



MANUAL FOR WATER GLYCOL PUMP FOR ELECTRIFICATION COOLING AND EV CHARGING SOLUTIONS

Bulletin MSG10-6202-UM/EN 



WARNING - USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

General

The purpose of this manual is to serve as a reference guide for installation, maintenance and operation of the QPMDC low pressure pump.

Keep the manual at hand. A lost manual should be replaced as soon as possible.

For optimum performance and in order to prevent incorrect use, please read this manual carefully and observe all safety precautions prior to putting the QPMDC low pressure pump into service.

Installation and maintenance work should only be carried out by qualified personnel. Parker reserve the right to make technical alterations without prior notice.

Use

The QPMDC low pressure pump is designed to circulate Water/Glycol mixtures in, for instance, cooling systems. The QPMDC low pressure pump is also suitable as a part of systems for filling and draining of tanks.

Warranty and claims

In the event of malfunction, consult your local Parker office. Parker shall not be held responsible for any consequences due to misuse, modification and/or alterations made by the customer.

Safety instructions

The installation contractor as well as the user should be aware of, understand and observe all safety precautions in this manual, including any information mentioned on labels attached to the product.

Definition of Safety Warning Levels

...concerning personal safety

All precautions concerning personal safety are classified as per below, depending on how severe the consequences of an incident could be.



Danger: This alerts you to an action or procedure that, if performed improperly, will produce bodily harm or death.



Caution: This alerts you to an action or procedure that, if performed improperly, is likely to produce bodily harm or death.



Precaution: This alerts you to an action or procedure that, if performed improperly, is likely to cause an accident with bodily harm.

...concerning other safety issues

Notifications concerning other safety issues (property, process or environmental) and maintenance work are classified as follows:

Important! This alerts you to an action or procedure that, if performed improperly, is likely to result in damage to the product, process or environment.

...concerning additional information

Additional information is marked as follows:

Note! This alerts you to important information related to the text in a paragraph.

Overall instructions



Electrical shock hazard. All electrical connections must be made by a qualified electrician!



Risk of bodily injury. Disconnect the motor power supply prior to maintenance.



Risk of bodily injury. Before disconnecting the hydraulic connections and hoses, make sure that the system is depressurized.



Risk of severe burns. As the pump could become extremely hot during operation, make sure that the pump is cool before touching.



Risk of severe burns. Hose rupture or other failure could cause hot oil to squirt out.



This indicates a toxic hazard. To prevent bodily injury and damage to property or environment, used Water/Glycol should be collected according to specific industrial waste regulations of each country.



Risk of slip and fall accidents and damage to property. If the unit is used as foot plate, there is a risk for slip and fall accidents and the unit can be damaged. Do not step on the unit.

Note! Use hearing protection when standing close to an operating pump for long periods of time.

Environmental information

To prevent personal injury and damage to the environment:

- Disassemble and sort all material for reuse and/or recycling.
- Make sure that hazardous waste is collected for disposal.

Used material, components and products should be collected and handed over to public waste collection points. Check local rules and regulations with local authorities or with your nearest recycling station.

Description

The QPMDC centrifugal type of low-pressure pump is equipped with electric high efficiency brushless direct current (DC) motor, magnetic force transmission, Inverter with PWM signal rotation speed controlling and protection from reverse polarity, dry running, over voltage and current, overload and over-temperature.

The QPMDC centrifugal type of low-pressure pump is available in 24 VDC.

The centrifugal principle involves imparting energy to the liquid by means of a centrifugal force developed by the rotation of an impeller that has several blades or vanes.

QPMDC series pumps are centrifugal pumps which require pre-filling.



Do not step on the unit! High temperature surfaces!

Installation

Lifting



Risk of bodily injury. To prevent bodily injury when lifting the pump, ensure correct lifting technique is used. Make sure that all lifting devices are working properly and that they are approved for the weight of the pump. Use lifting straps under the pump unit to prevent bodily injury.



Risk of bodily injury. Make sure that all parts of the pump are firmly secured.

An upright position of the QPMDC pump, standing on the electric motor feet is recommended.

QPMDC series pumps are centrifugal pumps which require pre-filling. Pre-filling of the pump before power on is required.

The pump must be installed in the lowest position of the system to ensure that the impeller is always immersed in the liquid.

As viewed from the pump inlet direction, the impeller rotates clockwise (see the arrow on the outlet port).

To avoid the dry-running (air getting stuck in impeller), pump outlet port should be vertical or in the upper of the impeller (Figure 1).

Make sure that the outlet port level is always above the pump axis (Figure 1b).

Connected Hose should be vertically mounted (or no elbow in 20cm) to make the air discharged easily, the outlet pipe should not be used less than 90 degrees elbow (figure 2).

Can't use the seawater or other heavy pollution with big grain impurity liquid as the liquid medium.

