Innovation In and
Out of Parlour

M2 Bus Auto Control Manual

Version - 1.1

Date - July 2025

Part Number - 39-0011

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Manual Versions

Version 1.0 - March 2014.....First Version of Manual (Display v1.04 / Relay v1.03)

Version 1.1 - July 2025.....Updated to M2 Bus Relay PCBs (Display v2.16 / Relay v2.05)

About the Auto Control

The Auto Control is a simple and easy to use ration feeder control. It can be used on herringbone parlours. The control has 15 ration keys. Calibrate key '1' to deliver the basic unit of feed and the other keys will deliver multiples of this - key '2' will deliver two units, key '3' will deliver three units, key '4' will deliver four units, and so on.

Using the Control

As the cows enter the parlour, you simply press the appropriate ration key for that cow. The ration is then delivered to the correct stall because the Auto Control automatically sets the stall and the side. One key press, it's that simple. The Auto Control also remembers ration keys that have been pressed so there is no waiting for the feeder to finish before another ration can be entered. Need to skip feeding a cow? Just press the '0' key and the control will move onto the next stall.

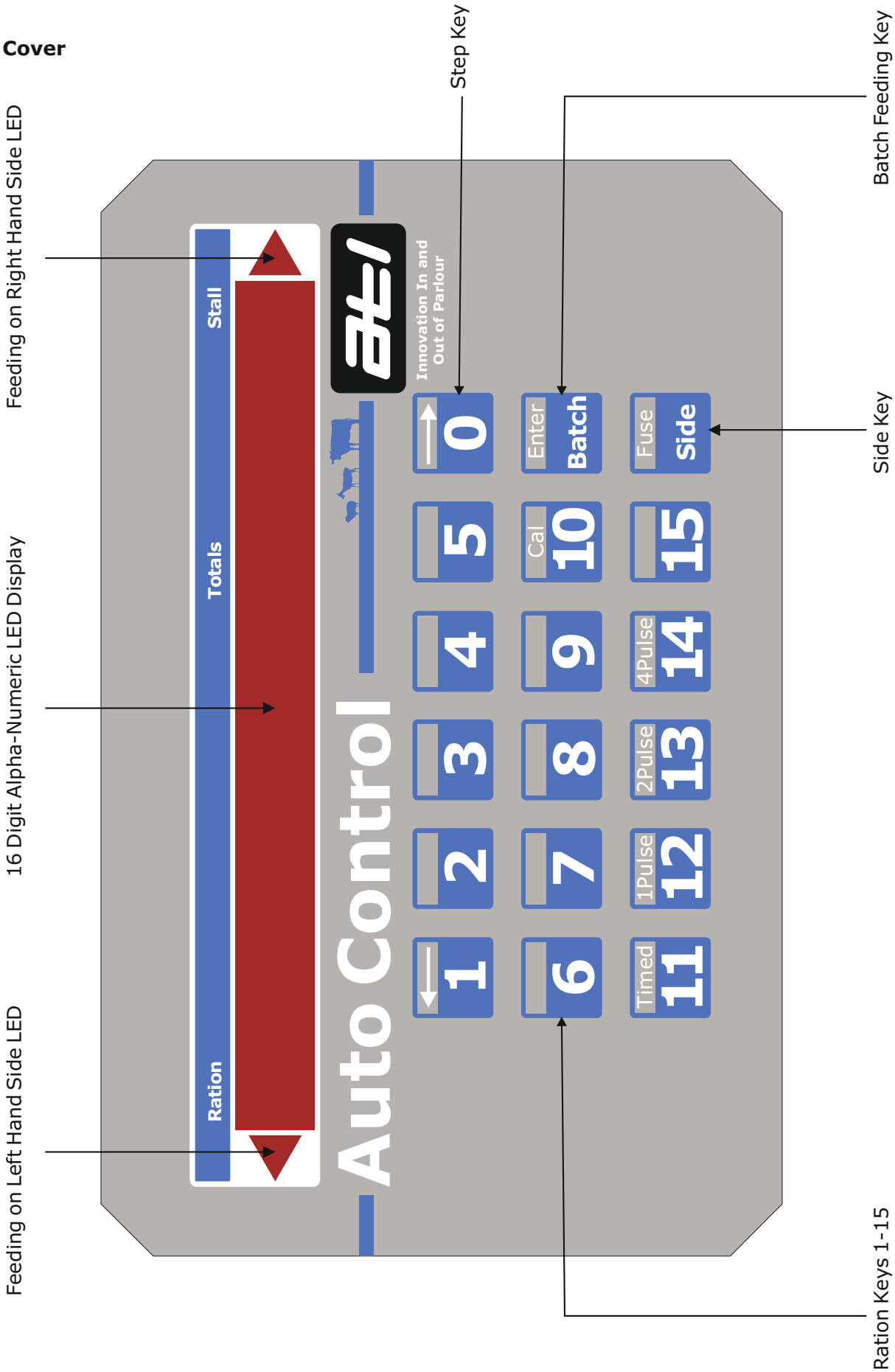
Features

- Individual or batch feeding
- Batch feeding stand-by
- Individual and global digital feeder calibration
- Sequential or stored feeding modes
- Batch feed and number of cows fed totals
- Stainless steel mounting bracket and fixing kit

Specifications

- 12/24vDC switching positive or negative feeders as standard
- 12-230vAC feeder switching voltage optional using Feeder Interface
- Drives electric or vacuum feeders
- Electronic fuse detection with power supply failure warning
- Drives 12 or 16 feeders per side as standard
- Expandable to 32 feeders per side using Feeder Relay Extender Box

