PENTAIR JUNG PUMPEN

OVERVIEW
CONTROL UNITS

BASICLOGO
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PCB control units for level control of one or two d.o.l. or Y-Δ starting pumps.

- BasicLogo AD/BD control units with selectable level contact switches
- BasicLogo AD/BD control units with integrated static air level control (for pressure drainage systems)
- BasicLogo AD/BD modular control units with selectable level contact switches

HIGHLOGO
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Microprocessor controls for level-controlled operation of one or more direct starting or Y-Δ starting pumps.

Comfortable and easy operation with multifunction button and clear text display. Wide range of features included in standard model.

- Control units with integrated level detection (for pressure drainage)
- Modular control units with selectable level contact switches

LEVEL CONTROL SENSOR
Page 288



Various level controls for the combination with BasicLogo and HighLogo controls for all applications

- Ball contact switch (pack) and Ex-Auxiliary switching device
- Static air level control
- Air diaphragm control unit
- Hydrostatic level control using a pressure transducer

ALARM SYSTEMS AND ACCESSORY
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Various accessories for pumps and lifting stations as well as for complete control units in casings for outdoor installation.

- Alarm system
- Alarm system for washing machines
- Protective motor plug
- Switching device for trial run
- Steal leak control units
- Casing for outdoor installation
- Signal transmitter a. installation material

CONTROL UNITS
BASICLOGO

DESCRIPTION

Electronic control unit for level control of one (AD) or two (BD) d.o.l. starting submersible pump(s).

The BasicLogo with the standard features meets all the necessary requirements for the reliable control of sewage pumps. It can be adapted to individual requirements and is suitable for use with both non explosion protected and explosion protected submersible pumps (AD/BD ...Ex types).

The control unit can be combined with a large variety of different level controls to suit the application concerned, and it is supplied with a buzzer as standard with a facility for off the line operation.

All BD types (for two pumps) automatically start up pumps 1 and 2 alternately. The resting pump is switched on during peak load or fault. Alternative operation of the unit without peak load function is possible, but with automatic switchover to the standby pump in the event of a fault. Variegated automatic start delay time after a power failure to prevent extreme rushes of current.

The clear and robust design of the unit enables it to be used outdoors in an empty outdoor casing at temperatures as low as -20°C without the need for any heating.



Control unit
for one pump



Control unit
for two pumps

- Proven and sturdy control systems
- User-friendly handling
- Integrated optimised standard functions
- Expandable functions
- Usable down to -20°C without heating
- Large range of level controls

Control units for one pump

Type	Motor protection A		Pre-fuse A	Code No.
AD 00E			16	**JP00289**
AD 00			16	**JP00311**
AD 25		2.4–4.0	16	**JP00310**
AD 46		4.0–6.0	16	**JP14353**
AD 610		6.0–9.0	16	**JP14354**
AD 910				**JP47263**
AD 4 ExW	for one explosion protected pump	4.0	16	**JP25901**
AD 8 ExW		8.0	16	**JP25902**
AD 23 Ex		1.0–1.6	16	**JP09754**
AD 25 Ex		2.4–4.0	16	**JP09683**
AD 46 Ex		4.0–6.0	16	**JP14355**
AD 610 Ex		6.0–9.0	16	**JP14356**
AD 910, Ex				**JP47265**

Control units for two pumps

Type	Motor protection		Pre-fuse A	Code No.
BD 00E		Sicherung 10	20	**JP45735**
BD 610EC		6.3–10.0	20	**JP45743**
BD 00		4.0–6.3	16	**JP45993**
BD 25		2.5–4.0	16	**JP45737**
BD 46		4.0–6.3	20	**JP45739**
BD 610		6.3–10.0	25	**JP45741**
BD 910				**JP47264**
BD 23 Ex	for two explosion protected pumps	1.0–1.6	16	**JP09755**
BD 25 Ex		2.5–4.0	16	**JP09681**
BD 46 Ex		4.0–6.3	20	**JP14360**
BD 610 Ex		6.3–10.0	25	**JP14361**
BD 910, Ex				**JP47266**

CONTROL UNITS
BASICLOGO

BasicLogo control units for one or two pumps

Standard features:	AD 00 E	AD 00	AD 25, 46,610, 910	AD 4.8 ExW	AD 23, 25, 46, 610, 910 Ex	BD 00 E	BD 610 EC	BD 00	BD 25, 46, 610, 910	BD 23, 25, 46, 610, 910 Ex
ISO casing enclosure IP 44, 155 mm deep, HxW in mm	275x250	275x250	275x250	455x250	275x250	455x250	455x250	455x250	455x250	455x250
Operating voltage 50 Hzp	1/N/PE 230V	3/N/PE 230/400V	3/N/PE 230/400V	1/N/PE 230V	3/N/PE 230/400V	1/N/PE 230V	1/N/PE 230V	3/N/PE 230/400V	3/N/PE 230/400V	3/N/PE 230/400V
Starting	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct
Motor contactor 4 kW/400 V AC3	1	1	1	1	1	2	2	2	2	2
Excess current relay for motor protection	–	–	1	–	1	–	–	–	–	–
Motor protection switch	–	–	–	1	–	–	2	2	2	2
Neozed fuse	–	–	–	–	–	10 A	–	–	–	–
Motor capacitor	–	–	–	1	–	–	2	–	–	–
A.C. power supply 230 V/2 A	1	1	1	1	1	1	1	1	1	1
Safty extra low voltage	1	1	1	1	1	1	1	1	1	1
Hand-Off-Automatic selector switch	1	1	1	1	1	2	2	2	2	2
Electronic buzzer	1	1	1	1	1	1	1	1	1	1
Alarm reset button	–	–	–	1	1	–	–	–	–	1
Temperature limiter with reset button	–	–	–	1	1	–	–	–	–	2
Indicator lamp for operation	1	1	1	1	1	2	2	2	2	2
Indicator lamp for sense of rotation	–	1	1	–	1	–	–	1	1	1
Indicator lamp for high water alarm	1	1	1	1	1	1	1	1	1	1
Indicator lamp for malfunction motor protection	–	–	1	1	1	–	2	2	2	2
Indicator lamp for malfunction temp. limiter	–	–	–	1	1	–	–	–	–	–
Pot. free contact for collective fault, 5A/250 V AC1	1	1	1	1	1	–	–	–	–	1
Watchdog timer 8.9 - 50.7 min.	–	–	–	1	1	–	–	–	–	1
Potential free contact, as before	–	–	–	1	1	1	1	1	1	1

