PLC Front Panel

BX-DM1E-18ED13-D
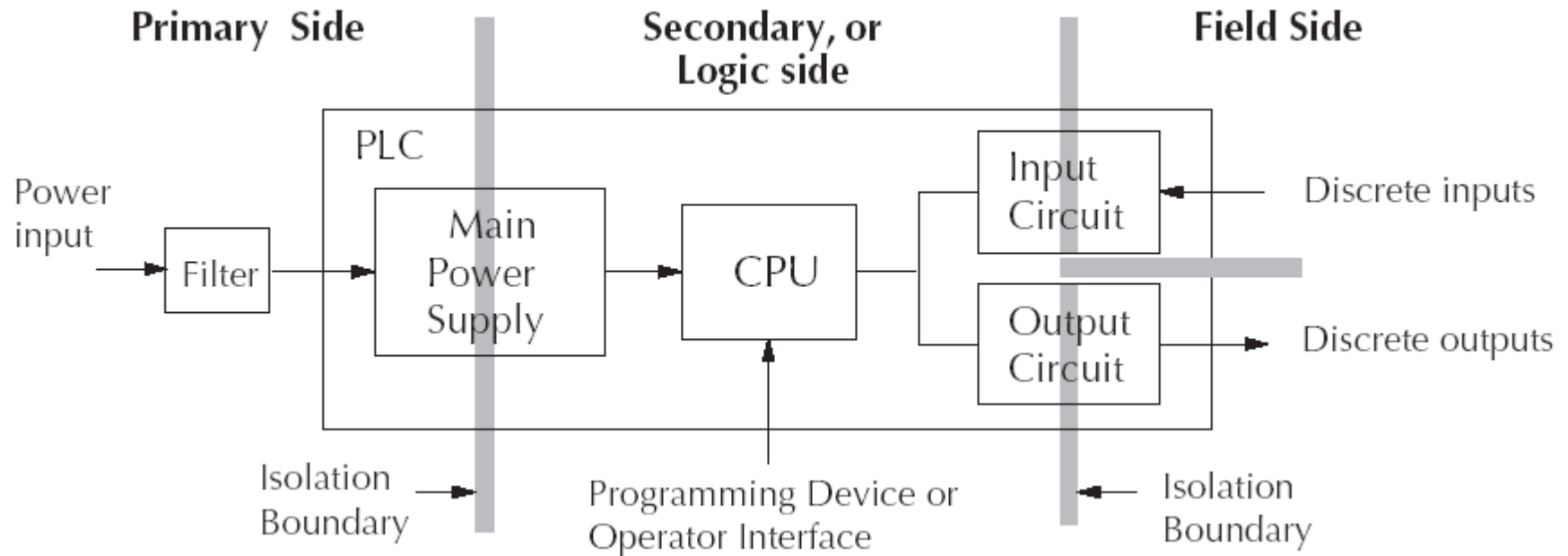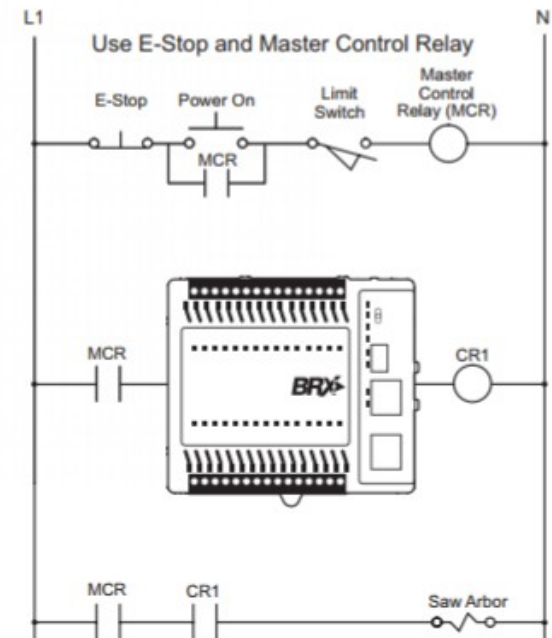
- Power Inputs
- Signal Inputs
- Control Outputs