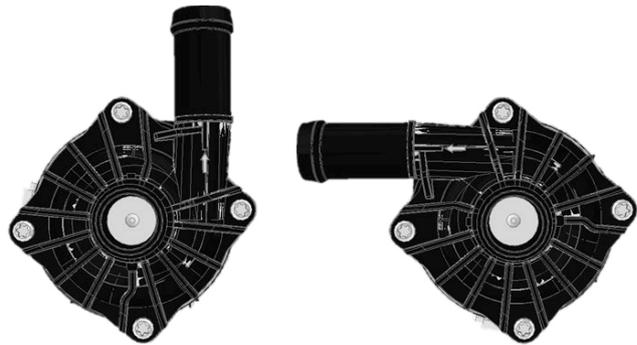


Figure 1

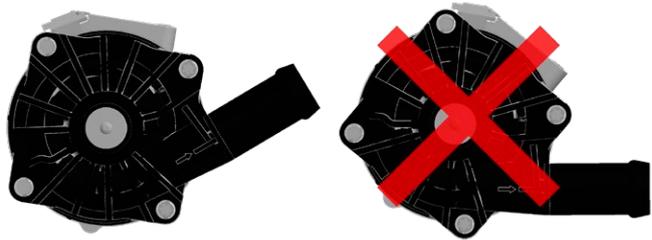


Figure 1b

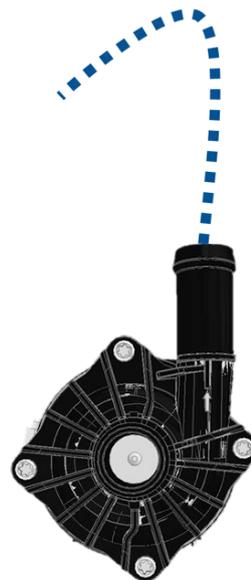


Figure 2

Water glycol connection

Connect the QPMDC low pressure pump using flexible hoses. Make sure that all connections and hoses are sized according to the system pressure, flow, temperature and Water/Glycol mixture. Connect the hydraulic hoses as illustrated in figure 3.

A – Inlet.

B – Outlet.

Maximum allowed Water/ Glycol temperature is 85 °C.

Use a hose with the Nozzle Diameter of the Pump if you use a smaller diameter, due to the negative pressure in the pump, air could be drawn into the system, it will potentially damage the and impact the pump performance.

To avoid the dry-running (air getting stuck in the impeller), pump outlet port should be placed in the vertical position or in the upper part of the impeller. (Figure 1).

Connected hoses should be vertically mounted (with no elbow for at least 20cm) to make the air easy to discharge, the outlet pipe should not be used with elbows with less than 90 degrees (figure 2).

Parker will not be held responsible for the consequences of any modification or variation with regard to connections.

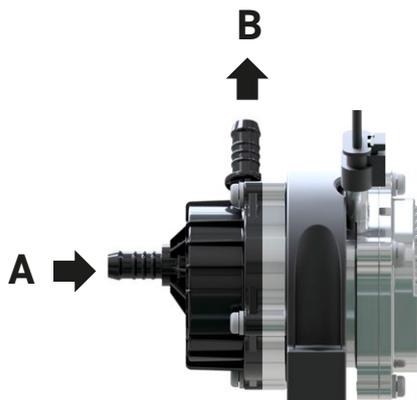


Figure 3

Electrical connection

In extremely humid environments, especially when the operation is intermittent, condensation may form. Some motors are fitted with plugged holes, which can be used to drain condensed water. Depending on the placement of the electric motor, proper plugs should be removed.

If the QPMDC low pressure pump is installed in an environment where water may penetrate into the electric motor, use a protective shield. The protective shield is available as an option.

Handling

Prior to initial start-up

 Make sure that the unit is securely fixed and correctly connected. We recommend to run the pump with the same fluid as used in the hydraulic system. See Technical specification for Water Glycol compatibility.

Note! Pre-filled the pump before power on is requested

Prior to start up

 Make sure that the pump can be put into service without causing bodily injury or damage to property or environment.

Make sure that:

- Fluid connections are tight,
- Valves and similar throttling devices are open and that conduits and couplings are not damaged.

At start-up

For long service life, Water/Glycol cleanliness should be controlled.

During operation

 Caution Risk of personal injury and damage to property. The pump must not be run in such a way that the maximum pressure is exceeded, which could occur if the pump outlet is closed or severely throttled. This could damage the unit and cause personal injury.

Important! Risk of heat release. Avoid internal recirculation during a long period of time.

The QPMDC pumps are not provided with a by-pass valve.

Preventive maintenance

Preventive maintenance work must be carried out at regular intervals.

Make sure that the pump:

- is free from abnormal noise or vibrations,
- is securely fixed,
- is free from leaks.

Annually: Check the electrical installation. This may only be made by a qualified electrician.

Under normal operating conditions the pump is maintenance free. In extreme operating conditions the pump requires inspection, service or replacement of the pump and/or couplings.

Cleaning

Prior to cleaning the outside of the pump housing, for instance using water, disconnect all motor power supplies. Be aware of the electric motor protection standard.

Parker will not be held responsible for any interference in the pump such as internal cleaning. If the pump has been running with contaminated fluids, clean it by running it with Water/Glycol.

Maintenance

Parker will not be held responsible for any consequences after repairs, modifications or alterations made by the customer.

The pump can not be repaired outside Parker.

Product features

Article no. 999118 Type Code QPMDC-02-24-10 (BLP60H-D2-1) is an electric water pump with PWM signal speed regulation, which is used to drive the coolant to flow in the cooling circuit at a certain flow rate. It can work continuously or intermittently and is equipped with self-diagnosis and fault feedback functions.

Scope of use

The water pump is mainly used for server cooling, fixed base station cooling, and charging terminal cooling.

