

PD20 SERIES

Power range: Three-phase input and three-phase output: 0.75-18.5kW

PD20 Series Smart Pro Pump Drive

PD20 series pump drive is a brand new generation high end smart all-in-one high protection product developed independently by SAJ. Dust and water proof, it can be installed on junction box of pump motor in various brands. Various kinds of sensor signal can be connected in. The system is easy to operate with good reliability, low noise, superior performance. Equipped with dual independent RS485 interface and RTC, it can realize multi-pump(main and host drive) control. When the main drive controls host drives with RS485, it can also communicate with other smart devices or upper machine by the other RS485.



Designed by international standard certification

CE certification, supporting export



Super high protection

Excellent dust and water proof effect
Light and stable



Appearance design concept derived from Europe

Elaborate design, good quality
Precise manufacture, reliable



Full water supply function

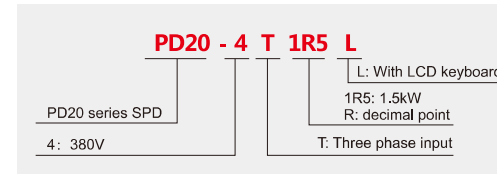
Dual 485, suitable for monitoring +multi-connection
RTC function,timing edition of applications
Fully improve dedicated functions of pumps



Technical Data

Control characteristic	Control mode	V/F control	
	Start torque	1Hz 100%	
	Speed regulation range	1:20	
	speed-holding precision	±1.0%	
	Overload capability	120% rated current for 60s, 150% rated current for 1s	
	V/F curve	Linear, squared curve	
	Acceleration/deceleration time	Range: 0.1-800s	
	Input/output and I/O	Input voltage	220V/380V±15%
		Input frequency range	50/60Hz, fluctuation range: ±5%
		Output voltage	0-rated input voltage
Output frequency		0-50/60Hz	
Peripheral interface	Programmable digital input	2 digital input	
	Communication interfaces	Equipped with one isolated RS485, and one extended Rs485	
	Programmable analog input	Dual circuit, it can be set as voltage or current input by setting parameters; input voltage range 0-10V; input current range 0/4-20mA	
	Analog power	4-13,+24V dual power	
	Relay output	1 output, programmable	
	Open collector output	1 output, programmable	
Basic functions	Analog output	Reserved	
	Command running channel	Four kinds of channels: 1. operation panel 2. control terminal 3. serial communication port, choose 1 and 2 for host drive and 3 for auxiliaries 4. pressure of water inlet	
	Internal dock	LCD keyboard built-in RTC	
	Integrated PID	Advanced PID arithmetic to realize closed loop control system	
	Host and auxiliary drive connection	Extensible dual RS485 design, One drive in the system can be host and controls auxiliaries (5 at most) to work by communication mode. Host sends PID feedback to auxiliaries and monitors status of auxiliaries in real time. If failure occurs, the auxiliary will be skipped. The host can control auxiliaries and communicate with upper computer through the extended RS485 at the same time.	
	AVR	When grid voltage changes, it keeps output voltage constant automatically. By default, it doesn't work at deceleration.	
	Stall control	Automatically limit current and voltage at running period to prevent tripping caused by frequent overcurrent/over voltage.	
	Password setting	4-bit password can be set with non-zero numbers. Exit password setting interface and the password will be valid after 1 minute.	
	Parameter lock	Define whether the parameter is locked in running or stopped state in case of misoperation.	
	Pump control	Automatic energy-saving running	Decrease output voltage automatically at light load to save energy.
Constant pressure control		PID adjustment, PID feedback of break detection, PID sleeping and wakeup	
Self-starting at power on		Optional self-starting at power on, adjustable starting delay	
Anti-freezing		Anti-freezing running frequency, time and cycle	
Water supply protection	Water leakage inspection	Optimize sleeping control by water leakage inspection	
	High pressure alarm	Detect feedback pressure to protect pipe network	
	Low pressure alarm	Detect feedback pressure to protect pipe network and pumps	
	Water shortage protection	Multiple water shortage protection detection modes (including no sensor mode) Controller detects that pipe network pressure is lower than water shortage pressure, system stops working automatically. After set period, it restarts automatically for specified times. If pressure restores to normal, system works normally. Otherwise, system stops automatically in case of idle running of pump and prolongs pump lifetime in maximum.	
Application environment	Installation environment	Installation environment should have be without direct sunlight, dust, corrosive gas, inflammable gas, oil mist, steam, water drop	
	Altitude	Lower than 1000m, service in derated capacity above 1000m. Derate 1% capacity every 100m increase in height.	
	Environmental temperature	-10℃~+40℃, service in derated capacity for 40℃~50℃. Derate 4% capacity every 1℃ increase in temperature.	
	Vibration	<5.9m/S ² (0.6G)	
Storage temperature	-40℃~+70℃		

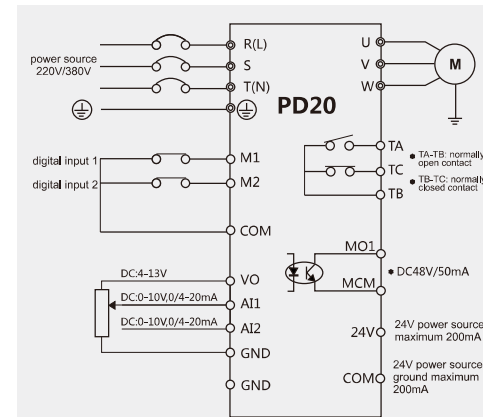
Model Number Description



Selection Guide

Voltage class	kW	HP	Rated input current (A)	Rated output current (A)	Size No.	Series	2: 220V 4: 380V	T: three phase S: single phase	Adaptive motor power	
Single phase 220VAC ±15%	0.75	1	8.2	4.5	1	PD20	-	2	S	R75
	1.5	2	14.2	7	1	PD20	-	2	S	1R5
	2.2	3	23	10	1	PD20	-	2	S	2R2
Three phase 380VAC ±15%	0.75	1	3.4	2.5	1	PD20	-	4	T	R75
	1.5	2	5	3.7	1	PD20	-	4	T	1R5
	2.2	3	5.8	5	1	PD20	-	4	T	2R2
	4	5	10	9	2	PD20	-	4	T	004
	5.5	7	15	13	2	PD20	-	4	T	5R5
	7.5	10	20	17	2	PD20	-	4	T	7R5
	11	15.0	26	25	3	PD20	-	4	T	11
	15	20.4	35	32	3	PD20	-	4	T	15
	18.5	25.2	38	37	3	PD20	-	4	T	18R5

Wiring Diagram



Notes:

- Terminals Ⓞ refers to main circuit terminals; ○ refers to control circuit terminals.
- When selected control voltage is 220V, connect terminals R and T.
- Do not break the keyboard cable when unplugging it.

Outline Dimensions

