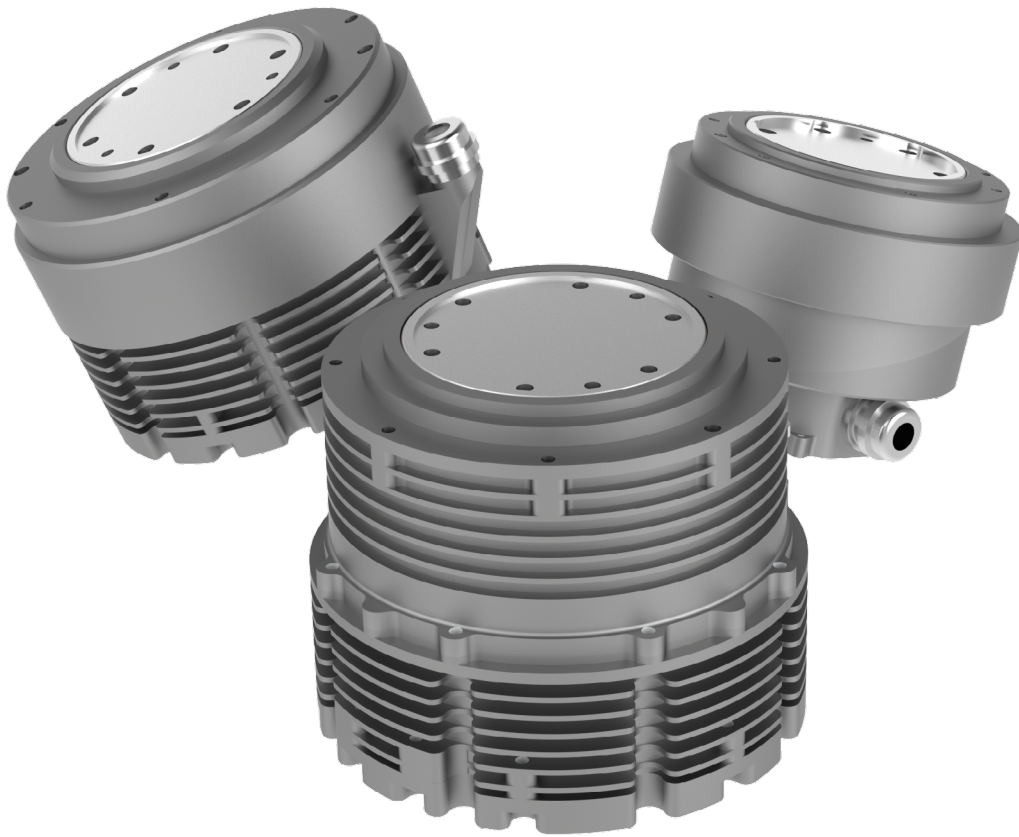


J80&J100 Joints

J80-27P/J100-64P/J100-116P

Product Manual V0.0.7-0

2025/06/30



DEEPRobotics

Statement

- This manual is the information asset owned by Hangzhou Yunshenchu Technology Co.,Ltd. (hereafter referred to as "DEEP Robotics") and any reprinting of part or all of this manual is strictly prohibited without the permission of DEEP Robotics.
- This manual provides corresponding descriptions of the specifications, parameters, interface cables, debugging tools, operation and use, and troubleshooting of J80&J100 series robot joint. Please operate and use the joint based on careful reading and full understanding of this manual.
- Basic safety instructions are described in detail in "Reading Tips". Please be sure to read before reading this manual to ensure correct use.
- The diagrams and photographs in this manual are representative examples and may have minor differences from the purchased product.
- This manual may be modified appropriately due to product improvements, specification changes, and other reasons.
- The content recorded in this manual may contain errors or omissions. If this manual is damaged, lost, or if there are any questions about the content of this manual, please contact our company in time.
- Malfunctions caused by customers disassembling or modifying the product without authorization are not covered by warranty, see "Warranty Policy" for details.

