

P-SERIES VFD

1-40HP (200~230VAC), 1-400HP (380~480VAC), 3Ø
Dual Rated for Constant & Variable Torque
Integrated PID Control



The 32-character backlit LCD screen displays the drive's operational status and parameter settings. A very easy drive to set up.



NEW FIRMWARE MAKES SETUP A SNAP

- Application based commissioning allows parameters to be automatically set based on industry standards
- Applications: Basic, circulating pump, supply fan, exhaust fan or cooling tower
- Selectable units include PSI, °F, °C, inWC, inM, Bar, mBar, Pa, kPa
- Belt loss protection

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

ADVANCED PID CONTROL (PRE-PID AND DUAL PID)

- Maintain a constant control of pressure, flow or water level. This function includes Pre-PID, Sleep and Wake up and output inverse sub-functions
- Dual PID for external PID control or cascade PID control
- Multi-Motor

MULTI-MOTOR CONTROL FUNCTION

- Control up to 4 motors

AUTOMATIC ENERGY SAVINGS MODE

- Adaptive flux control for varying loads (e.g. damper loading)

SLEEP AND WAKE UP FUNCTION

- Increased energy savings by deactivating drive during low demand

FLYING START PROTECTION

- Prevents trips, rough starts, and drive damage from regenerative power from heavy fan inertia rotation

BUILT-IN MODBUS RTU COMMUNICATION

- Optional: Profibus-DP, LonWorks, BACnet

PRE-HEATER FUNCTION

- Used to protect motor and inverter from damage when installed in damp location (e.g. green house).

AUTOMATIC CARRIER FREQUENCY CHANGE

- Adjusts based on temperature for optimal operation

SELECTABLE V/F, SENSORLESS VECTOR CONTROL

- Ideal for any control requirement

LONG-LIFE CONDENSER & SIMPLE FRAMEWORK

- Increased reliability



The P-Series' clearly marked terminal inputs and outputs allow for easy wiring and setup.