PLC Isolation
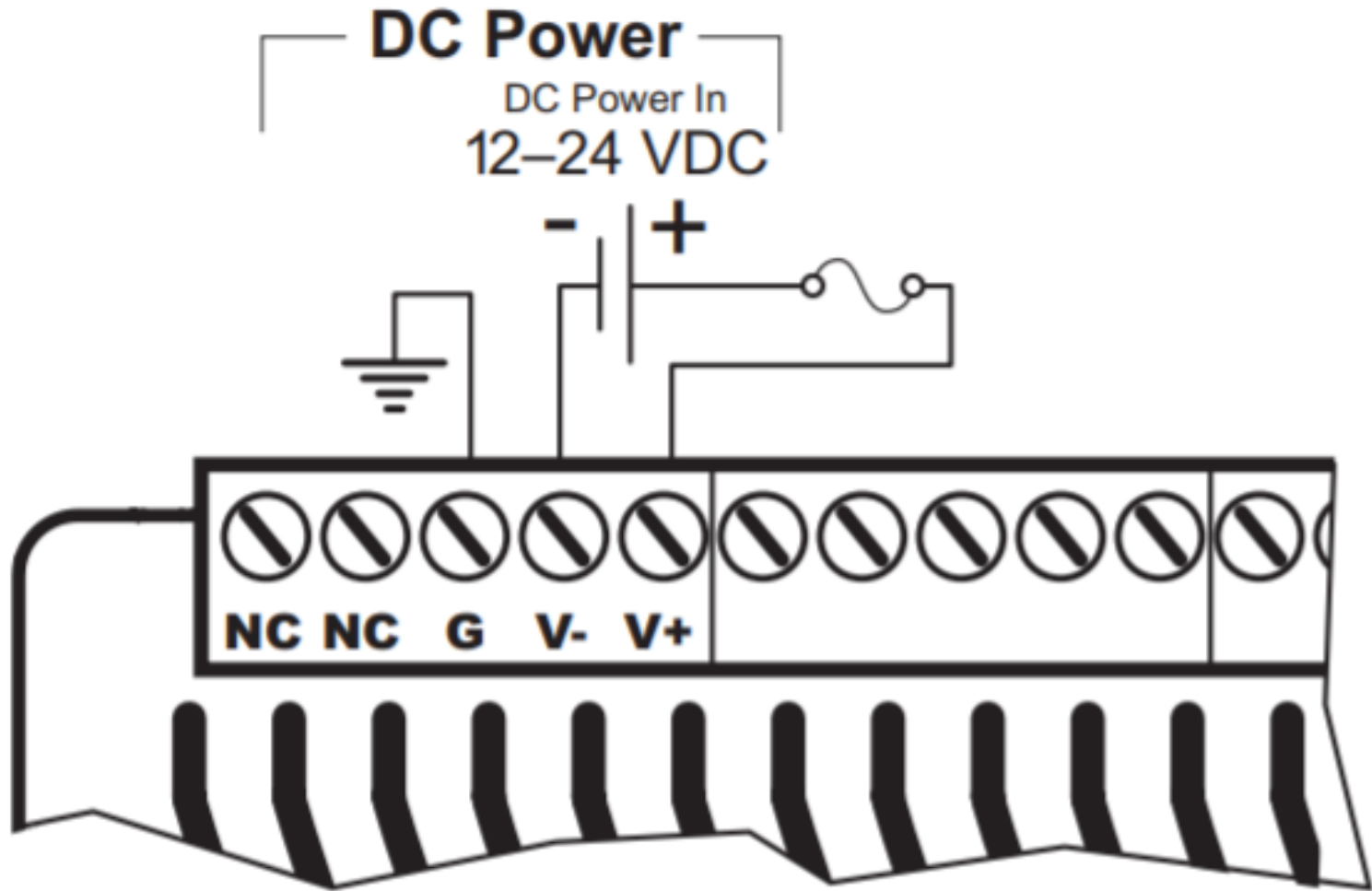
Safety Shutdown
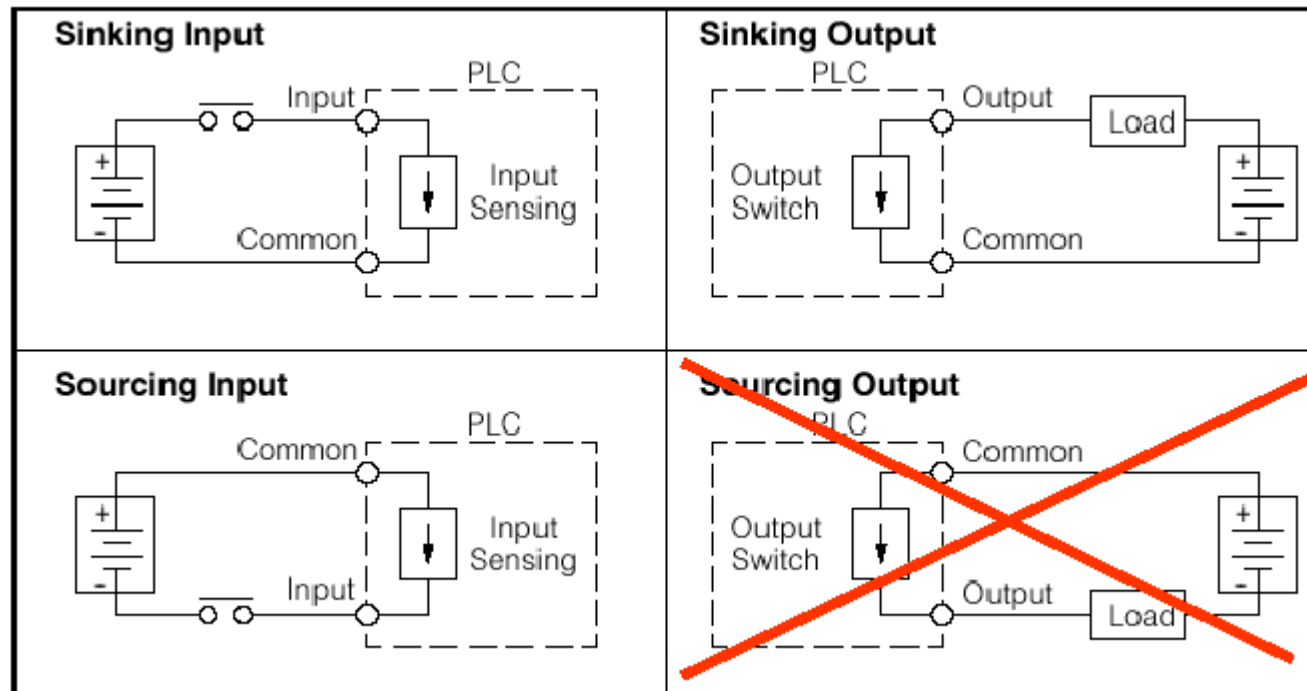

