

PDRV2_001K50M_S1LE1E2P4_OOOOO**PumpDrive 2**

Modular, self-cooling frequency inverter enabling continuously variable speed control of asynchronous and synchronous reluctance motors.

Design concept of control unit	PumpDrive 2
Display type	With graphic control panel
Rated power	1.50 kW
Max. allowed current	4.9 A
M12 module	Without
Remote operation	Without
Main switch	Without
Fieldbus	without fieldbus

Optional IO module
Mounting

Without
MM - Prepared for mounting on the motor

Weight
PumpDrive length
PumpDrive width
PumpDrive height
Manufacturer
PumpDrive adapter
Designation

5 kg
260.0 mm
190.0 mm
166.0 mm
KSB
Yes
PDRV2_SIZEA_BG90

Parameterized for driver

Motor manufacturer	Siemens
Type series motor manufacturer	1LE1

Efficiency class	IE2 acc. to IEC 60034-30
Motor pole number	4

Characteristic

Mains voltage: 3 ~ 380 V AC -10% to 480 V AC +10 %

Mains frequency: 50 - 60 Hz +/- 2%

Interference suppression class: <= 11 kW: EN 61800-3 C1 / EN 55011 Class B / cable length <= 5 m

Interference suppression class: > 11 kW: EN 61800-3: C2 / EN 55011 Class A, Group 1 / cable length <= 50 m

Internal power supply: 24 V +/- 10 %, max. 600 mA DC

Service interface: optical

2 analog inputs, 0/2-10 V or 0/4-20 mA

1 analog output, 0-10 V or 4-20 mA

Digital inputs:

1 hardware enable input

5 parameterisable inputs

Relay output: 2 changeover contacts, parameterisable

Environment:

IP 55 enclosure (acc. EN 60529)

Ambient temperature: -10 to 50 °C

Rel. humidity in operation: 5 % to 85 % (non-condensing)

Note regarding Outdoor installation: Provide the frequency inverter with suitable protection when installed outdoors to prevent condensation on the electronic equipment and exposure to excessive sunlight.

Housing:

Heat sink: die-cast aluminium

Housing cover: die-cast aluminium

Control panel: Polyamid, glass fibre reinforced

Protective functions:

- Full protection by means of overcurrent limitation and PTC thermistor monitoring.
- Automatic speed reduction at overload and excessive temperatures. Protection against phase failure motor side, short-circuit monitoring motor side (phase to phase and phase to earth), overvoltage/undervoltage
- Protection against motor overload.
- Suppression of resonant frequencies.
- Cable integrity monitoring (live zero).
- Protection against dry running and hydraulic blockage (sensorless via learning function)
- Characteristic curve control

Open/closed-loop control

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- Open-loop control via analog input, display or fieldbus
- User-definable max. speed (0 to 70 Hz or 140 Hz).
- Closed-loop control mode via integrated PID controller
- Controlled variables: pressure, differential pressure delta-p (constant) or delta-p (variable), temperature, level control, flow rate
- Sensorless differential pressure control (Δp const) in a single-pump configuration
- Sensorless differential pressure control with dynamic pressure compensation (Δp var) in a single-pump configuration
- Sensorless flow rate control
- Sensorless dynamic pressure compensation for pipe friction losses (DFS curve), enabling higher energy savings.
- Flow rate estimation
- Alternative setpoint
- Functional check run

Operation and display:

- Display of measured values and alerts and for setting parameters, incl. fault history, operating hours counter (motor, frequency inverter)
- Display of operating point (Q, H)
- Energy savings meter
- Optical service interface for connection to KSB Service Tool.
- Commissioning Wizard
- Display can be removed and mount on a wall or piping

PumpDrive functions

- Programmable start and stop ramps
- Field-oriented control (vector control) with selectable motor control method (ASM, SuPremE)
- Automatic motor adaptation (AMA)
- Manual-0-automatic operation.
- Sleep mode (stand-by mode)

Installation options:

- M12 module for bus connection of PumpMeter and for multiple pump operation of up to six pumps
- Wireless module for communication with a Smartphone
- Field bus modules Profibus DP, LON, Modbus RTU, BACnet MS/TP, Profinet
- I/O extension board
- Master switch

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Position	Quantity	Text for invitation of tenders		
100	1	PDRV2 _001K50M_S1LE1E2P4_OOOOO		

Modular, self-cooling frequency inverter enabling continuously variable speed control of asynchronous and synchronous reluctance motors.

Installation options:

Motor-mounted, wall-mounted or cabinet-mounted from 0,37 - 55 kW.

Protective functions:

- Full protection by means of over current limitation and PTC thermistor monitoring
- Automatic speed reduction at overload and excessive temperatures. Protection against phase failure motor side, short-circuit monitoring motor side (phase to phase and phase to earth), overvoltage/undervoltage
- Protection against motor overload
- Suppression of resonant frequencies.
- Cable integrity monitoring (live zero).
- Protection against dry running or hydraulic blockage (sensor less due to learning function).
- Characteristic curve control

Open/closed-loop control

- Open-loop control via analog input, display or fieldbus
- User-definable max. speed (0 to 70 Hz or 140 Hz).
- Closed-loop control mode via integrated PID controller.
- Controlled variables: pressure, differential pressure delta-p (constant) or delta-p (variable), temperature, level control, flow rate
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Operation and display:

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<= 11 kW: EN 61800-3 C1 / EN 55011 Class B / cable length <= 5 m

> 11 kW: EN 61800-3: C2 / EN 55011 Class A, Group 1 / cable length <= 50 m

Housing:

Heat sink: die-cast aluminium

Housing cover: die-cast aluminium

Control panel: Polyamid, glass fibre reinforced

Mains voltage 3~380 V AC -10 % to 480 V
AC +10 %

Mains frequency 50 - 60 Hz ± 2 %

Internal power supply unit 24 V DC ± 10 %, max. 600
mA DC

IP enclosure IP55 (acc. EN 60529)

Ambient temperature -10 to +50°C

Rel. humidity 5 to 85 % (non-condensing)

Note regarding Outdoor installation: Provide the frequency inverter with suitable protection when installed outdoors to prevent condensation on the electronic equipment and exposure to excessive sunlight.

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Digital inputs:

1 hardware enable input

5 parameterisable inputs

Relay output:

2 changeover contacts, parameterisable

Manufacturer

KSB

Type series

PumpDrive 2

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Position	Quantity	Text for invitation of tenders		
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Parameterized for driver

Motor manufacturer	Siemens
Type series motor manufacturer	1LE1
Motor size	90L
Efficiency class	IE2 acc. to IEC 60034-30
Motor pole number	4

Design

M12 module	Without
Remote operation	Without
Fieldbus	without fieldbus
Optional IO module	Without
Main switch	Without
Rated power	1.50 kW
Max. allowed current	4.9 A
Display type	With graphic control panel
Design concept of control unit	PumpDrive 2