Reading Tips

Description of Symbols

Before using (installation, transportation, maintenance, repair), please be sure to read and master this manual, and be familiar with the equipment knowledge and safety precautions before starting to use it. The safety precautions in this manual are divided into three major items: "Caution", "Mandatory", and "Prohibited". Even the content recorded under "Caution" can have serious consequences depending on the situation, so every precaution is extremely important, and must be strictly followed.



Caution

Usage tips or operational recommendations. Improper using or operating the robot may cause damage to it.



Mandatory

Matters that must be observed.



Prohibition

Matters prohibited. Misoperation is dangerous and may cause injury to operators or damage to the robot.

Help Acquiring

To obtain more help resources to assist you in skillfully using J80&J100 series robot joint, you can also visit DEEP Robotics' corporate website: <http://www.deeprobotics.cn/>.

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1 Product Introduction

1.1 Product Overview

J80&J100 series of joint modules are high-torque, industry-grade, high-protection robot joints that use highly reliable multi-turn absolute encoders. They feature a drive-control separation design, compatible with various mainstream drivers, facilitating integrated design and development.

1.2 Product List

J80&J100 series joint module products include: joint×1、product card×1.

1.3 Specification Parameter

Standard Operating Conditions			
Standard Operating Voltage	DC 72V		
Operating Voltage Range	DC 28V-95V		
Rotation Direction	CW/CCW (as viewed from the output shaft direction)		
Standard Operating Temperature	25°C		

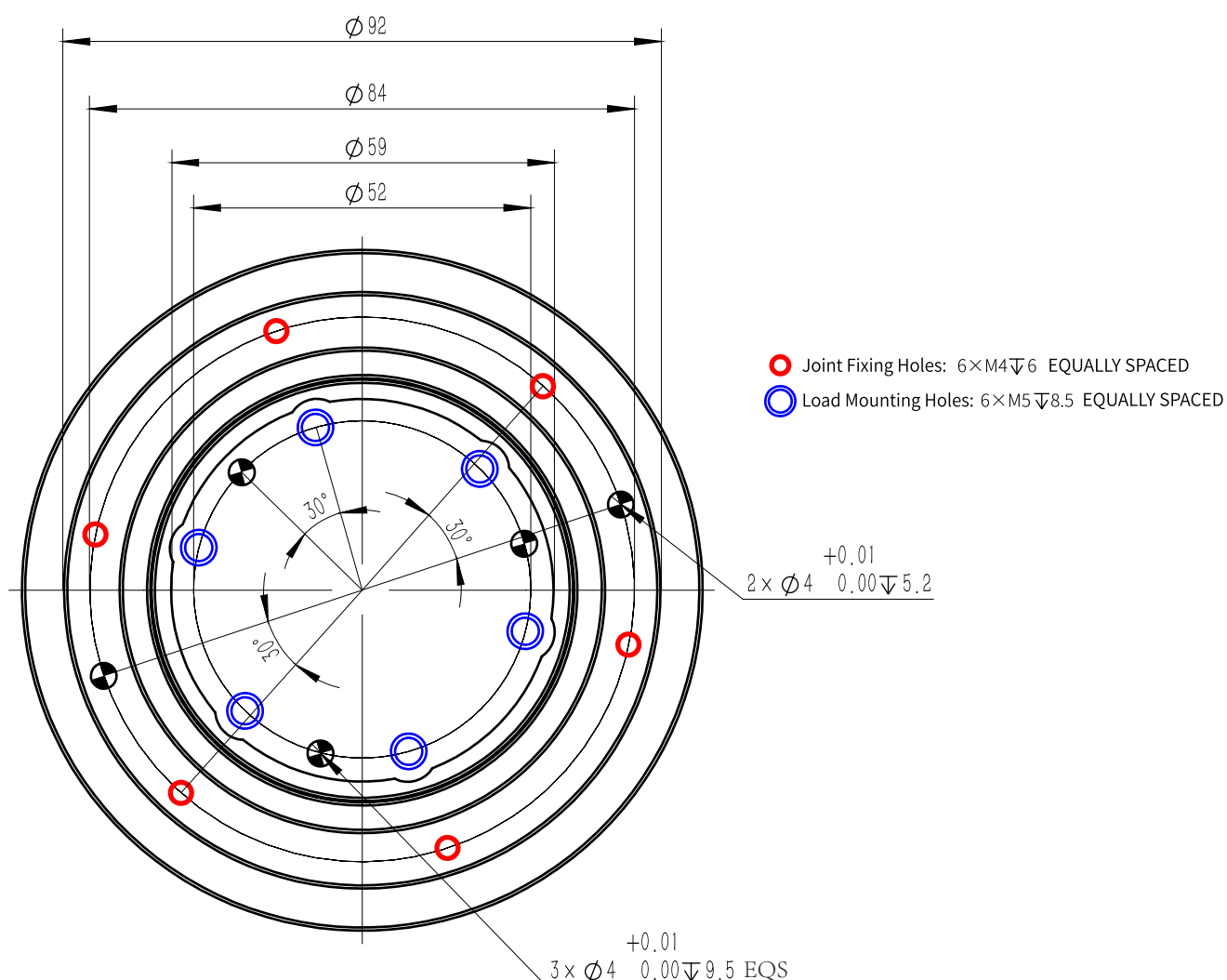
Parameters	J80-27P	J100-64P	J100-116P
Weight	1.48kg	2.72kg	2.93kg
Dimensions (Outer Diameter × Length)	105mm×85.5mm	126mm×88mm	126mm×105mm
Rated Voltage	DC 72V	DC 72V	DC 72V
Operating Voltage Range	DC 28~95V	DC 28~95V	DC 28~95V
Rated Torque	28Nm	65Nm	115.5Nm
Maximum Torque	84Nm	180Nm	315Nm
Maximum Rotate Speed	17rad/s	18rad/s	19.4rad/s
Rated Current(rms)	14A	29.5A	29.5A
Maximum Current(rms)	55A	91A	91A
Joint Torque Coefficient	2Nm/Arms	2.2Nm/Arms	3.9Nm/Arms
Peak Torque Density	56.8Nm/kg	66.2Nm/kg	107.5Nm/kg

