Innovation In and Out of Parlour

Gate Control Manual

Date - June 2021

Part Number - 39-0400

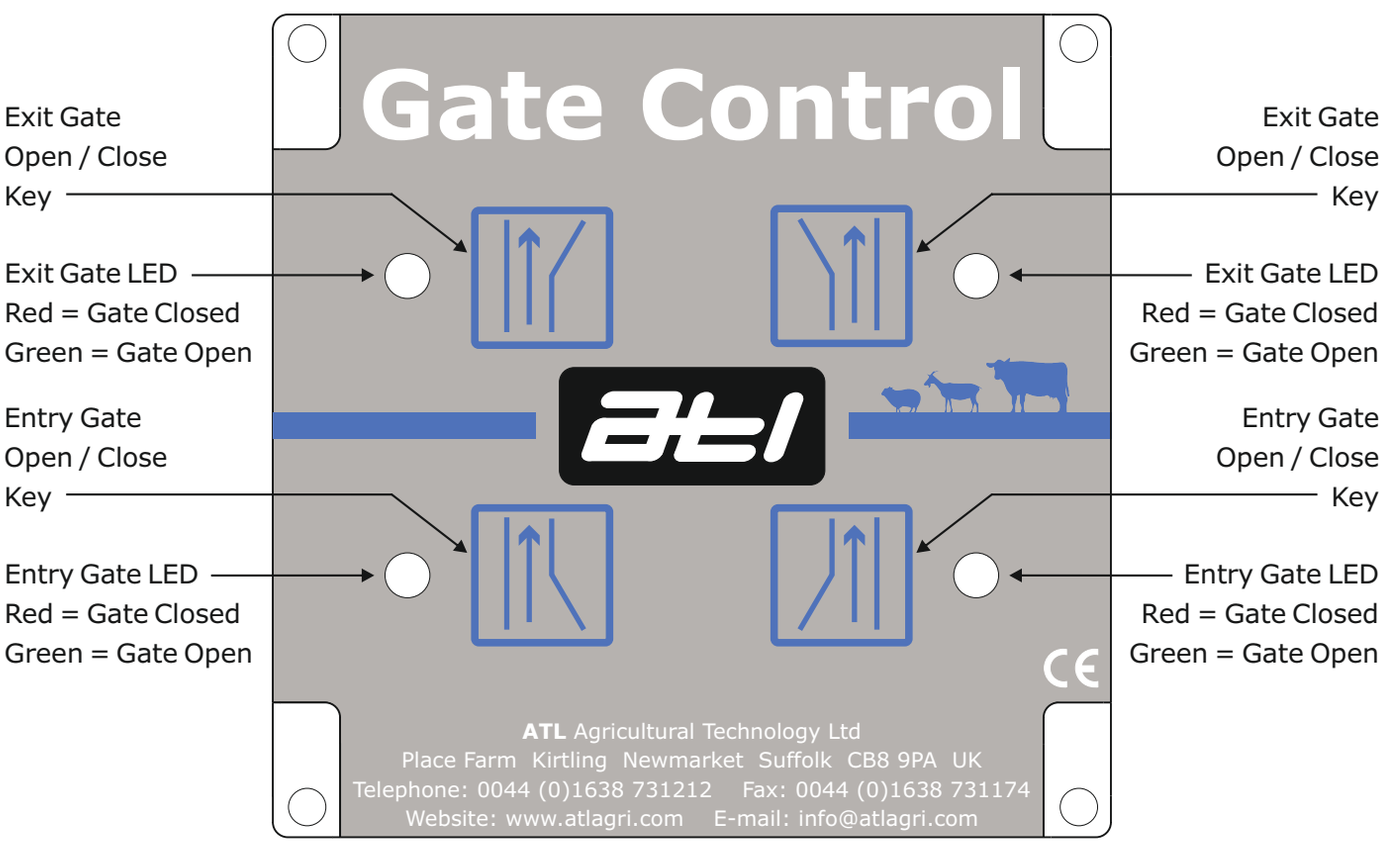
About the Gate Control

The gate control unit provides button control of herringbone parlour entry and exit gates. Two colour LEDs next to each button provide the user with a clear indication of which gates are open or closed; red equals closed and green equals open. Multiple gate control units can be connected together via an Cat5e cables enabling the user to open and close gates from different positions in the pit. A 12 or 24vDC power supply is required.

