



**Self-cooling,
motor-independent
frequency inverter**

Mounting variants
Motor mounting (MM)
Wall mounting (WM)
Cabinet mounting (CM)

Applications

Building services

- Ventilation and air-conditioning
- Heat generation / distribution
- Water supply

Water

- Water extraction / withdrawal
- Water treatment / conditioning
- Water distribution / transport

Industry

- Refrigeration / distribution
- Heat generation / distribution
- Water conditioning
- Fluid transport
- Cooling lubricant distribution
- Water extraction
- Service water supply

Waste water

- Tank drainage
- Waste water transport

Enhanced with PumpDrive, a pump together with the appropriate sensors is turned into an intelligent, variable speed pumping system, ideal for both single pump operation and multiple pump configurations with up to six pumps.

PumpDrive is also particularly suitable for upgrading installed fixed speed pumps or pumping systems.

The PumpDrive standard model described here is not suitable for use with pressure boosting systems.

Product description

PumpDrive is a self-cooling frequency inverter, which allows the speed of three-phase motors to be varied continuously by means of standard signals (4–20 mA; 0–10 V), a field bus or the control panel.

As PumpDrive is self-cooling, it can be mounted on a motor (MM), on the wall (WM) or in a cabinet (CM).

PumpDrive can be configured to suit specific applications, using the control panel or the service software.

Performance data

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

Mains frequency: 50 – 60 Hz ± 2 %

Power factor: ≥ 0.9 at a carrier frequency of 2 kHz of the inverter

Efficiency: 97 % with FPWM: 2 kHz

Enclosure: IP 55¹⁾

Power range:

0.55 – 45 kW	MM (motor-mounted model)
0.55 – 45 kW	WM (wall-mounted model)
0.55 – 45 kW	CM (cabinet-mounted model)

Housing material:

Heat sink: Die-cast aluminium

Housing cover: Noryl

Control panel: PA66, glass fibre reinforced

¹⁾ PumpDrives which are installed outdoors must be provided with suitable protection to prevent condensation on the electronic equipment and exposure to excessive sunlight.

Designation

PumpDrive type code

	2	018K50	AH	P	SI	2
Mounting variant	2	018K50	AH	P	SI	2
2 = Cabinet-mounted						
3 = Wall-mounted						
5 = Motor-mounted (factory-set)						
Power						
For example:						
000K55 = 0.55 kW						
018K50 = 18.5 kW						
045K00 = 45 kW						
Functions / Control panel						
AH = Advanced with graphical control panel						
B0 = Basic with standard control panel						
BH = Basic with graphical control panel						
CH = Basic with standard control panel and integrated dual pump control						
Field bus module						
L = LON						
P = Profibus						
0 = none						
Parameterization: motor						
SI = for Siemens motor						
CA = for Cantoni motor						
Parameterization: number of poles						
2 = 2 poles						
4 = 4 poles						

PumpDrive applications

The following pump / PumpDrive configurations are available.

	PumpDrive		
	Type 5.. MM: Motor mounting (with suitable adapters)	Type 3.. WM: Wall mounting	Type 2.. CM: Cabinet mounting
	Basic / Advanced	Basic / Advanced	Basic / Advanced
Movitec	■ 1)	■	■
Etaline	■	■	■
Etaline Z	■	■	■
Etabloc	■	■	■
Etanorm	■	■	■
Etachrom	■	■	■
CPKN	■	■	■
Triachem	■	■	■
SIEMENS motor	■	■	■
CANTONI motor	■	■	■
Motor, supplier-neutral²⁾	on request	■	■

1) Adapted to pump flange

2) Standard asynchronous motors to IEC 60072 / IEC 60034. The motor used must be suitable for use with a frequency inverter.

Overview of pump selection programs

The following table indicates which pumping system can be selected with which selection program.

Due to the large number of possible variants, the ident. numbers are not documented in this type series booklet.

The ident. numbers can be found in the appropriate selection program or in the Pump / PumpDrive product literature.

"Pump plus PumpDrive" type series booklets are available for some pump series and can be ordered from XBS (refer to the table for the Ref. No.) or downloaded from the Product Catalogue on the KSB web site (www.ksb.com).