Use E-Stop and Master Control Relay
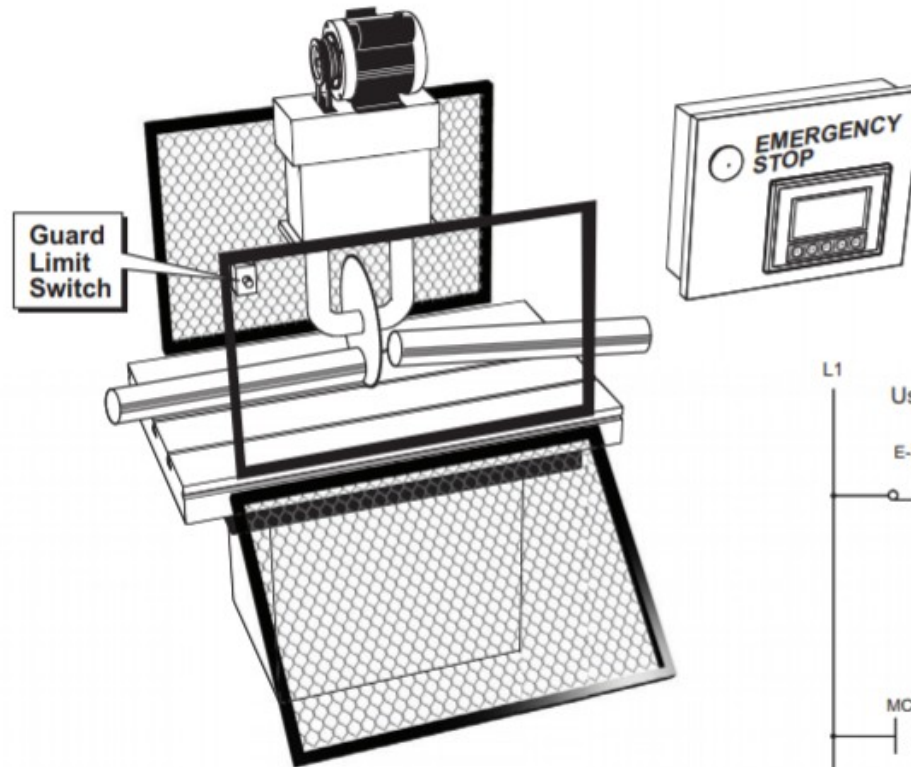
- Three levels of protection:
  - PLC logic - shutdown sequence
  - PLC output power disconnect
  - E-Stop shutdown of all energy sources