Specifications

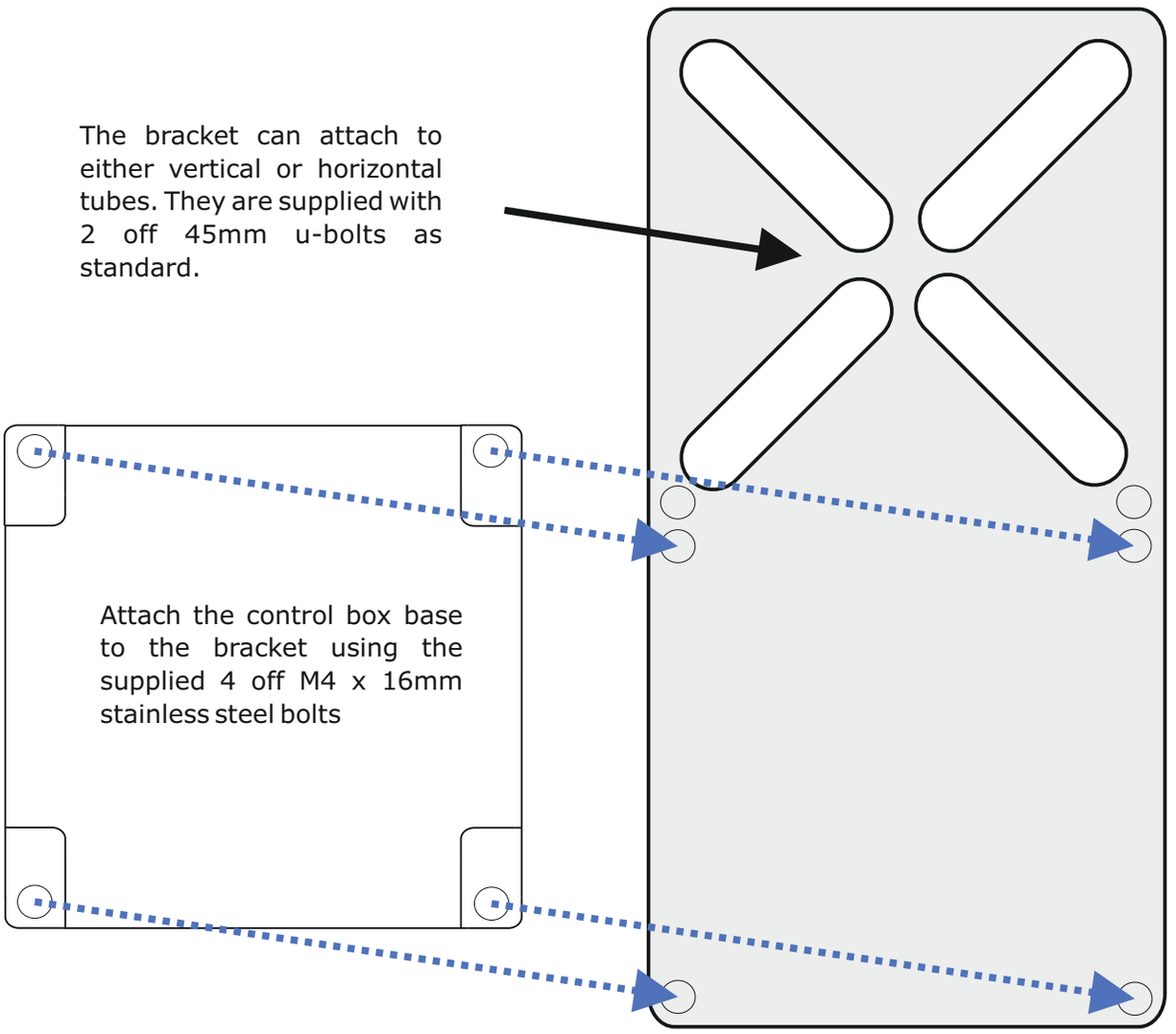
- Input Voltage: *Nominal 12vDC or 24vDC*
- Input Connectors: *2 x 2-Way Connector (can be used for input or output)*
- Output Connectors: *4 x 4-Way Connector*
- Channel Indicator: *2 x LED for each channel which illuminates when gates open and closed (see below)*
- Solenoid Valves: *Maximum of 1.0amp per solenoid valve*

Front Cover



NB - Whether the gate LEDs show red for gate closed and green for gate open is dependent upon how the solenoid(s) are connected to the outputs on the printed circuit board.