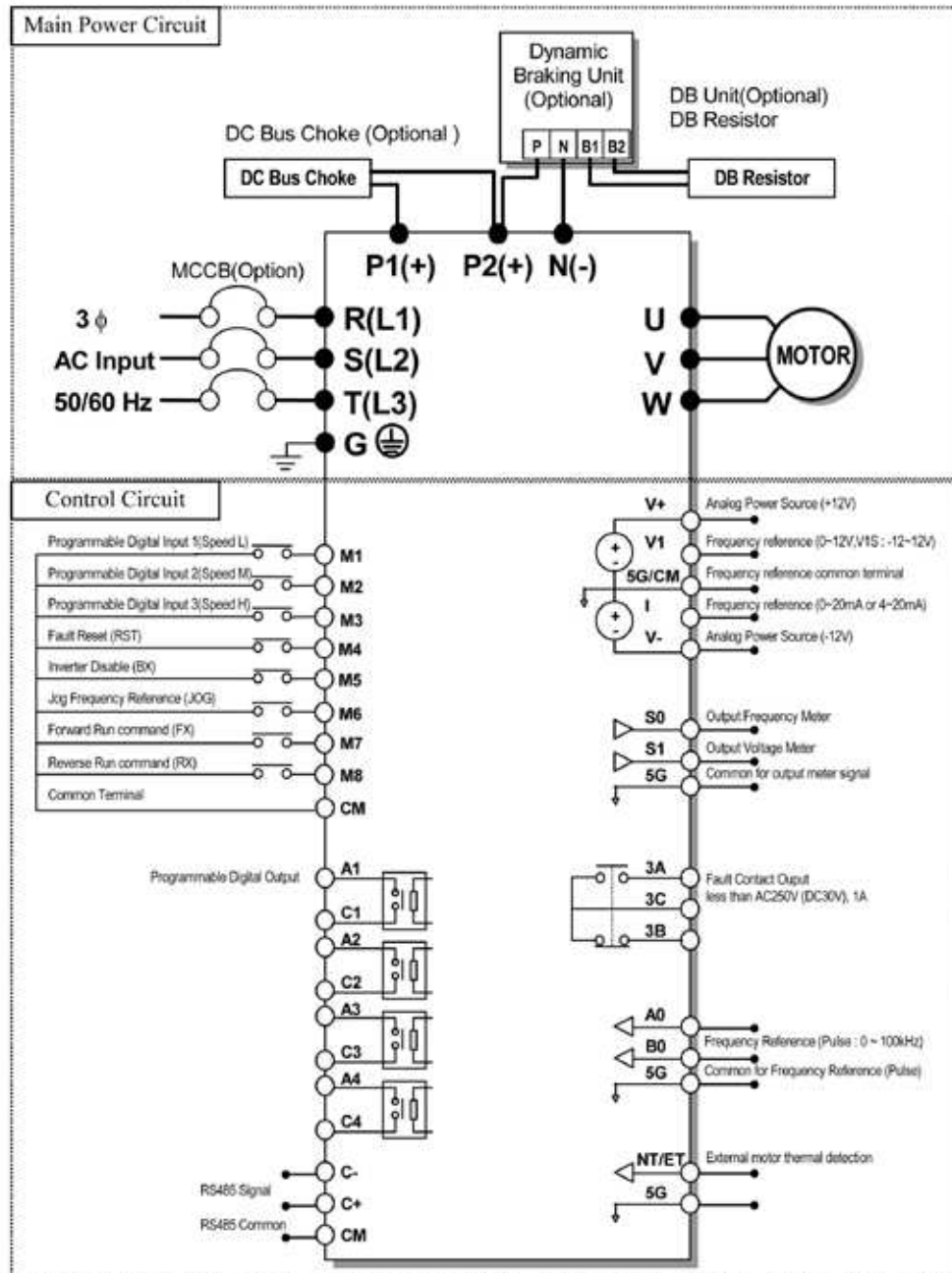
Perfect for fans, pumps and airhandlers.

Specifications

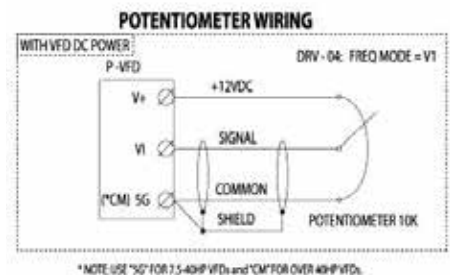
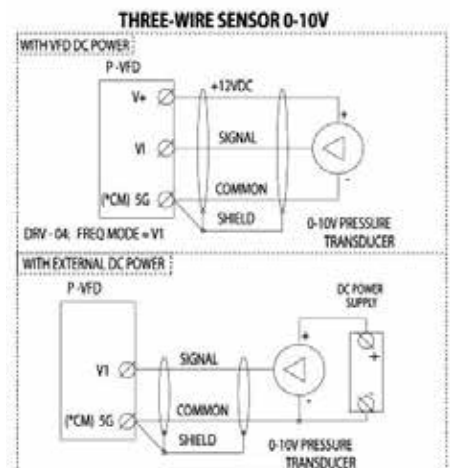
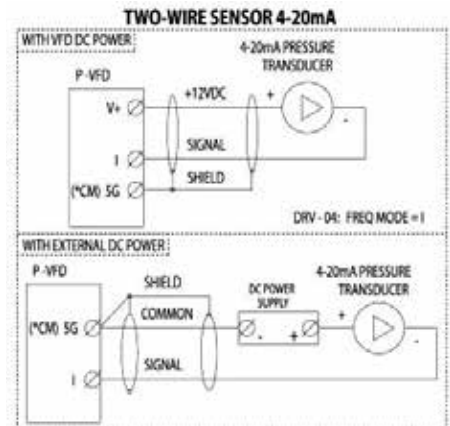
Output ratings	Voltage (V)	Three phase, 200~230V, Three phase, 380~480V
	Frequency (Hz)	0~120Hz
Input ratings	Voltage (V)	Three phase, 200~230V (-15%, +10%), Three phase, 380~480V (-15%, +10%)
	Frequency (Hz)	50~60Hz (±5%)
	Input Power Factor	<.95 from no load to full load
	Drive Efficiency	>96%
Operation	Control method	V/F control, Sensorless vector control
	Frequency setting resolution	Digital reference: 0.01Hz (below 99Hz) & 0.1Hz (100Hz and over); Analog reference: 0.06Hz at 60Hz
	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	0~10V linear
	Operator control	32-character LCD keypad, Terminals, ModBus-RTU communication Optional, ProfiBus-DP, DeviceNet, F-Net, BACnet, LonWorks
	Frequency setting	Analog: 0~10V, 4~20mA, additional port for Sub-Board (0~10V); Digital: Keypad, Communication
Input signal	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
	Fault reset	Resets fault signal when protective function is active
	Operational status	Frequency detection, Overload alarm, Stall, Undervoltage, Inverter overheat, Run, Stop, Constant speed, Speed search, Fault output, Inverter bypass, Auto-operation sequence
	Indicator	Output frequency, Output current, Output voltage, DC voltage, Output torque (output voltage: 0~10V)
Protective functions	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.
	Alarm	Stall, Overload Temperature sensor fault
Operating environment	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 1,000m (3,300ft): Derate VFD by 10% for every additional 1,000m
	Application site	Pollution degree 2. No corrosive gas, combustible gas, oil mist or dust

