Elevator Load Control Sensor

TURBO CELL

Installation Manual

PG302/PG312

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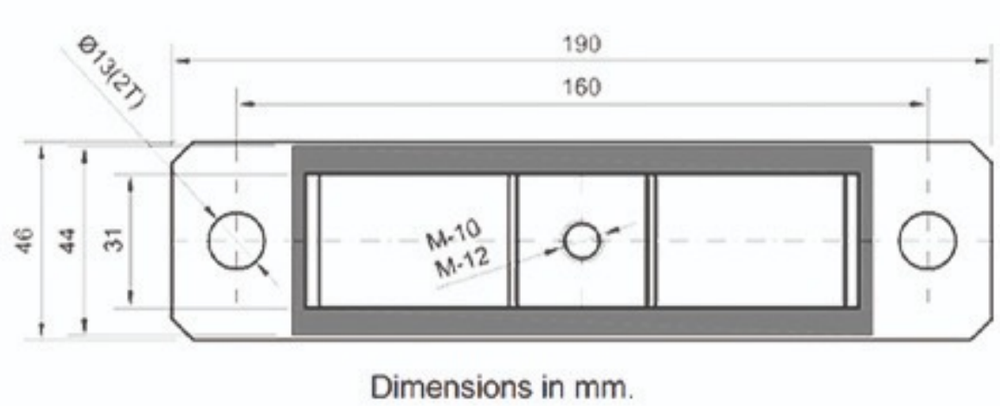
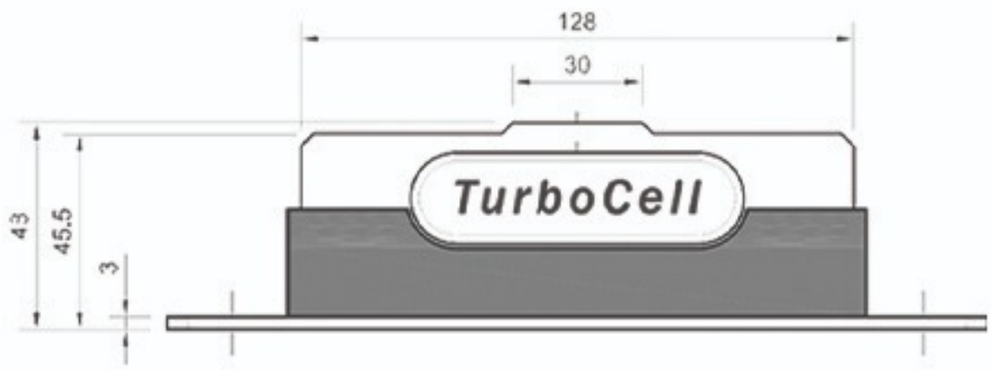




