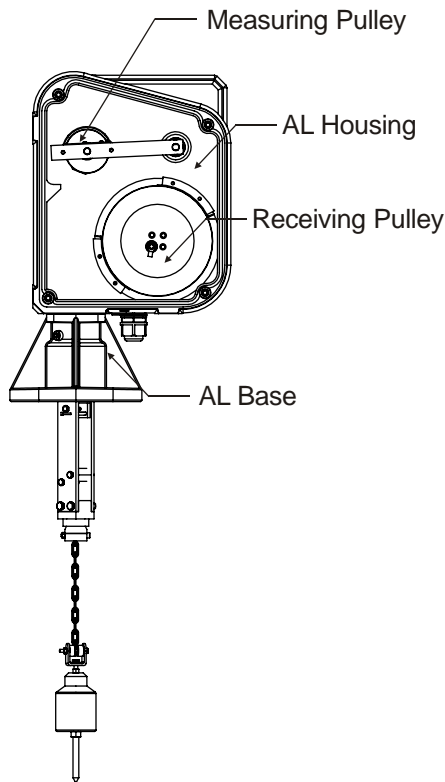


**WORKING PRINCIPLE**

EE200 series Electro-Mechanical Level Measuring System is consisted of plumb, cable wire, measuring pulley, position sensor, and control board. When measuring, the sensing weight will drop down and cable wire will rotate the measuring pulley. Position sensor and control board will calculate the distance of travel of the sensing weight (medium level) based on how many rotations measuring pulley accomplishes.



Rear View: Wiring Mechanism

**FEATURES**

- Measuring result immune from the interference of environment such as sound waves, dust, capacitance, or temperature change.
- User-friendly with microprocessor-based design.
- High level and low level alarm.
- LCD Dot matrix: 8 x 2.
- Analog output: 4-20mA dc.
- Pulse output: Transistor output(NPN/PNP), Relay output(3A/250Vac)
- Cable Break Alarm: System will detect cable broken during measuring.
- Plumb Buried Alarm: System will detect plumb buried by the medium.
- 4 Forms of Start Mode: auto start, manual start, intelligent start, and external start.
- Intelligent Start: Measuring interval is inverse proportional to medium level.
- Auto Return Setup: Prevent sensing weight from sliding into the tank to damage the equipment when tank is empty.
- Material Fill-Up Protection: Reduce the possibility of plumb being buried.
- Measuring range of 30m.
- RS485 communication protocol.
- Various selections of plumb.

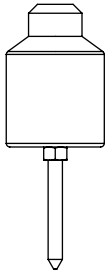

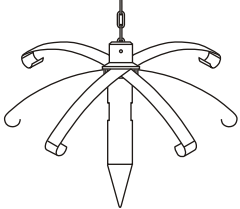

**APPLICATION**

- Widely utilized in mining, cement, chemical, and feed industries.
- Suitable for applications of dusty silo, pellet silo, solids silo, liquid silo, unsealed, or vacuum sealed silo.