P-SERIES WIRING

1) For 5.5~90kW (7.5~125HP)



Note : 1) 5G is Common Ground for Analog Input/Output for 7.5~40HP
 2) 5G is Common Ground for Analog Meter Output (S0,S1) and External motor thermal detection (ET).
 3) Use terminal V1 for V1, V1S (0~12V -12 ~ 12V) input.



* NOTE: USE "5G" FOR 7.5~40HP VFDs and "CM" FOR OVER 40HP VFDs.

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



Options

Part Number	Description
CI-RKPK-EXT2M-P/S	Remote Keypad Mounting Kit (2 Meter Cable)
CI-RKPK-EXT3M-P/S	Remote Keypad Mounting Kit (3 Meter Cable)
CI-RKPK-EXT5M-P/S	Remote Keypad Mounting Kit (5 Meter Cable)
CI-R4-COM	RS485 communication card
CI-BN-COM	BACnet communication card
CI-LWP-COM	Lonworks communication card
CI-N2-COM	N2 communication card

3-Phase, 200~230V P-Series VFD

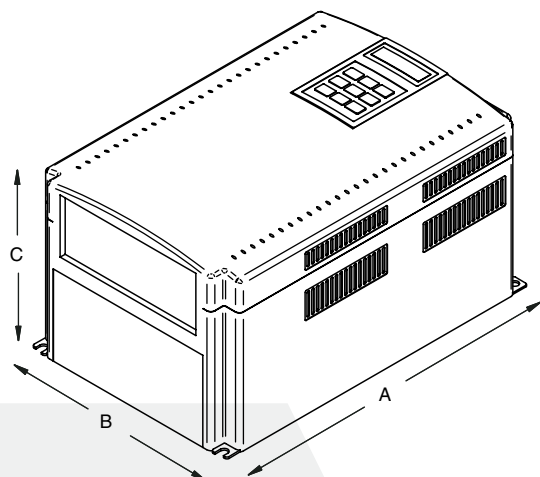
Standard Duty (VT)			Heavy Duty (CT)			Part Number	3% Line Reactor*
HP	kW	FLA	HP	kW	FLA		
1	1.9	5	0.4	0.95	2.5	CI-001-P2	KDRULA25LE01
2	3	8	0.75	1.9	5	CI-002-P2	KDRULA27LE01
3	4.6	12	1.5	3	8	CI-003-P2	KDRULA28LE01
5	6.1	16	2.2	4.6	12	CI-005-P2	KDRULB22LE01
7.5	5.5	24	5	3.7	17	CI-007-P2	KDRULB23LE01
10	7.5	32	7.5	5.5	23	CI-010-P2	KDRULD25LE01
15	11	46	10	7.5	33	CI-015-P2	KDRULD24LE01
20	15	60	15	11	44	CI-020-P2	KDRULD26LE01
25	18.5	74	20	15	54	CI-025-P2	KDRULC22LE01
30	22	88	25	18.5	68	CI-030-P2	KDRULF24LE01
40	30	115	30	22	84	CI-040-P2	KDRULF25LE01