Medium:	Water Glycol mix accordantly the Temperature range in operation
Cleanliness:	The coolant is free from particle and other fluids (impurity ≤ 5 mg, impurity diameter ≤ 500 μm , fiber length ≤ 2 mm). PARKER recommended a 5 μm Filter.
Operating temperature:	-40 °C ~ 85 °C.
Coolant temperature:	-40 °C ~ 85 °C
Relative humidity:	< 90 %
Rated voltage:	24 VDC
Operating voltage:	16 – 32 VDC
Degree of protection:	IP67
Weight:	650 g
Rated Power:	60 W
Life time:	20.000 h
Noise:	45 dB(A)

Rated parameter

Pressure / flow rate:	3 bar at 2 l/min
Max System pressure:	600 kPa
Min System pressure:	-99 kPa

Functional Description

Reverse connection of power supply

When the polarity of the power supply of the motor (water pump) is reversed, the motor will self-protect and the motor (water pump) will not start; after the polarity of the power supply returns to normal, the motor (water pump) can run normally without affecting the performance.

No-load

The water pump has a protection for no-load operation. When running without water, the water pump can automatically protect and stop running; The motor will run after adding water.

Lock

The impeller of the water pump can make self-judgment when the circulating waterway is blocked and stuck, and the water pump will automatically stop after being blocked for a period of time (determined according to the characteristics of the water pump motor stall).

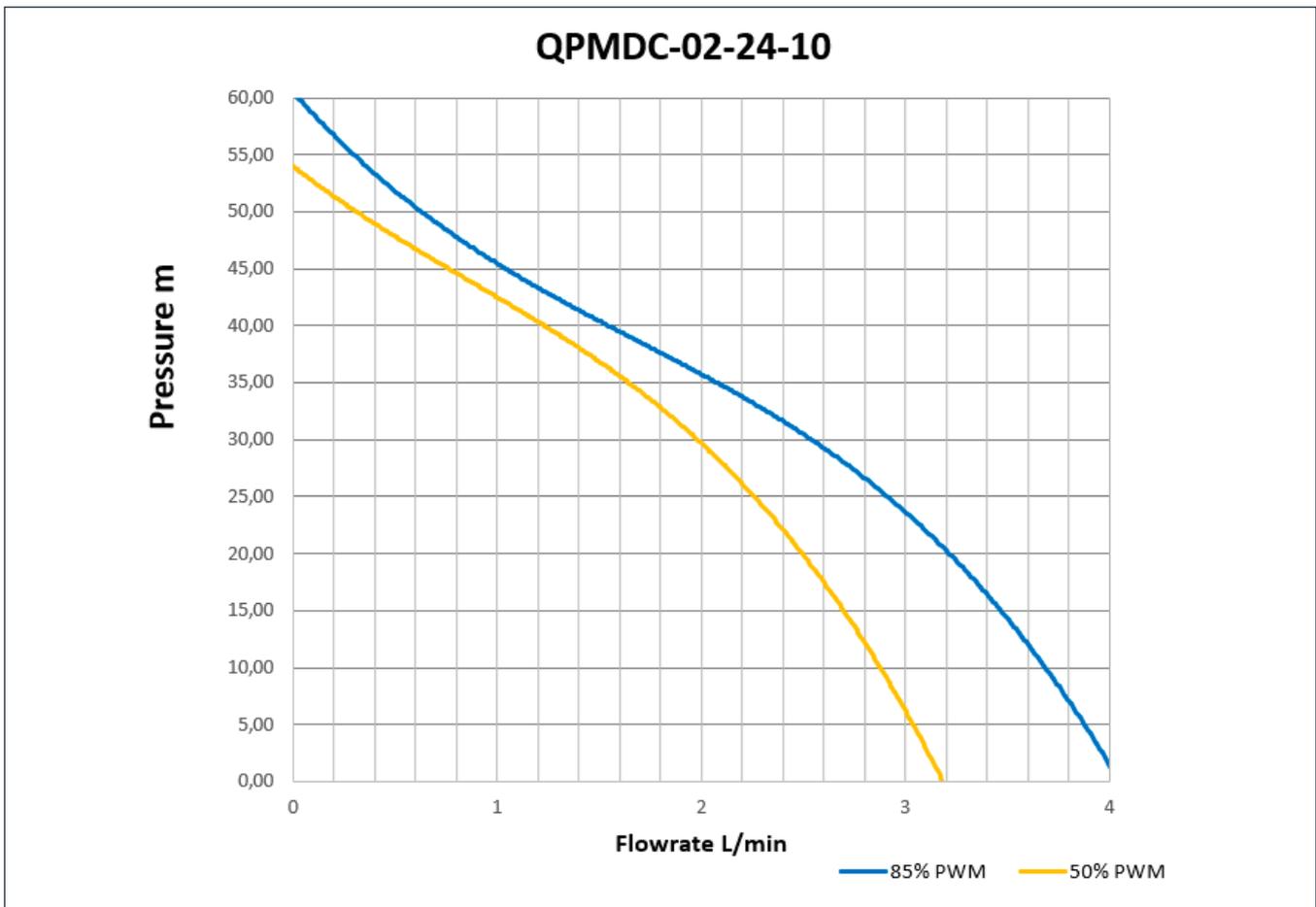
Overcurrent

When the motor exceeds the protection current of the motor during operation, the motor will run at reduced speed until it stops. When the external conditions recover, the normal start of the motor will not affect the function of the motor.

Undervoltage/Overvoltage

When the motor is running beyond the normal operating voltage of the motor, the motor will run at a reduced speed until it stops. When the external conditions recover, it will not affect the function.