	PumpDrive				Type series booklet (Pump+PumpDrive)
	EasySelect	Offert	Elocat	Price list	
Movitec PumpDrive		■		■	Ref. No. 1798.5
Etaline PumpDrive		■	■	■	Ref. No. 1149.52
Etaline Z PumpDrive			■	■	Ref. No. 1154.51
Etabloc PumpDrive	■			□ (No ident. number)	Etabloc Ref. No. 1167.5 + Available product literature
Etanorm PumpDrive	■			□ (No ident. number)	Etanorm Ref. No. 1211.5 + Available product literature
Etachrom PumpDrive	■				2)
CPKN PumpDrive	■				CPKN Ref. No. 2730.5 + Available product literature
Triachem PumpDrive	■				Triachem + Available product literature
PumpDrive Retrofit		■		■	Available product literature

2) Etachrom, standardized, Ref. No. 1212.5 + available product literature
Etachrom Bloc, Ref. No. 1213.51 + available product literature

Project planning information

PumpDrive Size		Power [kW]	Cable gland for					Input current ¹⁾ [A]	Max. cable cross-section for mains power supply ²⁾³⁾ [mm ²]
			I _{rated} ⁴⁾ [A]	Mains power supply cable	Sensor cable	Motor cable	PTC thermis- tor		
A	.. 000K55 ..	0.55	1.8	M25	M16	M25	M16	1.9	2.5
	.. 000K75 ..	0.75	2.5					2.6	
	.. 001K10 ..	1.1	3.5					3.7	
	.. 001K50 ..	1.5	4.8					5.0	
	.. 002K20 ..	2.2	6.0					6.3	
	.. 003K00 ..	3	8.0					8.5	
B	.. 004K00 ..	4	10.0	M25	M16	M25	M16	10.5	2.5
	.. 005K50 ..	5.5	13.0					13.7	
	.. 007K50 ..	7.5	16.5					17.3	
C	.. 011K00 ..	11	25.0	M32	M16	M32	M16	26.5	10
	.. 015K00 ..	15	31.0					32.6	
	.. 018K50 ..	18.5	39.0					41	
	.. 022K00 ..	22	45.0					47.3	
D	.. 030K00 ..	30	65.0	M40	M16	M40	M16	68.3	35
	.. 037K00 ..	37	80.0					84.0	
	.. 045K00 ..	45	93.0					97.7	

¹⁾ Observe the information on the use of line chokes provided in the "Accessories and optional equipment" section.

²⁾ Max. cable cross-section: 0.75 mm² for the signal cables for digital inputs / field bus interface / 24 V DC supply, digital / analog outputs

³⁾ Max. cable cross-section: 1.5 mm² for the signal cables for volt-free relays / analog inputs

⁴⁾ At a max. ambient temperature of 40 °C

PWM carrier frequency

- Sizes A and B: 4 kHz

- Sizes B and C: 2.5 kHz

Residual current devices

According to DIN VDE 0160 three-phase frequency inverters must be connected via universal **AC / DC sensitive residual current devices** (RCDs), as potential direct-current components may cause standard AC sensitive RCDs to either fail to respond or respond erroneously. If fixed connections and appropriate supplementary earthing are used (cf. DIN VDE 0160), RCDs are not mandatory.

Residual current devices with a rated current of 150 mA must be used for PumpDrives sizes A and B.

Residual current devices with a rated current of 300 mA must be used for PumpDrives sizes C and D.

On account of the higher discharge / leakage current (>3.5 mA) a permanent, fixed installation and **reinforced protective earthing** on the drive are mandatory.

Technical data

Mains voltage	3 ~ 380 V -10 % to 480 V + 10 % ⁷⁾
Voltage difference between the three phases	± 2 % of the supply voltage
Mains frequency	50 - 60 Hz ± 2 %
FI output frequency:	0 - 70 Hz
PWM carrier frequency ⁵⁾	Range: 1-8 kHz, in 0.5 kHz steps PumpDrive sizes A and B: 4 kHz PumpDrive sizes C and D: 2,5 kHz
Phase rate of rise dv/dt ¹⁾	Max. 5000 V/μs, (depending on the PumpDrive size)
Peak voltages	$2 \cdot 1.41 \cdot V_{\text{eff}}$ ²⁾
Enclosure	IP 55 ³⁾
In-service ambient temperature range ⁶⁾	0 °C to +40 °C
In-storage ambient temperature range	-10 °C to +70 °C
Rel. humidity	Operation: max. 85 %, non-condensing Storage: 5 % to 95 % Transport: max. 95 %
Altitude requirements	< 1000 m above MSL, or 1 % power derating per additional 100 m
RFI suppression to DIN EN 55011	Class B for motor ratings ≤ 7.5 kW, cable length < 5 m Class A for motor ratings > 7.5 kW, cable length < 50 m
Mains feedback	Integrated line chokes ⁴⁾
Internal power supply unit	24 V ± 10 % / max. 80 mA DC
Number of parameterizable analog inputs	2
Voltage input	0/2 - 10 V DC
Input resistance R _i	22 kΩ
Current input	0/4 - 20 mA DC
Input resistance R _i	500 Ω
Resolution	10 bit
Number of parameterizable analog outputs	1 (switching between 4 output values)
Voltage output	0 - 10 V / max. 5 mA DC
Number of digital inputs	6 in total, 4 of these can be parameterized as required
Number of parameterizable relay outputs	2x NO contacts
Maximum contact rating	250 V AC / 1 A

¹⁾ Take into account the dependency on the cable capacity.