Front Cover

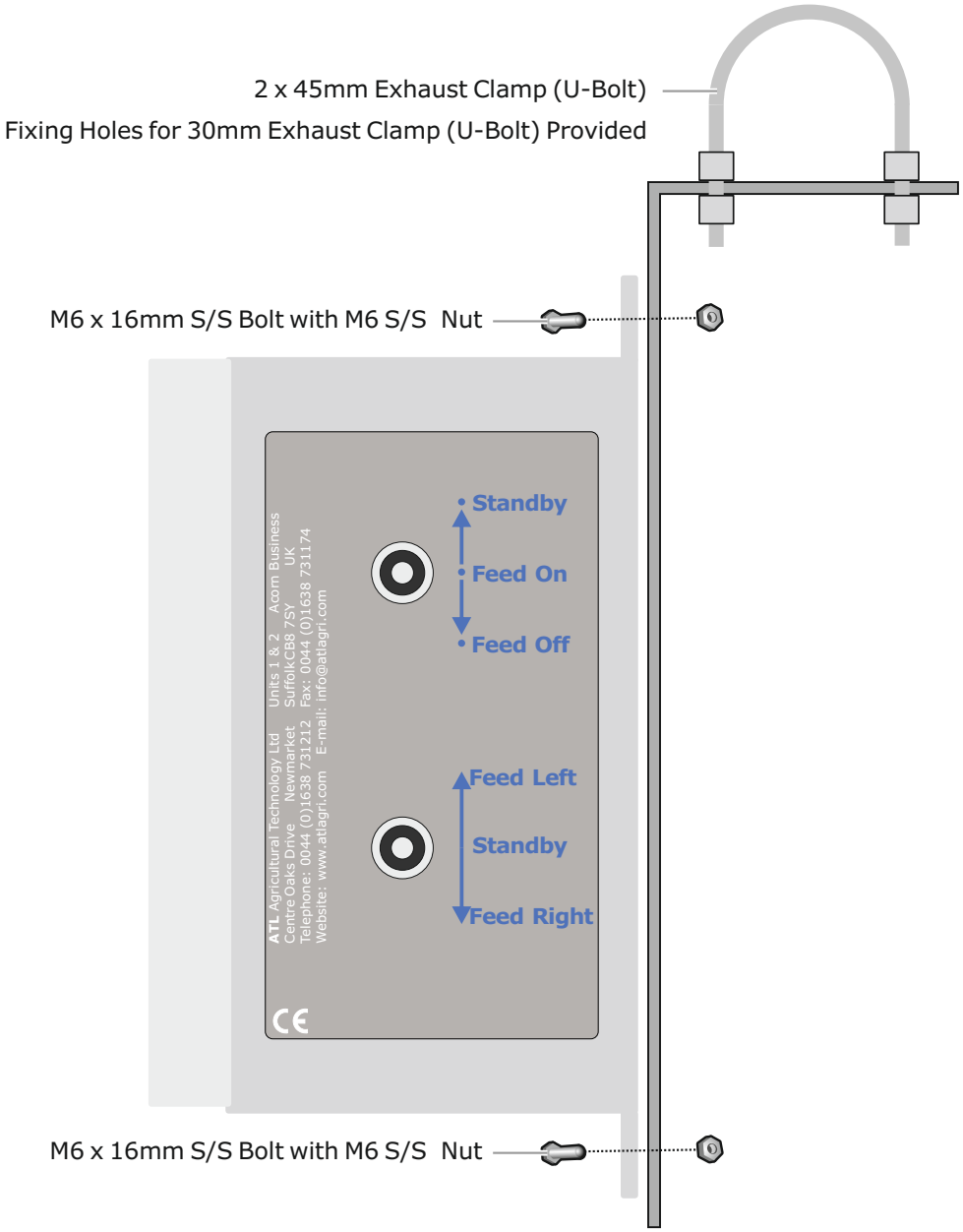


Installing the Auto Control using the Supplied Stainless Steel Bracket

The Auto Control comes with a stainless steel bracket and fixing kit. This should be used to mount the control onto a crossover in the milking parlour pit. It is recommended that the control is mounted at the entry end of the pit, with the control face facing the collecting yard.

IMPORTANT - Feeder Relay Extension boxes should be mounted close to the Auto Control to facilitate the operation of the stand-by feeding.

Mounting the Feeder Relay Extension boxes away from the milking pit and Auto Control control will make stand-by feeding difficult and should be avoided.



Good Practice During the Installation

- A separate mains supply and earth running directly from the consumer meter is essential.
- Avoid routing the mains cable to the power supply close to other supplies especially those providing intermittent current motors that are starting and stopping continually or high power heaters with thermostatic control.
- Terminate in a sealed, fused, double pole switched outlet fitted with a 13Amp (Type 1362) fuse or trip. A 3-pin ring main socket is not suitable in parlour conditions. All mains cabling must be contained in a firmly secured durable conduit.

Power Supply: Siting

- Fix the power supply to a wall or suitable brackets in a well ventilated area sufficiently high to avoid physical contact or damage, leaving a gap of at least 250mm (10") between the top of the power supply casing and the ceiling.
- Position the power supply so that the output (low DC voltage) cables are as short as possible even if this means extending the mains supply.

ATL Power Supplies: Output Voltages

- ATL power supply outputs are factory set and should not be adjusted.

