

# Chapter 8

## Digital and Analog Interfacing Methods

# **Lesson 14 Part b**

## **Capacitance based Position Proximity Sensors**

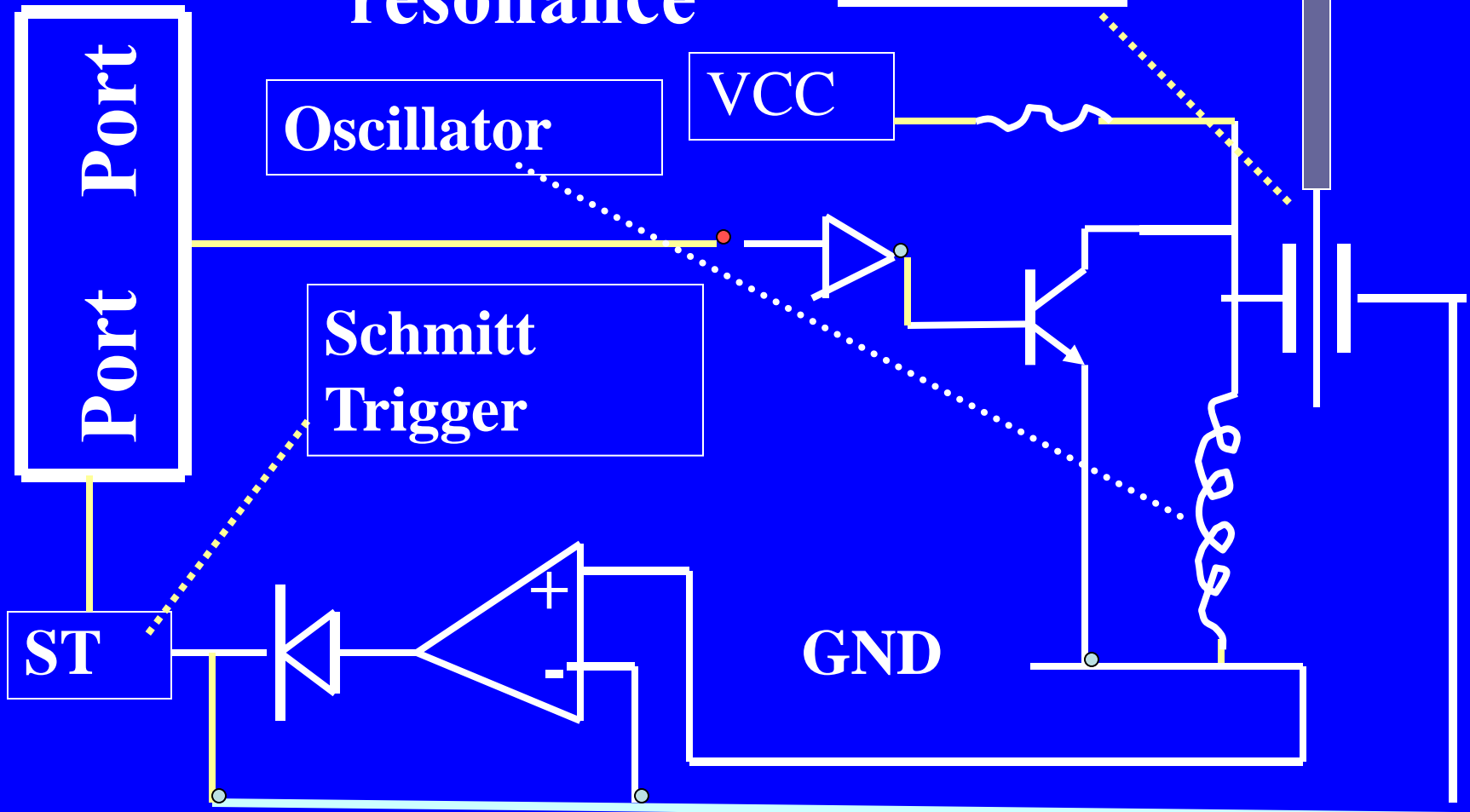
# Position Proximity Sensors

- Level detection instrument
- Broken part detection
- Wall or obstacle sensing

# Capacitive Sensor circuit resonates when in proximity

- Moving paper or dielectrics near electrodes changes capacitance
- Insertion of metal plate between two electrodes senses the metal
- Capacitance change depends upon dielectric filled level in the tank