possible level controls:	Art.Nr.										
Air diaphragm control unit with air bubbling system**	**JP01080**	•	•	•	•	•	•	•	•	•	•
Pressure switches for MultiCut pumps**	**JP17101**	•	•	•	•	•	•	•	•	•	•
Submersible switch pack A with 2 subm. ball contact switches 9.5 m cable and fixing devices*	**JP16718**	•	•	•	•	•	–	–	–	–	–
Submersible switch pack AmG with 2 subm. ball contact switches9.5 m cable and counterweights	**JP16719**	•	•	•	•	•	–	–	–	–	–
Subm. switch pack B with 3 subm. ball contact switches, 9.5 m cable, fixing devices*	**JP16725**	–	–	–	–	–	•	•	•	•	•
Subm. switch pack BmG with 3 subm. ball contact switches, 9.5 m cable and counterweights	**JP16726**	–	–	–	–	–	•	•	•	•	•
Auxiliary switching unit ExH-A**	**JP16720**	–	–	–	–	•	–	–	–	–	–
Auxiliary switch module Ex II**	**JP14427**	–	–	–	•	–	–	–	–	–	–
Auxiliary switch unit ExH-B**	**JP00295**	–	–	–	–	–	–	–	–	–	•
Hydrostatic level control unit HD 04	**JP44547**	•	•	•	–	–	•	•	•	•	–
Hydrostatic level control unit HD 04 Ex	**JP44548**	–	–	–	•	•	–	–	–	–	•

possible accessories:	Art.Nr.										
Main switch in separate ISO casing, 7.5 kW	**JP24508**	1	1	1	1	1	1	1	1	1	1
Main switch 7.5 kW ***	**JP18011**	1	1	1	1	1	1	1	1	1	1
LCD working hour meter, plug-in	**JP23243**	1	1	1	1	1	2	2	2	2	2
Protection against running dry	**JP41881**	–	–	–	1	1	–	–	–	–	1
ESM4, error message module***	**JP28999**	1	1	1	1	1	1	1	1	1	1
ESV-Module	**JP41850**	–	–	–	1		–	–	–	–	1
Rechargeable battery for off the line operation	**JP44850**	1	1	1	1	1	1	1	1	1	1

* Subm. switch packs for explosion proofed control units must only be used in conjunction with ExH-A or ExH-B auxiliary switching units.
** require separate rechargeable battery
*** Only in conjunction with housing extension. Price on request.

Explosion proofed control units must not be installed in an explosion hazard location!

CONTROL UNITS
BASICLOGO

DESCRIPTION

Electronic control unit for level control starting and time-dependent switching off of one (AD) or two (BD) explosion proof submersible pump(s), preferably with MultiCut cutting system.

All AD/BD ...ExM control units have a run dry protection (DRP) and an integrated static air level control with two independently operating pressure switches, which ensure high operating safety and low maintenance and therefore lower costs. In addition, the control units have a facility to adjust the pump follow-up time and start-up delay after a power failure, thereby optimising the pressure drainage system.

All BD ...ExM types for two pumps automatically start up pumps 1 and 2 alternately. The resting pump is switched on during peak load or fault. Alternative operation of the unit without peak load function is possible, but with automatic switchover to the standby pump in case of a fault. Variegated automatic start delay time after a power failure to prevent extreme rushes of current.

The clear and robust design of the unit enables it to be used outdoors in an empty casing at temperatures as low as -20°C without the need for any heating in the casing.



Control unit
for one pump



Control unit
for two pumps

- Proven and system-coordinated control technology
- User-friendly handling
- Functions optimised for pressure drainage systems
- Usable down to -20°C without heating

BasicLogo control units for a MultiCut pump with integrated static air level control

Type	Motor protection	A	Pre-fuse A	Code No.
AD 8 ExME, DRP	for one explosion protected pump	8.0	16	**JP43162**
AD 12 ExME, DRP		12.0	16	**JP43163**
AD 25 ExM, DRP		2.4–4.0	16	**JP43159**
AD 46 ExM, DRP		4.0–6.0	16	**JP43160**
AD 610 ExM, DRP		6.0–9.0	16	**JP43161**

BasicLogo control units for two MultiCut pumps with integrated level control

Type	Motor protection	A	Pre-fuse A	Code No.
BD 25 ExM, DRP	for two explosion protected pumps	2.5–4.0	16	**JP43165**
BD 46 ExM, DRP		4.0–6.3	20	**JP43166**
BD 610 ExM, DRP		6.3–10.0	25	**JP43167**

CONTROL UNITS
BASICLOGO

BasicLogo control units for one or two MultiCut pumps with integrated level control

