGE DRIVE

FEATURES

Franklin FastApp™ Firmware

- Pre-configured for easy operation and optimal performance
- PSI unit display
- Sleep and wake up functions
- Lubrication Output w/Timer: provides a relay to control a lubrication solenoid for hollow shaft pump
- Broken Pipe Detection: monitors pump speed and system pressure; if minimum pressure isn't met while pumping at full speed, system will trip after adjustable delay time
- Dry-well/Underload detection with cycling timer
- Pipe fill (Pre-PID) - VFD ramps up to Pre-PID frequency and fills pipes without pressurizing system
- VFD auto-de-rating phase conversion
- Pre-heat for motor windings in damp environments

Variable Speed Control

- Space vector control for efficiency and long motor life; cleaner sine wave as compared to typical V/Hz control; motors run cooler and last longer
- Automatic energy savings mode
- Flying start protection prevents trips, rough starts, and drive damage from regenerative power due to heavy inertia rotation
- Flux braking algorithm reduces deceleration time for enhanced system efficiency
- Pre-heater function protects motor and inverter from damage when installed in damp location (e.g. green house)

Standard Features (Enclosed Drives)

- Automatic carrier frequency change (adjusts based on temperature for optimal operation)
- Selectable V/F, sensorless vector control
- For outdoor and/or wash down applications
- Rainproof 3R enclosure reduces thermal absorption with white, solar reflective finish and filtered cooling fans
- Standard enclosed VFD package is rated for 110 °F ambient temperature, non-direct sunlight
- Additional application-specific protective devices included (i.e. line reactors, load reactors, and dV/dT filter)

Internal keypad menu for easy operation

- All control and protective functions are easily programmable
- The 32-character backlit LCD screen displays operational status and parameter settings

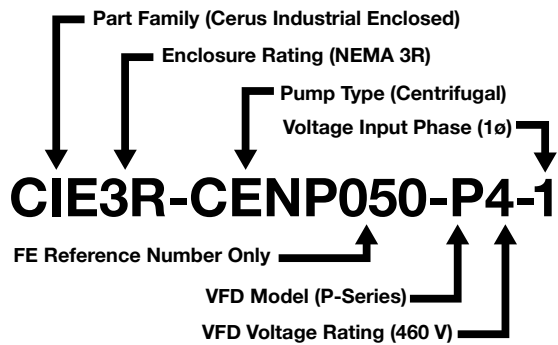


P-SERIES LARGE DRIVE

OPTIMIZED VFD

1. P-Series Pump Optimized VFD
 - 32-character keypad and pre-configured parameters for all common pump applications
2. Rugged outdoor 3R enclosure with cooling fans and filtration
3. Circuit breaker disconnect eliminates call backs due to fuse issues
4. Line reactor enhances protection from transient surges and provides a degree of harmonic mitigation
5. Control power transformer with breaker protection
6. Output filter for long motor leads

PART NUMBER ANATOMY



P-SERIES LARGE DRIVE

ORDERING & SIZING INFORMATION

P-Series (Enclosed) - Centrifugals Single-Phase & Three-Phase (200-230 V, 480 V) UL/NEMA 3R Enclosures					
Voltage	Model No.	HP	FLA	Wt. (lbs)	Description
200-230 V	CIE3R-CENP003-P2-1	3	12	179	N3R, 3 HP, 230 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP010-P2-1	10	32	202	N3R, 10 HP, 230 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP015-P2-1 (230V Only)	15	46	243	N3R, 15 HP, 230 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP020-P2-1 (230V Only)	20	60	268	N3R, 20 HP, 230 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP015-P2-3	15	60	202	N3R, 15 HP, 230 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP020-P2-3	20	74	207	N3R, 20 HP, 230 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP025-P2-3	25	88	243	N3R, 25 HP, 230 V, 3-Ph Enclosed VFD, MCCB, LR
480 V	CIE3R-CENP030-P2-3	30	115	268	N3R, 30 HP, 230 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP010-P4-1	10	16	197	N3R, 10 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP015-P4-1	15	24	219	N3R, 15 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP020-P4-1	20	30	245	N3R, 20 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP025-P4-1	25	39	279	N3R, 25 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP030-P4-1	30	45	279	N3R, 30 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP040-P4-1	40	55	289	N3R, 40 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP050-P4-1	50	75	366	N3R, 50 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP060-P4-1	60	91	368	N3R, 60 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP075-P4-1	75	110	1025	N3R, 75 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP100-P4-1	100	152	1060	N3R, 100 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP125-P4-1	125	183	1091	N3R, 125 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP150-P4-1	150	223	1746	N3R, 150 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP200-P4-1	200	264	1752	N3R, 200 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP015-P4-3	15	30	197	N3R, 15 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP020-P4-3	20	39	200	N3R, 20 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP025-P4-3	25	45	219	N3R, 25 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP030-P4-3	30	61	245	N3R, 30 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP040-P4-3	40	75	279	N3R, 40 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP050-P4-3	50	91	279	N3R, 50 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP060-P4-3	60	110	289	N3R, 60 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP075-P4-3	75	152	366	N3R, 75 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP100-P4-3	100	183	368	N3R, 100 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP125-P4-3	125	223	1007	N3R, 125 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP150-P4-3	150	264	1060	N3R, 150 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-CENP200-P4/3	200	325	1091	N3R, 200 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR

* Phase refers to incoming power, not motor.