Installing the Gate Control Enclosure

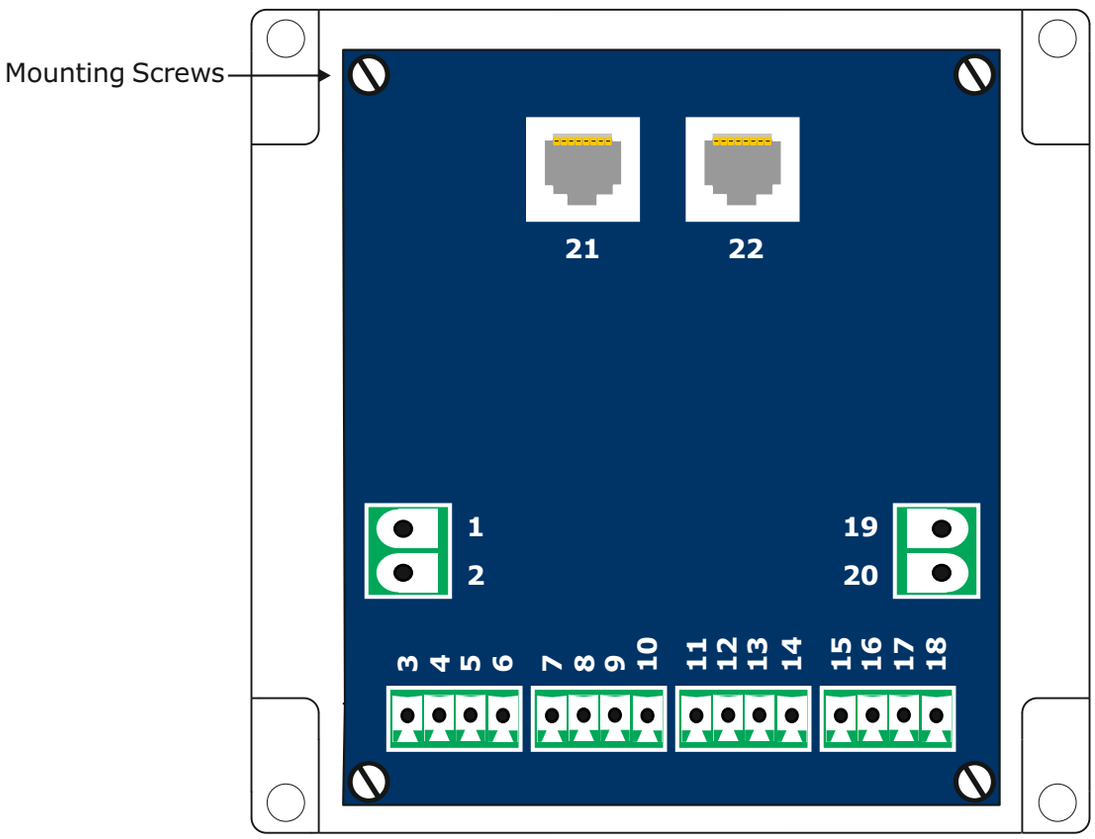


Notes

Mounting screws have washer between printed circuit board (PCB) and lid mount. If not installed, buttons will not function.

Wiring the Gate Control - Issue A PCB Version

The gate control wiring connections are shown in the diagram and corresponding table below.