Parameters	J80-27P	J100-64P	J100-116P
Motor Pole Pairs	14	14	14
Motor Line Resistance	0.22Ω	0.34Ω	0.08Ω
Motor Line Inductance	0.27mH	0.61mH	0.11mH
Encoder	Multi-turn absolute type: 17-bit single-turn and 16-bit multi-turn		
Encoder Communication	Biss C		
Operating Environment Temperature	-40°C~ 55°C	-40°C~ 55°C	-40°C~ 55°C
Ingress Protection Rating	IP67	IP67	IP67

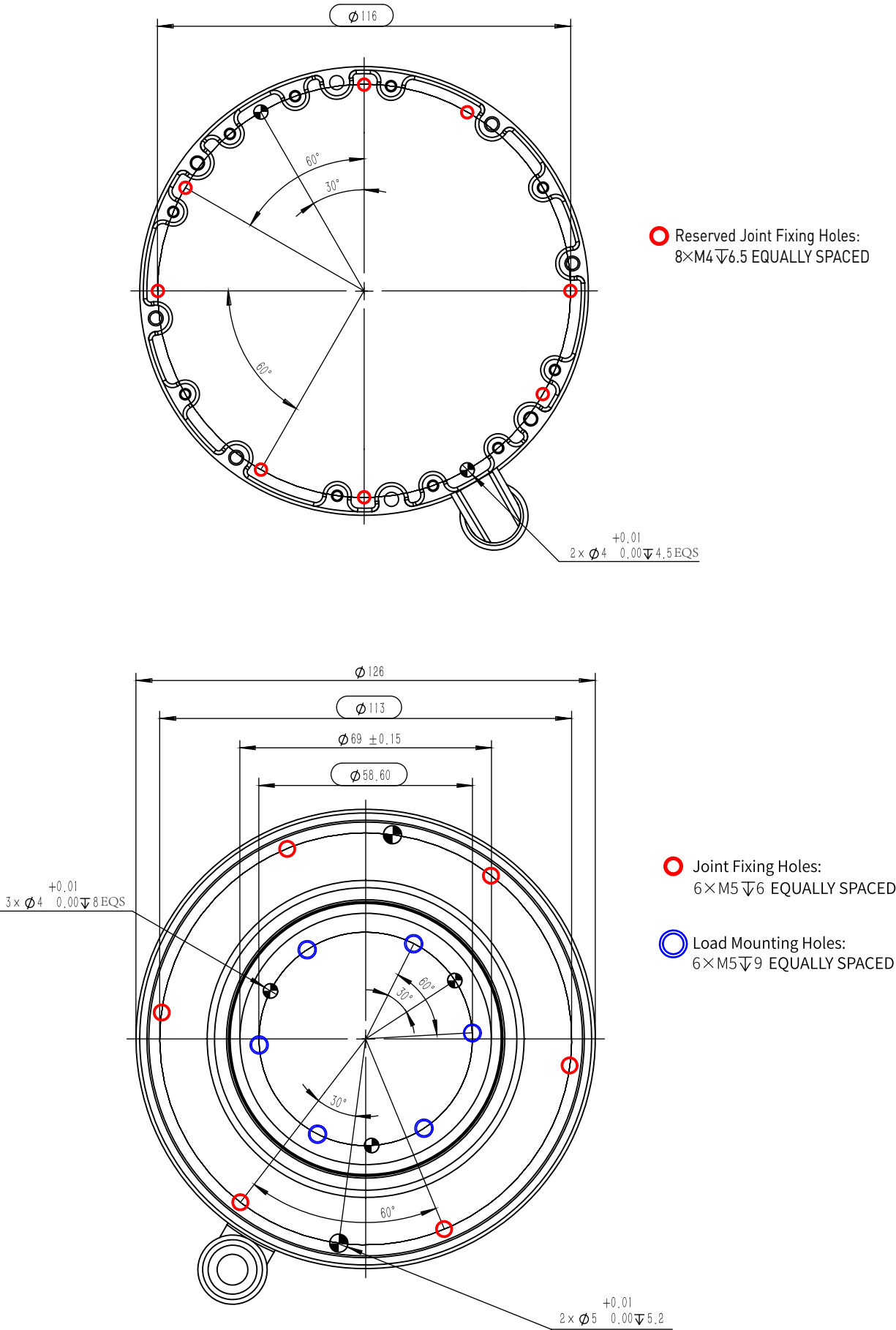
※The above data is measured in an ideal environment, and actual results may vary.