# MCU Proximity results in resonance Capacitive Sensor



# Capacitance

change due to the filler level  
causes circuit

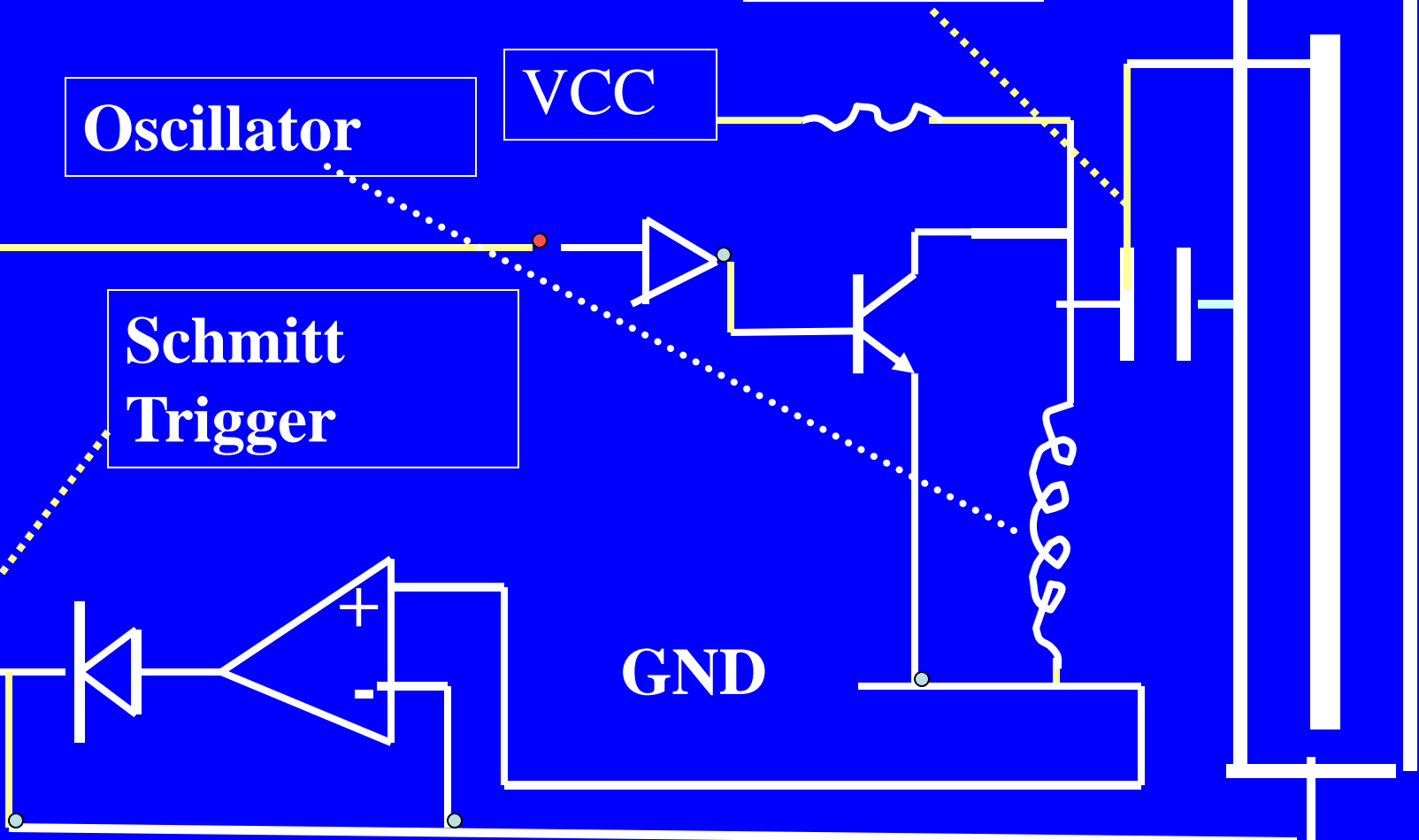
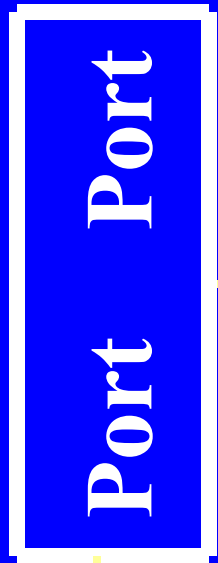
# Capacitive Metallic