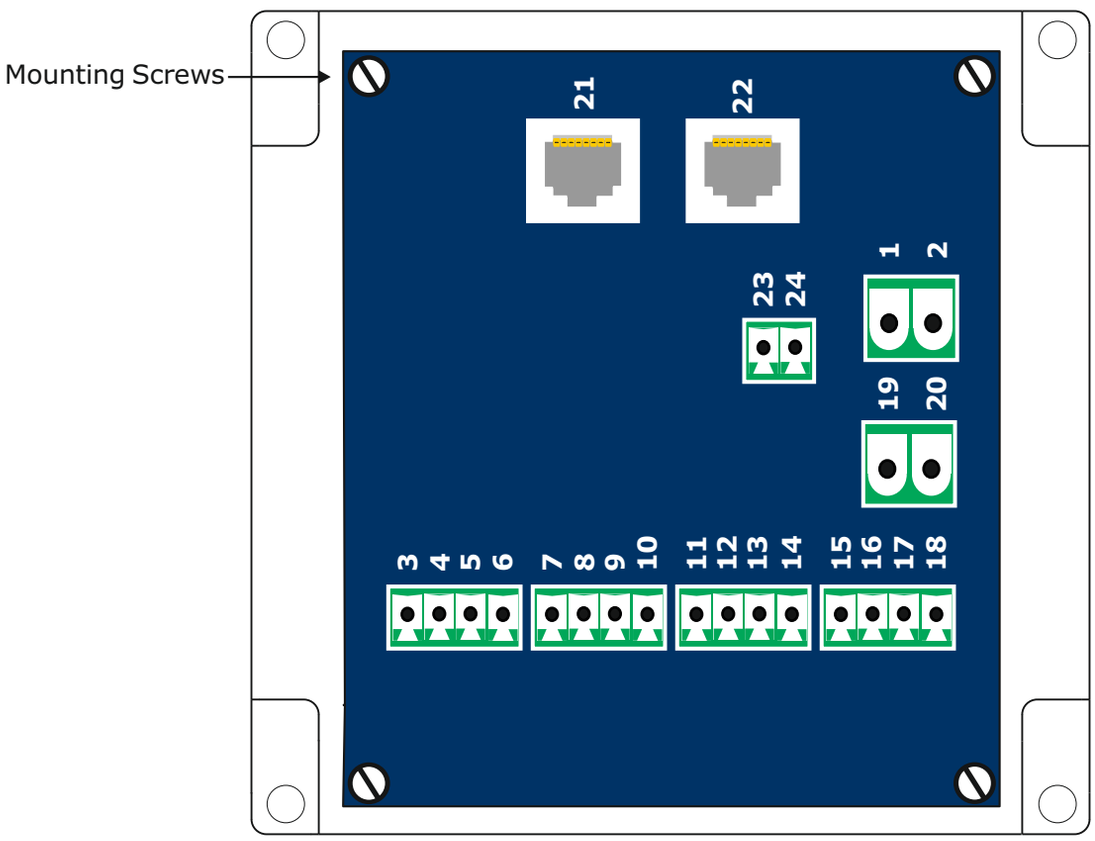


Number	Connects To	Cable Specification
1	Power In +12/24vDC (power supply dependent)	Minimum 1.0mm^{2}2 core 10A cable
2	Power In -12/24vDC (power supply dependent)	Minimum 1.0mm^{2}2 core 10A cable
3	+12/24vDC Common to Left Entry Solenoid	Minimum 1.0mm^{2}2 core 10A cable
4	Switched 0v to Left Entry Solenoid	Minimum 1.0mm^{2}2 core 10A cable
5	Switched 0v to Left Exit Solenoid	Minimum 1.0mm^{2}2 core 10A cable
6	+12/24vDC Common to Left Exit Solenoid	Minimum 1.0mm^{2}2 core 10A cable
7	+12/24vDC Common to Right Entry Solenoid	Minimum 1.0mm^{2}2 core 10A cable
8	Switched 0v to Right Entry Solenoid	Minimum 1.0mm^{2}2 core 10A cable
9	Switched 0v to Right Exit Solenoid	Minimum 1.0mm^{2}2 core 10A cable
10	+12/24vDC Common to Right Exit Solenoid	Minimum 1.0mm^{2}2 core 10A cable
11	+12/24vDC Common to Left Entry Solenoid*	Minimum 1.0mm^{2}2 core 10A cable
12	Inverted 0v to Left Entry Solenoid*	Minimum 1.0mm^{2}2 core 10A cable
13	Inverted 0v to Left Exit Solenoid*	Minimum 1.0mm^{2}2 core 10A cable
14	+12/24vDC Common to Left Exit Solenoid*	Minimum 1.0mm^{2}2 core 10A cable
15	+12/24vDC Common to Right Entry Solenoid*	Minimum 1.0mm^{2}2 core 10A cable
16	Inverted 0v to Right Entry Solenoid*	Minimum 1.0mm^{2}2 core 10A cable
17	Inverteded 0v to Right Exit Solenoid*	Minimum 1.0mm^{2}2 core 10A cable
18	+12/24vDC Common to Right Exit Solenoid*	Minimum 1.0mm^{2}2 core 10A cable
19	Power Out -12/24vDC (power supply dependent)	Minimum 1.0mm^{2}2 core 10A cable
20	Power Out +12/24vDC (power supply dependent)	Minimum 1.0mm^{2}2 core 10A cable
21	Communications In	Cat5e Cable
22	Communications Out	Cat5e Cable