400 Watt 12vDC PSU	60 Watt 12vDC PSU
Input: 100 - 240vAC	Input: 100 - 240vAC
Output: Nominal 12vDC	Output: Nominal 12vDC

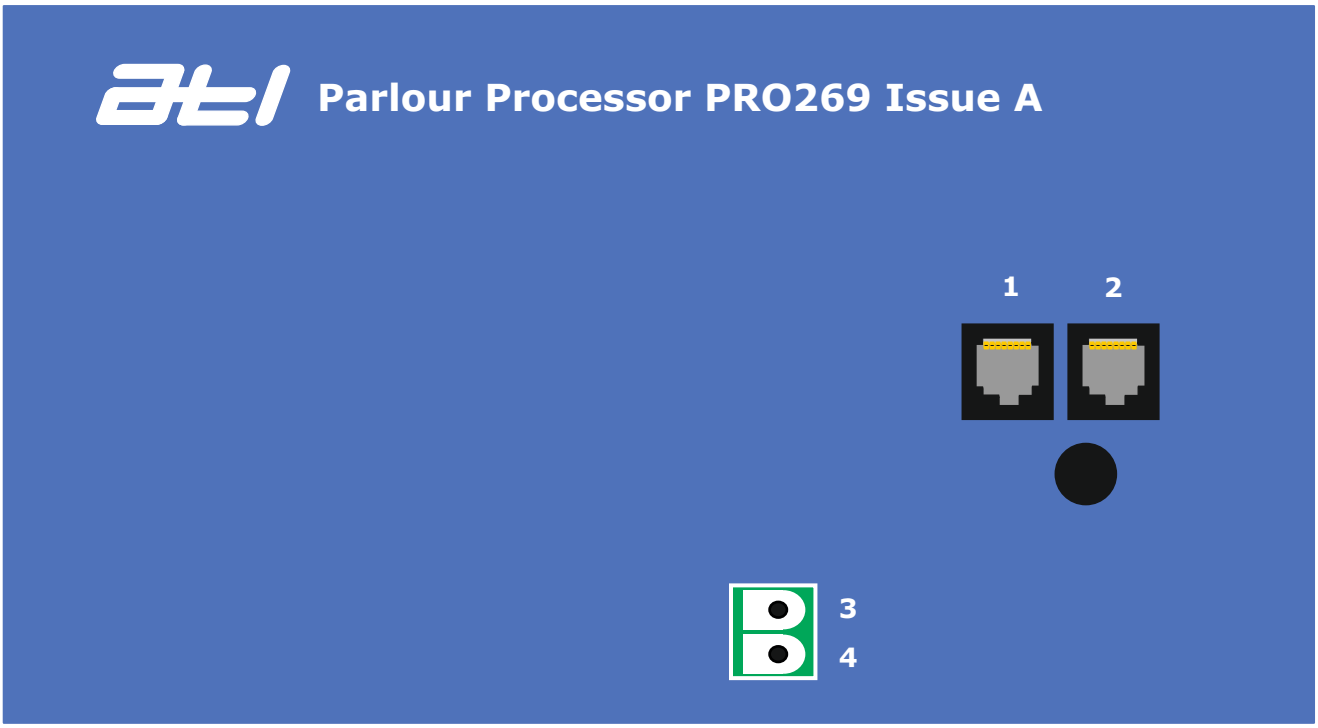
- The 400 Watt 12vDC and 60 Watt 12vDC power supplies have a thermal cutout and overload protection which removes power from the outputs in the event of an overload.
- There are two indicators fitted to the base of the power supply casing; red indicates that the mains is present and green that the output supply is available.

Control and Feeder Cables and Conduit

- Cables must be kept as short as possible running directly from point to point. Cut out any excess cable rather than leaving it coiled.
- Wherever possible cables should be contained in a waterproof conduit using the correct csa cable specified in the diagrams.
- **Entries must be made into the bottom of power supply or control casings but never into the top. This will invalidate the warranty.**
- Strip existing cables back to bright copper before connection.
- Keep multicore cables away from other cables especially those carrying mains or heavy currents. Cross only at 90°where necessary and do not enclose in conduit with other cables.

Auto Control Display PCB Wiring Connections

The Auto Control Display PCB wiring connections are shown in the diagram and corresponding table below.



Number	Connects To	Cable Specification
1	M2Bus Auto Control Relay PCB	Cat5e Cable
2	M2Bus Extender Box Relay PCB	Cat5e Cable
3	Power In -12vDC	Minimum 1.5mm^2 Black Cable
4	Power In +12vDC	Minimum 1.5mm^2 Red cable

IMPORTANT - DO NOT INSTALL TWO CABLES THROUGH 1 CABLE HOLE IN THE 4 PORT GLAND. THIS WILL INVALIDATE THE WARRANTY.

Feeder cables should be run through the other 4 glands provided.

Auto Control Relay PCB Wiring Connections

The Auto Control Relay PCB wiring connections are shown in the diagram and corresponding table below.

Number	Connects To	Cable Specification
1	Feeder 1 Left Hand Side	Minimum 1.5mm²Red Cable
2	Feeder 2 Left Hand Side	Minimum 1.5mm²Red Cable
3	Feeder 3 Left Hand Side	Minimum 1.5mm²Red Cable
4	Feeder 4 Left Hand Side	Minimum 1.5mm²Red Cable
5	Feeder 5 Left Hand Side	Minimum 1.5mm²Red Cable
6	Feeder 6 Left Hand Side	Minimum 1.5mm²Red Cable
7	Feeder 7 Left Hand Side	Minimum 1.5mm²Red Cable
8	Feeder 8 Left Hand Side	Minimum 1.5mm²Red Cable
9	Feeder 9 Left Hand Side	Minimum 1.5mm²Red Cable
10	Feeder 10 Left Hand Side	Minimum 1.5mm²Red Cable
11	Feeder 11 Left Hand Side	Minimum 1.5mm²Red Cable
12	Feeder 12 Left Hand Side	Minimum 1.5mm²Red Cable
13	Feeder 13 Left Hand Side	Minimum 1.5mm²Red Cable
14	Feeder 14 Left Hand Side	Minimum 1.5mm²Red Cable
15	Feeder 15 Left Hand Side	Minimum 1.5mm²Red Cable
16	Feeder 16 Left Hand Side	Minimum 1.5mm²Red Cable