resonance

# Sensor

Tank

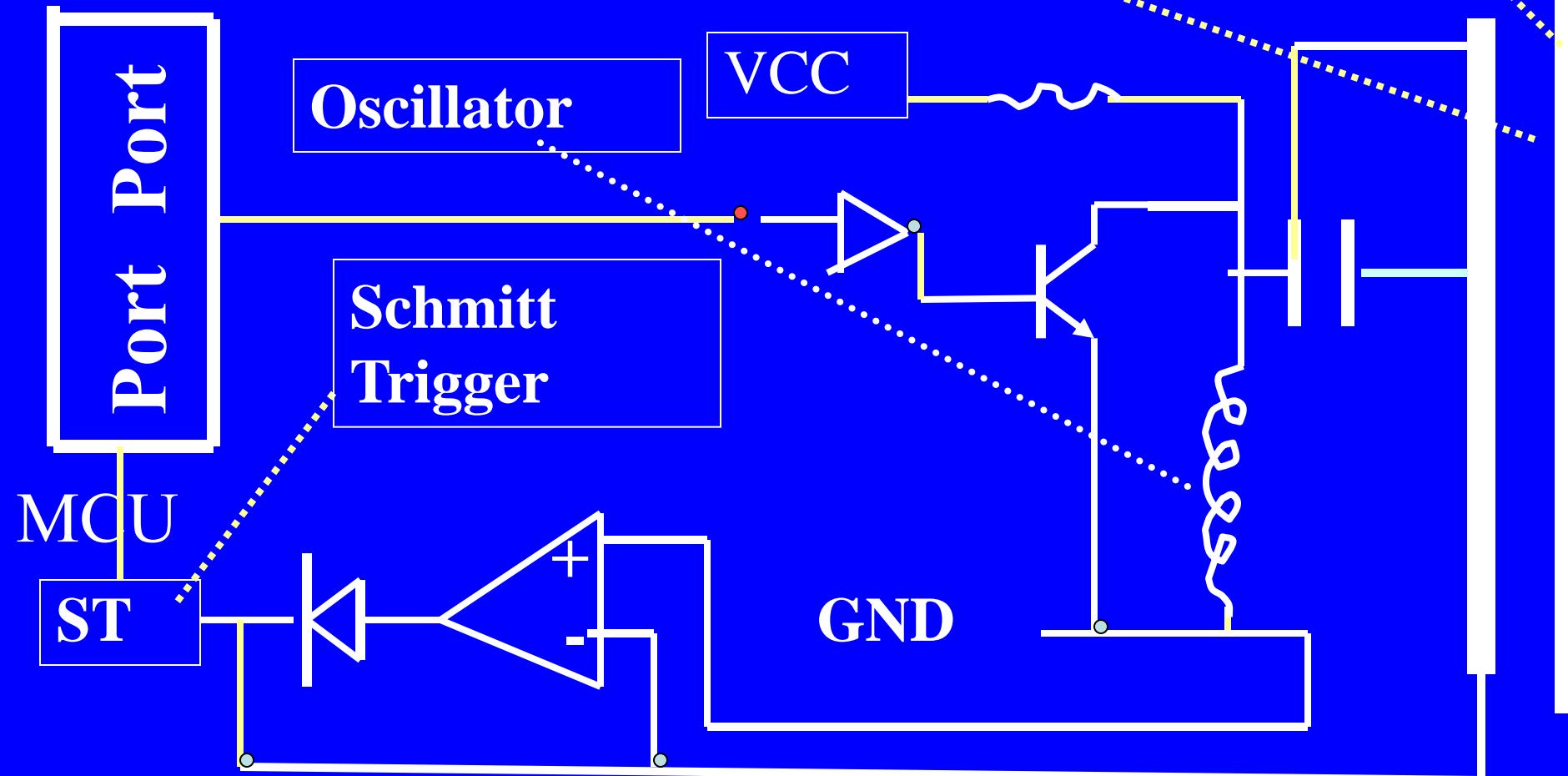
MCU



# Capacitance

when electrode near the wall  
causes circuit  
resonance

Capacitive Wall  
Sensor



# Summary



# We learnt

- Capacitance sensor senses resonance condition when capacitance enhances in proximity

# **End of Lesson 14 Part b**

## **Capacitance based Position and Proximity Sensors**