NB - * Inverted output for changeover solenoids

Wiring the Gate Control - Issue B PCB Version

The gate control wiring connections are shown in the diagram and corresponding table below.

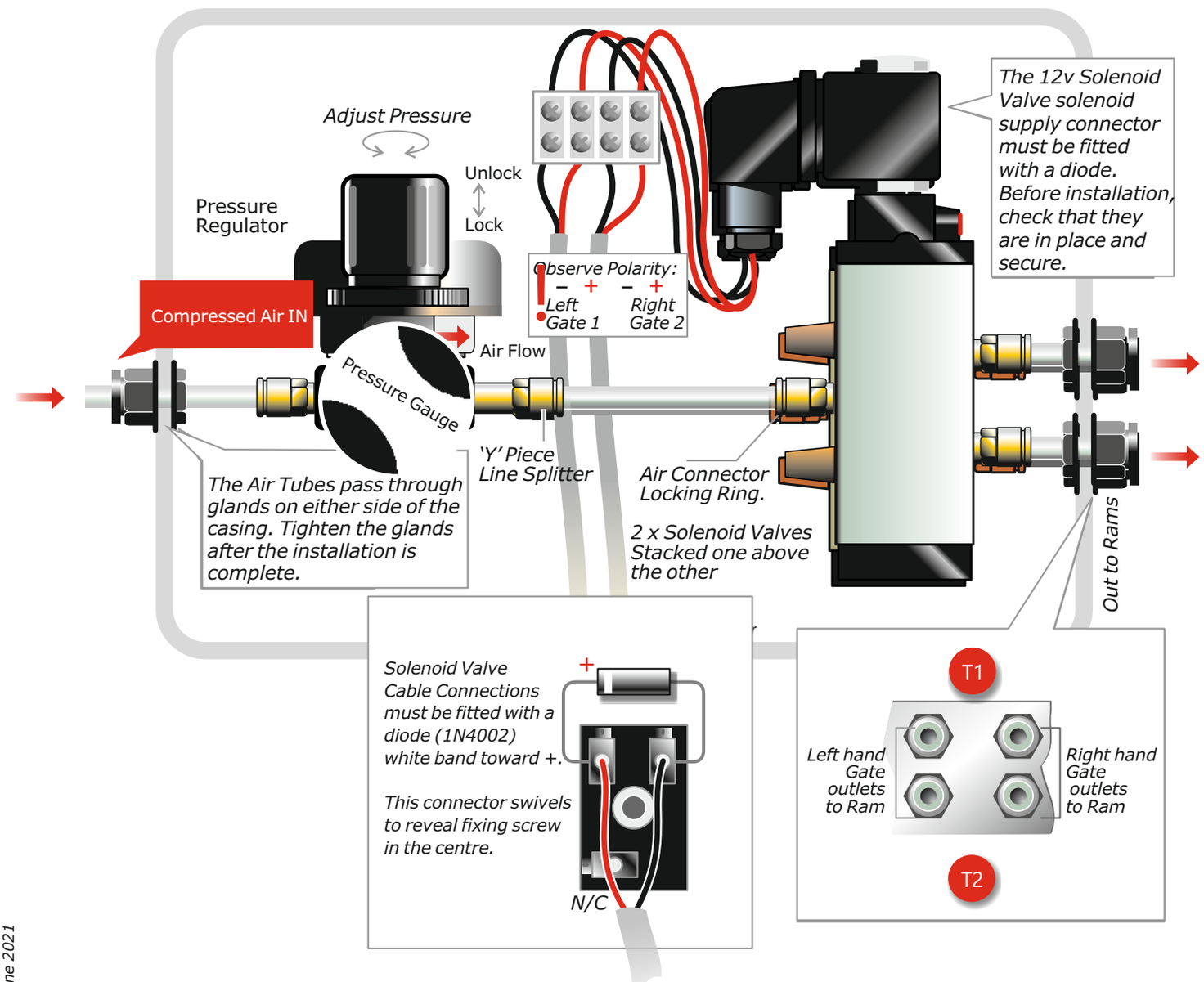


Number	Connects To	Cable Specification
1	Power In +12/24vDC (power supply dependent)	Minimum 1.0mm^2 2 core 10A cable
2	Power In -12/24vDC (power supply dependent)	Minimum 1.0mm^2 2 core 10A cable
3	+12/24vDC Common to Left Entry Solenoid	Minimum 1.0mm^2 2 core 10A cable
4	Switched 0v to Left Entry Solenoid	Minimum 1.0mm^2 2 core 10A cable
5	Switched 0v to Left Exit Solenoid	Minimum 1.0mm^2 2 core 10A cable
6	+12/24vDC Common to Left Exit Solenoid	Minimum 1.0mm^2 2 core 10A cable
7	+12/24vDC Common to Right Entry Solenoid	Minimum 1.0mm^2 2 core 10A cable
8	Switched 0v to Right Entry Solenoid	Minimum 1.0mm^2 2 core 10A cable
9	Switched 0v to Right Exit Solenoid	Minimum 1.0mm^2 2 core 10A cable
10	+12/24vDC Common to Right Exit Solenoid	Minimum 1.0mm^2 2 core 10A cable
11	+12/24vDC Common to Left Entry Solenoid*	Minimum 1.0mm^2 2 core 10A cable
12	Inverted 0v to Left Entry Solenoid*	Minimum 1.0mm^2 2 core 10A cable
13	Inverted 0v to Left Exit Solenoid*	Minimum 1.0mm^2 2 core 10A cable
14	+12/24vDC Common to Left Exit Solenoid*	Minimum 1.0mm^2 2 core 10A cable
15	+12/24vDC Common to Right Entry Solenoid*	Minimum 1.0mm^2 2 core 10A cable
16	Inverted 0v to Right Entry Solenoid*	Minimum 1.0mm^2 2 core 10A cable
17	Inverteded 0v to Right Exit Solenoid*	Minimum 1.0mm^2 2 core 10A cable