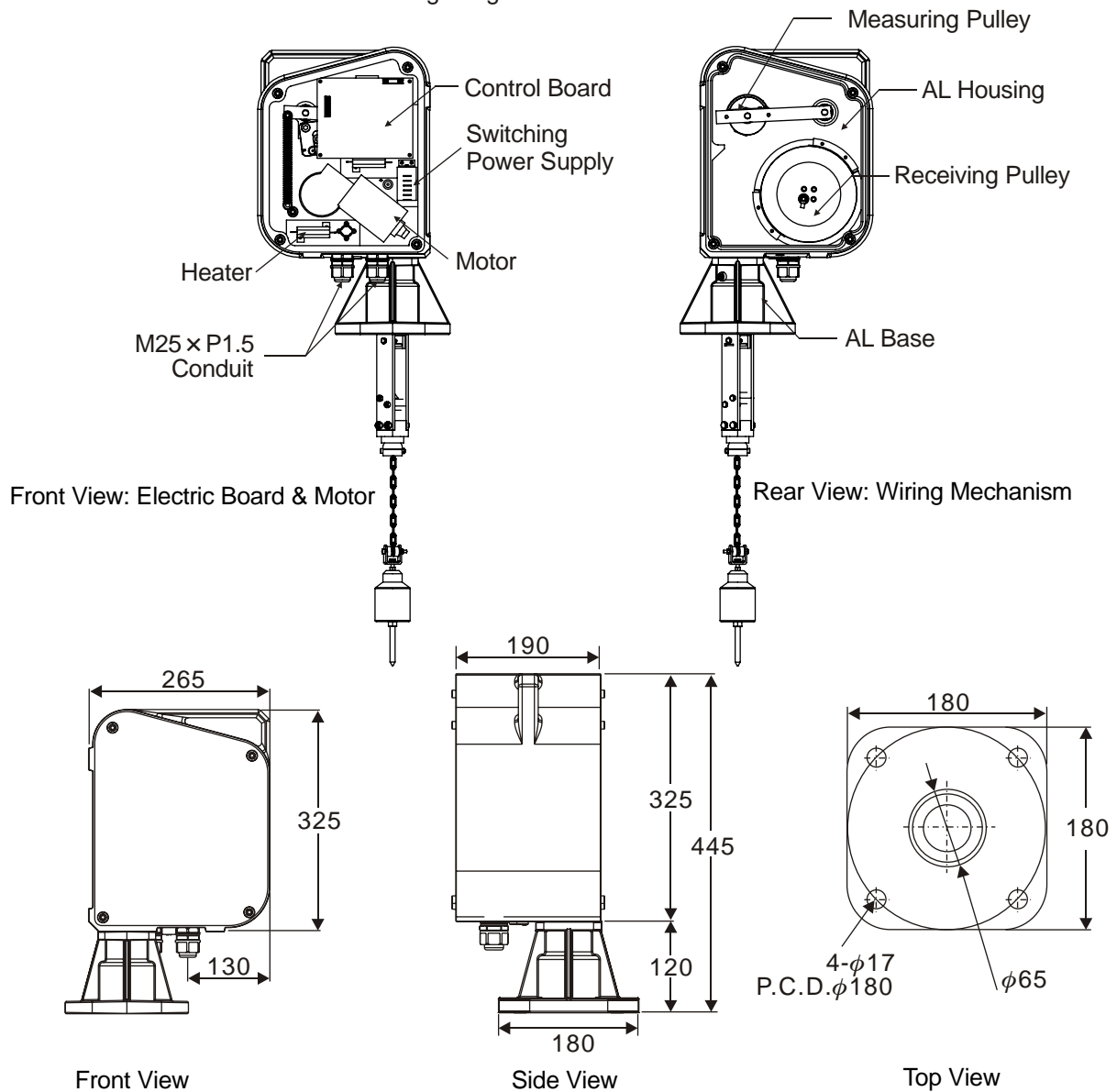
# SPECIFICATION

No.	Category	Specification	
1	Power Supply	100~240Vac± 10%, 50/60 Hz	
2	Transistor Measuring Resolution	± 3pulse(version with10mm/pulse)	
3	Relay Output Measuring Resolution	± 1pulse(version with100mm /pulse)	
4	Measuring Speed	0.23m/s	
5	Analog Output	0/4-20mA ± 1%	
6	Pulse Output	1. NPN 、PNP 2. Relay (3A/250Vac)	
7	Display	LCD (Dot matrix , 8 X 2)	
8	Status LED	1.Lock (Fill-Up Protection) 2.RUN 3.Buried 4.Break 5.Auto 6.High Alarm 7.Low Alarm	(Red) On (Yellow) On (Red) Blink for 1 second (Red) Blink for 2 seconds (Blue) On (Red) On (Red) On
9	Ambient Temperature	-35°C- 60°C	
10	Operating Temperature	-35°C- 80°C	
11	Measuring Range	30m Max	
12	Protection Level	IP66	
13	Relay Output	SPDT 3A/250Vac X 3 (1.HI Alarm 2. LO Alarm 3.Buried 、 Break 、 Lock (Output mode as indicated)	
14	Anti-Dew Heater	Start heating <16°C ( prevent frostbite, prevent dew ) in 100 W optional	
15	Cable Break Detection	Yes	
16	Sensing Weight Buried Detection	Yes	
17	Manual/Auto Measuring Mode	Yes(0.1-99h)	
18	Motor Protection	Yes	
19	Malfunction Diagnosis Display	Yes	
20	Material Fill-Up Protection	Yes	
21	Communication Protocol (RS485)	Yes	Frame C8N1.C8N2.C801.C8E1.C7N2.C701. C7E1.C702. C7E2.C9N1
			Baudrate 1200.2400.4800.9600. 11520. 14400.19200.28800.57600
22	Intelligent Start	Measuring interval is inverse proportional to medium level.	
23	Reset Output	Reset (3A/250Vac)	
24	Cable Wire	1.2mm <sup>φ</sup>	