²⁾ Cables with a high current-carrying capacity can cause the voltage to increase up to double the value.

³⁾ PumpDrives which are installed outdoors must be provided with suitable protection to prevent condensation on the electronic equipment and exposure to excessive sunlight.

⁴⁾ Observe the information on the use of line chokes provided in the "Accessories and optional equipment" section.

⁵⁾ Power derating for increased carrier frequency:

$$\text{Sizes A and B (at PWM carrier frequency } > 4 \text{ kHz): } I_{\text{rated(PWM)}} = I_{\text{rated}} \cdot (1 - [f_{\text{PWM}} - 4\text{kHz}] \cdot 2,5\%)$$

$$\text{Sizes C and D (at PWM carrier frequency } > 2,5 \text{ kHz): } I_{\text{rated(PWM)}} = I_{\text{rated}} \cdot (1 - [f_{\text{PWM}} - 2,5\text{kHz}] \cdot 3,5\%)$$

⁶⁾ Power derating for higher ambient temperature:

The max. ambient temperature of 50 °C must not be exceeded!

$$I_{\text{rated(Temp)}} = I_{\text{rated}} \cdot (1 - [T_{\text{Ambience}} - 40^{\circ}\text{C}] \cdot 3\%)$$

⁷⁾ If the mains voltage is low, the rated torque of the motor will be reduced.

Functions

Functions	PumpDrive ...	
	Basic	Advanced
Protective functions		
Thermal motor protection by PTC thermistors	■	■
Electrical motor protection by overvoltage / undervoltage monitoring	■	■
Dynamic overload protection by speed limitation (i^2t control)	■	■
Dry running protection (sensorless)		■
Dry running protection (external control signal)	■	■
Characteristic curve control (P_{min} , P_{max})	■	■
Open-loop control		
Open-loop operation via setpoint setting	■	■
User-definable speed (0 to 70 Hz)	■	■
Stand-by mode (stop at minimum speed after a defined period of time)	■	■
Programmable start and stop ramps	■	■
Slave in multiple pump configuration with up to 6 pumps	■	■
Master in multiple pump configuration with up to 6 pumps		■
Dual pump configuration with built-in redundancy (by means of DPM module)	Accessories	
Closed-loop control		
Closed-loop operation via integrated, adjustable PI controller	■	■
Differential pressure control	■	■
Level control	■	■
Temperature control	■	■
Flow control	■	■
Dynamic pressure setpoint compensation	■	■ ¹⁾
Commissioning		
Plug & run	■	■
Automatic sensor recognition (when frequency inverter is started)	■	■
Operation		
3 LEDs (OK, Warning and Alert)	■	■
Standard control panel, rotatable 180°	■	
Graphical control panel, rotatable 180°	optional	■
Monitoring		
Fault history	■	■
Energy meter (kWh)	■	■
Operating hours counter (motor, FI)	■	■
Communication		
Profibus field bus system	optional	optional
LON field bus system	optional	optional
RS 232 service interface	■	■
RS 485 service interface	on request	
Mounting variants		
CM: Cabinet mounting	■	■
MM: Motor mounting (with adapter)	■	■
WM: Wall mounting	■	■

Table 1:

¹⁾ Only in combination with a flow meter

Monitoring

Various physical data, such as, for example, speed, motor current and system configuration can be displayed using the graphical control panel or the service software.

Fault history

The last eight faults of the PumpDrive can be read using the graphical control panel or the service software.

Statistics function

Utilization statistics can be called up providing information on the pump operating hours, drive runtime, number of start-ups as well as the energy consumed by the drive.

Stand-by mode (sleep mode)

When the pressure is controlled, PumpDrive will recognize whether the flow rate supplied is actually used. If there is no demand, PumpDrive will stop at a user-definable minimum speed and will only restart, once the pressure in the balancing tank falls, i.e. when there is actual demand from the system.

Automatic sensor recognition

PumpDrive is configured for open-loop operation as a standard and receives its setpoint via an analog input, a field bus or the control panel. If an additional current sensor signal (4–20 mA) is connected to the second analog input, the frequency inverter automatically switches to closed-loop operation. There is no need for additional parameterization.

Signal analysis for two transmitters

If two transmitters are used, the analysis can be based on the following criteria: subtraction, minimum / maximum value. The setpoint must be specified via the control panel or the field bus.