18	+12/24vDC Common to Right Exit Solenoid*	Minimum 1.0mm^2 2 core 10A cable
19	Power Out +12/24vDC (power supply dependent)	Minimum 1.0mm^2 2 core 10A cable
20	Power Out +12/24vDC (power supply dependent)	Minimum 1.0mm^2 2 core 10A cable
21	Communications In	Cat5e Cable
22	Communications Out	Cat5e Cable
23	Unused	Unused
24	Unused	Unused

NB - * Inverted output for changeover solenoids

Wiring the Entry/Exit Gate Solenoids

The entry/exit gate solenoid wiring connections are shown in the diagram below.



Compressed Air Supply - 4 BAR Clean, Dry Air

Air Compressor Spec - Minimum 4 BAR with 100 Litre Receiver Tank

WARNING
Compressed air is dangerous.
Do not disconnect or adjust any part of the compressed air system without first removing the compressed air supply.

Using the Gate Control

- Press the exit gate key(s) to open the exit gate and let out a side of animals from the parlour. When the entry gate is open, the corresponding LED will be green. Press the entry gate key(s) again and the gate will close. When the entry gate is closed, the corresponding LED will be red.

- Press the entry gate key(s) to open the entry gate and let in a side of animals to the parlour. When the entry gate is open, the corresponding LED will be green. Press the entry gate key(s) again and the gate will close. When the entry gate is closed, the corresponding LED will be red.

- Please see previous page for how the different settings change the way the entry and exit gates behave.