Standard features:	AD 8 ExME, DRP	AD 12 ExME, DRP	AD 25,46,610 ExM, DRP	AS 610 ExM, DRP	BD 25,46,610 ExM, DRP
ISO casing enclosure IP44, 155 mm deep, mm HxW	455x250	455x250	275x250	455x250	455x250
Operating voltage 50 Hz~	1/N/PE 230V	1/N/PE 230V	3/N/PE 230/400V	3/N/PE 230/400V	3/N/PE 230/400V
Starting	Direct	Direct	Direct	YΔ-Start	Direkt
Motor contactor 4 kW/400 V	1	1	1	–	2
Y-delta composite contactor 7.5 kW/400 V	–	–	–	1	–
Excess current relay for motor protection	–	–	1	1	–
Motor protection switch	–	–	–	–	2
Fixed motor protection	8 A	12 A	–	–	–
Motor capacitor	1	1	–	–	–
A.C. power supply 230 V/2 A	1	1	1	1	1
Safty extra low voltage	1	1	1	1	1
Hand-Off-Automatic selector switch	1	1	1	1	2
Electronic buzzer	1	1	1	1	1
Reset buttons for alarm and temperature limiter	1	1	1	1	1
Indicator lamp for operation	1	1	1	1	2
Indicator lamp for sense of rotation	–	–	1	1	1
Indicator lamp for high water alarm	1	1	1	1	1
Indicator lamp for malfunction motor	1	1	1	1	2
Indicator lamp for malfunction temperature limiter	1	1	1	1	–
Indicator lamp for water defiency	1	1	1	1	1
Indicator lamp for span exceedance	1	1	1	1	1
Potential free contact for collective fault, 5A/250 V AC1	1	1	1	1	1
Potential free contact, as before, optionally pulsating	1	1	1	1	1
Pump follow-up time, adjustable from:	1–60 s	1–60 s	1–60 s	1–60 s	1–130 s
Watchdog timer, adjustable	534–3042 s	534–3042 s	534–3042 s	534–3042 s	534–3042 s
Start-up delay time, depending upon the follow-up time setting	1–10 s	1–10 s	1–10 s	1–10 s	–

Integrated static air level control and DRP					
Pressure switch for operation, operative range up to 3 m water level Switch-on point 100 mm water level, switch-off point 50 mm water level	1	1	1	1	1
Second pressure switch for emergency switch-on and alarm	1	1	1	1	1
Pressure sensor with 10 m air tube	2	2	2	2	2
Ex-proof level control for protection against dry running (DRP)	1	1	1	1	1

Accessories for standard casing:	Art.Nr.					
Main switch in separate ISO casing	**JP24508**	1	1	1	1	1
LCD working hour meter, plug-in	**JP23243**	1	1	1	1	2
Start delay module for freely adjustable start-up delay of 0-315 s	**JP41850**	1	1	1	1	1
Rechargeable battery for off the line operation	**JP44850**	1	1	1	1	1
Softstarting device to limit the starting current to max. 33A * only if 25/2 ME is connected	**JP24138**	–	1	–	–	–
Alarm system, acoustic sound emitted outside	**JP27402**	1	1	1	1	1
Accessories only with housing extension						
Housing extension to H 430 x W 250 mm	**JP41873**	–	–	1	–	–
Housing extension to H 610 x W 250 mm	**JP41874**	1	1	1	1	1
Amperemeter 0–10 A	**JP23297**	–	–	1	–	–
ESM4, single error message module**	**JP28999**	1	1	1	1	1
Main switch up to 6.5 kW	**JP22402**	1	1	1	1	1

* only with the initial order, installed in factory.
** require separate rechargeable battery

Explosion proofed control units must not be installed in an explosion hazard location!

Further accessories on request

CONTROL UNITS

HIGHLOGO MICROPROCESSOR CONTROL UNITS

DESCRIPTION

Microprocessor control unit for switching one or two direct starting pumps on and off, depending on the level, either with or without explosion protection.

All information and alarm messages are shown on the large graphic display which, in conjunction with the multifunction button, allows the control unit to adapt intuitively and flexibly to local conditions and requirements. Settings are protected with a freely selectable password to prevent misuse. An initial commissioning menu enables a fast installation. With just a few settings, the system covers more than 90% of all installation conditions. Separate buttons for each pump, for manual-0-automatic operation or for acknowledging alarms, also enhance the operating comfort. An integrated event memory provides comfortable diagnostic options as well.

The HIGHLOGO makes it easy to show the different operating states in the display and with the aid of additional LEDs. The features it offers include an operating hour counter for the pumps, switch-on cycles, and current consumption, which are indicated clearly on a backlit display. A collective error message and a high-water alarm can be transmitted potential-free, such as by the FTJP radio transmitter, which enables the system to be linked to a smart home infrastructure. It is also possible, however, to link it to a warning light or buzzer (230V) with a powered connection. In case of a power failure, the optional rechargeable battery reliably transmits the high-water alarm.

The HIGHLOGO control units can be equipped with a GSM module. Via the module, specific error and status messages are sent directly by e-mail and/or SMS to programmed alarm receivers.

An optional battery module enables alarm forwarding even in the case of a power failure. The alarms are additionally coded for possible further processing in the control room.

Since connections are provided for different types of level sensors, ranging from a submersible ball contact switch for straightforward use to high-grade submersible sensors for municipal use, this means that every possible application can be covered.

By activating a service menu, customers can be alerted to the required maintenance intervals. An individual phone number to contact can also be saved.

The compact design of the single and duplex systems allows them to be fitted in the building in a space-saving way but also in a discreet column out of doors.

For use specifically with pressure drainage systems, **HIGHLOGO ... LC control units are equipped with a static pressure module and dry run protection as standard**. The two pressure switches used for this purpose, with air hoses and open bells ending in the sump, have proved themselves in ground drainage for decades now, and the two-circuit system supplied as standard provides additional reassurance. The separate submersible ball contact switch for the dry run protection (DRP) also meets the requirements of the ATEX directive on explosion protection.