Dynamic overload protection by speed limitation (i²t control)

The frequency inverter and motor are protected against overload by means of sensors.

When the drive's load or temperature limit is reached, the speed is lowered in order to reduce the power (i²t control).

The drive can then no longer operate in closed-loop control mode but maintains the functions at a lower speed.

If the temperature cannot be sufficiently reduced by this measure, the drive will trip and switch to fault status.

Characteristic curve control (P_{min}, P_{max})

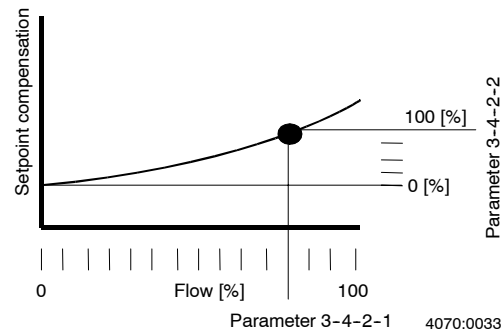
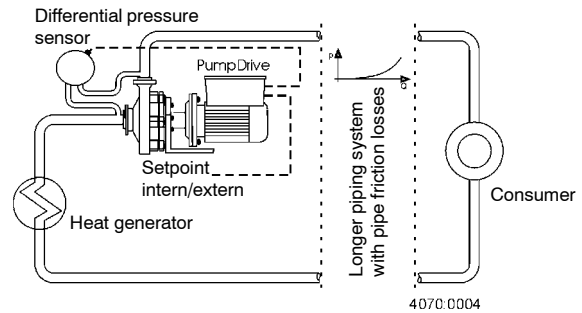
Using the power measurement function of PumpDrive, the pump characteristic curves can be monitored based on the motor input power. Limit values for activation of the monitoring function referred to pump characteristics and pump input power must be defined.

Characteristic curve control is used for starting and stopping pumps in a multiple pump configuration.

Dynamic pressure setpoint compensation

This function provides dynamic pressure setpoint compensation to account for pipe friction losses. In closed-loop control mode, pipe friction losses – which need to be considered when the pressure sensor is installed close to the pump – can be compensated.

Users can select whether setpoint compensation is to be based on either the speed of the drive or flow measurement. Depending on the motor speed, the differential pressure setpoint is automatically increased by a defined value (PumpDrive Basic only). When using PumpDrive Advanced or a multiple pump configuration, a flow meter must be installed for implementing the setpoint compensation function.

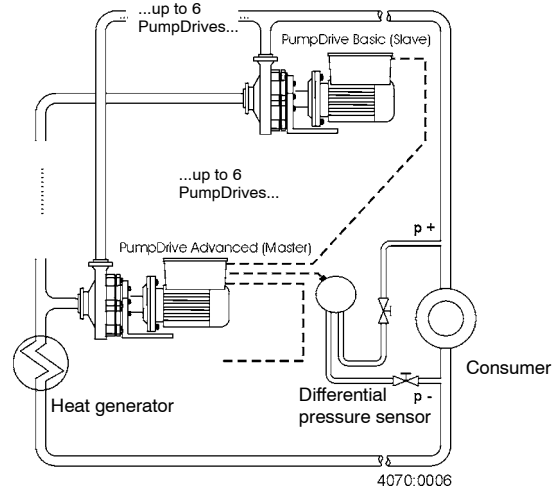


Multiple pump operation

Note

Multiple pump operation requires that the system be operated in closed-loop control mode (3-9-1-1 PI Mode enabled).

Open-loop control, open-loop control with fixed speed or open-loop control with digital potentiometer function are not permitted in multiple pump operation.



Up to six PumpDrives can be operated in parallel in a multiple pump (master / slave) configuration.

The defined master (PumpDrive Advanced) controls the slave drives (PumpDrive Basic) to ensure that they are utilized optimally.

If the master fails or malfunctions, one of the other PumpDrives (Advanced) can assume the role of master. This requires, however, that the appropriate signals be applied in parallel on each PumpDrive Advanced during configuration.

Additional setting options

The following setting options are not included in the factory default but can be set on the control panel or using the service software.