NOTE: The drive MUST BE sized according to the motor manufacturer's maximum amperage draw; upsize VFD for ambient temperature compensation (see VFD specs for temperature rating).
(See Stand Alone drive section)

† 600 V available upon request. Contact manufacturer for more details.

Description Key	
N3R	NEMA 3R Enclosure
1-Ph	Single-Phase
3-Ph	Three-Phase
MCCB	Molded Case Circuit Breaker
LR	Line Reactor
OR	Output (Load) Reactor
OF	Output Filter

P-SERIES LARGE DRIVE

ORDERING & SIZING INFORMATION

P-Series (Enclosed) - Submersibles Single-Phase & Three-Phase (200-230 V, 480 V) UL/NEMA 3R Enclosures					
Voltage	Model No.	HP	FLA	Wt. (lbs)	Description
200-230 V	CIE3R-SUBP010-P2-1 (230 V Only)	10	32	215	N3R, 10 HP, 230 V, 1-Ph Enclosed VFD, MCCB, LR, OR
	CIE3R-SUBP015-P2-1 (230 V Only)	15	46	275	N3R, 15 HP, 230 V, 1-Ph Enclosed VFD, MCCB, LR, OR
	CIE3R-SUBP020-P2-1 (230 V Only)	20	60	300	N3R, 20 HP, 230 V, 1-Ph Enclosed VFD, MCCB, LR, OR
	CIE3R-SUBP015-P2-3	15	60	215	N3R, 15 HP, 230 V, 3-Ph Enclosed VFD, MCCB, LR, OR
	CIE3R-SUBP020-P2-3	20	75	223	N3R, 20 HP, 230 V, 3-Ph Enclosed VFD, MCCB, LR, OR
	CIE3R-SUBP025-P2-3	25	88	275	N3R, 25 HP, 230 V, 3-Ph Enclosed VFD, MCCB, LR, OR
	CIE3R-SUBP030-P2-3	30	115	300	N3R, 30 HP, 230 V, 3-Ph Enclosed VFD, MCCB, LR, OR
480 V	CIE3R-SUBP010-P4-1	10	16	210	N3R, 10 HP, 460 V, 1-Ph Enclosed VFD, MCCB,LR,OF
	CIE3R-SUBP015-P4-1	15	24	234	N3R, 15 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP020-P4-1	20	30	260	N3R, 20 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP025-P4-1	25	39	297	N3R, 25 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP030-P4-1	30	45	297	N3R, 30 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP040-P4-1	40	75	338	N3R, 40 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP050-P4-1	50	75	391	N3R, 50 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP060-P4-1	60	91	411	N3R, 60 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP075-P4-1	75	110	1068	N3R, 75 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP100-P4-1	100	152	1119	N3R, 100 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP125-P4-1	125	223	1156	N3R, 125 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP150-P4-1	150	223	1130	N3R, 150 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP200-P4-1	200	306	1476	N3R, 200 HP, 460 V, 1-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP015-P4-3	15	30	212	N3R, 15 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP020-P4-3	20	39	215	N3R, 20 HP, 460 V, 3-Ph Enclosed VFD, MCCB,LR,OF
	CIE3R-SUBP025-P4-3	25	45	238	N3R, 25 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP030-P4-3	30	61	263	N3R, 30 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP040-P4-3	40	75	297	N3R, 40 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP050-P4-3	50	91	304	N3R, 50 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP060-P4-3	60	110	332	N3R, 60 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR
	CIE3R-SUBP075-P4-3	75	152	409	N3R, 75 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP100-P4-3	100	183	427	N3R, 100 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP125-P4-3	125	223	1071	N3R, 125 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP150-P4-3	150	264	1130	N3R, 150 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF
	CIE3R-SUBP200-P4-3	200	325	1177	N3R, 200 HP, 460 V, 3-Ph Enclosed VFD, MCCB, LR, OF

* Phase refers to incoming power, not motor.

NOTE: The drive MUST BE sized according to the motor manufacturer's maximum amperage draw; upsize VFD for ambient temperature compensation (see VFD specs for temperature rating) (See Stand Alone drive section)

† 600 V available upon request. Contact manufacturer for more details.