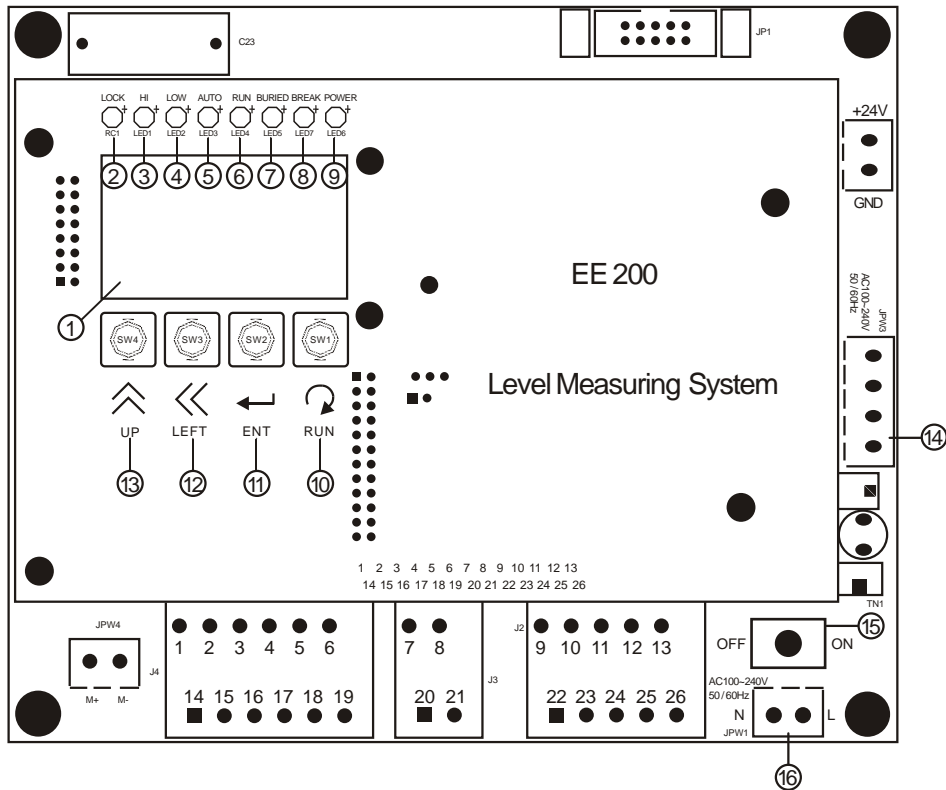
## Types of plumb

A	B	C	D
Aluminum Alloy	Stainless probe steel float type	Umbrella	Plastic Auto-Fall-Off
			

※ Custom made is available for sensing weight



# CONTROL BOARD LAYOUT



- ① Characteristic LCD (Dot matrix , 8 × 2), provides the status, level command and error message.
- ② Material Fill-Up Protection Indicator (LOCK), the EE200 will be turned off and hold LOCK indication while the reservoir is filling up procedure.
- ③ High Level Alarm Indicator (HI), light on if the material level exceeds the preset high threshold.
- ④ Low Level Alarm Indicator (LOW), light on if the material level is below the preset low threshold.
- ⑤ Auto Start Indicator (AUTO), light on to indicate EE200 is in automatic operation mode.
- ⑥ Start Indicator (RUN), light on if the EE200 is in measuring period, and it turns light off status while the measurement completed.
- ⑦ Weight Head Buried (BURIED), blink light on /off in 1 sec period to warn operator, the LCD will show BURIED message.
- ⑧ Cable Break Indicator (BREAK), blink light on /off in 2 sec period to warn operator, the LCD will show BREAK message.
- ⑨ Power Indicator (POWER), "Light On" for power on and "Light Off" to indicate power off.
- ⑩ "Start", start the operation.
- ⑪ "Enter", acts as "confirm button" at setting mode and as "page select button" at menu mode.
- ⑫ "Shift", acts as "decimal shift" while enter digits and as "enter button" at menu mode.
- ⑬ "UP", acts as "Increment button" while enter digits and as "Escape button" at menu mode.
- ⑭ Terminal (H1.H2) for heater.
- ⑮ Power switch: to turn on, turn off power
- ⑯ Power connector (L.N), accepts the power of 100~240Vac, 50/60Hz ◦