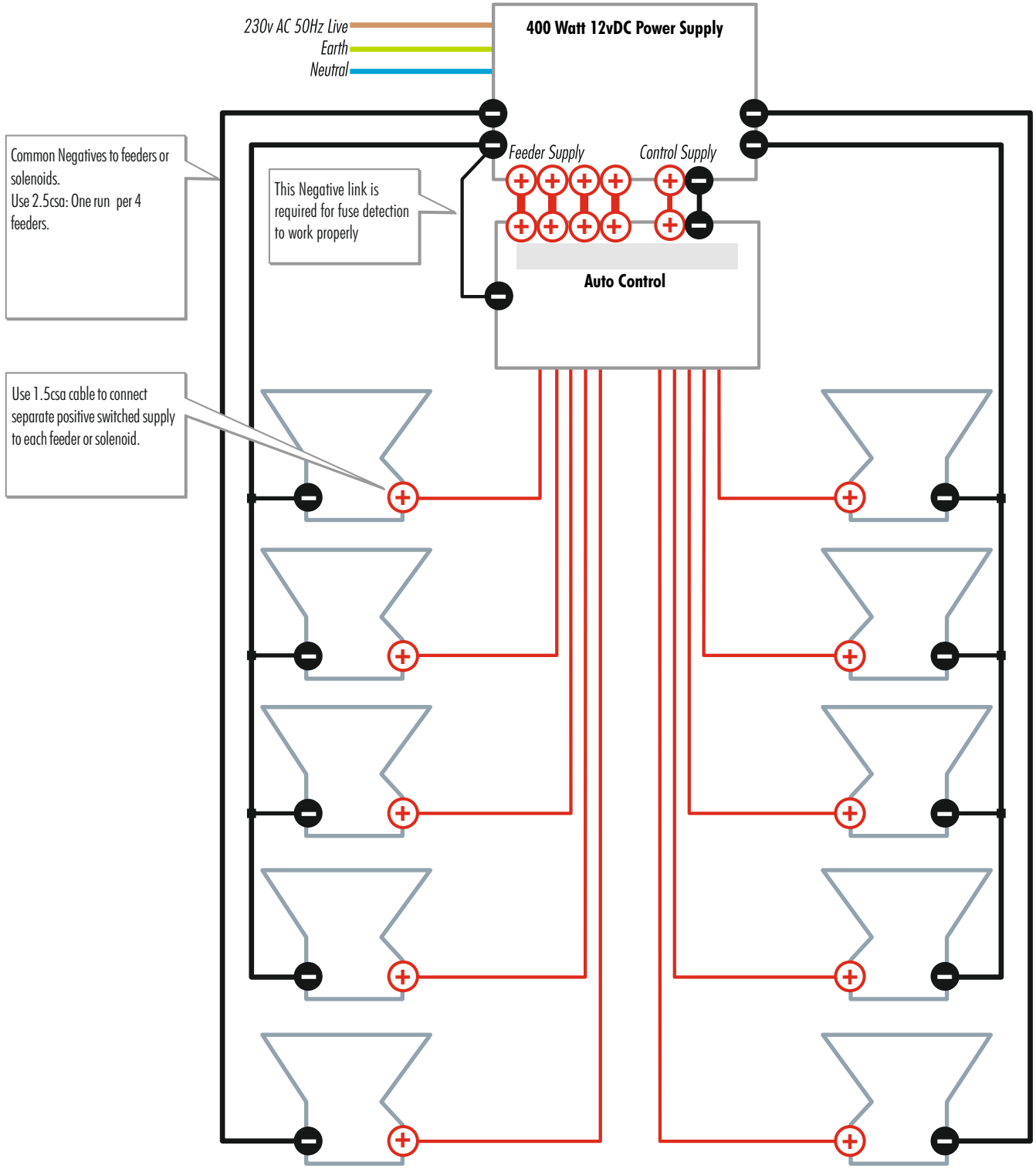
Auto Control Relay PCB Wiring Connections

Number	Connects To	Cable Specification
17	M2Bus - Auto Display PCB	Cat5e Cable
18	Feed Mode and Standby Switches	Factory Fitted (2 x 0.22 Black Cable)
19	Feed Mode Switch	Factory Fitted (0.22 Red Cable)
20	Feed Mode Switch	Factory Fitted (0.22 Yellow Cable)
21	Standby Switch	Factory Fitted (0.22 Green Cable)
22	Standby Switch	Factory Fitted (0.22 Blue Cable)
23	Control +12vDC - Micro M5 Display PCB	Minimum 1.5mm^2 Red Cable
24	Control -12vDC - Micro M5 Display PCB	Minimum 1.5mm^2 Black Cable
25	Control +12vDC - Power Supply	Minimum 1.5mm^2 Red Cable
26	Control -12vDC - Power Supply	Minimum 1.5mm^2 Black Cable
27	Feeder 16 Right Hand Side	Minimum 1.5mm^2 Red Cable
28	Feeder 15 Right Hand Side	Minimum 1.5mm^2 Red Cable
29	Feeder 14 Right Hand Side	Minimum 1.5mm^2 Red Cable
30	Feeder 13 Right Hand Side	Minimum 1.5mm^2 Red Cable
31	Feeder 12 Right Hand Side	Minimum 1.5mm^2 Red Cable
32	Feeder 11 Right Hand Side	Minimum 1.5mm^2 Red Cable
33	Feeder 10 Right Hand Side	Minimum 1.5mm^2 Red Cable
34	Feeder 9 Right Hand Side	Minimum 1.5mm^2 Red Cable
35	Feeder 8 Right Hand Side	Minimum 1.5mm^2 Red Cable
36	Feeder 7 Right Hand Side	Minimum 1.5mm^2 Red Cable
37	Feeder 6 Right Hand Side	Minimum 1.5mm^2 Red Cable
38	Feeder 5 Right Hand Side	Minimum 1.5mm^2 Red Cable
39	Feeder 4 Right Hand Side	Minimum 1.5mm^2 Red Cable
40	Feeder 3 Right Hand Side	Minimum 1.5mm^2 Red Cable
41	Feeder 2 Right Hand Side	Minimum 1.5mm^2 Red Cable
42	Feeder 1 Right Hand Side	Minimum 1.5mm^2 Red Cable
43	Power In -12vDC Right Hand Side	Minimum 2.5mm^2 Black Cable
44	Power In -12vDC Right Hand Side	Minimum 2.5mm^2 Black Cable
45	Power In -12vDC Right Hand Side	Minimum 2.5mm^2 Black Cable
46	Power In -12vDC Right Hand Side	Minimum 2.5mm^2 Black Cable
47	Power In +12vDC Right Hand Side	Minimum 2.5mm^2 Red Cable
48	Power In +12vDC Right Hand Side	Minimum 2.5mm^2 Red Cable
49	Power In +12vDC Right Hand Side	Minimum 2.5mm^2 Red Cable
50	Power In +12vDC Right Hand Side	Minimum 2.5mm^2 Red Cable
51	Power In +12vDC Left Hand Side	Minimum 2.5mm^2 Red Cable
52	Power In +12vDC Left Hand Side	Minimum 2.5mm^2 Red Cable

