





# TM Robot Rugged Solution

Hardware Version: 3.2 and 5.0

Document Version: 1.00

Release Date: 2024-10-07

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## Revision History

Revision	Date	Revised Content
1.0	2024-10-07	Original release

# 1. Overview

## 1.1 Function

The Rugged Solution is a series of TM AI Cobots without built-in vision that are better protected against the elements. Please note that a Rugged Solution robot can only be ordered as a complete unit from Techman Robot, and it cannot be modified from any existing TM AI Cobot.

## 1.2 Specifications

Hardware Version	3.2 and 5.0
IP Rating	IP65
Robot Vision	None
Note	<p>(1) The specs are entirely the same as those of TM AI Cobots without built-in vision.</p> <p>(2) There are no physical buttons on the end module. To use the Freebot on a Rugged Solution robot, consult <i>Software Manual TMflow</i> for instructions.</p> <p>(3) The I/O port on the flange is covered with a metal cap.</p> <p>(4) The seal and cover of each joint are improved for better protection.</p>



**CAUTION:**

Do not use a Rugged Solution robot in the following conditions (including but not limited to): corrosive environments, prolonged exposure to liquids, outdoor settings, direct sunlight, explosive atmospheres, electromagnetic interference, vibration, and rain.

### 1.3 End Module

- HW 3.2

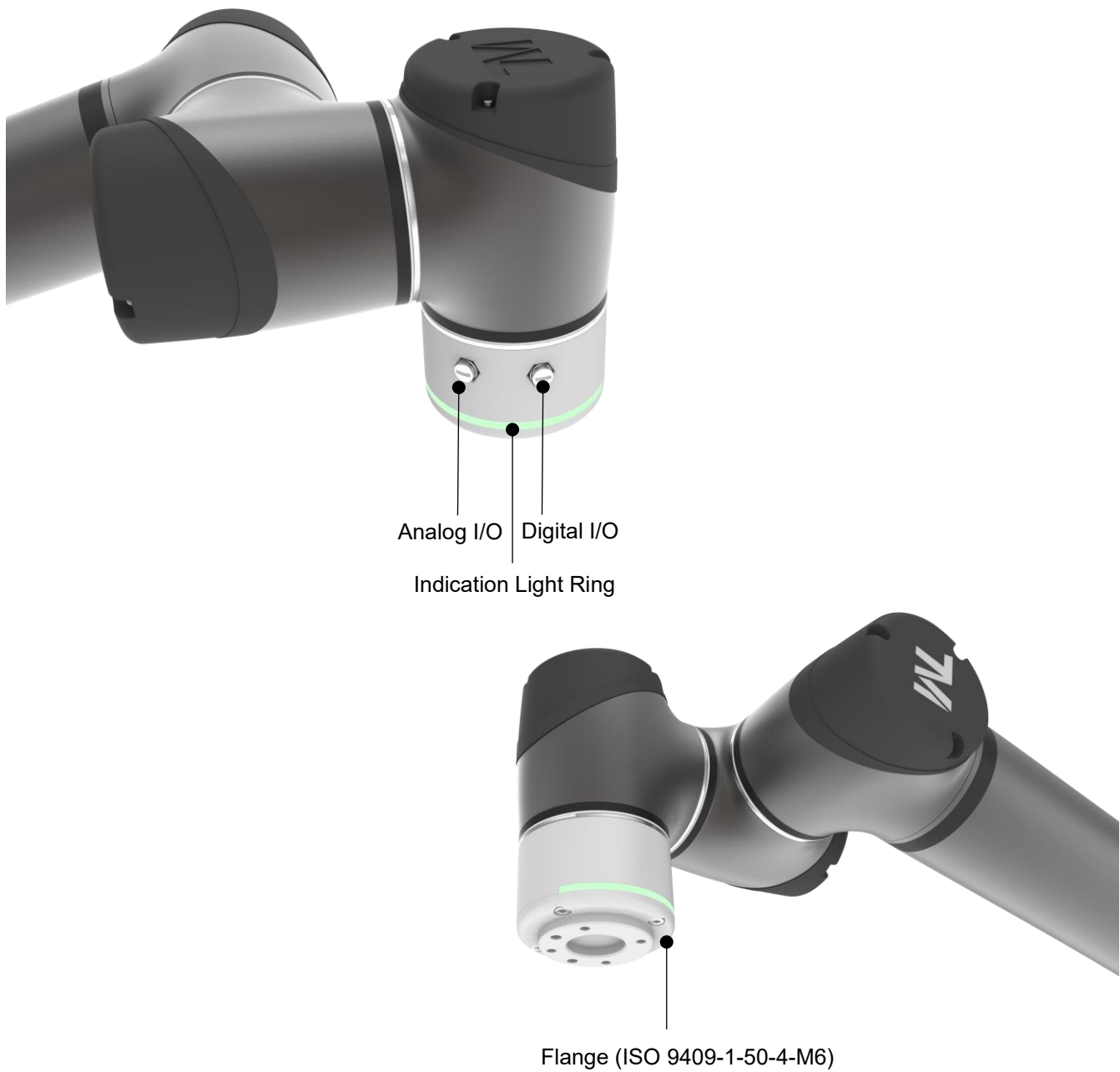


Figure 1: Reference of End Module Components (HW 3.2)