Description Key	
N3R	NEMA 3R Enclosure
1-Ph	Single-Phase
3-Ph	Three-Phase
MCCB	Molded Case Circuit Breaker
LR	Line Reactor
OR	Output (Load) Reactor
OF	Output Filter

P-SERIES LARGE DRIVE

ORDERING & SIZING INFORMATION

P-Series (Stand Alone Drive) - Single-Phase & Three-Phase (200-230 V)					
Model No.	Output Full Load Amps		Wt. (lbs)	3% Line Reactor **	
	1Ø	3Ø		Model No.	Wt. (lbs)
CI-007-P2	12	24	11	KDRULB23LE01	18.5
CI-010-P2	16	32	13.2	KDRULD25LE01	22.5
CI-015-P2	23	46	13.2	KDRULD24LE01	22.5
CI-020-P2	30	60	29	KDRULD26LE01	22.5
CI-025-P2	37	74	30	KDRULC22LE01	25.5
CI-030-P2	44	88	44.1	KDRULF24LE01	67
CI-040-P2	57	115	44.1	KDRULF25LE01	67

* Phase refers to incoming power, not motor.

** 3% Line Reactors are sold separately from stand alone drives.

NOTE: The drive MUST BE sized according to the motor manufacturer's maximum amperage draw; upsize VFD for ambient temperature compensation (see VFD specs for temperature rating)

P-Series (Stand Alone Large Drive) - Single-Phase & Three-Phase (480 V)					
Model No.	Output Full Load Amps		Wt. (lbs)	3% Line Reactor **	
	1Ø	3Ø		Model No.	Wt. (lbs)
CI-007-P4	6	12	11	KDRULA4LE01	14.5
CI-010-P4	8	16	13.2	KDRULA5LE01	14.5
CI-015-P4	12	24	13.2	KDRULB2LE01	18.5
CI-020-P4	15	30	28	KDRULB1LE01	18.5
CI-025-P4	19	39	29	KDRULD1LE01	20.5
CI-030-P4	22	45	44.1	KDRULD2LE01	20.5
CI-040-P4	30	61	44.1	KDRULC1LE01	20.5
CI-050-P4	32	75	60	KDRULF2LE01	67
CI-060-P4	45	91	60	KDRULF4LE01	25.5
CI-075-P4	55	110	64	KDRULF3LE01	67
CI-100-P4	76	152	93	KDRULH3LE01	78
CI-125-P4	94	183	95	KDRULH2LE01	78
CI-150-P4	111	223	223	KDRULH1LE01	108
CI-200-P4	132	264	223	KDRULG3LE01	78
CI-250-P4	162	325	252	KDRULG1LE01	108
CI-350-P4	216	432	442	KDRULJ2LE01	78
CI-400-P4	273	547	442	KDRULJ1LE01	131

* Phase refers to incoming power, not motor.

** 3% Line Reactors are sold separately from stand alone drives.

NOTE: The drive MUST BE sized according to the motor manufacturer's maximum amperage draw; upsize VFD for ambient temperature compensation (see VFD specs for temperature rating)

† 600 V available upon request. Contact manufacturer for more details.

Description Key	
N3R	NEMA 3R Enclosure
1-Ph	Single-Phase
3-Ph	Three-Phase
MCCB	Molded Case Circuit Breaker
LR	Line Reactor
OR	Output (Load) Reactor
OF	Output Filter

