

S844 MIFARE PROXIMITY READER

TECHNICAL DESCRIPTION OF OPERATION

The S844 Mifare Proximity Reader's intended purpose is to read identification codes programmed into passive mifare cards, accept PINs through a keypad and display a response on a LCD. The maximum read range is about 1". The unit is connected by cable to an Access Control controller which provides the necessary power and control/interface signals.

The circuitry is contained on three PCBs and these are mounted in a plastic enclosure (125mm x 100mm x 45mm or 5" x 4" x 1.5" approx.). The PCB nearest the keypad forms the antenna, with the r.f. circuitry and the LCD control on the middle PCB, while the remainder of the circuitry including the terminal block for power and signals is on the final PCB. The cable from the terminal block exits through the large hole in the back of the unit. A small connector is provided to allow the option of connecting a magstripe reader.

The power supply is a nominal 12v DC with the output of a 5V regulator powering the majority of the circuit including the antenna drive.

The antenna is a printed coil that emits a 13.56MHz magnetic field. The field 'powers up' a passive transponder or tag which is brought into the vicinity of the antenna. The transponder, when powered, operates as a field disturbance device allowing two-way communication to take place between the reader and the card. The field is switched on continuously and modulation of the field is carried out by a dedicated device that is manufactured by Philips for the purpose.

The control processor handles the bi-directional communications between the reader and the controller, responding to commands received and passing card data and status information back to the controller. The control processor also carries out housekeeping tasks such as scanning the keypad and monitoring the tamper switch.