Power Wiring

DC Power

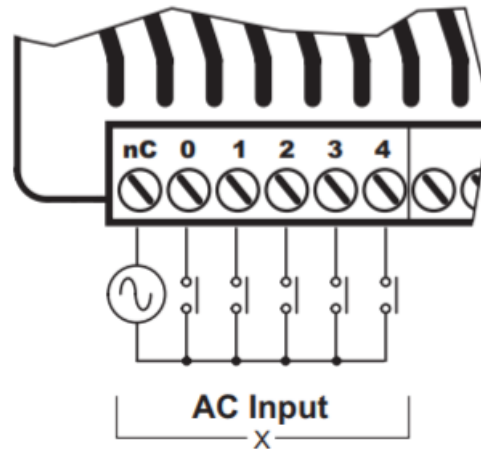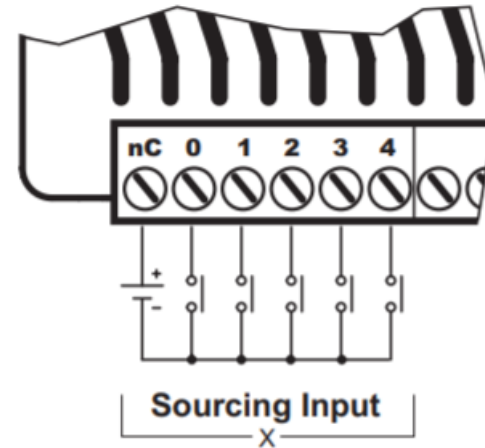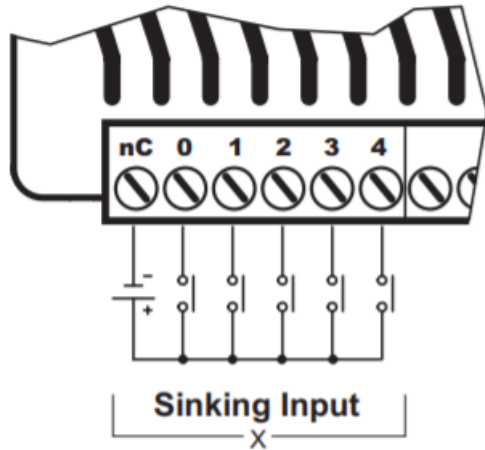DC Power In
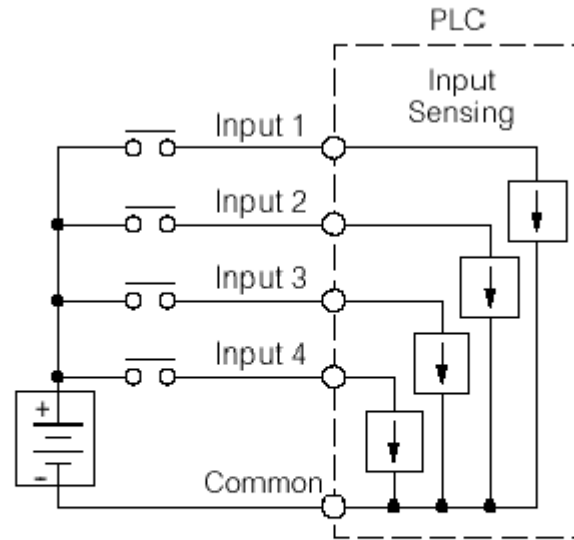12–24 VDC

NC NC G V- V+

Sinking and Sourcing

- Sinking = drawing current
- Sourcing = supplying current
- Sinking output connects to sourcing input
- Sourcing output connects to sinking input
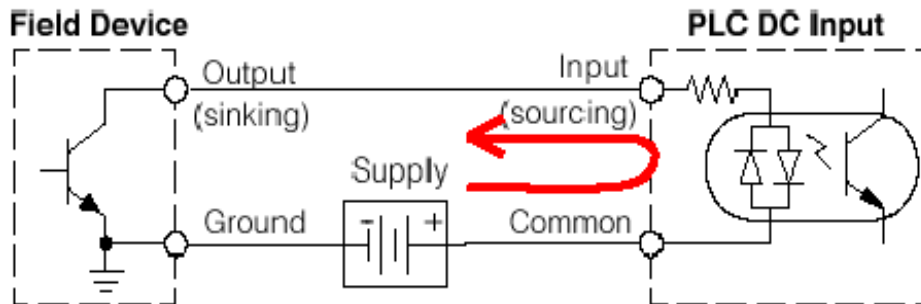
PLC Signal Inputs