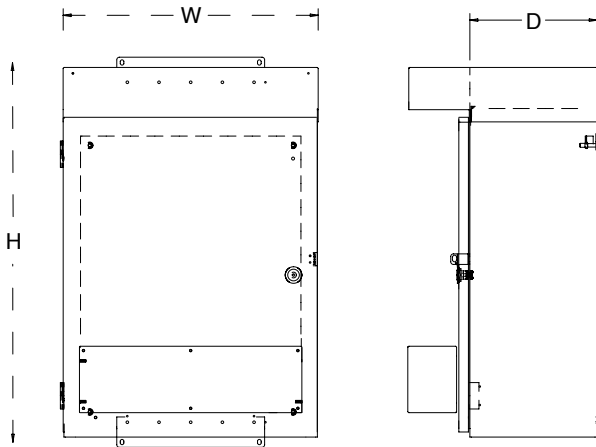
P-SERIES LARGE DRIVE

DIMENSIONS

3R Enclosed			
Model No.	Dimensions (in)		
	H	W	D
CIE3R-CENP003-P2-1	35	24	12
CIE3R-CENP010-P2-1			
CIE3R-CENP015-P2-1			
CIE3R-CENP020-P2-1	41	24	12
CIE3R-CENP015-P2-3	35	24	12
CIE3R-CENP020-P2-3			
CIE3R-CENP025-P2-3			
CIE3R-CENP030-P2-3	41	24	12
CIE3R-CENP030-P2-3	47	24	14
CIE3R-CENP010-P4-1	35	24	12
CIE3R-CENP015-P4-1	41	24	12
CIE3R-CENP020-P4-1	47	24	14
CIE3R-CENP025-P4-1			
CIE3R-CENP030-P4-1			
CIE3R-CENP040-P4-1			
CIE3R-CENP050-P4-1	56	36	16
CIE3R-CENP060-P4-1			
CIE3R-CENP075-P4-1	60	60	24
CIE3R-CENP100-P4-1			
CIE3R-CENP125-P4-1			
CIE3R-CENP150-P4-1	72	72	24
CIE3R-CENP200-P4-1			
CIE3R-CENP015-P4-3	35	24	12
CIE3R-CENP020-P4-3			
CIE3R-CENP025-P4-3	41	24	12
CIE3R-CENP030-P4-3	47	24	14
CIE3R-CENP040-P4-3			
CIE3R-CENP050-P4-3			
CIE3R-CENP060-P4-3			
CIE3R-CENP075-P4-3	56	36	16
CIE3R-CENP100-P4-3			
CIE3R-CENP125-P4-3	60	60	24
CIE3R-CENP150-P4-3			
CIE3R-CENP200-P4-3			

3R Enclosed			
Model No.	Dimensions (in)		
	H	W	D
CIE3R-SUBP010-P2-1	35	24	12
CIE3R-SUBP015-P2-1			
CIE3R-SUBP020-P2-1			
CIE3R-SUBP015-P2-3	41	24	12
CIE3R-SUBP020-P2-3	35	24	12
CIE3R-SUBP025-P2-3			
CIE3R-SUBP030-P2-3	41	24	12
CIE3R-SUBP010-P4-1	47	24	14
CIE3R-SUBP015-P4-1	35	24	12
CIE3R-SUBP020-P4-1	41	24	12
CIE3R-SUBP025-P4-1	47	24	14
CIE3R-SUBP030-P4-1			
CIE3R-SUBP040-P4-1			
CIE3R-SUBP050-P4-1	56	36	16
CIE3R-SUBP060-P4-1			
CIE3R-SUBP075-P4-1	60	60	24
CIE3R-SUBP100-P4-1			
CIE3R-SUBP125-P4-1			
CIE3R-SUBP150-P4-1	72	72	24
CIE3R-SUBP200-P4-1			
CIE3R-SUBP015-P4-3	35	24	12
CIE3R-SUBP020-P4-3			
CIE3R-SUBP025-P4-3	41	24	12
CIE3R-SUBP030-P4-3	47	24	14
CIE3R-SUBP040-P4-3			
CIE3R-SUBP050-P4-3			
CIE3R-SUBP060-P4-3			
CIE3R-SUBP075-P4-3	56	36	16
CIE3R-SUBP100-P4-3			
CIE3R-SUBP125-P4-3	60	60	24
CIE3R-SUBP150-P4-3			
CIE3R-SUBP200-P4-3			

* Contact Franklin or visit www.franklin-electric.com for larger enclosed VFD dimensions

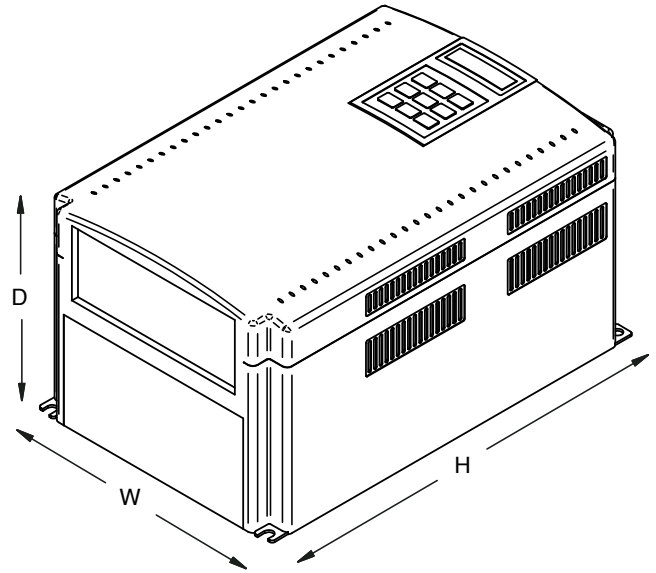


P-SERIES LARGE DRIVE

DIMENSIONS

P-Series Large Drive			
Model No.	Dimensions (in)		
	H	W	D
CI-007-P2	11.19	5.91	6.17
CI-007-P4			
CI-010-P2	11.18	7.87	7.16
CI-010-P4			
CI-015-P2	11.18	7.87	7.16
CI-015-P4			
CI-020-P2	15.16	9.84	7.94
CI-020-P4			
CI-025-P2	15.16	9.84	7.94
CI-025-P4			
CI-030-P2	18.11	11.97	9.22
CI-030-P4			
CI-040-P2	18.11	11.97	9.22
CI-040-P4			
CI-050-P4	20.28	11.81	10.46
CI-060-P4	20.28	11.81	10.46
CI-075-P4	20.28	11.81	11.52
CI-100-P4	23.09	14.57	13.29
CI-125-P4	23.09	14.57	13.29
CI-150-P4	30.26	20.80	16.64
CI-200-P4	30.26	20.80	16.64
CI-250-P4	33.23	20.80	16.64
CI-350-P4	41.85	21.17	17.70
CI-400-P4			
CI-500-P4	43.7	30.8	17.4
CI-600-P4	51.3	36.3	19.5
CI-700-P4			