- HW5.0

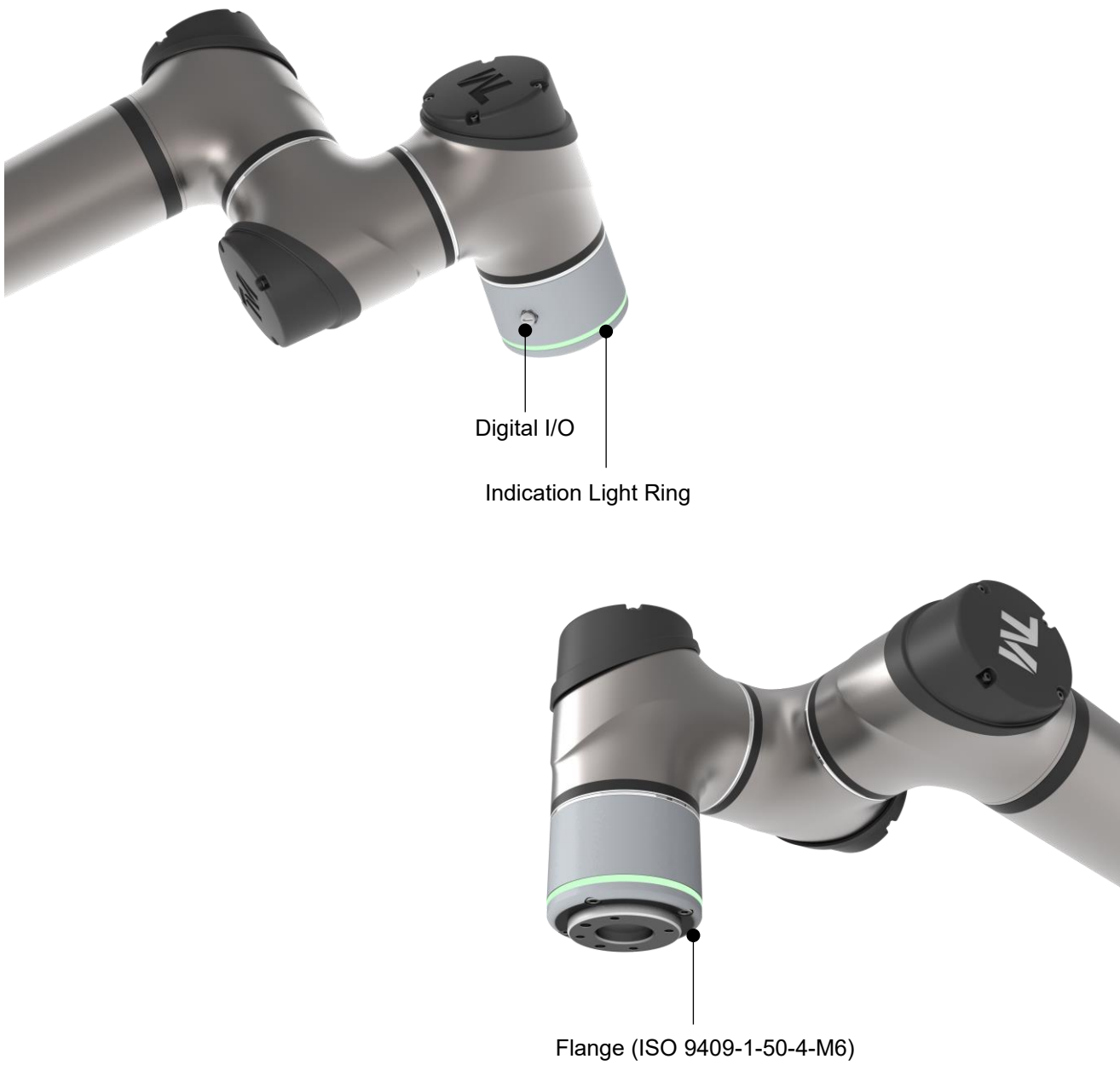


Figure 2: Reference of End Module Components (HW 5.0)