1.4 Installation Dimensions Diagram

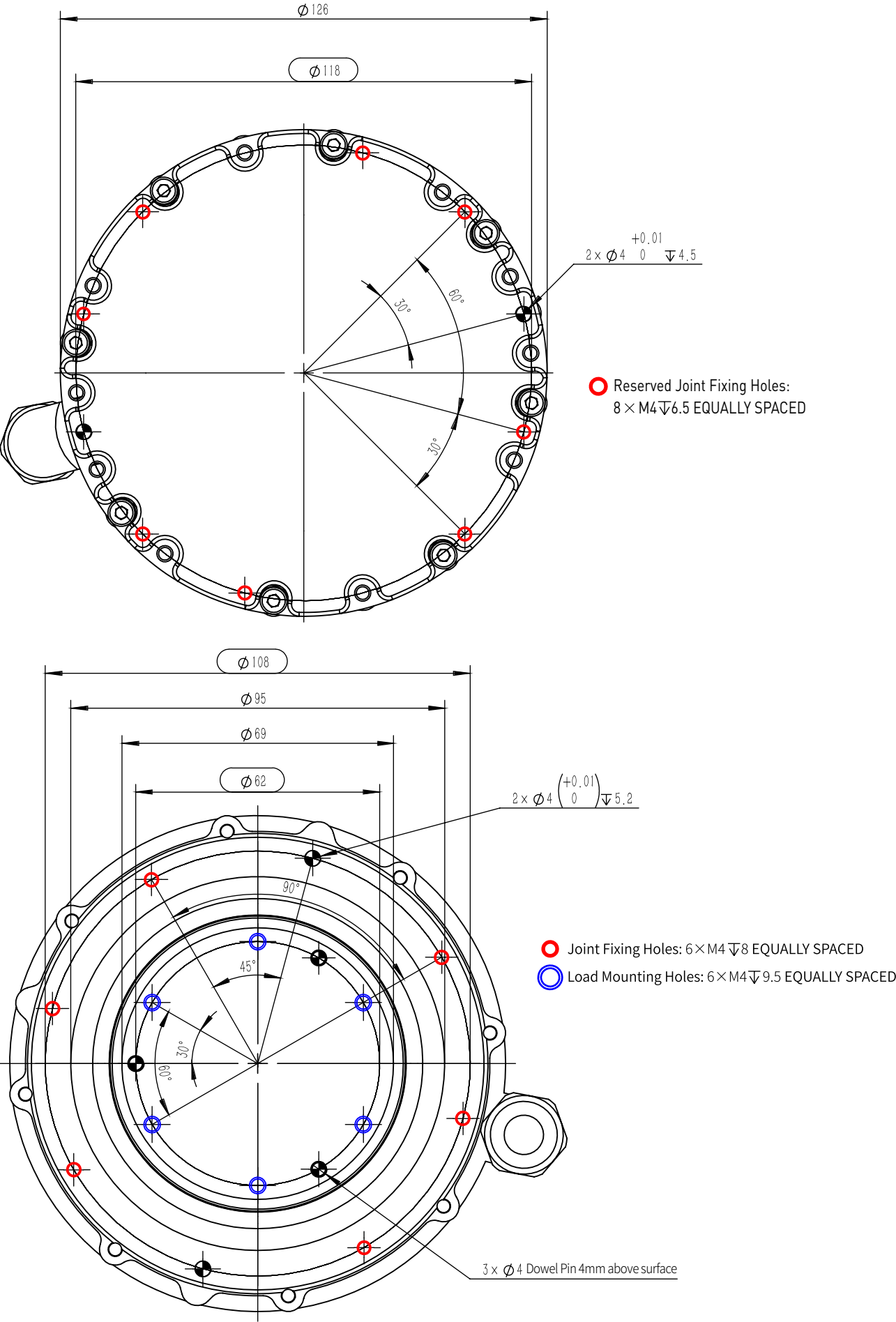
1.4.1 J80-27P



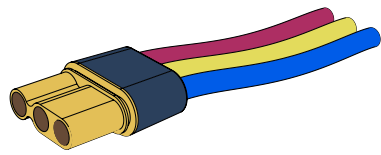
1.4.2 J100-64P



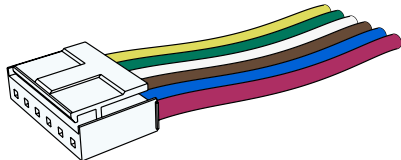
1.4.3 J100-116P



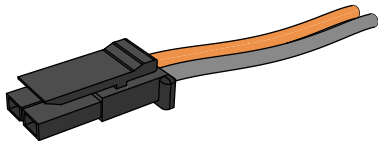
2 Interface and Cables



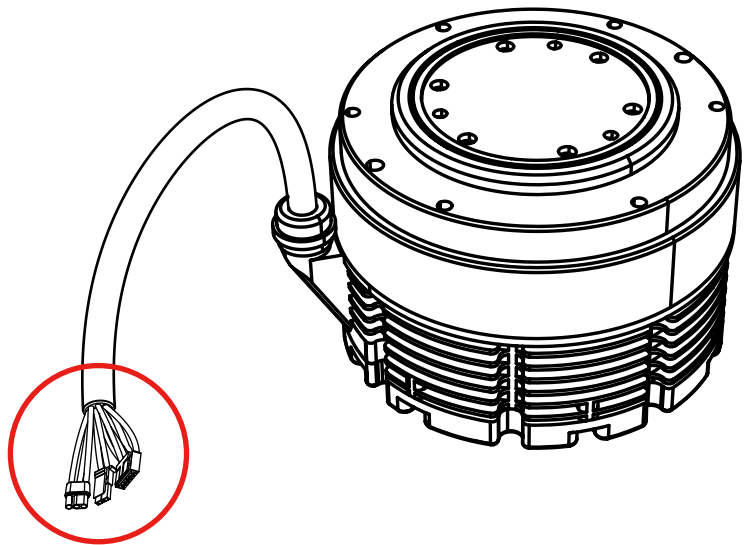
① Motor three-phase line



② Encoder cable



③ PT100 temperature sensor cable



※This wiring color codes in this section apply to J80 & J100 series joints, where the J100-116P joint does not have connectors at the end. If the connectors are needed, please contact our after-sales personnel for customized service.

2.1 Motor Three-phase Line

Color	Wire sequence definition
Red	U
Yellow	V
Blue	W

2.2 Encoder Cable

Color	Wire sequence definition
Red	+5V
Blue	GND
Brown	CLK+
White	CLK-
Green	DATA+
Yellow	DATA-

3 Precautions



- After the motor is powered off, please do not rotate the motor, as this may cause motor damage (when the motor is rotated by external forces at a speed exceeding the rated speed).
- Please do not disassemble the joint without authorization, as it will void the warranty!
- When debugging, please secure the joint module to prevent it from moving or falling during the motor rotation.

4 Warranty Policy

4.1 Warranty Period

The warranty period of this product is 6 months. The warranty period starts from the date of receipt. Products or parts that meet the warranty policy will receive free after-sales service. If the product you purchased is beyond the warranty period, you can also get help from us by purchasing a separate service.

4.2 Warranty Coverage

Depending on the specific situation, we will repair or replace parts accordingly for the product you purchased. However, the following cases will not be covered by the free warranty, but you can still choose to have paid after-sales service, for which please consult the after-sales support for details.

- Damage caused by man-made problems but not by quality problems of the product itself occurs.
- Private modification, disassembly or opening of the shell occurs.
- Damage caused by incorrect installation, use and operation in accordance with the manual.
- Damage caused by using beyond the maximum torque.
- Damage caused by self-installation of third party products.
- Failure or damage due to force majeure factors such as typhoon, earthquake, fire, lightning strike, abnormal voltage, etc.

4.3 Repair Instructions