Sinking Input
X

Sourcing Input
X

AC Input
X

Signal Inputs

Multiple sinking inputs
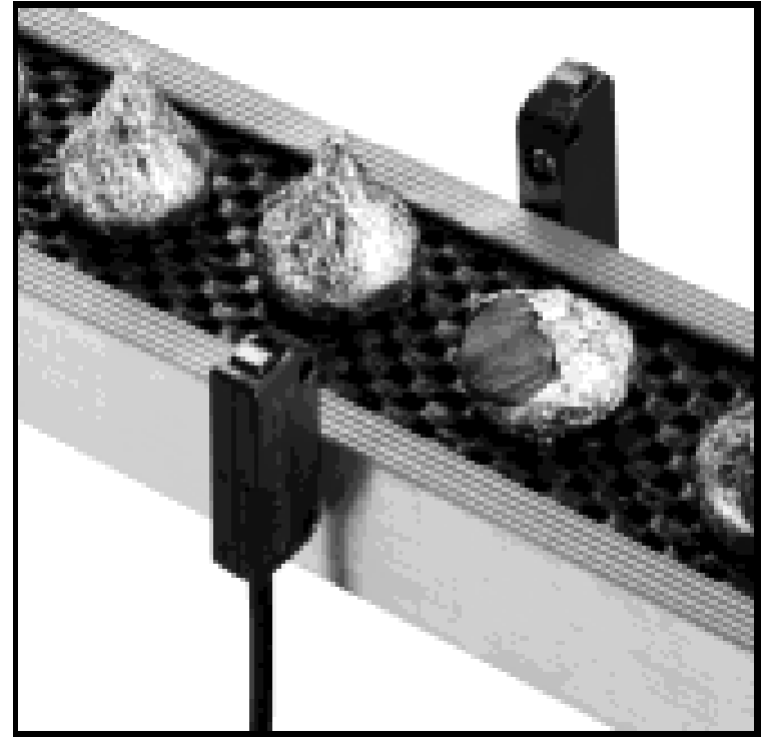
- The tag indicates that the LOAD (PLC input) has a +DC common
  - this is a sinking output
  - Sinking output => sourcing input

Field Device

Output (sinking)

Ground

Supply

PLC DC Input

Input (sourcing)

Common

HALL SWITCH
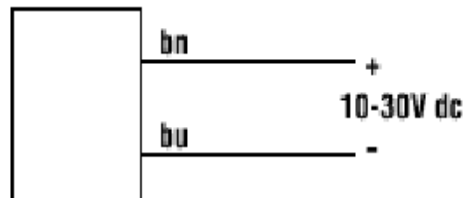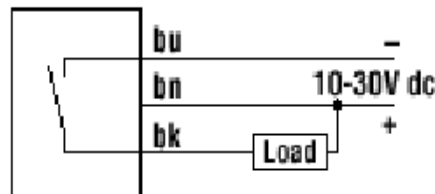
RED — +DC

WHITE — LOAD

BLACK — −DC

ANOTHER INPUT DEVICE

- Photosensor – comes in either NPN (sinking) or PNP (sourcing)

