Growco IDR Series Magnetic Contactless IC Card Reader is especially designed for the use of Petroleum products loading system. It can be installed on the loading terminal with easy operation. More than one reader can be connected to the Loading Management Computer Systems or Terminal Automation Systems (TAS) through RS485 bus, composing IC Card Recognition System and / or Batch Controllers. It uses Standard MODBUS (RTU mode) protocol to communicate for reading with Growco IDR.

**Typical Photograph
of Growco IDR Reader**

➢ **Specifications**

- Input voltage : 21~26V
- Working current : ≤40mA
- Communication interface : RS485/RS232
- Communication baud rate : 2400, 4800, 9600, 19200 (optional)
- Display mode : 2 LED lights status display
- Run mode : Durative
- Environment temperature : -20 ℃ ~ 55 ℃
- Relative Humidity : ≤95%
- Storage temperature : -35~65 Deg C
- Classification : Exd II BT6
- Dimensions : φ96×10mm
- Installation dimensions : 140×130×100mm
- Weight : Approx. 1.3kg

➢ **Principle**

Growco IDR Reader supplies power separately to the main circuit and the communication circuit using double-channel isolation power supply, for the purpose of surge-proof and signal isolation.

Growco IDR Reader is initialized when energized. The buzzer buzzes and two indication lights shine for three times. The green indication light shines twice then keeps light, while the red one turns dark. At this time, IDR Reader has been started successfully and entered the standby status. Touching a contactless read-only IC card, Growco IDR Reader reads data storing in the IC card by the electromagnetic inducting circuit. After that, data is input to the main circuit data processor (CPU) to process, and the CPU checks the received data.

At the same time, the status display circuit displays working status of Growco IDR Reader. If failing to check out, Growco IDR Reader will return to waiting status. Otherwise, the red indication light turns light and dark again after five seconds. During the period, the CPU will store data of IC card to the data register.

At this time, if the computer sends a command for reading, Growco IDR Reader will receive this command and check it out. If it is correct, the CPU will send data of IC card to RS485 bus. If it is incorrect, Growco IDR Reader will not return information to the TAS computer. If the TAS computer sends a command for clearing, Growco IDR Reader will check it out too. If it is correct, clear data storing in the Growco IDR Reader register, while the red light will turn dark after shining about twelve seconds. If it is incorrect, there is no response. If the TAS computer sends no command to Growco IDR Reader after data of IC card has been stored in the register for about five seconds, IDR Reader will clear data in the register automatically and return to the standby status.

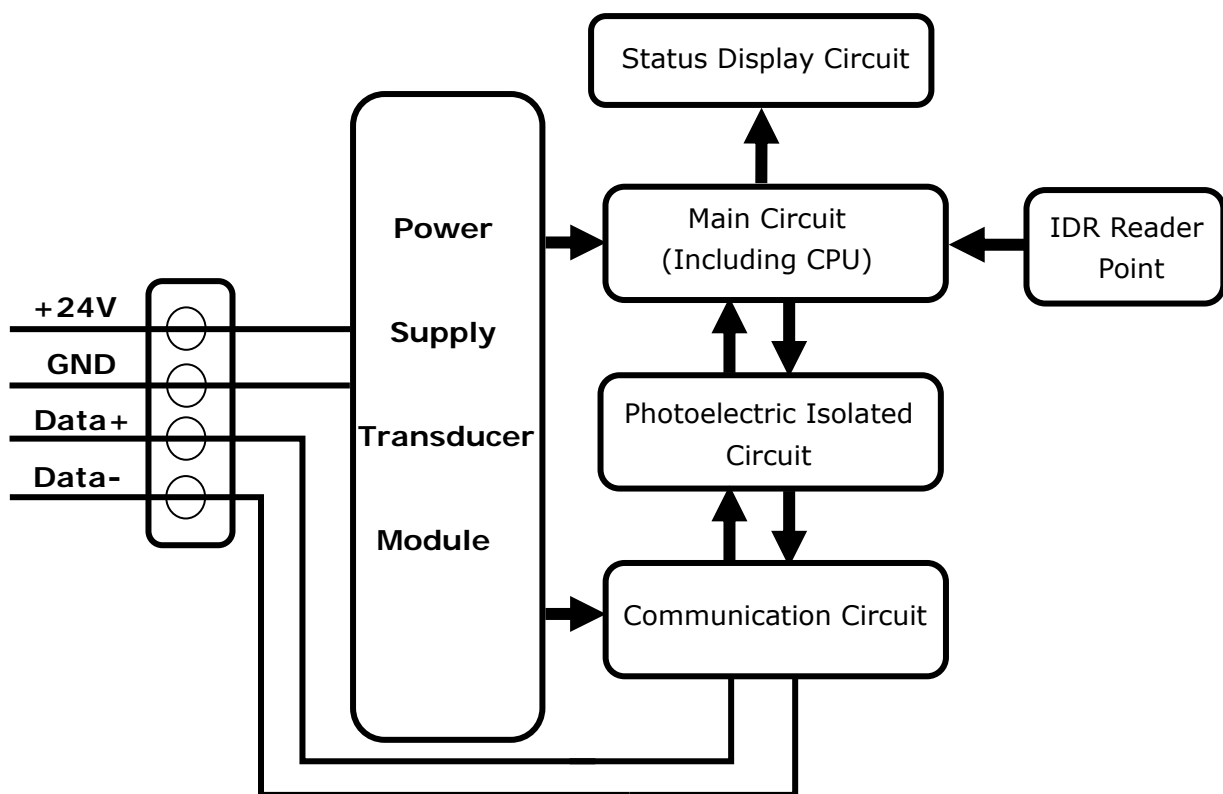> **The Typical Structure of Growco IDR Reader Hardware is shown as Figure 1:**

