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› BENGBUZZYQ 25mm Flat Membrane Load Cell Instruction Manual (Model: 1T-MH-25)

BENGBUZZYQ 1T-MH-25

BENGBUZZYQ 25mm Flat Membrane Load Cell Instruction Manual

MODEL: 1T-MH-25

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of the BENGBUZZYQ 25mm Flat Membrane Load Cell, Model 1T-MH-25. This ultra-thin, high-precision weight sensor is designed for electronic scales, weighing systems, and various industrial applications requiring accurate and stable force measurement.

The 1T-MH-25 model features a 25mm diameter and a 1-ton (1000 kg) load capacity, offering exceptional accuracy and repeatability. Its robust construction ensures durability in harsh environments, making it suitable for a wide range of industrial settings.

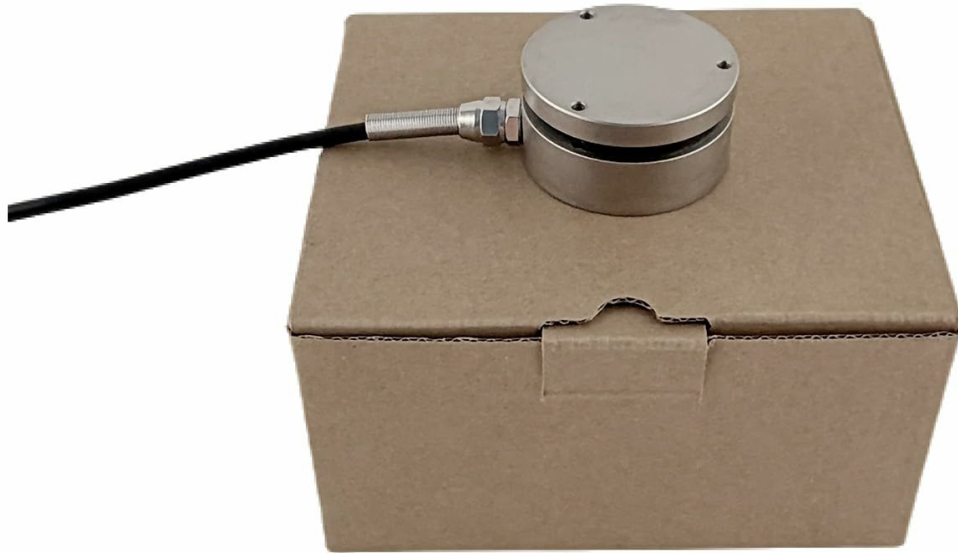


Figure 1: BENGBUZZYQ 25mm Flat Membrane Load Cell (1T capacity variant).

2. Key Features

- **Space-Efficient and Ultra-Thin Design:** The 25mm flat membrane load cell features an ultra-thin profile, ideal for applications with limited space.
- **Wide Selection of Capacities:** This specific model (1T-MH-25) has a 1-ton capacity. Other 25mm versions are available from 5KG to 5T.
- **Unmatched Precision and Stability:** Offers exceptional accuracy and repeatability, perfect for electronic scales, automated systems, and industrial applications.
- **Durability in Harsh Environments:** Built with corrosion-resistant, waterproof materials to withstand extreme temperatures and mechanical stress.
- **Simple Installation and Compatibility:** Features standard wiring interfaces, easily integrating into a variety of weighing systems and applications.

3. Setup and Installation

3.1 Unpacking

Carefully remove the load cell from its packaging. Inspect for any visible damage that may have occurred during transit. Retain the packaging for future storage or transport.

3.2 Mounting

The load cell should be mounted on a flat, rigid surface to ensure accurate readings. Use appropriate M3 screws for secure attachment. Ensure the mounting surface is clean and free of debris. Avoid applying excessive torque during installation to prevent damage to the sensor.