Type of fault	Technical features	Signal
Overvoltage	Recoverable	After the water pump is powered on and reset, an overvoltage detection is performed. When the controller detects that the voltage is $\geq 36.5\text{ V}$ @500 ms, the water pump stops and feeds back a normal operation signal (ID5); when the controller detects that the voltage is $< 32\text{ V}$ @2 s, the water pump restarts.
Undervoltage	Recoverable	After the water pump is powered on and reset, it performs undervoltage detection. When the controller detects that the voltage is less than 15 V @750 ms, the water pump stops and feeds back a normal operation signal (ID5). When the controller detects that the voltage is $\geq 16\text{ V}$ @2 s, the water pump restarts.
Overcurrent	Recoverable	<p>1. After the water pump is powered on and reset, an overcurrent detection is performed. If the actual current of the water pump is greater than limit (the current limit value of the water pump overcurrent derating), the water pump is determined to be overcurrent derating. The water pump reduces the speed so that the water pump current is reduced to within the limit. At this time, the water pump feedback the normal operation signal (ID5).</p> <p>2. After the water pump is powered on and reset, an overcurrent detection is performed. If the actual current of the water pump is greater than over (the current limit value of the water pump overcurrent shutdown), the water pump is determined to be overcurrent shutdown. After the water pump detects overcurrent, the water pump stops and restarts periodically to check whether the event still exists. When the water pump detects overcurrent for the third time, an overcurrent fault is fed back (ID2). After 20 restart failures, the water pump stops and no longer attempts to restart. The water pump can be restarted by setting the water pump speed Speed = 0 for more than 4 s, and then setting the water pump speed Speed > 0; or the water pump is powered on and off again.</p>
Pump Impeller Block	Recoverable	After the pump is powered on and reset, a stall detection is performed. If the actual speed of the pump is less than Nstall (stall speed threshold), the pump is determined to be stalled. After the pump detects a stall, the pump stops and restarts periodically to check whether the event still exists. When the pump detects a stall for the third time, a stall fault (ID2) is fed back. After 20 restart failures, the pump stops and no longer attempts to restart. The pump can be restarted by setting the pump speed Speed = 0 for more than 4 s, and then setting the pump speed Speed > 0; or the pump is powered on and off again
Overheating	Recoverable	<p>1. After the water pump is powered on and reset, an over-temperature detection is performed. When $T_{\text{drated}} (135\text{ }^{\circ}\text{C}) < \text{PCBA temperature} \leq T_{\text{Overtemp}} (140\text{ }^{\circ}\text{C})$, the water pump runs at a reduced speed. At this time, the water pump feedbacks the normal operation signal (ID5). When the water pump PCBA temperature is $< 132\text{ }^{\circ}\text{C}$ for 10 s, the water pump runs according to the PWM input signal.</p> <p>2. After the water pump is powered on and reset, an over-temperature detection is performed. When the PCBA temperature is $> T_{\text{Overytemp}} (142\text{ }^{\circ}\text{C})$, the water pump stops. When the water pump detects over-temperature shutdown, the water pump feedbacks the over-temperature fault signal (ID3). When the water pump PCBA temperature is $< T_{\text{Overtemp}} (140\text{ }^{\circ}\text{C})$ for 10 s, the water pump runs at a reduced speed.</p>
Phase loss	Recoverable	After the water pump is powered on and reset, it performs phase loss detection. When the current $I > I_{\text{limit}}$ (current threshold for current phase loss) is detected, the water pump is determined to be phase-lost. The water pump stops and restarts periodically to check whether the event still exists. When the water pump detects phase loss for the third time, it feedbacks a stall fault (ID4). After 20 restart failures, the water pump stops and no longer attempts to restart. The water pump can be restarted by setting the water pump speed Speed = 0 for more than 4 s, and then setting the water pump speed Speed > 0; or the water pump is powered on and off again.
No-load	Permanent	After the pump is powered on and reset, it performs an idling test. If the actual speed of the pump is $\geq N_{\text{testdryrun}}$ (idling speed threshold) and the actual power is $< P_{\text{dryrun}}$ (idling power threshold), the pump is judged to be idling. After the pump detects idling, the pump stops and restarts periodically to check whether the event still exists. When the pump detects idling for the third time, it feedbacks an idling fault (ID1). After 20 restart failures, the pump stops and no longer attempts to restart. The pump can be restarted by setting the pump speed Speed = 0 for more than 4 s, and then setting the pump speed Speed > 0; or the pump is powered on and off again.



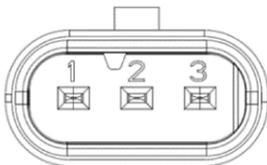
Performance in the diagram based: medium temperature $25\text{ °C} \pm 5\text{ °C}$, medium viscosity of 2-3 mPas, Voltage $U = 24 \pm 0,2\text{ VDC}$.