* Line Reactors housed in separate UL/NEMA 1 Type Enclosure



P-SERIES LARGE DRIVE

ACCESSORIES

P-Series Large Drive			
Model No.	Wt. (lbs)	Description	
VFD-FPL	1	Fault Pilot Light (Red Standard)	
VFD-GXX	1	Circuit Breaker Disconnect	
VFD-HOA	1	Hand/Off/Auto Switch	
VFD-KPD/4X	1	Door Mounted Keypad with Type 4X Cover	
VFD-KPD/4X	1	NEMA 4X Waterproof Keypad	
VFD-KPS	1	Door Mounted Keypad	
VFD-RPL	1	Run Pilot Light (Green Standard)	
VFD-SPD	1	Door Mounted Speed Potentiometer	
P51-100G-A-I240-20MA	1	Transducer (Gauge Pressure), 100 PSIG 4-20 mA, +/-0.5% accy	
P51-200G-A-I240-20MA	1	Transducer (Gauge Pressure), 200 PSIG 4-20 mA, +/-0.5% accy	
P51-300G-A-I240-20MA	1	Transducer (Gauge Pressure), 300 PSIG 4-20 mA, +/-0.5% accy	

Line Reactors (for Stand Alone Drives ONLY) - UL/NEMA 1 Enclosure				
Model No.	Wt. (lbs)	Voltage	Description	
KDRULA54LE01	14.5	208/240 V	3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 0.5 HP	
KDRULA53LE01	14.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 0.75 HP	
KDRULA25LE01	14.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 1 HP	
KDRULA26LE01	14.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 1.5 HP	
KDRULA27LE01	14.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 2 HP	
KDRULA28LE01	14.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 3 HP	
KDRULB22LE01	18.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 5 HP	
KDRULB23LE01	18.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 7.5 HP	
KDRULD25LE01	22.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 10 HP	
KDRULD24LE01	22.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 15 HP	
KDRULD26LE01	22.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 20 HP	
KDRULC22LE01	25.5		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 25 HP	
KDRULF24LE01	67		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 30 HP	
KDRULF25LE01	67		3%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 40 HP	
KDRULA54HE01	14.5		208/240 V	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 0.5 HP
KDRULA53HE01	14.5			5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 0.75 HP
KDRULA25HE01	14.5	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 1 HP		
KDRULA27HE01	14.5	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 1.5 HP		
KDRULA26HE01	14.5	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 2 HP		
KDRULA28HE01	14.5	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 3 HP		
KDRULB25HE01	18.5	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 5 HP		
KDRULB26HE01	18.5	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 7.5 HP		
KDRULD21HE01	22.5	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 10 HP		
KDRULD22HE01	22.5	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 15 HP		
KDRULC22HE01	25.5	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 20 HP		
KDRULF28HE01	67	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 25 HP		
KDRULF25HE01	67	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 30 HP		
KDRULF26HE01	67	5%, 208/240 V, Enclosed Type 1 Line Reactor, UL Listed, 40 HP		
KDRULA6LE01	14.5	480 V		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, .5 HP
KDRULA7LE01	14.5			3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, .75 HP
KDRULA8LE01	14.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 1 HP	
KDRULA9LE01	14.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 1.5 HP	
KDRULA1LE01	14.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 2 HP	
KDRULA2LE01	14.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 3 HP	
KDRULA3LE01	14.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 5 HP	
KDRULA4LE01	14.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 7.5 HP	
KDRULA5LE01	14.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 10 HP	
KDRULB2LE01	18.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 15 HP	
KDRULB1LE01	18.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 20 HP	