- Analog and digital input / output functions
- Relay functions
- Monitoring functions

Standard control panel

Ident. No.: 47 121 274

The standard control panel features LEDs for the “traffic light” function, an LED bar graph display, keys and a service interface. With the standard control panel, users can:

- Change between the Manual, Off and Automatic operating modes
- Display the operating status, the motor speed and the sensor signal via LEDs

- Specify the setpoint

Key functions

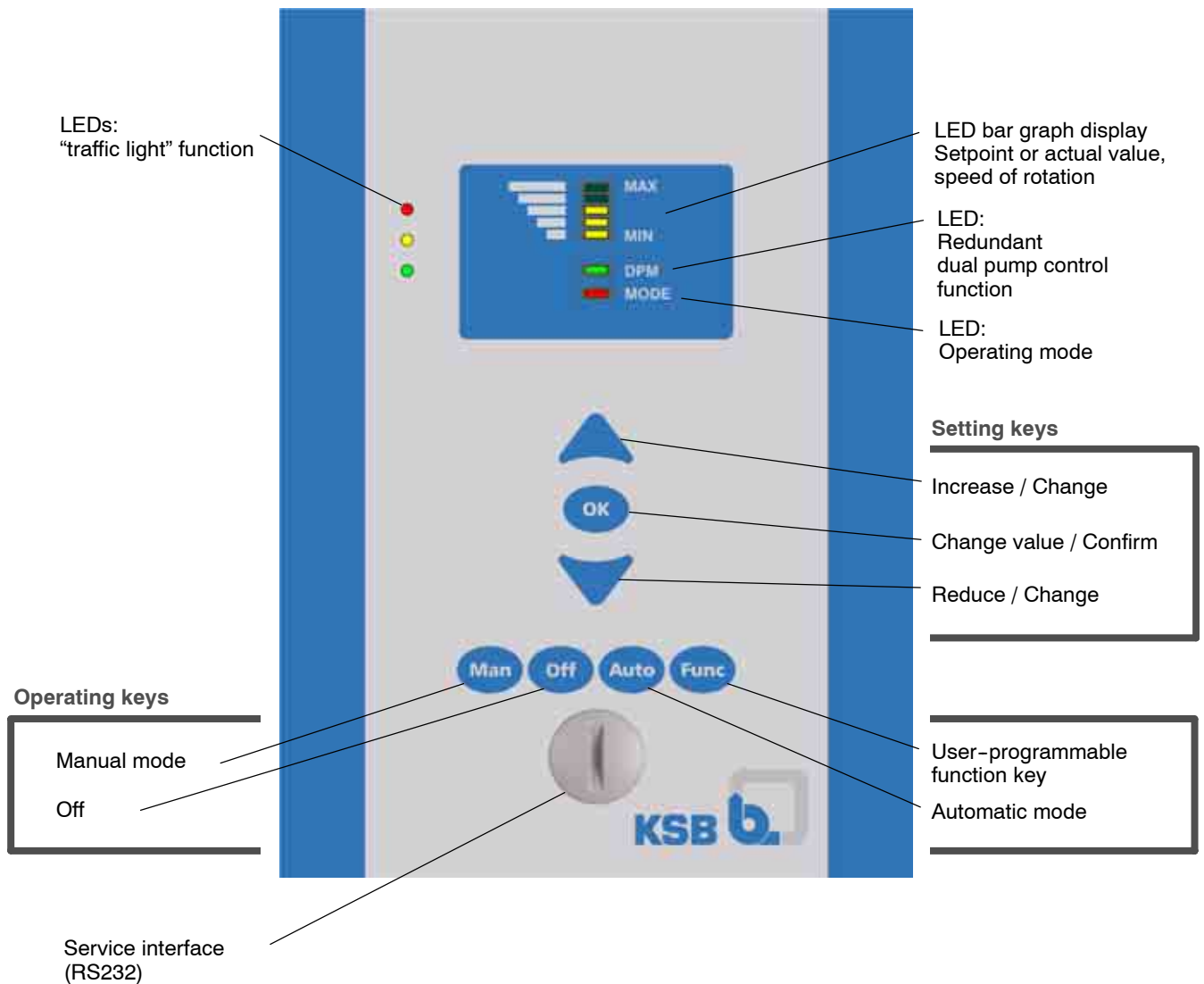


Fig. 1: PumpDrive standard control panel

A blanking plate (**ident number: 47 106 619**) that prevents intervention in the operating mode is available for safety-relevant applications.

