

# Perform Adjustment and Measurement on Automation Devices (Blended)

## MF-AUT-104E-1

Code: PAMAD

Duration: 16 Hours

---

### Synopsis:

This module is developed to enable learners to acquire knowledge and skills to perform the adjustment and measurement on automation devices such as electrical switches, relays, contacts, sensors, actuators and basic pneumatic circuits that are commonly used in manufacturing control systems.

### Course Objective:

On completion of this module, learners will be able to carry out adjustment and measurement of automation devices in manufacturing control system.

### Course Outline:

The knowledge and skills covered in this module include:

#### Skills:

- Prepare tools and equipment for the task according to work instructions
- Carry out measurements and adjustments on automation devices
- Check the causes of system malfunctions by automation devices in a control system
- Reinstate the system to its initial conditions

#### Knowledge:

- Interpretation of Work Instructions
- Electrical Symbols & Quantities
- Types of mechanical devices
- Common causes that control circuit occurs over current
- Types of protective devices that used to protect control circuit against over current
- Applications of Multimeter
- Standard cable color coding
- Types of fasteners commonly used in the workplace
- Methods of preventing the bolt from self-loosening
- Types of washers and its purpose
- Thread series standard
- Types of tools that determine the thread series
- Types of tools used for various types of screws/bolts
- Types of micro switches
- Types of optical sensors

- Advantage and disadvantage of using fiber optical sensors
- Common causes of sensor failure
- Function of FRL Units
- Operation of air compressor
- Pneumatic symbols
- The importance of documenting the causes of system malfunctions

**For Whom:**

Suitable for operational level.

**Entry Requirements:**

Participants are assumed to:

- Have a basic knowledge of the Singapore Workplace Safety and Health requirements;
- Be able to follow written and oral work instructions;
- Be able to listen and speak English at a proficiency level equivalent to the Employability Skills System (ESS) level 3 and above;
- Be able to read and write English at a proficiency level equivalent to ESS level 3 and above;
- Be able to manipulate numbers at a proficiency level equivalent to ESS level 3 and above.

**Training Medium:**

This module is conducted in English.

**Training Methodology:**

This module is delivered through e-learning, lectures, group activities and demonstration.

**Assessment Methodology:**

Practical and oral/written assessments are conducted at the end of the training module.

**Certification:**

An individual who completes a module will be awarded a Statement of Attainment (SOA).