TECHNICAL DATA

Housing 275x250x155 mm (HxWxT)

Weight: approx. 4kg

Protection category: IP 44, (IP 55 on request)

Operating voltage: 3/PE 230/400 V, 50 Hz

Motor contactor(s): 4KW/400V

Operating temperature: -20 ... 50°C

Humidity: 0 to 90% RH, with no condensation

TYPE KEY

LC	with dry run protection float switch and pressure sensors
LCX	without dry run protection and pressure sensors
LCSX	with main switch but without dry run protection and pressure sensors



The following list gives some of the settings that can be made and read off:

- Switch-on delay after power failure
- Pump follow-up time
- Watchdog timing
- Automatic trial run
- Motor current monitoring
- Pump switching cycles
- Operating hours
- Level indicator
- Event memory

- Intuitive use
- Large backlit clear text display
- Initial commissioning menu
- Connection options for a range of different level sensors
- Compact design
- Multilanguage
- ATEX-compliant with electro mechanical motor protection

HighLogo ... LC (10 m)

Type	Motor protection A	Pre-fuse A	Code no.
HIGHLOGO 1-25 LC	2.4-4.0	16	**JP47984**
HIGHLOGO 1-46 LC	4.0-6.0	16	**JP47985**
HIGHLOGO 1-610 LC	6.0-9.0	16	**JP47986**

HighLogo ... LC (10 m)

Type	Motor protection A	Pre-fuse A	Code no.
HIGHLOGO 2-25 LC	2.5-4.0	16	**JP47993**
HIGHLOGO 2-46 LC	4.0-6.3	20	**JP47994**
HIGHLOGO 2-610 LC	6.3-10.0	25	**JP47995**

CONTROL UNITS

HIGHLOGO MICROPROCESSOR CONTROL UNITS

Single units ... LCX

Type	Motor protection A	Pre-fuse A	Code no.
HIGHLOGO 1-25 LCX	2.4–4.0	16	**JP48286**
HIGHLOGO 1-46 LCX	4.0–6.0	16	**JP48287**
HIGHLOGO 1-610 LCX	6.0–9.0	16	**JP48288**
HIGHLOGO 1-25 LCSX	2.4–4.0	16	**JP48292**
HIGHLOGO 1-46 LCSX	4.0–6.0	16	**JP48293**
HIGHLOGO 1-610 LCSX	6.0–9.0	16	**JP48294**

Duplex units ... LCX

Type	Motor protection A	Pre-fuse A	Code no.
HIGHLOGO 2-25 LCX	2.5–4.0	16	**JP48289**
HIGHLOGO 2-46 LCX	4.0–6.3	20	**JP48290**
HIGHLOGO 2-610 LCX	6.3–10.0	25	**JP48291**
HIGHLOGO 2-25 LCSX	2.5–4.0	16	**JP48295**
HIGHLOGO 2-46 LCSX	4.0–6.3	20	**JP48296**
HIGHLOGO 2-610 LCSX	6.3–10.0	25	**JP48297**

Hose set

DRP-float switch and pressure sensor set	10 m	**JP48301**
DRP-float switch and pressure sensor set	15 m	**JP48302**
DRP-float switch and pressure sensor set	20 m	**JP48303**

HighLogo for one pump

Type	Motor protection A	Pre-fuse A	Code no.
HIGHLOGO 1-00 E		16	**JP47987**
HIGHLOGO 1-00		16	**JP47988**
HIGHLOGO 1-25	2.5-4.0	16	**JP47989**
HIGHLOGO 1-46	4.0-6.0	16	**JP47990**
HIGHLOGO 1-610	6.3-9.0	16	**JP47991**
HIGHLOGO 1-910	6.0-12.0	20	**JP47992**

HighLogo for two pumps

Type	Motor protection A	Pre-fuse A	Code no.
HIGHLOGO 2-00 E		20	**JP47996**
HIGHLOGO 2-00		16	**JP47997**
HIGHLOGO 2-25	2.5-4.0	16	**JP47998**
HIGHLOGO 2-46	4.0-6.3	20	**JP47999**
HIGHLOGO 2-610	6.3-10.0	25	**JP48000**
HIGHLOGO 2-910	6.3-10.0	25	**JP48001**

Accessory

Type		Code no.
Main switch	15 kW, factory-fitting only	**JP48002**
Rechargeable battery	for mains-independent alarm	**JP44850**
HighLogo GSM Modem	for refitting (RTC module+GSM modem and flat antenna)	**JP50444**
HighLogo GSM Module	factory assembled (RTC module+GSM modem and flat antenna)	**JP49356**
Parameterisation GSM module	factory assembled, according to customer's specifications	**JP55202**
HighLogo 1 GSM rechargeable battery **12V**	for single units, factory assembled	**JP25884**
HighLogo 2 GSM eechargeable battery **12V**	for duplex units, factory assembled incl. casing enlargement	**JP49357**
GSM Antenna	for roof mounting, can be mounted in installation column, 1.5m cable	**JP49536**

Level sensor

Type		Code no.
Static pressure module		**JP26196**
Static pressure sensor	with analogue backpressure indicator	**JP26187**
Submersible sensor	with analogue level indicator	**JP44808**
Ex submersible sensor	with analogue level indicator, housing extension required	**JP44809**
Dry run protection	for explosion protected systems	**JP44807**
Air diaphragm control unit		**JP01080**
Submersible switch		
Submersible switch package A	2 submersible switches 9.5 m and cable holder	**JP16718**
Submersible switch package AmG	2 submersible switches 9.5 m with weights	**JP16719**
Submersible switch package B	3 submersible switches 9.5 m and cable holder	**JP16725**
Submersible switch package BmG	3 submersible switches 9.5 m with weights	**JP16726**
EXH-A	Galvanic separation for package A	**JP16720**
EXH-B	Galvanic separation for package B	**JP00295**
Rechargeable battery	for mains-independent alarm	**JP44850**

MODULAR CONTROL UNITS
BASICLOGO

DESCRIPTION

BasicLogo control units have a modular design and are built to order. In their basic configuration, they meet all the requirements for level-dependent starting and stopping of one or two submersible pumps.

All BD/BS types (for two pumps) start up pumps automatically and alternate between the pumps. The resting pump is switched on during peak load (optionally) or in the event of a fault. After a power failure, pump start-up is staggered to prevent extreme rushes of current.

