

# Lift & Escalator Industry Association

## Electronic Systems & Controls for Lifts (Unit 12)



### Course Content

#### **Lift Control and Management Systems**

- Control System Arrangement
- Collective Control Strategies
- Up Peak and Down Peak
- Group Control Strategies
- Lift Management Systems

#### **Microprocessor Basics**

- Microprocessor Construction
- Basic Microprocessor System
- Microprocessor Operation
- Binary Codes
- Analogue, Digital and Interface Circuits
- Programmable Logic Controllers (PLC's)

#### **Switching Devices**

- Basic Bi-polar Transistor Operation
- The Thyristor
- Losses in Semiconductor Switching Devices
- The Insulated Gate Bipolar Transistor (IGBT)
- Application of Switching Devices

#### **Converters and Inverters**

- Basic Thyristor Converters
- Three phase converters
- Inverters
- The Matrix Converter

#### **Motors and Transducers**

- Traction Type Induction Motor
- Variable Frequency Induction Motor
- Synchronous Motors
- Transducers

#### **Variable Speed Drives for Lifts**

- The Load Characteristics of a Lift System
- Performance Criteria for a Lift Drive
- Closed Loop Control with a D.C. Motor
- Closed Loop Control with a Traction Type Induction Motor
- Variable Frequency Systems

#### **Safety of Users**

- The Inspection Operation and Re-levelling
- PESSRAL

#### **The Installation**

- Protection and Protective Devices
- Electromagnetic Compatibility