Description of connector terminal, fault feedback and speed regulation

Description of wiring harness terminals

Pump connector: Hirschmann 805-121-522 TE2-1718644-1

Pin No.	Signal
1	Power supply (+)
2	Speed regulation (PWM) and Fault feedback
3	Power supply (-)



Pump operation control

Input PWM signal (high level is effective) requirements: effective high level: 14~32 V; effective low level: 0~6 V; duty cycle adjustment range: 0~100 %; frequency: 9 Hz~510 Hz (recommended 100 Hz)

When the water pump is in normal operation, the system MCU collects the control target parameter information to

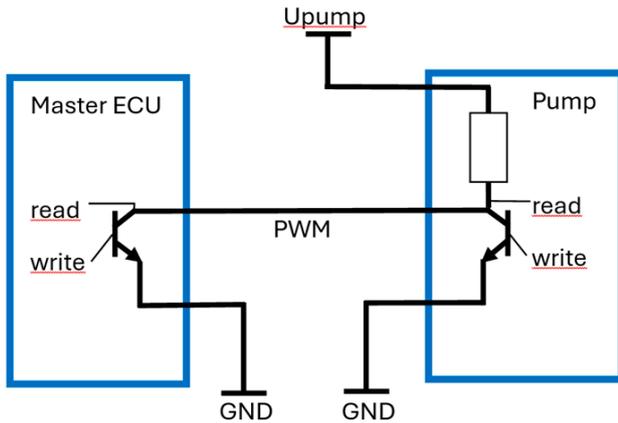
determine and output different duty cycle PWM signals to control the water pump speed. The corresponding relationship between the input PWM duty cycle and the motor target speed is as follows (due to the 1 % error of the PWM signal, the critical point should be avoided. When the input PWM duty cycle is 0 %, no feedback signal can be issued; when the input PWM duty cycle is 100 %, no feedback signal will be issued. The input PWM detection range is adjusted to 1 % - 5 %, 95 % - 99 %). (Defined as an unreliable area, not recommended.)

PWM

Pin No.	Duty	Function
1	$0 \leq 5\%$	unreliable state
2	$6\% \leq \text{Duty} < 8\%$	Maximum speed
3	$8\% \leq \text{Duty} < 13\%$	Halt command
4	$13\% \leq \text{Duty} < 50\%$	Minimum speed
5	$50\% \leq \text{Duty} < 85\%$	Linear speed range
6	$85\% \leq \text{Duty} < 95\%$	Maximum speed
7	$95\% \leq \text{Duty} < 100\%$	unreliable state

Important Note: 100Hz is recommended

Pump operating status feedback



Master-ECU "write" signal	Pump "write" signal	PWM line level
OFF	OFF	HIGH
OFF	ON	LOW
ON	OFF	LOW
ON	ON	LOW

The electronic water pump identifies different diagnostic signals through different low-level durations. The following is the status information fed back from the water pump to the signal line.

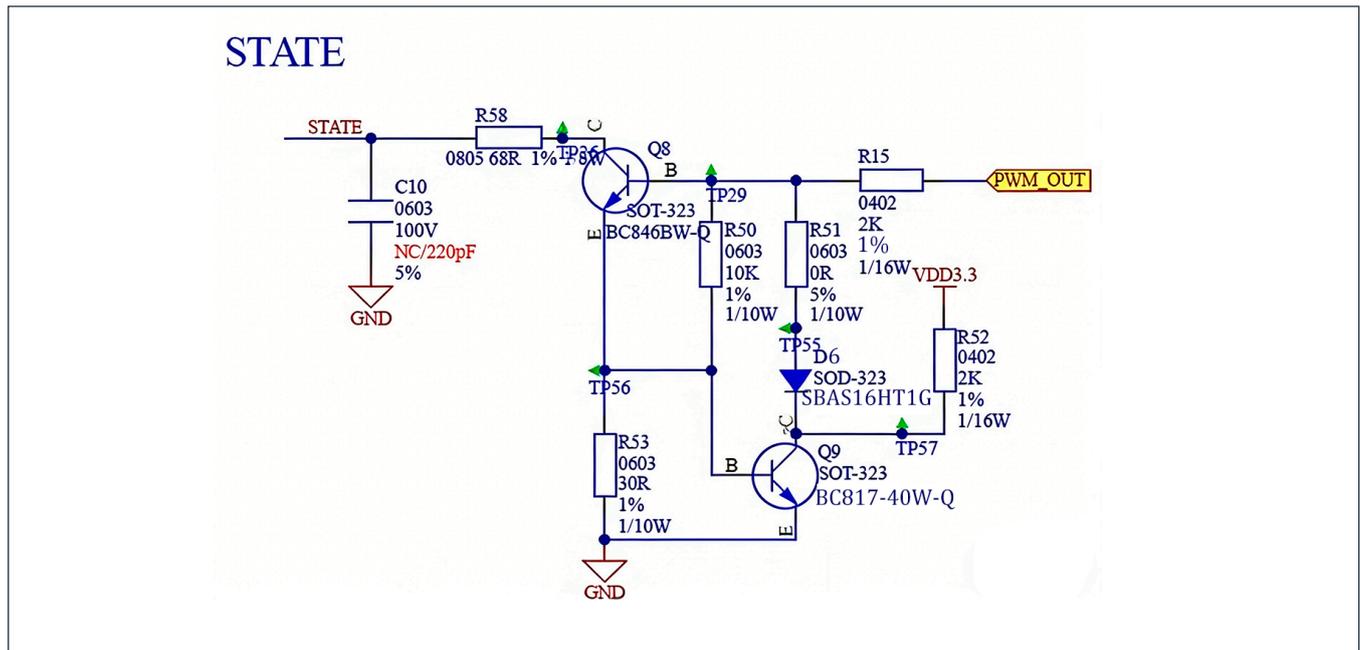
ID	signal form	Feedback status
1	(1,0 ± 0,1) s high level (1,0 ± 0,1) s low level	idling
2	(1,0 ± 0,1) s high level (1,5 ± 0,1) s low level	overcurrent block
3	(1,0 ± 0,1) s high level (2,0 ± 0,1) s low level	overheating
4	(1,0 ± 0,1) s high level (2,5 ± 0,1) s low level	Other faults (The speed is too low, the load coil is open, the temperature sensor is open, and the phase is missing)
5	(4,5 ± 0,1) s high level (0,5 ± 0,1) s low level	normal operation