Auto Control Relay PCB Wiring Connections

Number	Connects To	Cable Specification
53	Power In +12vDC Left Hand Side	Minimum 2.5mm^{2}Red Cable
54	Power In +12vDC Left Hand Side	Minimum 2.5mm^{2}Red Cable
55	Power In -12vDC Right Hand Side	Minimum 2.5mm^{2}Black Cable
56	Power In -12vDC Right Hand Side	Minimum 2.5mm^{2}Black Cable
57	Power In -12vDC Right Hand Side	Minimum 2.5mm^{2}Black Cable
58	Power In -12vDC Right Hand Side	Minimum 2.5mm^{2}Black Cable
59	M2 Bus	Cat5e Cable
60	-ve RS485 Power	Only Connect When Instructed By ATL
61	Screen	Twised Pair Screen
62	Data B	Twisted Pair - Black
63	Data A	Twisted Pair - Red
64	+ve Rs485 Power	Only Connect When Instructed By ATL
65	Address Dip Switches	See Page 24

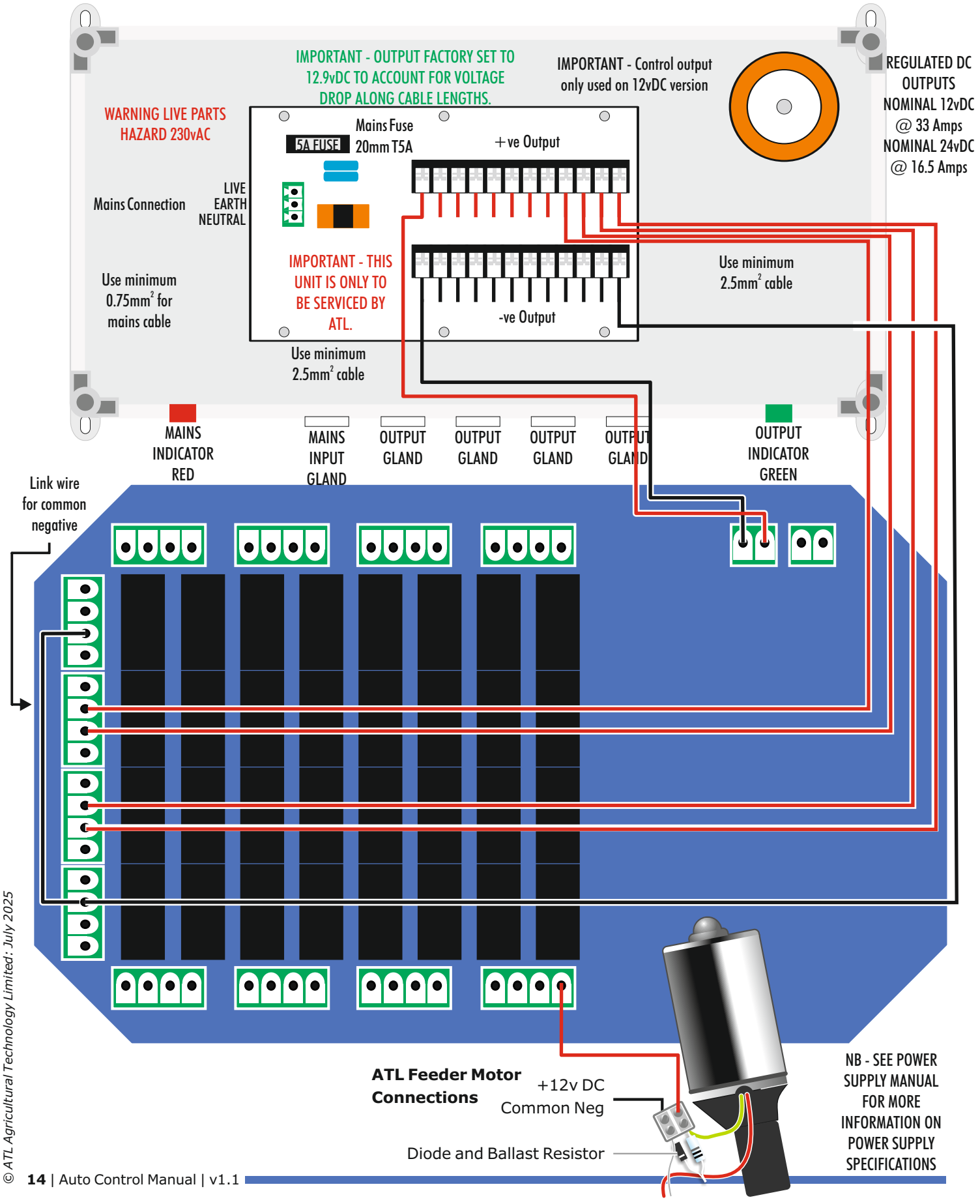
Up to 16 Feeders per Side Wiring Diagram with 1 x 400 Watt 12vDC Power Supply