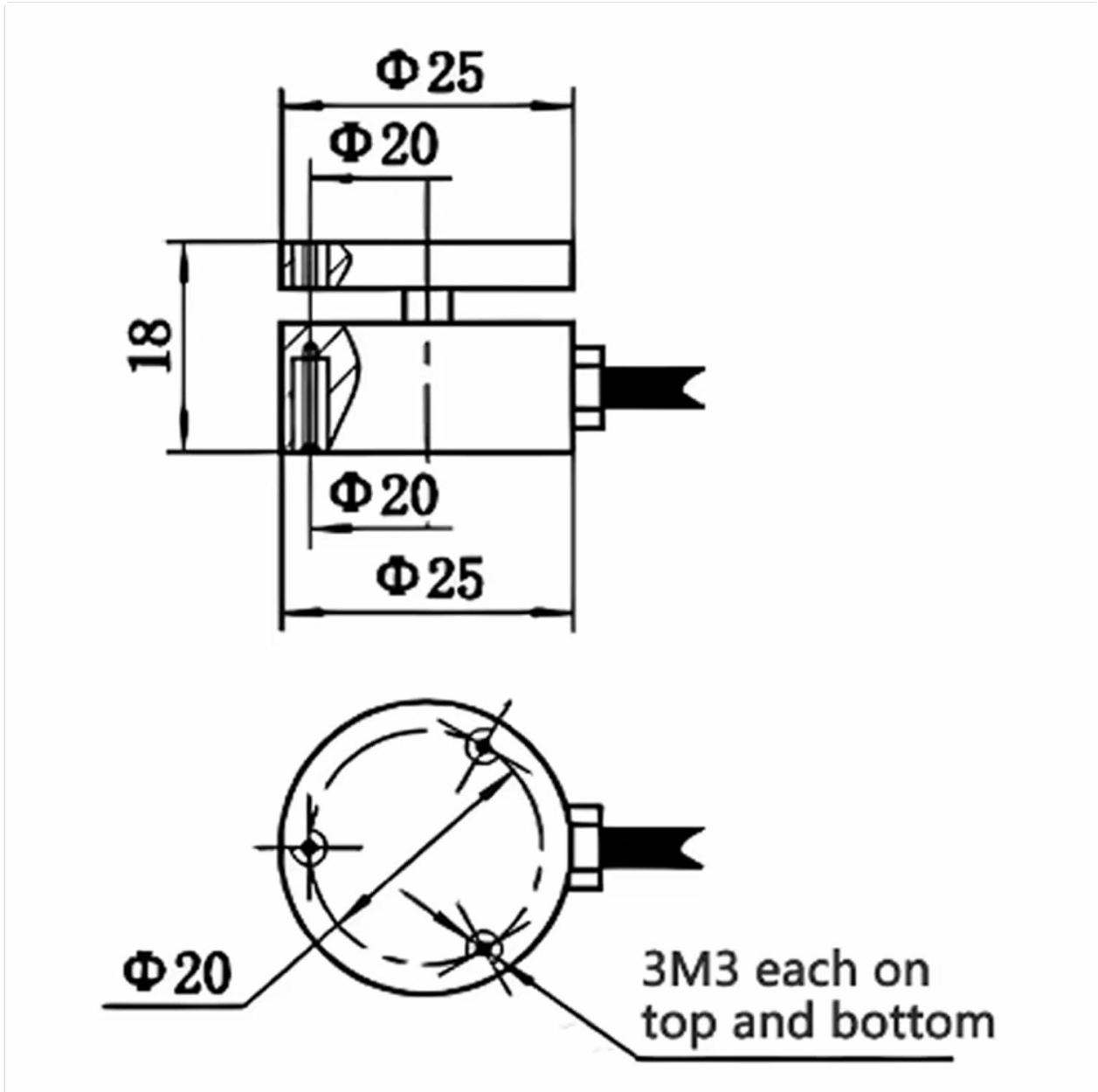


Figure 2: Dimensional drawing for the 25mm flat membrane load cell, showing mounting points and overall dimensions.

3.3 Wiring Diagram

Connect the load cell to your weighing indicator or amplifier according to the standard Wheatstone bridge configuration. The typical wiring color code is as follows:

- **Red:** Excitation+ (E+)
- **Black:** Excitation- (E-)
- **Green:** Signal+ (S+)
- **White:** Signal- (S-)

Ensure all connections are secure and properly insulated to prevent signal interference or short circuits. Refer to your weighing indicator's manual for specific wiring instructions if available.