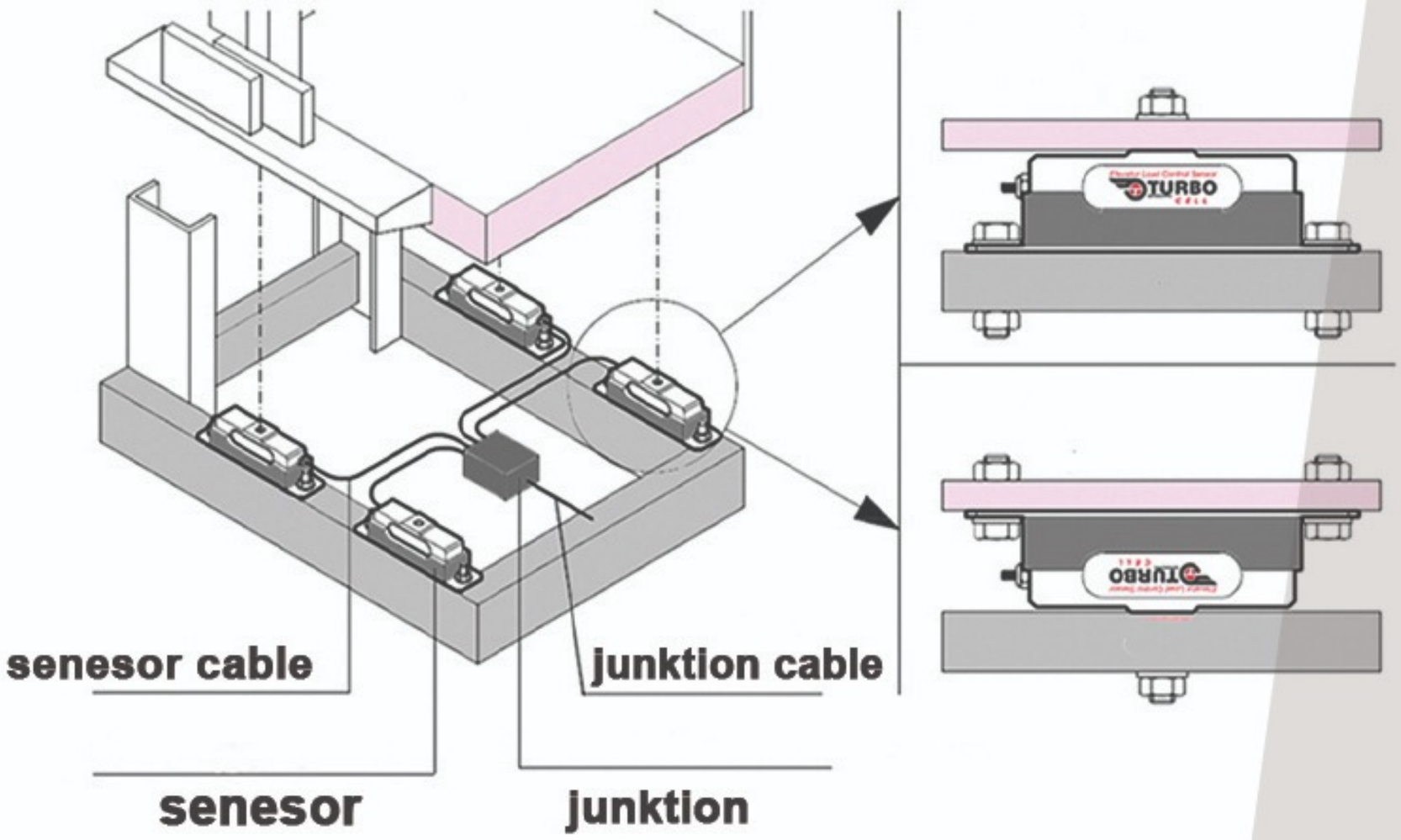
Dimensions in mm.

Specifications - Junction Box	
Output Cable Length	4 meters
Operating Temperature	-20°C to +60°C
Body Material	ABs
Input Socket	4-pin Phoenix connector
Protection Class	IP54

Specifications - Loadcell Sensors	
Nominal Weight (Per Sensor)	800 kg
Maximum Load Capacity	1500 kg
Sensor Excitation Voltage	≥ 10 V
Output Type	4-wire load cell
Sensitivity	2 ± 0.1% mV/V
Accuracy	±0.1% FS
Cable Length	1.5 meters
Protection Class	IP66
Operating Temperature	-20°C to +60°C
Body Material	Anodized Aluminum

Specifications - Controller	
Analog Output	4-20 mA*
Input Voltage	18-30 VDC (24V standard)
Max Current Consumption	Less than 300 mA
Relay Output	1 / 2* / 3*
Protection Class	IP54

*By customer order



Step 1: Mechanical Installation

1. Replace the elevator cabin's shock absorbers with the four mounting bases of the overload device.

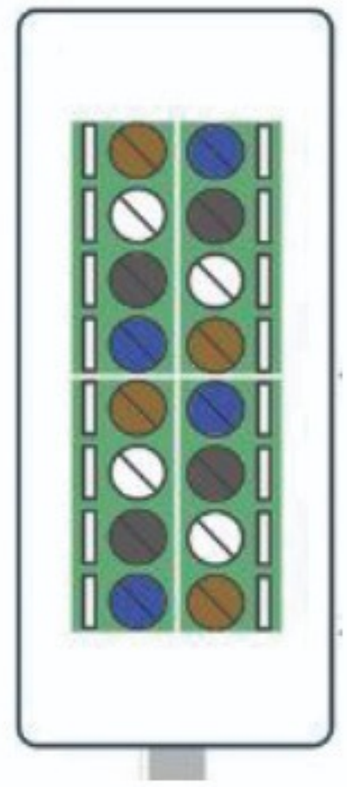
2. Securely attach the device to the four corners of the elevator cabin, ensuring even distribution for accurate load measurement.

