Chapter 8

Digital and Analog Interfacing Methods
Lesson 9 Part b

Coil Interface
Outline

• Optical Isolation
• Opto-isolator circuit
• coil and relay interface circuits
• Loudspeaker Interface
• Music Play Box
• Stepper Motor
Coil Interface applications examples

(i) a magnetic field generating solenoid coil, for example in an LVDT,
(ii) a relay,
(iii) a loudspeaker and
(iv) a coil of stepper motor
Coil Interface Circuit

Port bit 1 or 0

Opto-Isolator

+5V

P

N

+24/12V

+12V

Darlington Transistor Pair

R_c

C

E

R_b

GND

Coil
Summary
Coil Circuits

- Uses Reverse biased diode across coil
- Darlington Transistor Pair for High coil Currents
- Invertors-buffers and transistor for low coil Currents
End of Lesson 9

Coil Interface