3-Phase, 380~480V P-Series VFD

Standard Duty (VT)			Heavy Duty (CT)			Part Number	3% Line Reactor*
HP	kW	FLA	HP	kW	FLA		
1	2	2.5	0.4	1	1.25	CI-001-P4	KDRULA8LE01
2	3.2	4	0.75	2	2.5	CI-002-P4	KDRULA1LE01
3	4.8	6	1.5	3.2	4	CI-003-P4	KDRULA2LE01
5	6.4	8	2.2	4.8	6	CI-005-P4	KDRULA3LE01
7.5	5.5	12	5	3.7	8	CI-007-P4	KDRULA4LE01
10	7.5	16	7.5	5.5	11	CI-010-P4	KDRULA5LE01
15	11	24	10	7.5	17	CI-015-P4	KDRULB2LE01
20	15	30	15	11	22	CI-020-P4	KDRULB1LE01
25	18.5	39	20	15	28	CI-025-P4	KDRULD1LE01
30	22	45	25	18.5	34	CI-030-P4	KDRULD2LE01
40	30	61	30	22	44	CI-040-P4	KDRULC1LE01
50	37	75	40	30	55	CI-050-P4	KDRULF2LE01
60	45	91	50	37	66	CI-060-P4	KDRULF4LE01
75	55	110	60	45	80	CI-075-P4	KDRULF3LE01
100	75	152	75	55	111	CI-100-P4	KDRULH3LE01
125	90	183	100	75	134	CI-125-P4	KDRULH2LE01
150	110	223	125	90	183	CI-150-P4	KDRULH1LE01
200	132	264	150	110	223	CI-200-P4	KDRULG3LE01
250	160	325	200	132	264	CI-250-P4	KDRULG1LE01
350	220	432	250	160	325	CI-350-P4	KDRULJ2LE01
400	280	547	300	220	432	CI-400-P4	KDRULJ1LE01

P-SERIES DIMENSIONS

*ALL MEASUREMENTS IN INCHES



P-Series Drive	H x W x D, (A x B x C)
CI-007-P2	11.19" x 5.91" x 6.17"
CI-007-P4	
CI-010-P2	11.18" x 7.87" x 7.16"
CI-010-P4	
CI-015-P2	
CI-015-P4	15.16" x 9.84" x 7.94"
CI-020-P2	
CI-020-P4	
CI-025-P2	
CI-025-P4	18.11" x 11.97" x 9.22"
CI-030-P2	
CI-030-P4	
CI-040-P2	
CI-040-P4	20.28" x 11.81" x 10.46"
CI-050-P4	
CI-060-P4	20.28" x 11.81" x 11.52"
CI-075-P4	
CI-100-P4	23.09" x 14.57" x 13.29"
CI-125-P4	
CI-150-P4	30.26" x 20.80" x 16.64"
CI-200-P4	
CI-250-P4	33.23" x 20.80" x 16.64"
CI-350-P4	
CI-400-P4	41.85" x 21.17" x 17.70"
CI-500-P4	
CI-600-P4	43.7" x 30.8" x 17.4"
CI-700-P4	