- Before getting after-sales service, please make sure to backup all data and delete important data to prevent data loss or leakage. DEEP Robotics is not responsible for the loss or leakage of any data contained in the product.
- When you obtain after-sales service from DEEP Robotics, you authorize DEEP Robotics to make any modification, delete data or restore factory settings for the purpose of after sales service.
- Before sending it for repair, please contact after-sales support, DEEP Robotics will try to diagnose and solve your problem remotely.
- If the above methods cannot solve your problem, you can send it back to the product for repair after verifying with after-sales support. You need to pay for the postage first when you send the product to DEEP Robotics. After DEEP Robotics receives the product in need of maintenance, the product will be tested to determine the problem and responsibility.

- If the problem is caused by defects in quality of the product itself, DEEP Robotics will be responsible for the testing fee, material fee, labor fee and the postage for sending back.
- If the product does not meet the conditions of free repair, you can choose to pay for repair, and the corresponding testing fee, material fee, labor fee and the postage for sending back will be paid by you. You can also choose not to repair and to send back the product, the corresponding postage and insurance fee will be paid by you.
- If you provide an incorrect delivery address which results in non-delivery or rejection by the recipient, the adverse consequences and losses shall be afforded by you.
- To ensure your rights and interests, when you sign for the after-sale products sent by DEEP Robotics, please check carefully whether the products are intact. If there is any abnormality, please immediately take video or photos on the spot and contact DEEP Robotics to get the solution. If there are unresolved after-sale problems, please also contact DEEP Robotics immediately, otherwise it is regarded as the end of this after-sale service without dispute.

※The final interpretation of these after-sales terms and conditions belongs to DEEP Robotics.

※Please contact us if you have any questions before obtaining after-sales service.

※These after-sales terms and conditions are only used in mainland China, and the after-sales policies of other countries or regions are subject to local laws.



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