RFDESIGN — DIN IO Installation Guide

ATTENTION!

- Live Voltage: do not re-wire, plug or un-plug connectors while device is powered. Doing so may result in damage to device and/or personal injury up to and including death.
- Ensure that screw connectors and wires are held firmly in place. Check and tighten regularly.
- Do not swap plugs, ensure that plugs are only plugged into their correct socket. Label leads if necessary.
- Power with 9 to 36 VDC power only
- Antennas should be mounted in elevated position away from electrical noise and connected via a low loss coaxial cable and adapters (if needed) for best performance.

PRE-INSTALLATION

1. **Power down:** For safety reasons, turn off the relevant DIN power circuits where the device will be powered from.
2. **Prepare devices for Power up:** both units will need to be powered up together during the sync process. Prepare to power the devices up by wiring up the power connector plugs. *Do Not Power Up Yet.*
3. **Syncing and Powering up:** press and hold the *"SYNC"* button on both devices, while turning on the power supply. The devices will now enter pairing mode and the green LINK led will flash. Ensure that both units antenna jacks are close together (within 10cm). Syncing is successful when the LINK LED becomes solid green on both ends.
4. **Power down:** turn the power supply to the units off. The DIN IO's will remember their sync partner.
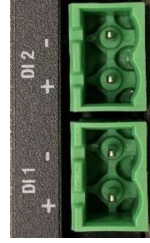
INSTALLATION

1. **Power Down:**
   For safety reasons, turn off the relevant DIN power circuits where the device will be powered from.

2. **Connecting Inputs (optional)**
   The Installation Diagram located on the DIN IO unit shows the terminal pinout and provides an example configuration. Wire as follows:
   - Positive from Digital Input 1 to "DI 1 +"
   - Negative from Digital Input 1 to "DI 1 –"
   - Positive from Digital Input 2 to "DI 2 +"
   - Negative from Digital Input 2 to "DI 2 –"

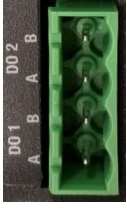# RFDESIGN — DIN IO Installation Guide

3. **Connecting Outputs (optional)**
   'Clean Contact' Output from the DIN IO. Internal relay switches connect A1 to B1 and A2 to B2 when switched on.
   Wire as follows:
   - DO 1 A to Load A side 1
   - DO 1 B to Load A side 2
   - DO 2 A to Load B side 1
   - DO 2 B to Load B side 2

4. **Connecting Digital Communications Bus (optional)**

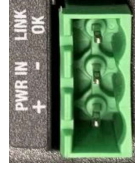| RS422	OR	RS485
R-Term on only if last node in bus • Plant/Chassis ground to ISO • BUS TX- to DIN IO TX- • BUS TX+ to DIN IO TX+ • BUS RX+ to DIN IO RX+ • BUS RX- to DIN IO RX-		*R-Term on for multi-drop* • Plant/Chassis ground to ISO • BUS D+ to DIN IO TX+ • BUS D- to DIN IO TX- • DIN IO TX+ to DIN IO RX+ • DIN IO TX- to DIN IO RX-

6. **Connecting Antennas**
   Antenna 1 must always be attached (2 for diversity). Antennas should be mounted in an elevated position such as a roof, away from electrical noise and away from any obstructions. Antenna should be connected via a low loss coaxial cable. DIN IO antenna jacks are 50 Ohm *FEMALE RPSMA*. Adapters/cables must suit antenna termination.

7. **Connecting Power**
   Wire as follows:
   - Positive 9 to 36V to DIN IO +
   - Power Ground to DIN IO -
   - Open-drain Link output signal (optional)
   The relevant rail/circuitry power may now be turned on.

OPERATIONAL STATUS INDICATORS

The RFD DIN IO has 8 indicator LED's. Green LED's indicate device health status. Orange LED's indicate device activity. LINK LED will flash when in sync mode only. If the LINK LED is not solid there is an issue with the telemetry link. A blinking red LINK LED indicates poor signal strength. In this case, check all RF connectors and the RF signal path.

ADDITIONAL INFORMATION

Additional units, antennas and adapters can be ordered from http://store.rfdesign.com.au Documentation and support can be accessed at http://rfdesign.com.au

RELATED DOCUMENTS

- RFD DIN IO User Manual
- RFD DIN IO Datasheet