Note:

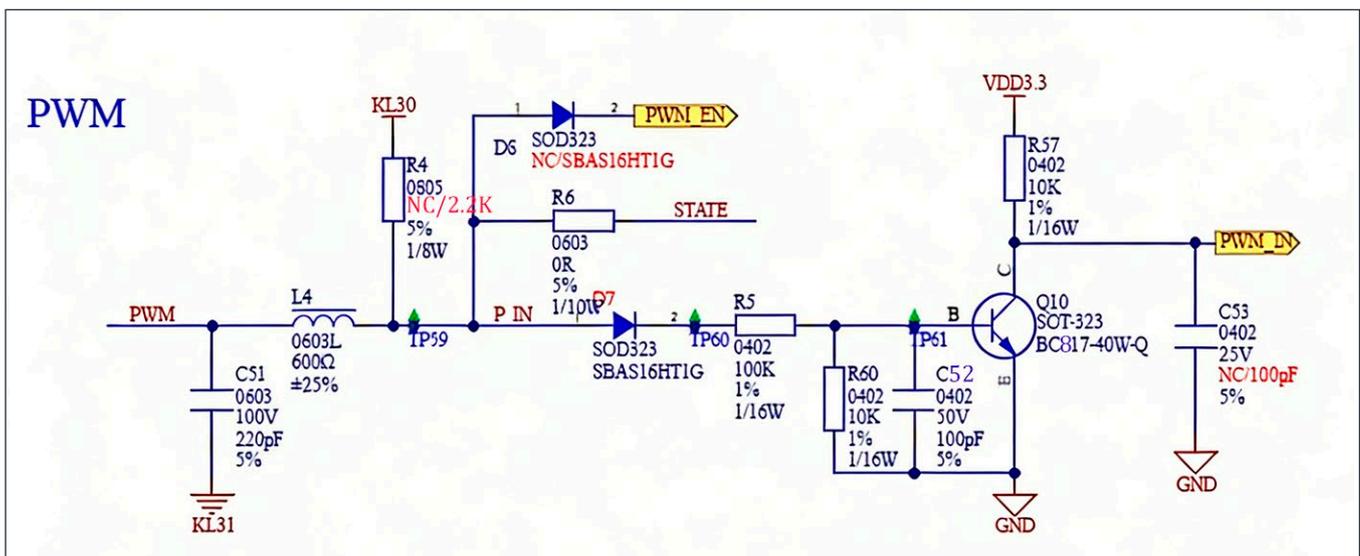
1. The feedback status priority corresponds to the status ID sequence number.
An ID of 1 indicates the highest priority;
2. If multiple states appear at the same time, the highest priority state will be sent first;
3. The high-level time lasts for at least 1 s, and superposition of low-level time is prohibited.

Circuit schematic

Feedback circuit diagram



PWM speed regulation circuit diagram



Installation

The appearance of the pump is free of dirt, oil stains, rust and collision.

It is recommended that the whole machine be placed vertically and fixed on the shelf through the mounting bracket holes.

The design of the installation location and fixing elements or fasteners must take into account vibration and noise requirements.

The installation location must avoid accumulation of water on or inside the connector.

The connectors should be properly fixed to avoid damage to the wiring harness and connectors due to excessive vibration.