Emitters
Cabled Hookup

bn — +
10-30V dc
bu — -
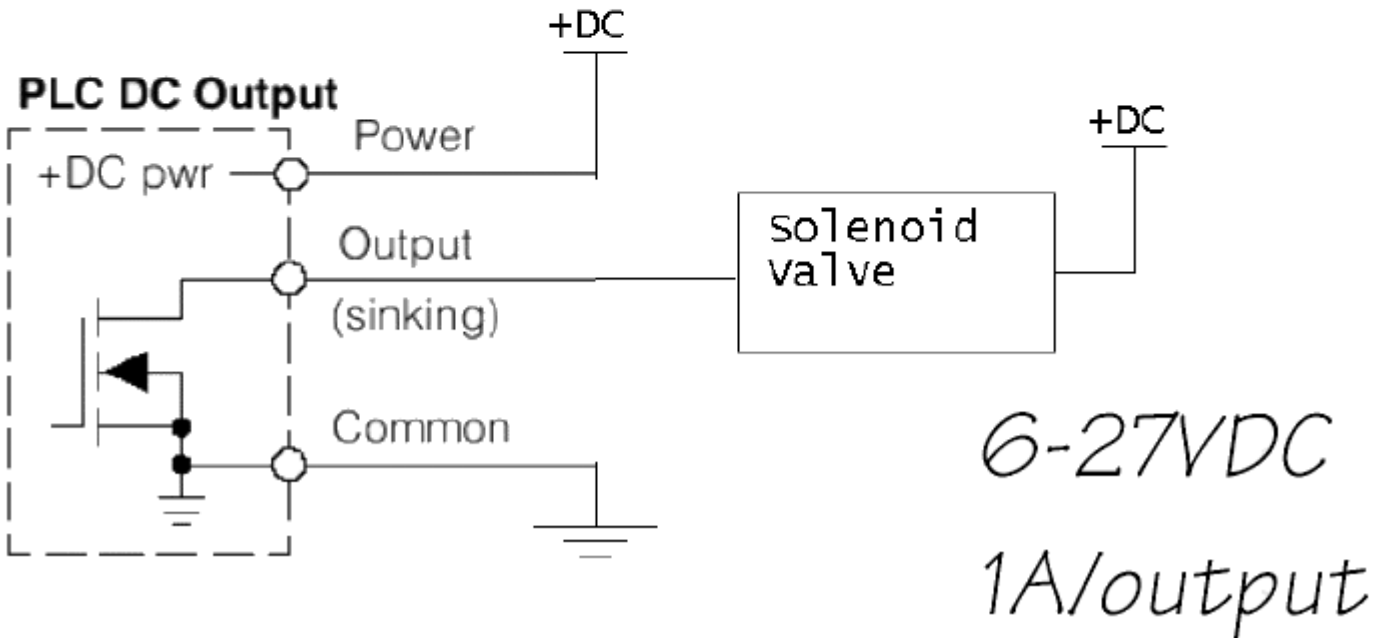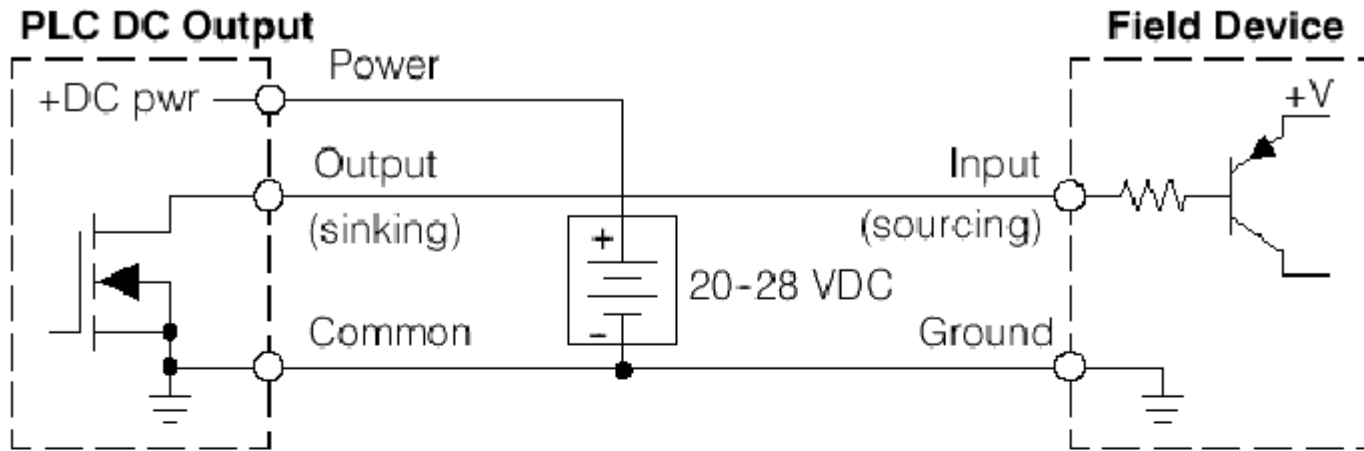
Receivers with NPN Outputs
Cabled Hookup

bu — –
bn — 10-30V dc
bk — +
Load

Receivers with PNP Outputs
Cabled Hookup

bn — +
bu — 10-30V dc
bk — –
Load

DC Control Outputs

PLC DC Output

Field Device

+DC pwr — Power

Output (sinking)

Common

20-28 VDC

Input (sourcing)

+V

Ground

PLC DC Output

+DC

+DC

+DC pwr — Power

Output (sinking)

solenoid valve

Common

6-27VDC

1A/output

DC Control Outputs

Sinking Output

Wiring Methods