3. For larger cabin sizes: To prevent deformation of the cabin floor, use additional passive bases in the center of the cabin to provide extra support and maintain structural integrity.

4. Tighten all bolts and screws firmly to prevent any movement or misalignment during operation.

Note: Ensure the cabin and its frame are properly aligned before installation to avoid errors in load measurement

Step 2: Electrical Connections



1. Sensor Connections:

- After installing the sensors onto the chassis, connect the sensor cables to the junction box.
- Cable Color Code: The correct wiring color code for connections is provided in the Wiring Table.

2. Power Supply and Output Terminals:

- **Power Terminals:**
  - +24V (Power Supply Positive).
  - 0V (Ground).
- **Relay Output Terminals:**
  - OVL: Overload signal.
  - AL2: Full load signal.
  - AL1: Underload signal (indicating no or insufficient load).

description	Pin
Ground(0v)	GND
24v DC	+24V
Common	COM
Normally open Ovl	NO OVL
Normally close Ovl	NC OVL
Normally open Alarm 2	NO AL2
Normally close Alarm 2	NO AL2
Normally open Alarm 1	NC AL2
Normally close Alarm 1	NO AL1
Signal+	S+
EXC+	E+
Signal-	S-
EXC-	E-

3. Junction Box to Display Connection:

- After the junction box connections are made, connect the junction box cable to the display unit, as shown in the provided diagram. Ensure the connection is secure for proper signal transfer and accurate readings.

4. Verify all connections using a multimeter to ensure correct wiring and avoid any loose connections.

Step 3: Calibration

1. Zero Calibration:

A. Ensure the elevator cabin is completely empty.

B. Hold the M button for 3 seconds until the "Zero" menu appears.

C. Press the Right button to initiate zeroing. The display will show "LOAD" after completion.

2. Load Calibration:

A. Add a known weight (e.g., 200 kg) to the cabin.

B. Press the M button to enter the "LOAD" menu.

C. Input the exact weight using the Up and Right buttons, then press M to confirm.

3. Underload Configuration (AL1 Menu):

A. After "LOAD," the display will show the AL1 menu.

B. Set the underload threshold (to indicate insufficient load or an empty cabin).

C. Use the Up and Right buttons to input the underload value, then confirm with M.

4. Full Load Configuration (AL2 Menu):

A. After AL1 calibration, the device will show the AL2 menu.

B. Set the full load threshold (maximum load capacity).

C. Use the Up and Right buttons to input the full load value, then confirm with M.

5. **Overload Configuration (OVL Menu):**

A. After AL2 calibration, the device will display the OVL menu for overload configuration.

B. Set the overload threshold (maximum load limit for the system).

C. Use the Up and Right buttons to input the overload value, then confirm with M.

6. **Exit the calibration mode by holding the M button for 3 seconds. The device will now display real-time load readings.**

Step 4: Testing and Verification

- Test the system with known weights to ensure accurate load readings.
- Verify the functionality of each relay output:
  - OVL: Activates during overload conditions.
  - AL2: Activates when the cabin reaches full load.
  - AL1: Activates when the load is below the underload threshold.

Analog Output Configuration (4-20mA Output)

1. **Enter the FULL Menu:**

2. Press and hold the Right button for 3 seconds until the FULL menu appears on the display.

3. **Input Full Capacity Value:**

   - Press the M button to enter the FULL menu.
   - Use the Up and Right buttons to input the cabin's capacity value (e.g., the maximum weight the cabin can carry).
   - Press M to confirm the entered value.

4. **Finalize the Configuration:**

   - After confirmation, the display will again show the FULL menu.
   - Press and hold the M button for 3 seconds to exit the FULL menu.

Installation Notes

1. For larger cabins, additional passive bases should be used to prevent the cabin floor from deforming.
2. Ensure all mechanical and electrical connections are securely tightened.
3. Perform regular maintenance to ensure consistent performance and prevent errors.
4. The analog output will now represent the weight in the cabin, with 4mA corresponding to 0 kg and 20mA corresponding to the maximum capacity configured in the FULL menu.

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