Your browser does not support the video tag.

Video 1: Demonstration of micro load cell wiring and basic functionality. This video illustrates the connection process for a flat type load cell.

4. Operating Principles

4.1 Basic Operation

The BENGBUZZYQ load cell operates on the principle of strain gauge technology. When a force is applied to the sensor, the internal strain gauges deform, causing a change in their electrical resistance. This change is converted into an electrical signal proportional to the applied force, which can then be read by a compatible weighing indicator.

4.2 Calibration

After installation, the load cell system requires calibration to ensure accurate measurements. This typically involves applying known weights (calibration standards) and adjusting the weighing indicator to match the corresponding readings. Consult your weighing indicator's manual for detailed calibration procedures. Regular calibration is recommended to maintain accuracy over time.

5. Maintenance

5.1 Cleaning

Keep the load cell and its surroundings clean. Dust, dirt, or debris can interfere with accurate measurements. Use a soft, dry cloth to wipe the sensor. Avoid using harsh chemicals or abrasive materials that could damage the housing or wiring.

5.2 Inspection

Periodically inspect the load cell for any signs of physical damage, corrosion, or wear on the cables. Ensure all mounting screws remain tight. Address any issues promptly to prevent performance degradation or failure.

6. Troubleshooting

If you encounter issues with your load cell, consider the following common problems and solutions:

- **No Reading or Erratic Readings:**

- Check all wiring connections for looseness or damage.
- Ensure the load cell is properly mounted and not experiencing side loads or eccentric loading.
- Verify the power supply to the weighing indicator is stable.
- Recalibrate the system.

- **Inaccurate Readings:**

- Perform a full system calibration with known weights.
- Check for any physical obstructions or debris affecting the load path.
- Ensure the load cell's capacity is appropriate for the applied weight.
- Verify environmental conditions (temperature, humidity) are within the sensor's operating range.

- **Zero Drift:**

- Allow sufficient warm-up time for the system.
- Check for temperature fluctuations in the operating environment.
- Ensure the load cell is not under constant stress when at zero.

If problems persist, contact customer support for further assistance.

7. Specifications

The following table outlines the key technical specifications for the BENGBUZZYQ 25mm Flat Membrane Load Cell (Model 1T-MH-25):

PRECISE TECHNICAL SPECIFICATIONS

Every parameter refined for industrial-grade stability

Sensificity	
Sensitivity	1.0-2.0±0.05mV/V
Zero Balance	±1%F.S.
Non-Linearity	0.5%F.S.
Hysteresis	0.3%F.S.
Repeatability	±0.3%F.S.
Temp (30min)	0.1%F.S./10C
Temp EffectonZero	0.1%F.S./10C
Responsefrequency	10kHz
Material	Alloy steel
Impedance	350Ω
Insulation	≥500MΩ/100VDC
OperatingTem. Range1	5-10V
OperatingTem. Range2	-20-80°C
Safe Overload	150%
CableSpecifications	Φ3×2m
Cable ultimate pull	10kg



Figure 3: Detailed technical specifications for BENGBUZZYQ load cells.

Specification	Value
Brand	BENGBUZZYQ
Model Number	1T-MH-25
Style	25mm
Load Capacity	1 Ton (1000 KG)
Included Components	Load cell
Manufacturer	BENGBUZZYQ

8. Applications

The BENGBUZZYQ 25mm Flat Membrane Load Cell is suitable for a variety of high-precision force and weight measurement applications, including:

- Electronic scales and weighing platforms
- Industrial automation systems
- Robotic solutions requiring force feedback
- Material testing equipment
- Force measurement devices