P-SERIES LARGE DRIVE

ACCESSORIES

Line Reactors (for Stand Alone Drives ONLY) - UL/NEMA 1 Enclosure				
Model No.	Wt. (lbs)	Voltage	Description	
KDRULD1LE01	20.5	480 V	3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 25 HP	
KDRULD2LE01	20.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 30 HP	
KDRULC1LE01	25.5		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 40 HP	
KDRULF2LE01	67		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 50 HP	
KDRULF4LE01	67		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 60 HP	
KDRULF3LE01	67		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 75 HP	
KDRULH3LE01	78		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 100 HP	
KDRULH2LE01	78		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 125 HP	
KDRULH1LE01	108		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 150 HP	
KDRULG3LE01	131		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 200 HP	
KDRULG1LE01	132		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 250 HP	
KDRULG2LE01	132		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 300 HP	
KDRULJ2LE01	150		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 350 HP	
KDRULJ1LE01	150		3%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 400 HP	
KDRULA6HE01	14.5		480 V	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, .5 HP
KDRULA7HE01	14.5			5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, .75 HP
KDRULA8HE01	14.5			5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 1 HP
KDRULA9HE01	14.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 1.5 HP		
KDRULA1HE01	14.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 2 HP		
KDRULA2HE01	14.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 3 HP		
KDRULA3HE01	14.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 5 HP		
KDRULA4HE01	15.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 7.5 HP		
KDRULA5HE01	15.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 10 HP		
KDRULB2HE01	17.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 15 HP		
KDRULC3HE01	25.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 20 HP		
KDRULCIHE01	25.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 25 HP		
KDRULE2HE01	26.5	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 30 HP		
KDRULF4HE01	67	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 40 HP		
KDRULF1HE01	67	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 50 HP		
KDRULF2HE01	67	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 60 HP		
KDRULH2HE01	82	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 75 HP		
KDRULI2HE01	82	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 100 HP		
KDRULG3HE01	122	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 125 HP		
KDRULG1HE01	127	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 150 HP		
KDRULJ1HE01	136	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 200 HP		
KDRULL1HE01	162	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 250 HP		
KDRULL2HE01	162	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 300 HP		
KDRULL3HE01	166	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 350 HP		
KDRULL4HE01	176	5%, 480 V, Enclosed Type 1 Line Reactor, UL Listed, 400 HP		

P-SERIES LARGE DRIVE

ACCESSORIES

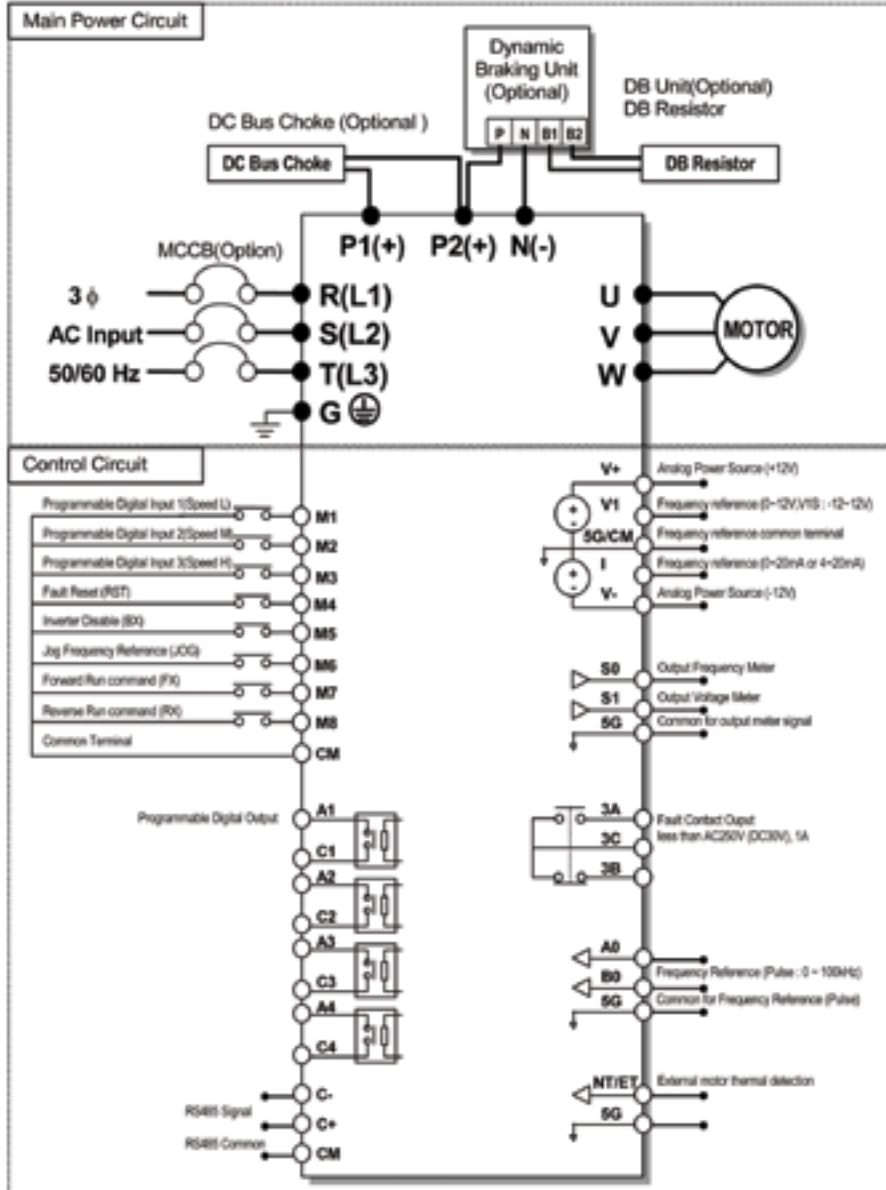
Load Reactors (for Stand Alone Drives ONLY) - UL/NEMA 1 Enclosure			
Model No.	Wt. (lbs)	Voltage	Description
KDRULA1PE01	14.5	480 V	3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 2 HP
KDRULA2PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 3 HP
KDRULA3PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 5 HP
KDRULA4PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 7.5 HP
KDRULB1PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 10 HP
KDRULD1PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 15 HP
KDRULD2PE01	18.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 20 HP
KDRULD3PE01	18.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 25 HP
KDRULD4PE01	22.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 30 HP
KDRULC1PE01	22.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 40 HP
KDRULF1PE01	22.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 50 HP
KDRULF2PE01	25.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 60 HP
KDRULF3PE01	67		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 75 HP
KDRULH1PE01	67		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 100 HP
KDRULI1PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 125 HP
KDRULI2PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 150 HP
KDRULG1PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 200 HP
KDRULJ1PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 250 HP
KDRULJ2PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 300 HP
KDRULL1PE01	14.5		3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 350 HP
KDRULL2PE01	18.5	3%, 480 V, Enclosed Type 1 Load Reactor, UL Listed, 400 HP	

