TEACH PENDANT PROGRAMMING

Teach Pendant Programming is one of the most widely used methods for industrial robot programming. A teach pendant is a handheld, portable device used to manually control and program a robot. It contains:

- Buttons / joystick
- Touchscreen (in modern systems)
- Emergency stop
- Motion control keys
- Program recording options

This method allows operators to teach the robot desired positions and actions by physically moving the robot or jogging it using pendant keys. All the taught positions are saved and later executed as a program.

Features of Teach Pendant Programming:

- Direct Robot Control
- Real-Time Teaching
- User-Friendly
- Safe Operation
- Program Recording

Advantages of teach pendant programming:

- Very easy for shop-floor operators
- No need for deep programming knowledge
- High accuracy in teaching real robot positions
- Quick for repetitive movements (pick & place, welding)
- On-site correction reduces errors

Disadvantages:

- Robot must be stopped while teaching → production downtime
- Slow for complex tasks
- Not suitable for offline or simulation-based planning
- Operator skill influences accuracy

Applications:

- Pick and place
- Assembly operations
- Welding and soldering
- Painting and spraying
- Palletizing
- Machine loading/unloading

Simple Teach Pendant Program:

Program Name: PICK_AND_PLACE

1. SPEED 40
2. MOVE P1 ; Move to pick point
3. CLOSE ; Grip object
4. APPRO P1 ; Lift object
5. MOVE P2 ; Move to place point
6. OPEN ; Release object
7. DEPART P2 ; Move away
8. END

Note:

- P1 and P2 are positions taught using the teach pendant.
- The pendant automatically converts movements into the above commands.