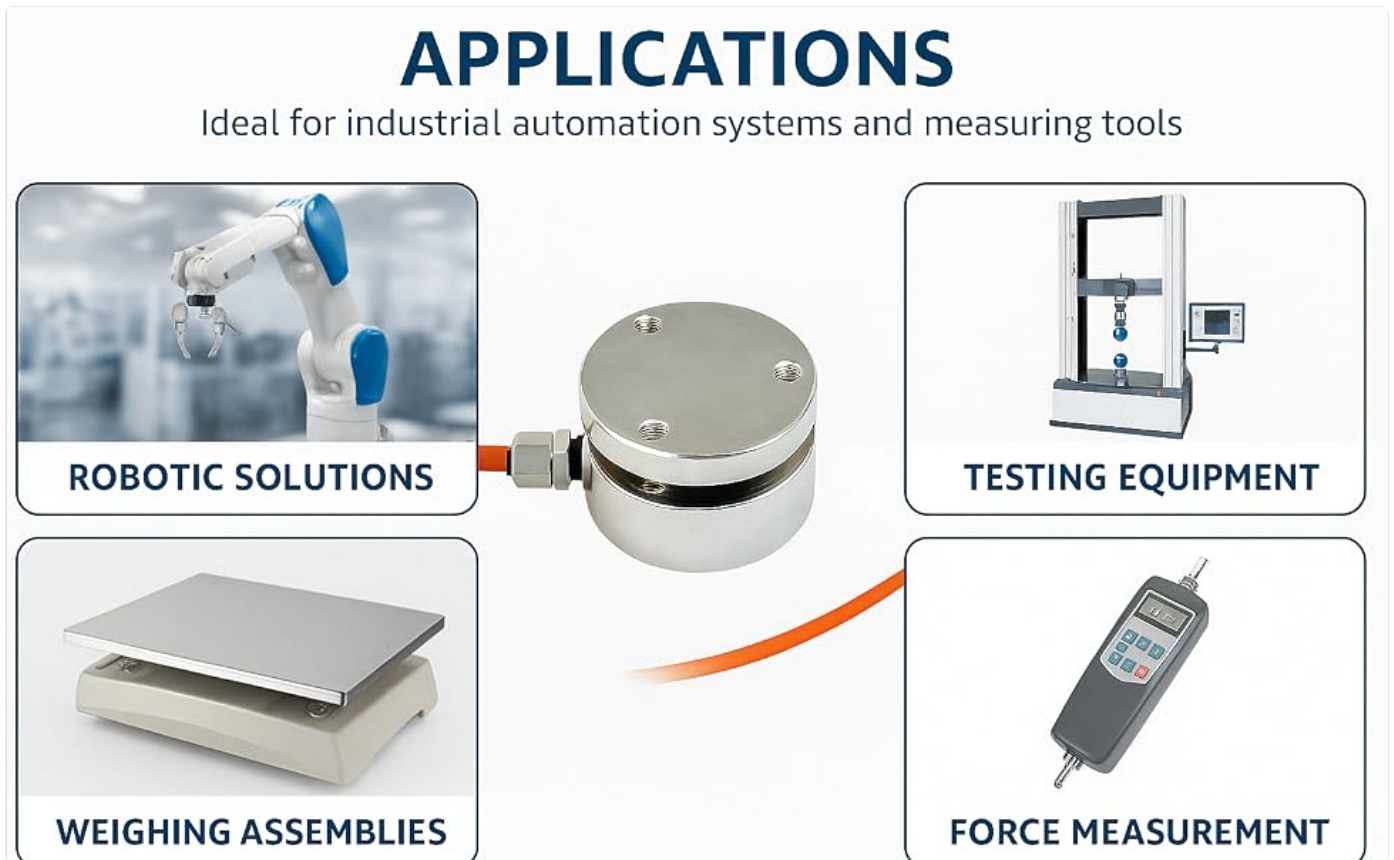


Figure 4: Examples of versatile applications for BENGBUZZYQ flat film sensors, including weighing systems and force measurement.

9. Warranty and Support

BENGBUZZYQ is committed to providing reliable products and excellent customer service. For peace of mind after purchase, BENGBUZZYQ offers:

- Technical Assistance
- Hassle-Free Returns (within 30 days of purchase)
- Dedicated Support Team

For any inquiries, technical support, or warranty claims, please refer to the contact information provided with your purchase or visit the official BENGBUZZYQ website.

CUSTOMER SUPPORT



For peace of mind after purchase, Bengbuzzyq offers:

- ✔ Technical Assistance
- ✔ Hassle-Free Returns
- ✔ Dedicated Support Team

Figure 5: BENGBUZZYQ's commitment to customer support and service.