Graphical control panel

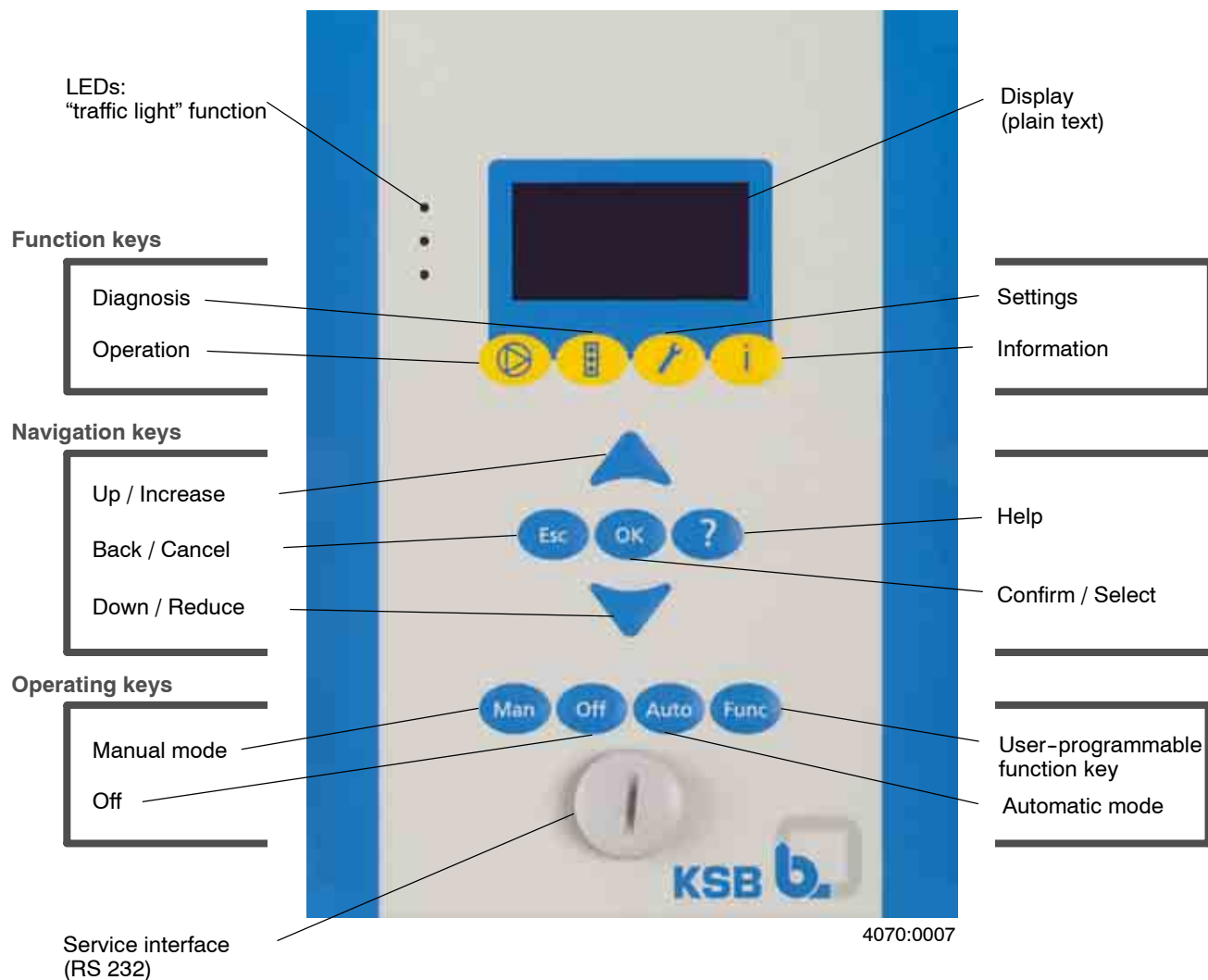
Ident. No.: 47 106 620 (Basic), 47 106 621 (Advanced)

The graphical control panel features a display screen, keys and a service interface.

The menu can be displayed on the graphical control panel screen and includes important information and commands for pump system operation.

Data can be displayed in plain text and parameters can be set.

Key functions



Menu structure

Operation menu level

- General operating data
- Motor parameters
- Analog / digital inputs and outputs
- PumpDrive parameters

Diagnosis menu level

- Messages (warnings and alerts)
- Alert history

Settings menu level

- Display language
- Basic settings of FI / motor
- Multiple pump operation (Advanced only)
- Protective functions for pump (Advanced only)
- Monitoring functions

Information menu level

- Serial number
- Software version

Accessories and optional equipment

Differential pressure sensors

Type DE 30

Output signal 4 - 20 mA / three-wire system

Supply voltage 15 - 30 V DC

Max. working resistance approx. 600 Ohm

Max. ambient temperature 40 °C

Measuring range [bar]	Gland / adapter	Ident. number ¹⁾
0 - 2.0	Rc 3/8	01 109 558
0 - 4.0	Rc 3/8	01 109 560
0 - 6.0	Rc 3/8	01 109 562
0 - 10.0	Rc 3/8	01 109 585
0 - 2.0	Rc 1/2	01 111 305
0 - 4.0	Rc 1/2	01 111 306
0 - 6.0	Rc 1/2	01 111 307
0 - 10.0	Rc 1/2	01 111 308

¹⁾ Complete with retaining plate, spiralled pipe sections and adapter

Output filter

In order to meet RFI suppression requirements to DIN 55011, the maximum cable lengths specified in the technical data must be observed. Output filters are required if longer cables are used.

