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Design and Development of an Automatic Material Handling System Using PLC for 40 kg Load Capacity

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Abstract: *This paper presents the design and development of an automatic material handling system utilizing a Programmable Logic Controller (PLC) capable of efficiently managing loads up to 40 kg. The system integrates various components including Schneider PLC with corresponding data cables, proximity and photoelectric sensors with a detection distance of 4mm, servo motors operating at a speed of 60-100 RPM, a 24V DC power supply unit (input: 230V, output: 24V DC), Siemens MCB for circuit protection, Elmex connectors for terminal connections, Phoenix Contact Glass Relays operating at 230V AC, and numeric keypad push buttons with an input supply of 4-5V. The integration of these components ensures reliable operation and efficient handling of materials within the specified load capacity. This research contributes to the advancement of automated material handling systems, offering potential applications across various industries.*

Keywords: RFID, Smart door lock, Blynk, IoT, Security, Telegram, OTP

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