All control units are fitted with a Neozed 6A control fuse. A manual-0-automatic selector switch and an operational status indicator is incorporated for every pump.

The control unit can be adapted to individual applications by combining it with various different level controls.

We also offer a wide range of modules and control elements for extending the control unit to meet individual requirements, including voltmeters, impulse counters, time meters, seal leak detectors, main switches, speed regulators, and connection to an emergency power generator.

The size of the sheet steel casing depends upon the electrical features required.

We build control units to your specification!



MODULAR CONTROL UNITS

HIGHTLOGO

DESCRIPTION

Microprocessor control unit for switching one or two direct starting pumps on and off, depending on the level, with the option of explosion protection.

All information and alarm messages are shown on the large graphic display which, in conjunction with the multifunction button, allows the control unit to adapt intuitively and flexibly to local conditions and requirements. Settings are protected with a freely selectable password to prevent misuse. An initial commissioning menu makes for fast installation. With just a few settings, the system covers more than 90% of all installation conditions. Separate buttons for each pump, for manual-0-automatic operation or for acknowledging alarms, also enhance the operating comfort. An integrated event memory provides comfortable diagnostic options as well.

The HIGHLOGO makes it easy to show the different operating states in the display and with the aid of additional LEDs. The features it offers include an operating hour counter for the pumps, switch-on cycles, and current consumption, which are indicated clearly on a backlit display. A collective error message and a high-water alarm can be transmitted potential-free, such as by the FTJP radio transmitter, which enables the system to be linked to a smart home infrastructure. It is also possible, however, to link it to a warning light or buzzer (230 V) with a powered connection. In case of a power failure, the optional rechargeable battery reliably transmits the high-water alarm.

Since connections are provided for different types of level sensors, starting from a submersible ball contact switch for straightforward use to high-grade submersible sensors for municipal use, this means that every possible application can be covered.

By activating a service menu, customers can be alerted to the required maintenance intervals. An individual phone number to contact can also be saved.

We also offer a wide range of modules and control elements for extending the control unit to meet individual requirements, including voltmeters, leak detectors, speed regulators, and connection to an emergency power generator.

We build control units to your specification!



CONTROL UNITS
LEVEL CONTACT SENSOR

DESCRIPTION

Submersible ball contact switches for direct level control of one single phase pump or for level control of 3-phase pumps and duplex units by control unit.

The hysteresis (difference between switch-on/switch-off) can be adjusted by altering the cable length of the submersible switch (= length of the cable from the fastening point to the float switch) within the range of 150-500 mm. A fixing device is available for fastening the submersible float switch cable inside the sump; for a suspended installation of the switch a counterweight is available which can be attached to the submersible switch cable.

For metallic isolation between the submersible ball contact switches and a control unit in the Ex-area. The auxiliary control device used provides intrinsically safe circuits for submersible switches or other operating units. Intrinsically safe means: explosion protection for the control circuits in accordance with EN 50014/50020.

In case of a power failure the transmission of switching commands is only possible if the auxiliary units are equipped with a rechargeable battery, the necessary automatic battery charger is standard scope of supply.



Submersible ball contact switch



ExH-A/B

Submersible ball contact switch

Type		Cable type	Cable length	Code No.
Single				
Subm. ball contact switch, cable black		H07RN-F-3G1.0	1.0 m	**JP44802**
Subm. ball contact switch, cable black		H07RN-F-3G1.0	3.0 m	**JP44800**
Subm. ball contact switch, cable black		H07RN-F-3G1.0	5.0 m	**JP44804**
Subm. ball contact switch, cable black		H07RN-F-3G1.0	9.5 m	**JP44801**
Subm. ball contact switch, cable red (up to 95°C)		SiH-F-3G1.0	3.0 m	**JP44806**
Subm. ball contact switch, cable red (up to 95°C)		SiH-F-3G1.0	9.5 m	**JP44805**
as a package				
A: 2 units with set of fixing accessories		H07RN-F-3G1.0	2 x 9.5 m	**JP16718**
CmG: 1 unit with counterweight		H07RN-F-3G1.0	1 x 9.5 m	**JP16739**
AmG: 2 units with counterweight		H07RN-F-3G1.0	2 x 9.5 m	**JP16719**
B: 3 units with set of fixing accessories		H07RN-F-3G1.0	3 x 9.5 m	**JP16725**
BmG: 3 units with counterweight		H07RN-F-3G1.0	3 x 9.5 m	**JP16726**
BH: 3 units with set of fixing accessories		SiH-F-3G1.0	3 x 9.5 m	**JP24768**
BHmG: 3 units with counterweight		SiH-F-3G1.0	3 x 9.5 m	**JP24769**

Ex-proof auxiliary control devices

Type	Code No.
ExH-A for control unit A...Ex in conjunction with subm.ball contact switches	**JP16720**
ExH-B or control unit A...Ex in conjunction with subm.ball contact switches	**JP00295**

Standard features:		KT	KT Hot water
Temperature resistance constantly/temporarily in °C		60/90	95/95
Breaking capacity 250 VAC		10 A (8 A)	10 A (8 A)
Breaking capacity 400 VAC		10 A (4 A)	10 A (4 A)
Contact closes with rising water level*		NO contact	NO contact
Protection (up to 4 bar)		IP 68	IP 68
Protection class (with earth conductor)		I	I
Optional accessories:			
Set of fixing accessories	**JP44789**	•	•
Counterweight for suspended installation	**JP44803**	•	•

Standard features:		ExH-A	ExH-B
ISO casing, enclosure IP54, 100 mm deep HxW in mm		180x130	180x130
Operating voltage 50 Hzp		1/N/PE 230 V	1/N/PE 230 V
Number of intrinsically safe circuits		2	3
Optional accessories:			
Rechargeable battery for off the line operation	**JP44850**	1	1

* Special versions with reverse operation or with changeover contact on request

CONTROL UNITS
LEVEL CONTACT SENSOR



M/LM



HD 04

DESCRIPTION

Level contact sensors are used to monitor and control the water level in tanks and sumps. Once the water levels set have been reached, signals are sent through relay contacts to the higher control (BasicLogo AD/BD...) which switches the pumps on and starts the alarm in the event of high water.

