

HORIBA

Process & Environmental

Improving the Safety of Transport by Crane Using Thermometer

Background

In steel mills, iron slabs after manufactured are transported by magnetic cranes (lifting magnet). If the temperature of the iron slab is too high, the magnetic force of the crane gets weakened, so the temperature of the iron slab must be reduced to an appropriate temperature.

Therefore, it is necessary to go near to the crane to measure the surface temperature of the iron slab before transportation, but this is a time-consuming and labor-intensive process.

Voices of magnetic crane temperature check personnel

- Need to maintain a safe distance from the measurement object for safety.
- Time consuming due to manual checks
- Repeatedly checking the exact measurement point from a far distance is difficult.
- Temperature checks has to be done by visiting harsh environment.

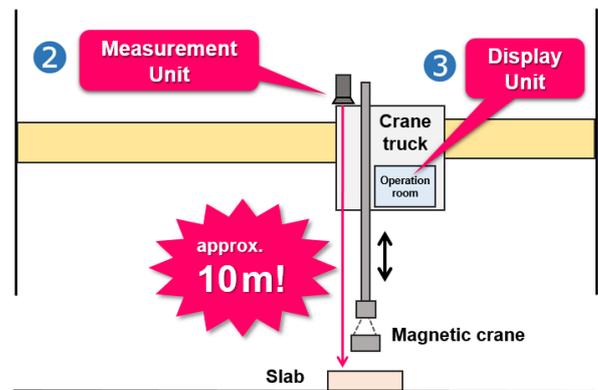


HORIBA's Solution

“Thermometer for Magnetic Cranes” is the solution!

- Can be measured from a far distance (approx. 10 m)
- Highly accurate and stable real-time measurement
- Continuous operation even in harsh environment

» Example of Installation



» Features of Thermometer for Magnetic Cranes

The thermometer for magnetic cranes is a system consisting of (1) a thermometer IT-480F, (2) a measuring unit, and (3) a display unit.

1 Thermometer IT-480F

- Measure up to 10 meters away.
- Minimizing the influence of ambient temperature to achieve highly accurate and stable real-time measurement. (Patent No. 5658059)



Access here for IT-480 series product information



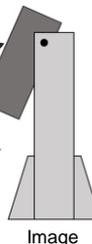
2 Measurement Unit

- Easy setup for measurement and positioning of the measurement target with a sighting laser.
- Purges the inside of the unit with instrumentation air continuous operation for a long time even in harsh environment.



Measurement Unit

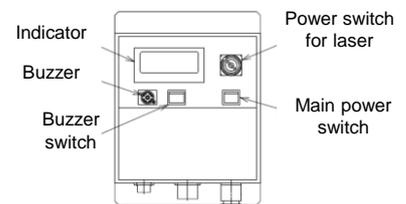
Mounting base



Image

3 Display Unit

- Simple display unit.
- Displays the measured temperature value.
- A buzzer sounds when the temperature setting is exceeded.
- Sighting laser for setting measurement points, on/off available.



Steel Transportation Related Solutions

Prevention of softening of rubber for coil rolling stopper

When the temperature of the final product coil is high, the stopper rubber melts and adheres to the coil. To prevent this from happening, the surface temperature of the coil must be measured.

HORIBA offers the IT-480 series for automatic measurement and the IT-545 series for manual measurement.

Thermometer IT-545 series

Access here for product information