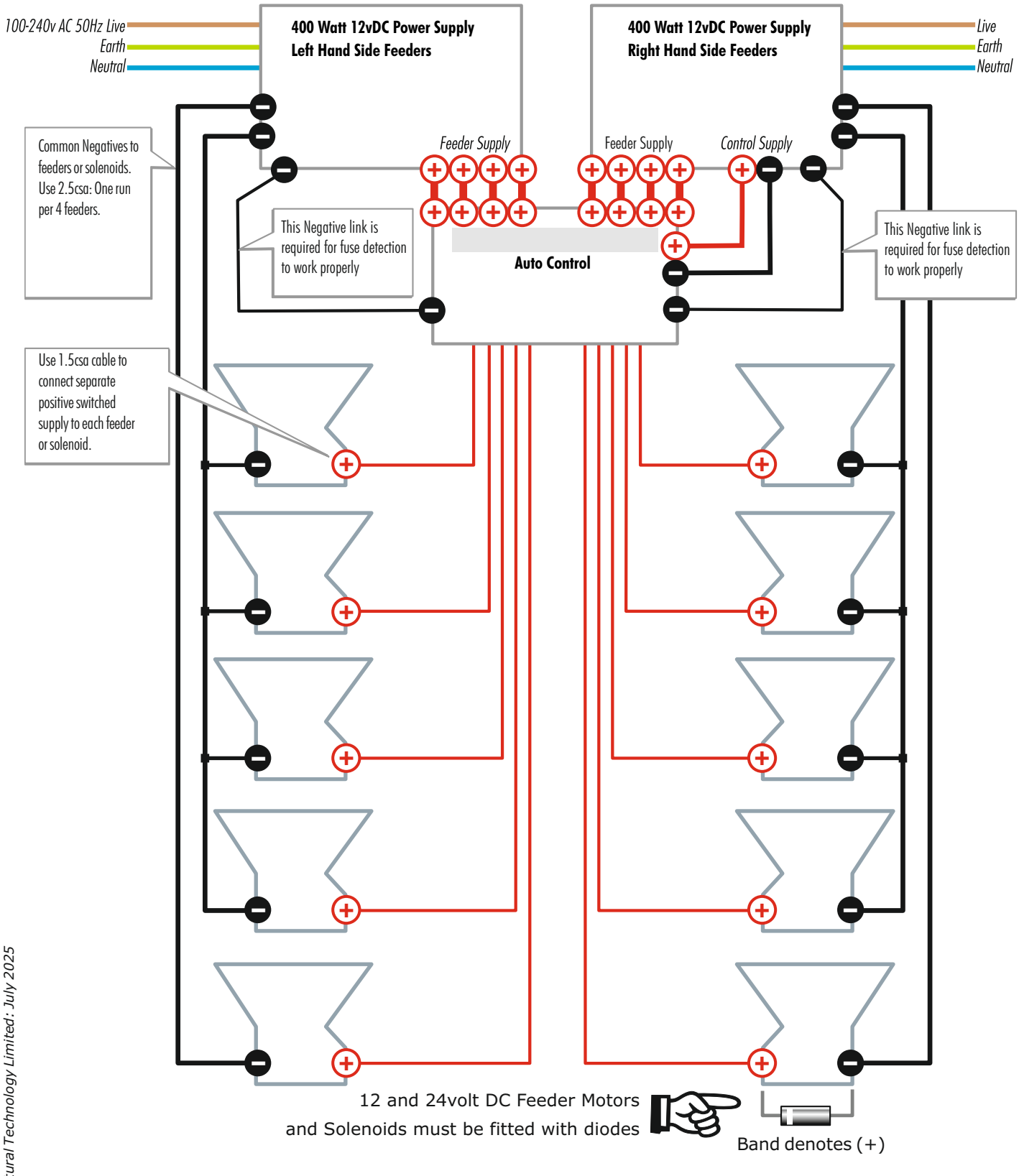
12 and 24volt DC Feeder Motors and Solenoids must be fitted with diodes

Band denotes (+)

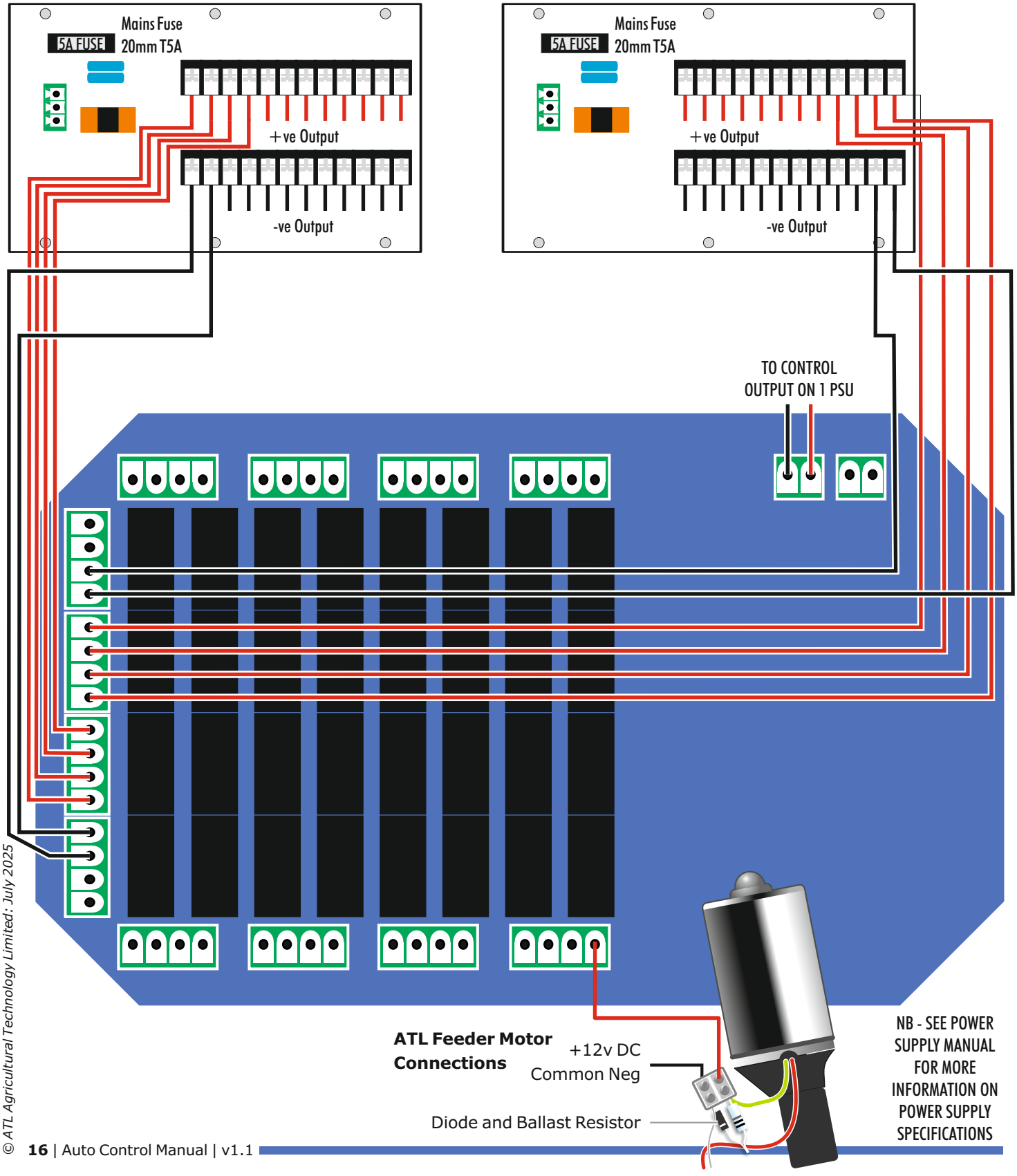
Up to 16 Feeders per Side Relay Board Wiring Connections with 400 Watt 12vDC Power Supply