The pneumatic level contact sensors M and LM are principally used in explosion-protected areas.

Type M works according to the open static air pressure system. As the water level rises the air pressure in the piping increases. A pressure switch is actuated and the pump is switched on. The pump is switched off depending upon the water level and the time. A second pressure sensor is used as an alarm and emergency start-up system. Both sensors are located beyond the wastewater once the switch-off point has been reached.

Type LM works according to the air bubbling system. The switch-on and switch-off points are indicated by a pressure switch for each. The pressure sensor for the switch-off point remains underwater. A compressor provides the necessary aeration for this system at intervals.

The HD 04 series works with a hydrostatic, electronic pressure sensor which is permanently underwater. It gives an analog electronic signal to an evaluation electronic unit which can be programmed to certain threshold water levels. The process can recognise minimal differences in water level and is usable in all areas.

Pneumatic level contact sensor

Type	Code No.
Static air level control (M) for single and duplex units	**JP17101**
Air diaphragm control unit (LM) for single and duplex units	**JP01080**

Standard features:		M	LM
ISO casing, enclosure IP44, 155 mm deep, HxW mm		275x250	275x250
Operating voltage 50 Hz		1/N/PE 230 V	1/N/PE 230 V
Connection cable with safety plug		–	1,5 m
Compressor and electrovalve		–	•
Level monitoring		Static air pressure	Air bubbling
Static air pressure switch for operation, operative range: 3 m water level, switch-on point 100 mm switch-off point 50 mm		1	1
Second pressure switch for emergency switch-on and alarm		1	1
Pressure sensor with 10 m air tube		2	2
Follow-up time, adjustable from 1-120 s		•	–
Watchdog timer, adjustable from 10-180 s		•	–
Alarm delay, adjustable from 15-240 s		–	•
Potential-free NO contact for basic load, peak load and alarm		3	3
Optional accessories:			
Rechargeable battery for off the line operation	**JP44850**	1	1
Bracket for air tubs	**JP50213**	1	1

Hydrostatic level contact sensor

Type	Code No.
HD 04	**JP44547**
HD 04 Ex with explosion protection (Zone 1/2)	**JP44548**

Standard features:		HD 04	HD 04 Ex
ISO casing, enclosure IP44, 155 mm deep, HxW mm		275x250	275x250
Operating voltage 50 Hzp		1/N/PE 230 V	1/N/PE 230 V
Freely programmable switch-on and switch-off points		•	•
Minimum programmable level difference		1 cm	1 cm
Submersible sensor made of stainless steel 1.4571		•	•
PUR cable with integrated air tube for pressure equalisation 10 m		•	•
Diaphragm material		Keramik	Keramik
Compression Strength		10 mWS	10 mWS
Measuring range in m water level		0–4	0–4
Measured value signal in two-wire system, temperature-compensated		4–20 mA	4–20 mA
Programmable switch-on points		4	4
Programmable switch-off points		4	4
Potential-free contacts for model		4	4
Safty Barrier Ex ia II C		–	•
Optional accessories:			
Analog output 4-20 mA+	**JP24206**	•	•
Analog output 0-10 V*	**JP24207**	•	•
Protective pipe for PKS-A 800-D32**	**JP45898**	•	•
Protective pipe for PKS-B**	**JP45897**	•	•
Protective pipe for PKS-D 40/D40**	**JP45899**	•	•
Protective pipe for PKS-D D65/D80**	**JP45900**	•	•

* per device only 1 analog output possible

** for mounting on a concrete sump wall.
Other mounting configurations on request. Length = 0.6 m.

ALARM UNITS

DESCRIPTION

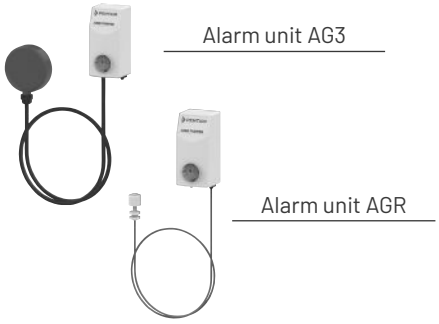
Alarm devices notify undesirably high water levels using a submersible ball contact switch or float switch, an electrode or a static air pressure system. They are useful where pumps are operated directly from the mains in a tank or sump without a control unit or level contact sensor.

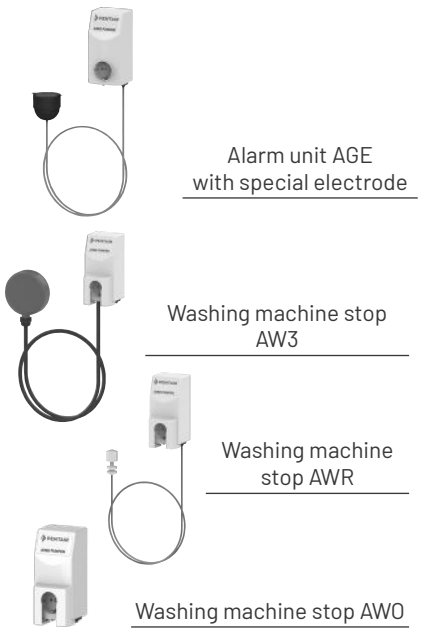
All alarm devices emit an acoustic signal and have a potential-free contact for remote alarm signalling (not in the case of AW ...). They can be extended for mains-independent operation using a rechargeable battery, thereby providing protection from flooding in the sump in which the pump is located in the event of a power failure. The integrated socket enables the operation of both pump and alarm unit on one 230V socket. Either a washing machine or a dishwasher can be plugged into the alarm device.