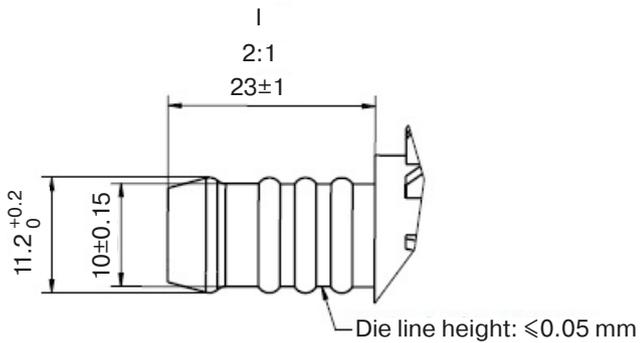
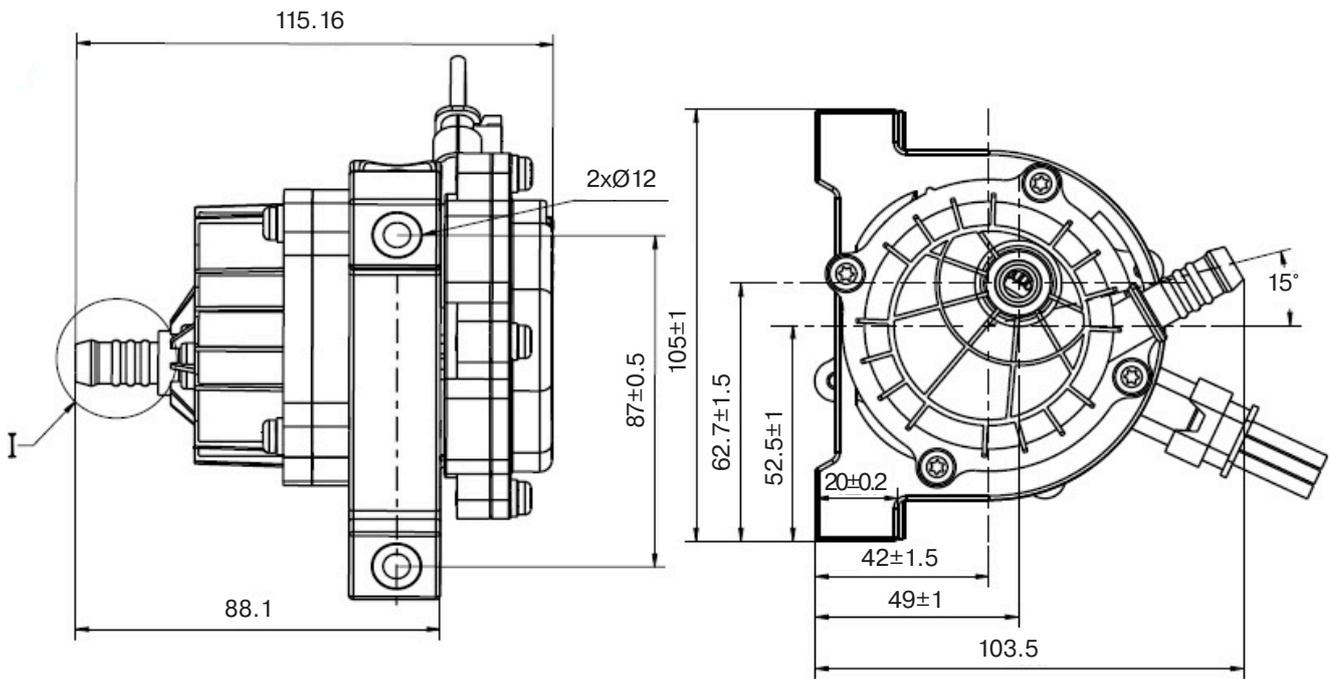
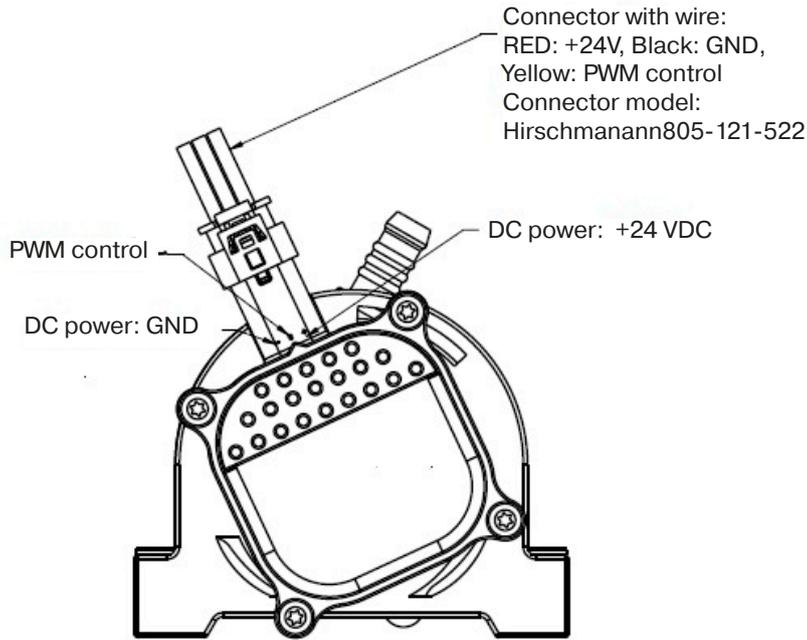
Malfunction and maintenance

Malfunction	Cause	Solution
The pump does not fill the water	Pipeline is blocked	Check the inlet and outlet pipes of the pump
	Inlet pipe leaks	Reconnect the water inlet pipe to eliminate air leakage
	The head of the pump is less than the sum of the conveying height and pipeline loss	Choose a pump with a suitable lift
	The pump is not filled with liquid	Optimize the layout of the pipeline
	The motor does not work	The motor is burnt out (replace the water pump) or rewire
Water leakage of the pump	Water leakage from the pump body and the connecting frame	O ring is aging and need to change pump
Reduced water output from the pump	The voltage drop is too low, the motor speed drops	Choose the proper voltage
	Pipeline partially blocked	Clean up pipeline
	The pump is not running at the optimum operating point (the actual head is slightly higher than the pump head)	Reduce the actual head of operation or replace the water pump with higher head
	Excessive wear of pump bearings and increased leakage	Change pump
	Magnetic failure, speed drop	Change pump
The noise is louder	Impurities in the pump	Eliminate impurities
	There is gas inside the pump that cannot be expelled	Place the water outlet upwards to exclude air
	Water pump shaft wear	Replace pump or rotor
	There is no liquid in the pump; the pump is running dry	Let the pump have liquid

Matters needing attention

1. The horizontal force or vertical force of the pipeline should not be installed on the inlet and outlet of the pump; before operation, check whether the pipeline connection of the inlet and outlet of the pump is firm and ensure that there is no leakage;
2. The water pump must be installed at the lowest position of the entire pipeline system, and the water inlet and outlet pipelines must be kept straight above 5 cm;
3. Check whether the connector connection of the water pump motor is reliable, whether the wiring is reversed, and the redundant wires should be fixed in the corresponding position with the fixing clip, and should not be pulled or placed casually to prevent failure;
4. The medium should be antifreeze. No pure water or tap water.
5. Try to avoid the pump without water or lack of water;
6. Cannot be used in gasoline, organic solvents, paint thinners and high-concentration organic acids;
7. When installing, try to avoid places where the temperature is too high. It is best to use the rated voltage to avoid affecting the working life of the pump.