### 1.4 Flange Surface of the End Module

- HW 3.2

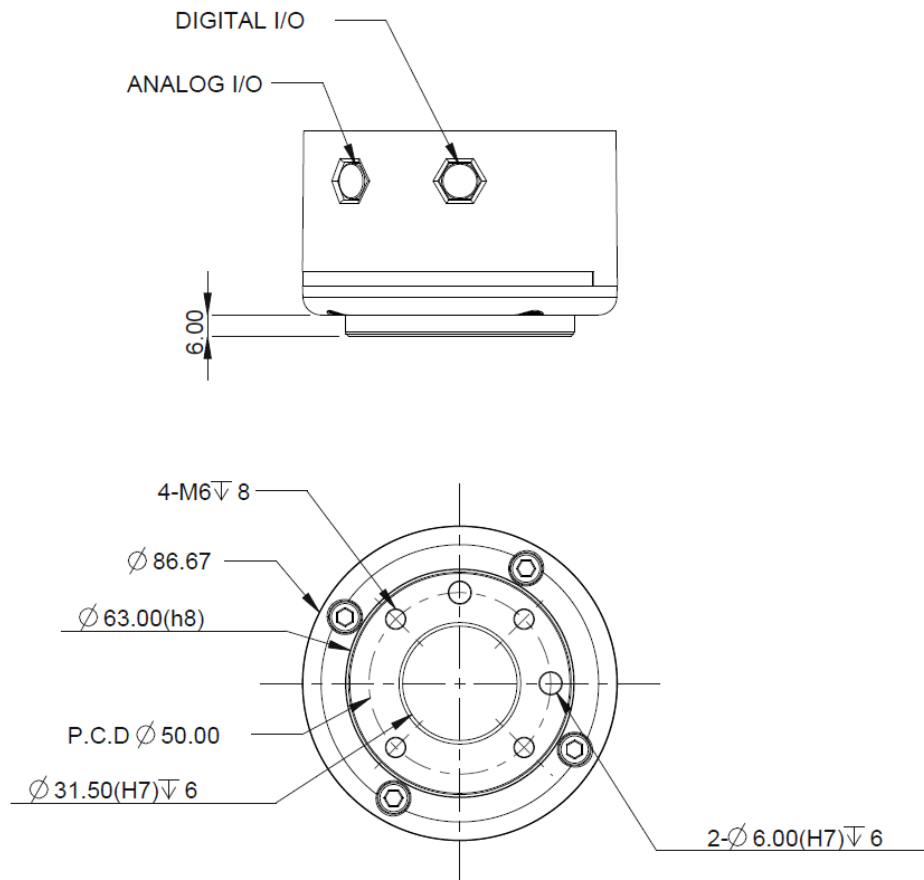


Figure 3: Reference of the Flange Surface of the End Module (HW 3.2)

\*All measures are in mm



- HW5.0

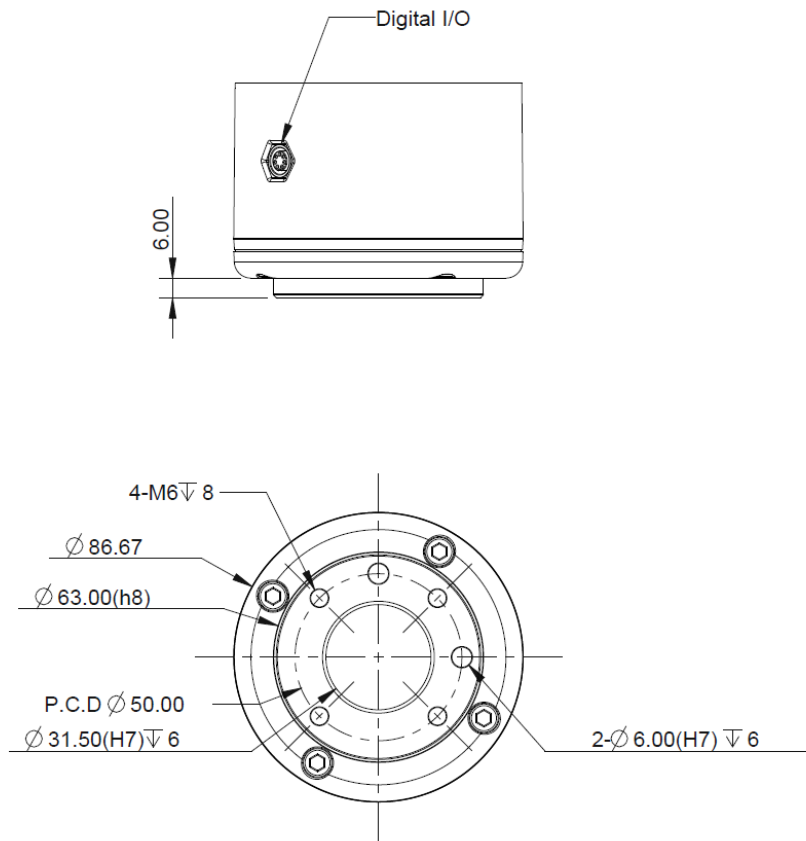


Figure 4: Reference of End Module Surface (HW 5.0)

\*All measures are in mm

## 2. Installation

### 2.1 Installation and Operation

Please refer to a *Hardware Installation Manual* or *Service Manual* for instructions.

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