If a high water level is detected, an acoustic signal follows and the machine connected will be switched off. The plug retainer prevents the continued operation of the machine connected as long as the problem persists.

The sockets of type AWO can be extended if several machines are connected up and are to be switched off.

The alarm device with static air level control is used in ex-proof areas.





REG.-Nr. E501

Alarm units

Type	Code No.
AG3 with ball contact switch and 3 m cable	**JP44891**
AG10 with ball contact switch and 9.5 m cable	**JP44892**
AGR with reed switch and 4 m cable	**JP44893**
AGE with special electrode and 1.5 m cable	**JP44894**

Alarm units with washing machine stop

Type	Code No.
AW3 with ball contact switch and 3 m cable	**JP44895**
AWR with reed switch and 3 m cable (for Hebefix)	**JP44897**
AWO without level control sensor, for further machines	**JP44899**

Standard features:		AG3/10	AGR	AGE	Static air level control
Enclosure IP44, 125 mm deep HxW in mm		–	–	–	160x160
ISO casing with shock proof plug, IP20, 70 mm deep, HxW in mm		147x71	147x71	147x71	–
Operating voltage 50 Hz		1/N/PE 230 V	1/N/PE 230 V	1/N/PE 230 V	1/N/PE 230 V
Connection cable with safety plug		–	–	–	0,5 m
Power via alarm unit's socket		4000 VA	4000 VA	4000 VA	4000 VA
Level monitoring		KT-	Reed-	Elec-trode	Static air
Temperature resistance constantly/temporarily in °C		60/90	100/100	40/60	40/60
Set of fixing accessories		1	–	–	–
Static air level control for alarm, operating range: 3 m water level		–	–	–	1
Pressure sensor with 10 m air tube		–	–	–	1
Test button		–	–	–	1
Potential-free NO contact 5A/250VAC1		1	1	1	–
Potential-free changeover contact 5A/250VAC1		–	–	–	2
Electronic alarm buzzer		1	1	1	1
Optional accessories:					
Rechargeable battery for off the line operation	**JP44850**	1	1	1	1

Standard features:		AW3	AWR	AWO
ISO casing with shock proof plug, IP20, 70 mm deep, HxW in mm		147x71	147x71	147x71
Operating voltage 50 Hz		1/N/PE 230 V	1/N/PE 230 V	1/N/PE 230 V
Control transformer 230/12 V		1	1	1
Level monitoring		Subm. ball contact switch	Reed switch	–
Temperature resistance constantly/temporarily in °C		60/90	100/100	–
Set of fixing accessories		1	–	–
Breaking capacity of integrated socket Safety plug 230 V, switched off if alarm is set off		4000 VA	4000 VA	4000 VA
Electronic alarm buzzer		1	1	1
Optional accessories:				
Rechargeable battery for off the line operation	**JP44850**	1	1	1

CONTROL UNITS

DESCRIPTION

The components on this page promote the operating safety of pumps or lifting stations.

The **protective motor plug** protects the d.o.l. pump connected from electrical, mechanical and thermal overload up to a connected load of 4 kW. The protective device is fitted in an ISO casing and besides the integrated excess-current release it also includes a connection for a motor winding thermostat. The model with level control switches the pump on and off with the submersible ball contact switch connected.

The **seal leak detector** is used to monitor the sealing of the oil chamber between the motor and the hydraulic section of the oil chamber in the case of submersible pumps of the US/UB and MultiCut/MultiStream/ MultiFree series. In the event of water penetrating the oil chamber, an integrated buzzer is activated. The device must be mounted in a location which allows it to be monitored easily and in a well ventilated room.

The **switching device for the automatic test run** of pumping stations with extended idle and dry phases prevents the shaft sealings in the pump from becoming stuck as it causes automatic short-term test runs. The StP is an additional device ready for connection to control units of the AD/BD and ND series.

Lifting stations, pump stations and alarm units which have a potential-free output can be integrated with the **radio transmitter FTJP** into a smart home infrastructure. Gateways that support the ENOCEAN radio protocol can be used to communicate with the FTJP. Programme the FTJP into the gateway provider's app.



CEE-Protective motor plug



Switching divice for test run



Seal leak detector



Radio transmitter FTJP

Pump accessories

Type	Motor protection A	for pump type	Code No.
Protective safety motor plug	8	US 151 E	**JP40264**
	8	US 152 E/153 E/155 E	**JP44753**
CEE-Protective motor plug	2,5–4,0	US 152 D, 153 D, 155 D	**JP44754**
CEE-Protective motor plug	2,8–4,0	without ex*, US 151 D	**JP44750**
without level control	4,0–6,0	without ex*, US 251 D	**JP44751**
	6,0–9,0	without ex-proof*	**JP44752**
CEE-Protective motor plug	2,8–4,0	without ex-proof*	**JP09725**
with level control	4,0–6,0	without ex-proof*	**JP09726**
	6,0–9,0	without ex-proof*	**JP09727**
* The nominal current of the pump type required must be suitable for the activating range of the motor protection.			
DKG - seal leak detector			**JP44900**
DKG Ex - seal leak detector only for ex-proof pumps			**JP00249**

Switching and control units

Type	Code No.
StP – Switching device for automatic test run	**JP01264**

Radio transmitter

Type	Art.-Nr.
FTJP for ENOCEAN	**JP47209**

Equipment with CEE protective motor plug

Operating voltage 3/N/PE~230/400 V
Enclosure IP 44, cable inlet M 25 + 16
Temperature range –25° bis +50° C
Max. breaking capacity 4 kW AC3
Max. switching frequency 30 switches/hour.
Features:
1 CEE-protective motor plug 16 A / 400 V, 5-pole with phase inverter
270 x 120 x 100 mm (H x B x T)
1 Motor contactor 4 KW
1 Motor contactor with motor protection relay (reset button can be activated from the exterior)
1 ON/OFF switch
1 Indicator lamp, red, for indicating rotational direction
1 Indicator lamp, white, for operation display
For devices with level control:
1 Submersible ball contact switch with 9.5 m cable H07RN-F-3G1
The electrical connection between the pump and the protective motor plug must be carried out by the customer.