Output Filters (for Stand Alone Drives ONLY) - UL/NEMA 1 Enclosure			
Model No.	Wt. (lbs)	Voltage	Description
V1K2A01	11	480 V	V1K, KLC Series Output Filter, N1 Enclosed, .75 HP @460 V
V1K3A01	11		V1K, KLC Series Output Filter, N1 Enclosed, 1-1.5 HP @460 V
V1K4A01	11		V1K, KLC Series Output Filter, N1 Enclosed, 2 HP @460 V
V1K6A01	11		V1K, KLC Series Output Filter, N1 Enclosed, 3 HP @460 V
V1K8A01	11		V1K, KLC Series Output Filter, N1 Enclosed, 5 HP @460 V
V1K12A01	11		V1K, KLC Series Output Filter, N1 Enclosed, 7.5 HP @460 V
V1K18A01	15		V1K, KLC Series Output Filter, N1 Enclosed, 10 HP @460 V
V1K21A01	15		V1K, KLC Series Output Filter, N1 Enclosed, 15 HP @460 V
V1K25A01	15		V1K, KLC Series Output Filter, N1 Enclosed, 15 HP @460 V
V1K27A01	15		V1K, KLC Series Output Filter, N1 Enclosed, 20 HP @460 V
V1K35A01	23		V1K, KLC Series Output Filter, N1 Enclosed, 25 HP @460 V
V1K45A01	23		V1K, KLC Series Output Filter, N1 Enclosed, 30 HP @460 V
V1K55A01	23		V1K, KLC Series Output Filter, N1 Enclosed, 40 HP @460 V
V1K80A01	29		V1K, KLC Series Output Filter, N1 Enclosed, 50/60 HP @460 V
V1K110A01	68		V1K, KLC Series Output Filter N1 Enclosed, 75 HP @460 V
V1K130A01	83		V1K, KLC Series Output Filter N1 Enclosed, 100 HP @460 V
V1K160A01	83		V1K, KLC Series Output Filter, N1 Enclosed, 125 HP @460 V
V1K200A01	93		V1K, KLC Series Output Filter, N1 Enclosed, 150 HP @460 V
V1K250A01	93		V1K, KLC Series Output Filter, N1 Enclosed, 200 HP @460 V
V1K305A01	117		V1K, KLC Series Output Filter, N1 Enclosed, 250 HP @460 V
V1K362A01	117		V1K, KLC Series Output Filter, N1 Enclosed, 300 HP @460 V
V1K420A01	132		V1K, KLC Series Output Filter, N1 Enclosed, 350 HP @460 V
V1K480A01	138		V1K, KLC Series Output Filter, N1 Enclosed, 400 HP @460 V
V1K600A01	168		V1K, KLC Series Output Filter, N1 Enclosed, 500 HP @460 V
V1K750A01	180		V1K, KLC Series Output Filter, N1 Enclosed, 600 HP @460 V

