

# 2-DOF Underwater Gripper

## Basic RS485 Control Reference

English translation of the supplied basic command file, with the original connector assignments. This is a basic integration reference, not the complete motor protocol.

**Supply:** 20-25.2 V DC | **RS-485 baud rate:** 115200 bps

## Electrical connection

| Pin in original figure | Wire   | Function                                     |
|------------------------|--------|----------------------------------------------|
| 1                      | Red    | Positive supply; nominal 24 V (20-25.2 V DC) |
| 2                      | Black  | GND                                          |
| 3                      | Yellow | RS-485 A                                     |
| 4                      | Blue   | RS-485 B                                     |

Pin numbers follow the supplied connector drawing. Keep its original viewing direction when identifying contacts. The source does not specify the remaining serial framing settings or line terminators.

## Jaw opening and closing

| Action     | Command | Encoding                    |
|------------|---------|-----------------------------|
| Open jaws  | so      | Plain ASCII text; lowercase |
| Close jaws | sc      | Plain ASCII text; lowercase |
| Stop jaws  | ss      | Plain ASCII text; lowercase |

## Rotation motor control

| Action                 | Exact command bytes (HEX)     |
|------------------------|-------------------------------|
| Motor stop             | 3E 81 01 00 C0                |
| Motor run / resume     | 3E 88 01 00 C7                |
| Motor off              | 3E 80 01 00 BF                |
| Positive speed example | 3E A2 01 04 E5 60 EA 00 00 4A |
| Negative speed example | 3E A2 01 04 E5 A0 15 FF FF B3 |

Motor run resumes the control mode used before the stop command. Rotation examples use motor ID 01. Send the HEX values as binary bytes; do not send their printed hexadecimal characters as ASCII.

The two speed examples are reproduced exactly from the supplied file. They do not specify a validated gripper-output speed or clockwise/counterclockwise viewing convention. No motion limit or continuous-rotation capability is inferred.

**Keep hands clear of the jaws during powered operation.** Verify the assembled system and control direction before deployment.