

REMOTE TANK FILL

Your tank or troughs will never run dry
with this set and forget system



- Up to 6 kilometres range
- Mains power is not required
- Add repeaters to communicate additional distance
- Easily paired
- Pump feedback if desired

CR-X CABLE REPLACEMENT SERIES

Bi-directional switch

The CR-X unit can be connected to the pump source with a level switch at the water tank, with another CR-X unit and gravity feed to the stock troughs. Simply connect and set your float switch, sit back and relax knowing the tank and troughs will never run dry.

The single CR-X unit forms one end of a wireless bi-directional switch. When paired with a similar unit, two digital channels (ON/OFF states) can be transmitted in both directions over distances of several kilometres in line-of-sight.

If required CR-V repeaters may be used to extend the distance.

The CR-X units are ideal for remote control of pumps and valves where laying of cable is expensive, not feasible or simply not desired. They are also useful for remote monitoring of switch states (e.g. pressure and flow switches).

This system can be used for numerous applications, such as pump or machine start. Just ask us about your particular required application.

Each CR-X has two digital inputs and two digital outputs. The outputs can be configured to control two independent 12VDC relays or a single 12VDC latching solenoid.

The CR-X is powered from a nominal 12 volt DC power source. Such as a standard in-built, 3AH, rechargeable Lithium battery pack. This pack is generally kept charged via a 15 volt DC 1A regulated plug pack. If mains power is not available a 12 volt solar panel (5 or 10W) may be used.

The system may be powered directly from a 12VDC plug pack if mains power is reliable and battery backup is not required.

Optional cards are available to allow two latching solenoids to be controlled from the one CR-X unit.



OPERATING CONDITIONS

Battery Voltage	+9V to +13.8V
Operating Current (12V supply, inputs open circuit, outputs off)	0.3mA (Radio sleeping, 12V sensor power disabled) 10mA (Radio awake, idle) 55mA (Radio transmitting)
Additional current with 12V Sensor Power enabled in "unregulated" mode	4mA approx.
Sensor Input Voltage ^{Note 3}	0V to 3.3V
Sensor Output Voltage ^{Note 4}	12V
Solenoid Output Current ^{Note 5}	3A pulsed <500mA continuous

MAXIMUM RATINGS

Battery Terminals (w.r.t. Gnd) ^{Note 1}	-15V to +15V
Sensor Input Voltage ^{Note 1}	0V to +15V
Solenoid Output Voltage	0V to +20V
Solenoid Output Current	3A (continuous)
Sensor Supply Output Current ^{Note 2}	400mA

Notes:

1. Inputs are clamped for surge protection. Continuous DC inputs outside these extremes will cause overheating and possible destruction of the clamp diodes.
2. The sensor output voltage is current limited and able to withstand a continuous short circuit.
3. Voltages are generally not directly applied to the input pins. Each sensor input has a 10k pull-up resistor to +3.3V. This represents the OFF condition. The input is typically shorted to ground through a voltage free contact to represent an ON condition. Applying a voltage outside these limits will cause the input protection diode to conduct, placing approx. 1k resistance between the input and ground.
4. While the maximum sensor output voltage is limited to 12V it is derived from the battery voltage and, therefore, can never exceed the battery voltage.
5. The charge current into the standard Lithium battery pack is limited to 1A. Regardless of the charging source, drawing a total of more than 1A of continuous current will cause the batteries to have a net discharge.