P-SERIES LARGE DRIVE

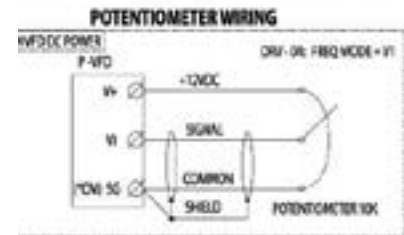
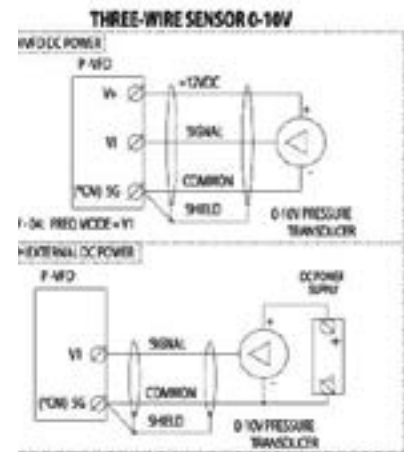
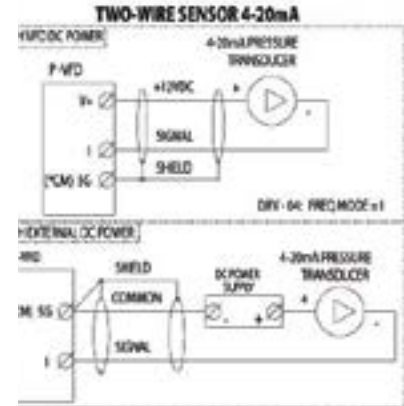
WIRING DIAGRAM

1) For 5.5-90kW (7.5-125 hp)



- Note :
- 1) SG is Common Ground for Analog Input/Output for 7.5-40HP
 - 2) SG is Common Ground for Analog Meter Output (S0,S1) and External motor thermal detection (ET).
 - 3) Use terminal V1 for V1, VIS (0-12V -12 - 12V) input.

*For general reference only, not field wiring. Consult installation instructions.



* NOT USE SIG FOR I/FDC DC POWER and CM FOR EXTERNAL DC POWER.

P-SERIES LARGE DRIVE

SPECIFICATIONS

Output Ratings	Voltage (V)	Three-phase, 200-230 V, Three-phase, 380-480 V
	Frequency (Hz)	0-120 Hz
Input Ratings	Voltage (V)	Single/Three -phase, 200-230 V (-15%, +10%), Three -phase, 380-480 V (-15%, +10%)
	Frequency (Hz)	50-60 Hz (±5%)
	Input Power Factor	> .95 from no load to full load
Operation	Drive Efficiency	> 96%
	Control Method	V/F control, sensorless vector control
	Frequency Setting Resolution	Digital reference: 0.01 Hz (below 99 Hz) & 0.1 Hz (100 Hz and over); Analog reference: 0.06 Hz at 60 Hz
	Frequency Setting Accuracy	Digital: 0.01% of maximum output frequency; Analog: 0.1% of maximum output frequency
	V/F Ratio	Linear, Square, User V/F
	Overload Capacity	1 minute at 120%, 10 seconds at 150% (with inverse characteristic proportional to time)
	Torque Boost	Auto, manual (0-15%)
	Multi-Function Input Terminals	Total 8 inputs (programmable)
	Analog Output	0-10 V linear
	Operator Control	32-character LCD keypad, Terminals, ModBus-RTU communication Optional, ProfiBus-DP, DeviceNet, F-Net, BACnet, LonWorks
Input Signal	Frequency Setting	Analog: 0-10 V, 4-20mA, additional port for Sub-Board (0-10 V); Digital: Keypad, Communication
	Start Signal	Forward, reverse
	Multi-Step Operation	Setting up to 17 speeds (using multi-function terminal)
	Multi-Step Accel/Decel Time	0.1-6000 seconds. Maximum 8 pre-defined steps using multi-function terminals
	Operational Functions	DC braking, frequency limit, frequency jump, second motor function, slip compensation, reverse rotation prevention, auto restart, inverter bypass, auto-tuning, dual PID control
	Emergency Stop	Stops output from inverter
	Auto Operation	Operates from internal sequence by setting multi-function terminal (5 way x 8 step)
	Jog	Jog operation
Output Signal	Fault Reset	Resets fault signal when protective function is active
	Operational Status	Frequency detection, overload alarm, stall, overvoltage, undervoltage, inverter overheat, run, stop, constant speed, speed search, fault output, inverter bypass, auto-operation sequence
Protective Functions	Indicator	Output frequency, output current, output voltage, DC voltage, output torque (output voltage: 0-10 V)
	Trip	Overvoltage, undervoltage, overcurrent, inverter overheat, motor overheat, i/o-phase loss, fuse open, ground fault, external fault 1, 2, option fault, overload, speed command loss, hardware fault, communication error, etc.
Operating Environment	Alarm	Stall, overload temperature sensor fault
	Ambient Temperature	-10-40 °C (50 °C when derated 20%) or 14-104 °F (122 °F when derated 20%)
	Storage Temperature	-20 -65 °C or -4-149.5 °F
	Humidity	Less than 95% relative humidity maximum (non-condensing)
	Vibration	Below 5.9m ² /sec (=0.6g)
	Altitude	Below 1,000 m (3,300 ft): derate VFD by 10% for every additional 1,000 m
Application Site	Pollution degree 2. no corrosive gas, combustible gas, oil mist or dust	