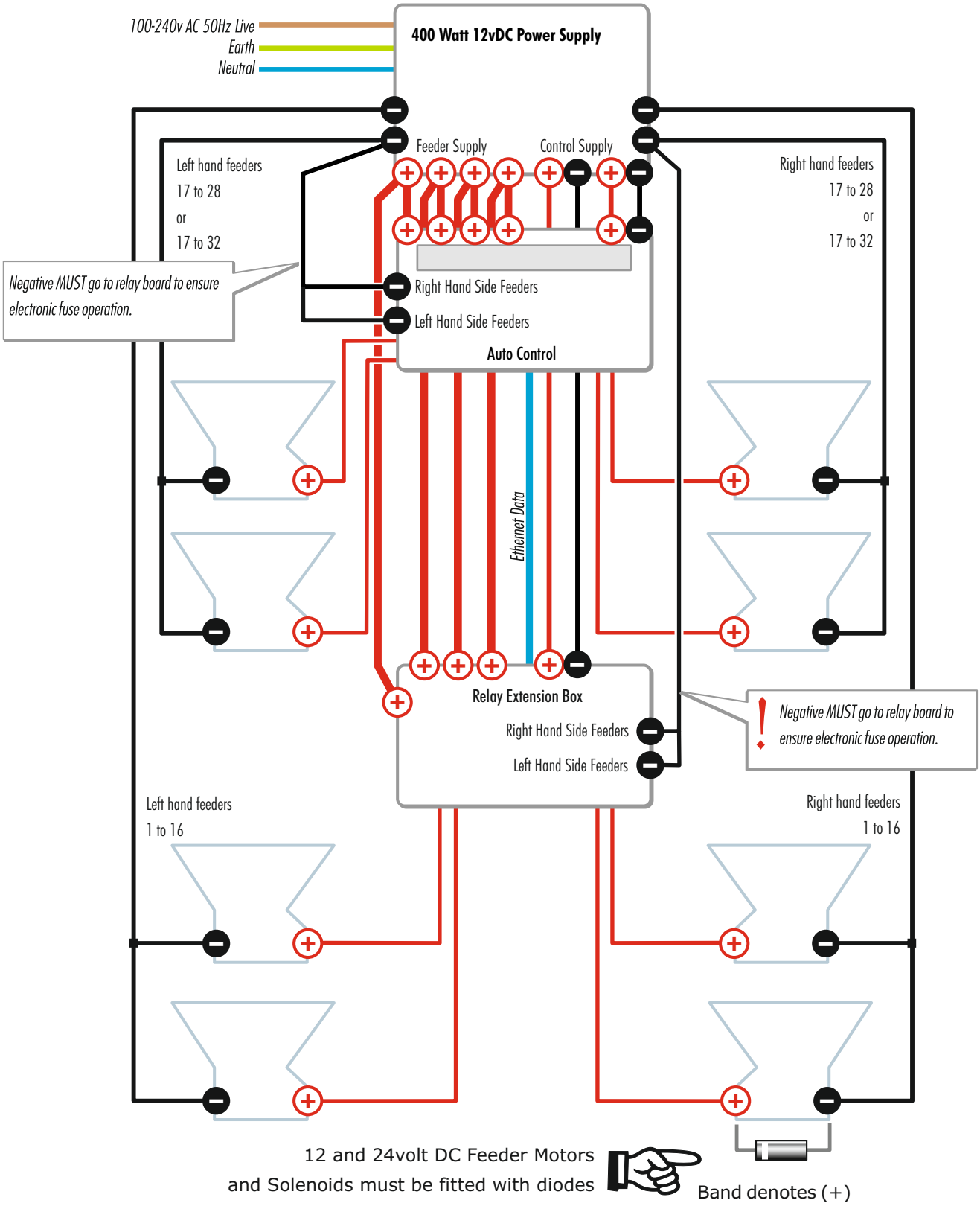
Up to 16 Feeders per Side Wiring Diagram with 2 x 400 Watt 12vDC Power Supplies