Figure 1: The Typical Structure of Growco IDR Reader Hardware

➢ **Typical Single Product Loading Application with Growco IDR Reader using Batch Controller through TAS is shown as Figure 2:**
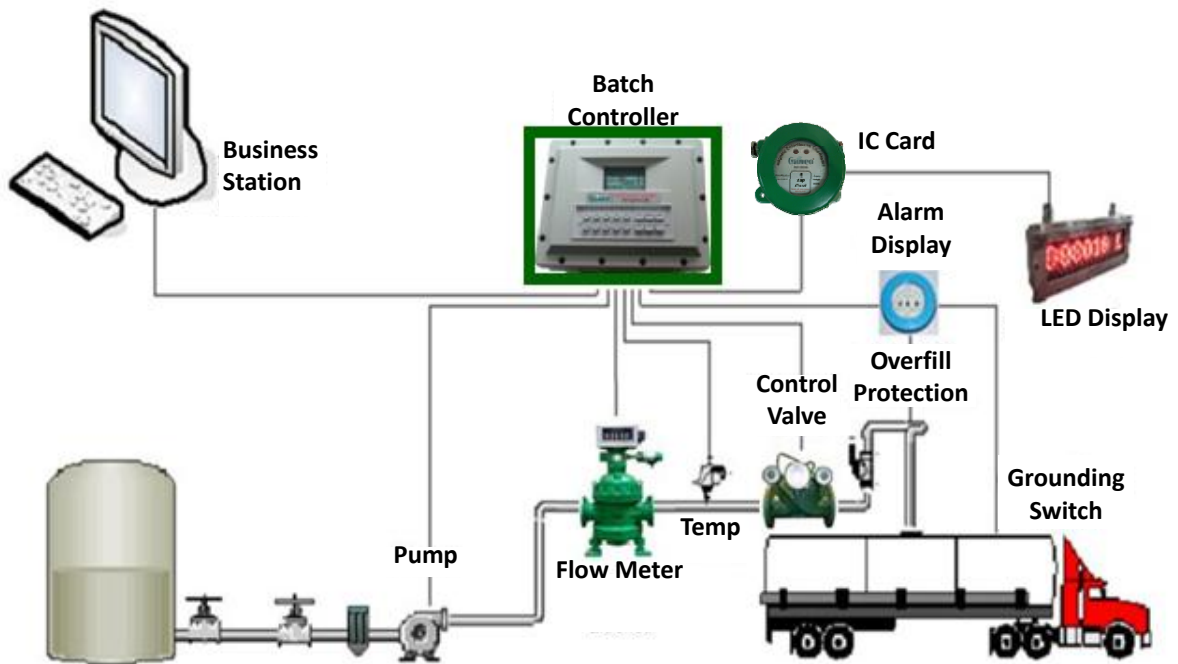

Figure 2: Typical Single Product Loading Application with Growco IDR Reader using Batch Controller through TAS

➢ **NOTES WHEN ORDERING:**
  ▪ Describe its application.
  ▪ Specify its model.
  ▪ Specify min. & max. temperatures
  ▪ Specify voltage.
  ▪ Other useful details or contact us.

T O T A L   M E A S U R E M E N T   S O L U T I O N S   P R O V I D E R

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