Equipment with seal leak detector

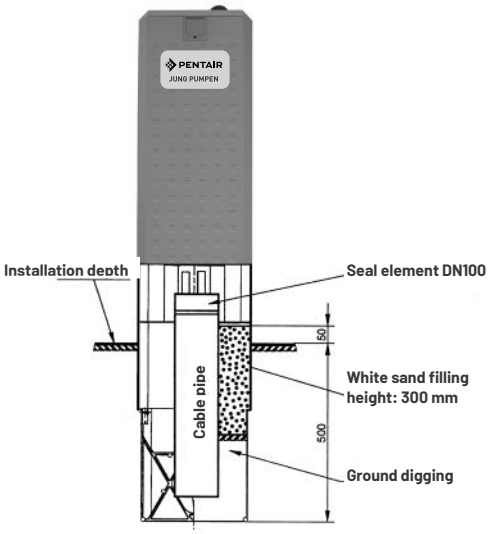
Operating voltage: 1/N/PE~230 V
ISO casing IP 20 (DKG)
147 x 71 x 70 mm (H x B x T)
or ISO-casing with transparent cover IP 54 (DKG-Ex), 180 x 130 x 100 mm (H x B x T)
1 Electronic unit with transformer and control light
1 Ex-proof syfty barrier for type DKG-Ex-(Ex) II (2) G [Ex ia] IIC/IIB)
1 Special electrode with 10 m cable
1 Potential-free NO contact for error messages
1 Acoustic alarm
(For duplex units 2 units required)

Equipment with switching device for test run

Operating voltage: 1/N~230 V
1 ISO-casing with transparent cover, dimensions including screw joint 180 x 130 x 100 mm (H x B x T) with PG screw joint H 220 mm, IP 54
1 Power supply cable 0,5 m and plug
1 Digital timer with automatic changeover between summer and winter time, shortest operation: 1 sec., power reserve: approx. 20 h

CONTROL UNITS

CASING AND INSTALLATION MATERIALS





Casing	Protection	Usable installation area		Depth of device		Outside dimensions			Pitch of holes		Code No.	Code No.
	category	H	B	Area	Lock area	H	B	T	A	C	Basement	
Size 0	IP 44	700	545	240	200	862	596	322	495	160	**JP24854**	**JP12710**
Size 1	IP 43	915	675	260	225	1100	785	327	690	160	**JP24855**	**JP12711**
Size 2*	IP 43	915	1000	255	205	1125	1115	320	1020	160	**JP24856**	**JP12712**
Size 3*	IP 44	955	1340	255	205	1125	1445	320	1350	160	**JP24857**	**JP12713**
Size 3G*	IP 44	1185	1350	270	240	1350	1450	350	1350	160	**JP24857**	**JP20864**
Typ A	IP 44	700	250	194	168	1415	316	224	integrated		**integrated**	**JP23735**
Typ B	IP 44	650	400	195	180	1620	440	240	integrated		**integrated**	**JP19024**
Typ C	IP 43	840	400	190	140	1895	425	240	integrated		**integrated**	**JP19026**

* preassembled for a double lock

Plastic base kit with M 12 threads for installation of the casing. Assembling and installation by the customer.
To avoid the development of condensation water inside the outdoor casing the bottom of the base should be filled with approx. 5 cm of white sand above the ground level.aufzufüllen! Alternative a special base stuffing could also used.

Installation materials	Code No.
Lock with 3 keys	**JP22408**
Heating facility 230V/55W	**JP01918**
Thermostat for heating of casing	**JP24531**
Warning light, unmounted	**JP22375**
Flashlight, unmounted	**JP50807**
Horn, unmounted	**JP17591**
Cast resin socket 7-16 mm Ø	**JP48333**
Cast resin socket 8-24 mm Ø	**JP48334**
Cast resin socket 15-30 mm Ø	**JP50777**
Sealing cone DN 100, vapour-proof	**JP44843**
Seal element DN 100, pressure-tight	**JP44848**
Ventilation pipe DN 100, stainless steel	**JP44858**

Functions and specifications

Warning light
Orange, shock-resistant in accordance with EN 50014, burglar-proof, enclosure IP 65, for short flashes, with 7 W/230 V

Flashlight
Orange, shock-resistant in accordance with EN 50014, burglar-proof, enclosure IP 65, for flashlight with short but very intense flashes
230 V/15 mA.

Horn
Thermoplast (ABS) shock-resistant, grey 88 dB (A) / 1 m for mounting inside of the housing. Dimensions: 170 x 80 x 78 (H x W x D), enclosure IP 33, 230 V, 15 mA.

Cast resin sockets
Complete with funnel and cast-resin.
Approved for use in explosion hazardous areas.

Seal element
For the separation of explosion-hazardous areas (pmp sump) and ventilated rooms above respectively below the backpressure level with non exoplosion protected electrical equipment (e.g. housings for outdoor installation).

Above backpressure level (Code No. JP44843):
TÜV-certified water vappour proof sealing element (not tight against pressing water) for cable ducts DN 100 in accordance with VDE 0165.
Equipped with the following drills:
- 2 holes of 20 mm
- 2 holes of 14 mm
- 5 holes of 7 mm

Below backpressure level (Code No. JP44848):
Sealing element for cable ducts DN 100. In case of possible backpressure the sealing element ensures that the waste water can not flow into the connected building. Equipped with the following drills:
- 2 holes of 15 mm (1 of which is closed)
- 4 holes of 8 mm (2 of which are closed)

Ventilation pipe
For the ventilation of sumps, it can be installed as the top end of the ventilation pipe that leads approm 400 mm above the ground level.
Material 1.4301. Dimensions: d = 108/168 x h = 700 mm