Power [kW]	Max. current [A]	L [mm]	H [mm]	B [mm]	Ident. number
0.55	2.3	49	58	85	47 121 240
0.75	3.2	49	58	85	47 121 241
1.1	4.4	49	58	85	47 121 242
1.5	6	49	58	85	47 121 243
2.2	7.5	49	58	85	47 121 244
3	10	150	56	100	47 121 245
4	12.5	150	56	100	47 121 246
5.5	16.3	150	56	100	47 121 247
7.5	20.7	231	71	119	47 121 248
11	31.3	350	81	149	47 121 249
15	38.8	350	81	149	47 121 250
18.5	48.8	470	235	140	47 121 251
22	56.3	470	235	140	47 121 252
30	81.3	470	235	140	47 121 253
37	100	on req. ¹⁾	on req. ¹⁾	on req. ¹⁾	on req. ¹⁾
45	116,3	on req. ¹⁾	on req. ¹⁾	on req. ¹⁾	on req. ¹⁾

¹⁾ on req. = on request

Adapter for motor mounting

An adapter is only required if PumpDrive is to be mounted on the motor.

A suitable adapter (for Siemens or Cantoni motors) is to be selected based on the motor size and type of construction used.

Size Siemens motor	Ident. number	
	Type of construction V1 / V15	Type of construction B3
71	47 117 519	47 117 519
80	47 117 520	On request.
90	47 117 521	47 117 522
100	47 117 511	47 117 515
112M	47 117 512	47 117 512
132S	47 117 513	47 117 513
160	47 117 514	47 117 514
180M	47 117 516	47 117 516
200L	47 117 517	47 117 517
225M	47 117 518	47 117 518

Size Cantoni Motor	Ident. number	
	Type of construction V1 / V15	
1.1 kW	47 121 167	
3.0 kW	47 121 166	
4.0 kW	47 121 165	
7.5 kW	47 121 164	
22 kW	47 121 163	
37 kW	47 121 162	

Adapter for wall and cabinet mounting

The adapter for PumpDrive models CM and WM, which is suitable for both wall and cabinet mounting, is part of the KSB scope of supply as a standard.

PumpDrive Size	Ident. number
A + B	47 118 186
C + D	47 118 187

LON module

Ident. No.: 47 106 600

The plug-on LON interface module is connected to an available on-site LON network.

The LON interface is equipped with a FTT-10A Transceiver (Free Topology Transceiver).

The following parameters, for example, can be transferred:

- Start
- Stop
- Setpoint
- Actual value
- Speed
- Pressure (if connected to sensor)
- Pump status
- Pump fault or malfunction
- Operating hours
- Energy input
- Pump input power

Further details and parameters can be found in the LON literature for PumpDrive; refer to the Product Catalogue on the KSB web site.

The LON literature is based on the LONMARK Functional Profile Pump Controller V 1.0 - SFPTpumpController standard. If required, the HVAC Profile 0.93 can be supported.

The LON interface is put into service on site.

Note

PumpDrives used as single-pump drives can be monitored and controlled by a LON bus. A multiple pump configuration can only be monitored via LON; each PumpDrive then needs to be equipped with a LON module.

Profibus module

Ident. No.: 47 106 601

The Profibus module is a Profibus DPV0 Slave.

The following parameters, for example, can be transferred:

- Start
- Stop
- Setpoint
- Actual value
- Speed
- Motor frequency
- Motor power
- Motor current
- Alerts
- Warnings

Further details and parameters can be found in the Profibus literature for PumpDrive; refer to the Product Catalogue on the KSB web site.

The Profibus interface is put into service on site.

Note

Single-pump drives and multiple pump configurations can be monitored and controlled with just one Profibus module. It is not possible to use additional, redundant Profibus modules.

Line chokes

The line input currents indicated in the project planning information are for orientation purposes only; they refer to drive operation at nominal rating. These currents may vary depending on the actual line impedance. In low-impedance mains, higher currents may occur.

To limit the line input current, external line chokes can be used alongside the line chokes already integrated in PumpDrive (in the power range up to and including 45 kW). These are to be selected in accordance with the table below.

Line chokes also reduce mains feedback and improve the power factor.

The scope of DIN EN 61000-3-2 must be taken into account.