# ORDER INFORMATION



EE200-- -

**TEMPERATURE CONTROL**

- 0:None
- 1:Yes

**CONNECTION**

00 : Standard (180PCD180, 4- $\phi$ 17)

**SENSING WEIGHT TYPE**

- A : Aluminum Alloy
- B : Stainless probe steel float type
- C : Umbrella
- D : Plastic Auto-Fall-Off

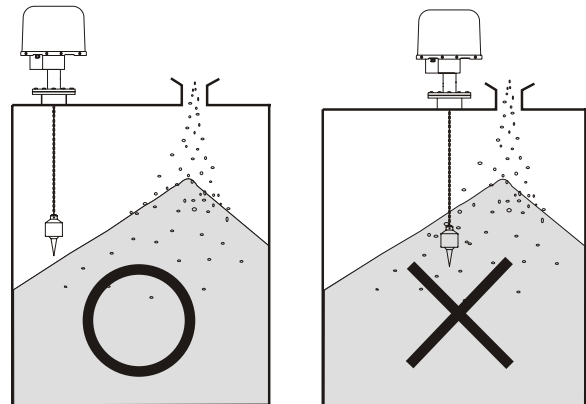
**MEASURING RANGE (m)**

- 02:2m(min.)
- 30:30m(max.)

# INSTALLATION

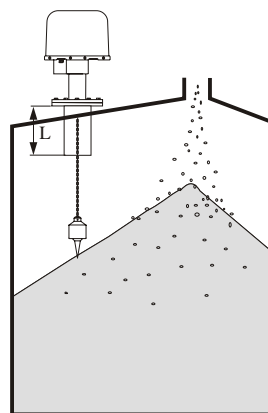
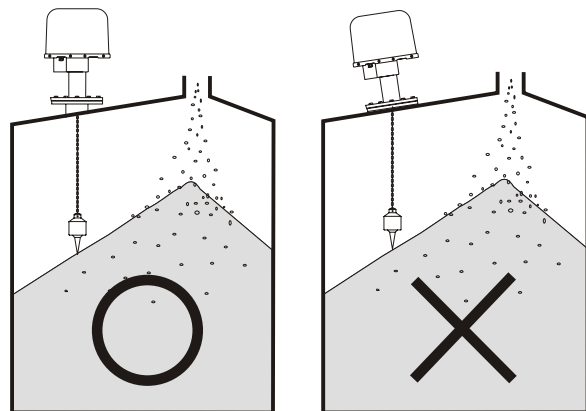
## Installation site chosen

- Select the installation site away from inlet/outlet of tank to avoid filling product covers the sensing weight or damage the steel cable.
- If there is a inspection window on tank for installation, of course, installation site should closely moving the path for convenient maintenance.
- To avoid sensing weight or steel cable being hook on equipments such as ladder, holder, or protrusile in tank, EE102 installation should keep away from it.



## Installation method

- Drilled hole on the tank for EE102 installation has to be wider than 140mm  
The flange must be mounted exactly horizontally and the sensing weight and Electromechanical Level Measure must be exactly vertically. It will help to smooth the steel cable moving up and down to avoid the mistake and damage.
- If the roof of the container is not flat, it is necessary to weld a stand pipe to make it horizontal installation. The dimension of pipe has wider than 4 inches also to make its height as short as possible.
- To make two flanges connected closely, a rubber gasket can be put between them.
- If installed in outside surrounding, the cable must went through rubber gasket and screw firmly to avoid liquid flow in.
- Glue must be sealed onto the separated board inside of EE102 to make sure firmly covered and the screws are tightly fixed.



## Notice:

- To avoid components damaged, take very carefully while shipment.
- To prevent accident happened in the very beginning of installation, make sure all parts and steel cable are in good condition.