Drawing



Declaration

Our company ensures that production and inspection are carried out in accordance with this specification. If there is any change, it needs to be confirmed and filed again before changing production.

Declaration of conformity

Declaration of conformity



EU declaration of conformity Deklaracja zgodności UE

Product Name / Nazwa produktu : Electronic Water Pump BLP60 / Elektroniczna pompa wodna

Product Models / Modele produktów : QPMDC-02 (BLP60)

Name and addresses of the manufacturer's EU authorized representative/ Nazwa i adres producenta lub jego upoważnionego przedstawiciela :

Parker Hannifin Manufacturing Germany GmbH & Co. KG | Delmenhorster Str. 10 | D-50735 Köln |
Parker Hannifin Manufacturing Poland Sp. Z.o.o. | 54-156 Wrocław | ul. Stargardzka 5.

Name and address of the manufacturer/ Nazwa i adres producenta :

Hangzhou Leili New Energy Technology Co., Ltd
No. 1777 Binsheng Road, Changhe Street, Binjiang District, Hangzhou City, Zhejiang, China

**This declaration of conformity is issued under the sole responsibility of the manufacturer.
Niniejsza deklaracja została wydawana na odpowiedzialność producenta.**

Compliant with following Standard/Directives/ Zastosowane normy :

- EMC Directive No.2014/30/EU
- Machinery Directive 2006/42/EC
- ROHS 3, Directive 2015/863/EU
- REACH, Directive No 1907/2006
- EN IEC 61000-6-1:2019
- EN IEC 61000-6-3:2021

Notified Body / Jednostka notyfikowana :

Venezky Technik Ustav,s.p
Vita Nejedleho 691, 682 01 Vyskov, Czech Republic
(Tests made by Shenzhen LCS Compliance Testing Laboratory Ltd)

Identification Number/ Numer identyfikacyjny :

Certificate No./ Nr certyfikatu : VTUPV-110/2025/ZAHR

Test Report No./ Nr sprawozdania z badan : LCSA12085035E

Start of CE marking/ Początek nadania oznaczenia CE :

Date of first CE marking: 19th December 2025
This certificate is valid until: 19th December 2030

Colombes, France, 23/01/2026

Julien FAURE-BONDAT
2026.01.23 16:39:36
+01'00'

Julien Faure-Bondat
Engineering Manager
Parker Hannifin Manufacturing France SAS

DECLARATION OF CRA EXEMPT

Manufacturer: **Changzhou Bextreme Shell Motor Technology Co.,Ltd**

No.8,Tianshan road,Xinbei District,Changzhou City,Jiangsu,China

Products Name: **Electronic Water Pump**

Products Models: **999111(BLP93-301)**

999112(BLP43-426)

999113(BLP93-300)

999114(BLP43-400)

We,the Manufacturer herewith Declare That The Stated **Electronic Water Pump** is not a network and include both hardware products with networked functions and pure software products,its non-commercial open source software products and are exempt from the CRA and therefore do not have to fulfill the requirements of the CRA.

Place,Date Of Declaration: Changzhou City,Jiangsu,China

Signature: 



Position: Sales Director

Vojenský technický ústav, s.p.
odštěpný závod VTÚPV
 Vítá Nejedlého 691, 682 01 Vyškov, Czech Republic

CERTIFICATE
 No. VTÚPV - 110 / 2025 / ZAHR

Applicant: **Changzhou Bextreme Shell Motor Technology Co., Ltd.**
 常州市蓝极贝机电科技有限公司
 No.91, Hanjiangxi Road, Xinbei District, Changzhou, Jiangsu, China

Product: **Electronic Water Pump**

Tested Model: BLP60H-D2-1
Derived Models: OWP-BL43, OWP-BL93

Manufacturer: **Changzhou Leili Motor Science & Technology Co., Ltd.**
 常州雷利电机科技有限公司
 No.18, Xinsi Road, Xinbei District, Changzhou, Jiangsu, China

Rating and principal characteristics: **Input Voltage: 24 V DC;**
Input Power: 60 W;
Rated Current: 2.5 A

Test results are described in the Test Reports No.:
 LCSA12085035E (tests made by Shenzhen LCS Compliance Testing Laboratory Ltd.)

The sample of tested product conforms with the requirements of the following standards harmonized with EMC Directive No. 2014/30/EU

- EN IEC 61000-6-1: 2019
- EN IEC 61000-6-3: 2021

This certificate is valid until: **19. 12. 2030**

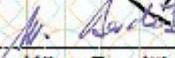
After preparation of the necessary technical documentation as well as the conformity declaration, the required CE marking can be affixed on the product. Other relevant directives have to be observed.
 The CE mark shall appear according to this sample:

CE



Vyškov 19. 12. 2025

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 Milan Bezděk
 Certification Head

