

# INCA

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Design & Manufacture of:  
Custom-built switchboards  
Electronic control equipment  
AC/DC pumping controls  
Installation & service

## **INCA MODEL**

### **SP2**

## **DUAL PUMP-OUT CONTROL PANEL**

### **USER MANUAL** **Inca Reference SP2**

Technical Support  
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## Control Panel Overview

The Dual Pump-out Control Panel controls the operation of 2 (two) mains powered submersible pumps with the use of control float switches within the wet well. The panel is manufactured to comply with Australian Standards & for the pumping & float controls to be housed Class 1 Zone 2 Hazardous areas as long as the field equipment is approved for that area.

### Panel Connections:

#### Isolator Terminals

A & N - 240VAC Supply

L1, L2, L3 & N - 415VAC Supply

#### Field Terminals

Pump 1 – Overload 1, Terminals T3 & N1 (N Link) or T1, T2, T3 & N (415V supply)

Pump 2 – Overload 2, Terminals T3 & N2 (N Link) or T1, T2, T3 & N (415V supply)

Terminals 10 & 11 – *Duty Float Switch*. Float switch up pump on, float switch down pump off. (Close on Rise)

Terminals 10 & 12 – *Standby Float Switch*. Float switch up pump on, float switch down pump off. (Close on Rise)

Terminals 10 & 13 – *High Level Float switch*. Float switch up alarm on, float switch down alarm off. (Close on Rise)

Terminals 2 & N – *240V Remote Alarm*

### Panel Facia:

The front of the control panel housed switches & indicating lights allowing the operator to see what is happening within the pit in regards to pump operation & alarm conditions.

### Indicating lights:

Power on	Will indicated if mains power is available at the panel control circuit
High Level	Will indicate when the pit is at high level
Pump No1 Run	Will indicate when Pump No1 is running
Pump No1 Fail	Will indicate when Pump No1 has failed via overload
Pump No2 Run	Will indicate when Pump No2 is running
Pump No2 Fail	Will indicate when Pump No2 has failed via overload

## Control Switches: (housed on Inner door)

- Pump No1:** Manual/off/auto controls the operation of Pump No1  
 Manual, the pump will run continuously & is not under the control of float switches  
 Off, the pump will not operate.  
 Auto, the pump will run when told to start via the float switch in the pit.
- Pump No2:** Manual/off/auto controls the operation of Pump No2.  
 Manual, the pump will run continuously & is not under the control of float switches.  
 Off, the pump will not operate.  
 Auto, the pump will run when told to start via the float switch in the pit.
- Duty Selector:** Pump 1/auto/pump2 controls the alternation of the mains powered pumps  
 Pump 1, when selected will make Pump No1 the duty pump. Pump No2 will be standby.  
 Auto, when selected in auto the mains pumps will alternate after each operation  
 Pump 2, when selected will make Pump No2 the duty pump. Pump No1 will be standby.

### Audible Alarm:

The panel has an audible alarm that sound when a fault condition has been registered, Pump 1 fail/Pump 2 fail/High level. Once an alarm sounds it can be silenced by pressing the alarm mute pushbutton. If a second fault condition is registered during this period the alarm will once again sound to warn of this fault.

The audible alarm has a time feature to comply with noise regulation, once the alarm sounds it will sound for 5minutes & then silence itself for a further 15minutes before sounding again. This cycle will continue until the fault is rectified or the mute pushbutton pressed.

### Float Switch Operation:

The pumps are controlled via float switches in the collection pit of which there are 3. Duty float switch or the lowest float switch controls the duty selected pump. The pump will start when the float rises & stop when the float falls.  
 Standby float switch or the middle float switch controls the standby selected pump. The pump will start when the float rises & stop when the float falls.

High Level float switch or the top float switch operates the high level alarm. The alarm will start when the float rises & stop when the float falls

Note, for a 2 float system bridge terminals 12 & 13.

**Pump Fail:**

Pump fail is indicated the red light on the panel facia is flashing. To reset this pump fail condition open the control panel door & in the bottom left of the control panel are the 2 motor starters c/w their thermal overload relay. On the right hand side of the overloads is a small blue tag which will be raised if the overload has tripped. Push this tag back down to reset.

**Voltage free Contact:**

The control panel is fitted with a voltage free alarm contact for a building monitoring system. The relay contact is rated at 2A 240V & is a fail safe. When the panel is powered the relay will be energised & will drop out (change status) if power fails/either pump fails / or a high level is reached.

**NOTES:**