PumpDrive		Three-phase (3~) line choke: IP 00 enclosure; thermal class F; max. ambient temperature 40 °C							
Size	Power [kW]	Ln [mH]	In [A]	Isat	L [mm]	W [mm]	H [mm]	Weight [kg]	Ident. number
.. 000K55 ..	0.55	2.0	11	1.5 In	150	85	150	3.6	01 093 105
.. 000K75 ..	0.75								
.. 001K10 ..	1.10								
.. 001K50 ..	1.50								
.. 002K20 ..	2.20								
.. 004K00 ..	4.00								
.. 005K50 ..	5.50	1.1	28	1.5 In	180	120	178	8.3	01 093 106
.. 007K50 ..	7.50								
.. 011K00 ..	11.00								
.. 015K00 ..	15.00	0.5	51	1.5 In	180	135	178	10.5	01 093 107
.. 018K50 ..	18.50								
.. 022K00 ..	22.00								
.. 030K00 ..	30.00	0.1	100	1.5 In	180	180	180	10.8	01 093 108
.. 037K00 ..	37.00								
.. 045K00 ..	45.00								

Service software

Ident. No.: 47 121 211

A service software package, consisting of a CD-ROM, quick-reference instructions and a special connection cable (MiniUSB-RS232) is available for comfortable parameterization of PumpDrives using a PC.

Dual pump module (DPM)

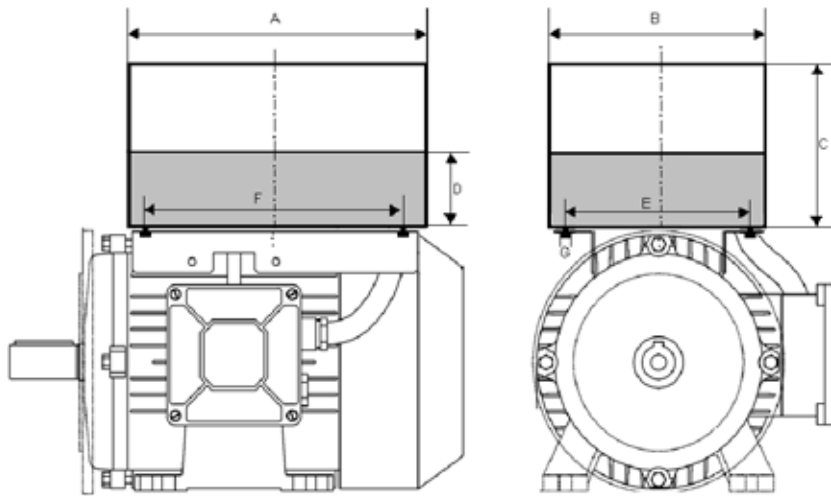
Ident. No.: 47 121 257

The plug-in dual pump module is available as an accessory. In combination with the standard control panel it provides a cost-efficient solution for controlling redundant twin pumps, such as for example Etaline Z, or two identical pumps operating in parallel.

Each drive must be equipped with its own DPM. The dual pump module cannot be used in combination with the graphical control panel or the blanking plate.

Dimensions and weights

Dimensions and weights refer exclusively to the PumpDrive without motor for motor mounting (MM), wall mounting (WM) and cabinet mounting (CM).



4070:0001

PumpDrive Size		Power [kW]	Dimensions				Mounting holes			Weight [kg]
			A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	
A	.. 000K55 ..	0.55	260 (312) ¹⁾	190	158 (168) ¹⁾	65	164 (164) ¹⁾	242 (292) ¹⁾	4xM6 9 mm	7
	.. 000K75 ..	0.75								
	.. 001K10 ..	1.1								
	.. 001K50 ..	1.5								
	.. 002K20 ..	2.2								9
	.. 003K00 ..	3								
B	.. 004K00 ..	4	325 (377) ¹⁾	250	170 (180) ¹⁾	65	224 (224) ¹⁾	307 (357) ¹⁾	4xM6 9 mm	10
	.. 005K50 ..	5.5								10.5
	.. 007K50 ..	7.5								
C	.. 011K00 ..	11	420 (482) ¹⁾	320	235 (245) ¹⁾	125	283 (283) ¹⁾	396 (458) ¹⁾	4xM8 12 mm	23
	.. 015K00 ..	15								30
	.. 018K50 ..	18.5								
	.. 022K00 ..	22								
D	.. 030K00 ..	30	600 (659) ¹⁾	450	290 (300) ¹⁾	125	410 (410) ¹⁾	573 (635) ¹⁾	4xM10 12 mm	48
	.. 037K00 ..	37								50
	.. 045K00 ..	45								

¹⁾ Dimensions given in parentheses apply to the wall-mounted (WM) and cabinet-mounted (CM) models only. All the dimensional data, i.e. both the sizes and the distances between the mounting holes, refer to the PumpDrive including the wall mounting brackets.