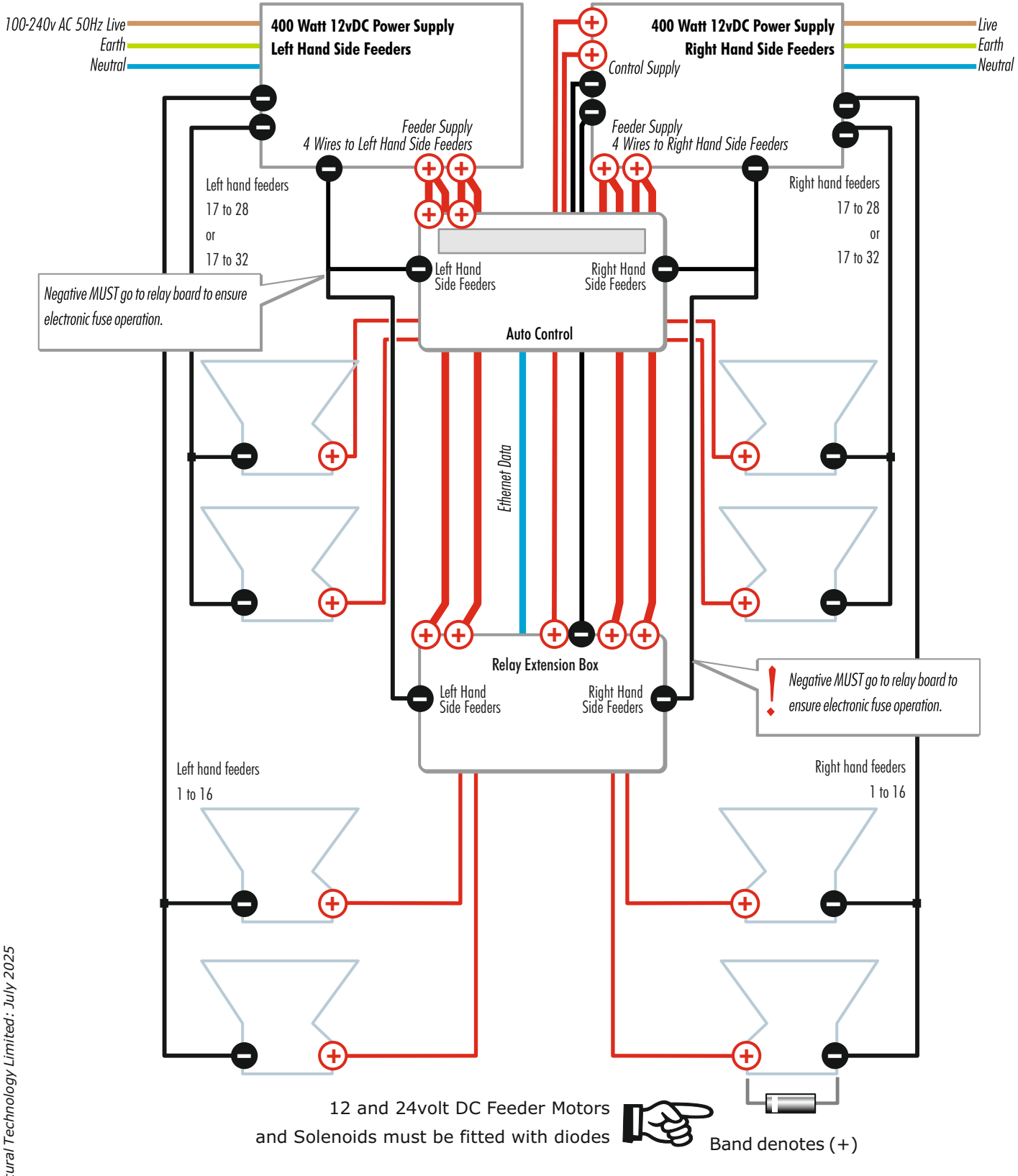
Up to 16 Feeders per Side Relay Board Wiring Connections with 2 x 400 Watt 12vDC Power Supplies



Up to 32 Feeders per Side Wiring Diagram with 400 Watt 12vDC Power Supply



Up to 32 Feeders per Side Wiring Diagram with 2 x 400 Watt 12vDC Power Supplies

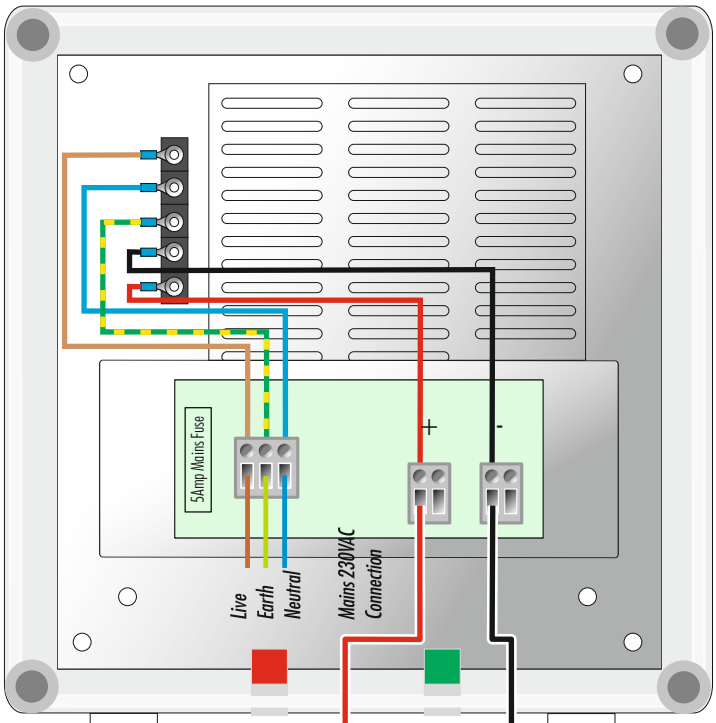


Wiring Diagram for Non-ATL Feeders and Control Only 60 Watt 12vDC Power Supply

NB - SEE POWER SUPPLY MANUAL FOR MORE INFORMATION ON POWER SUPPLY SPECIFICATIONS

CONTROL REGULATED DC OUTPUTS NOMINAL 12vDC @ 4Amps

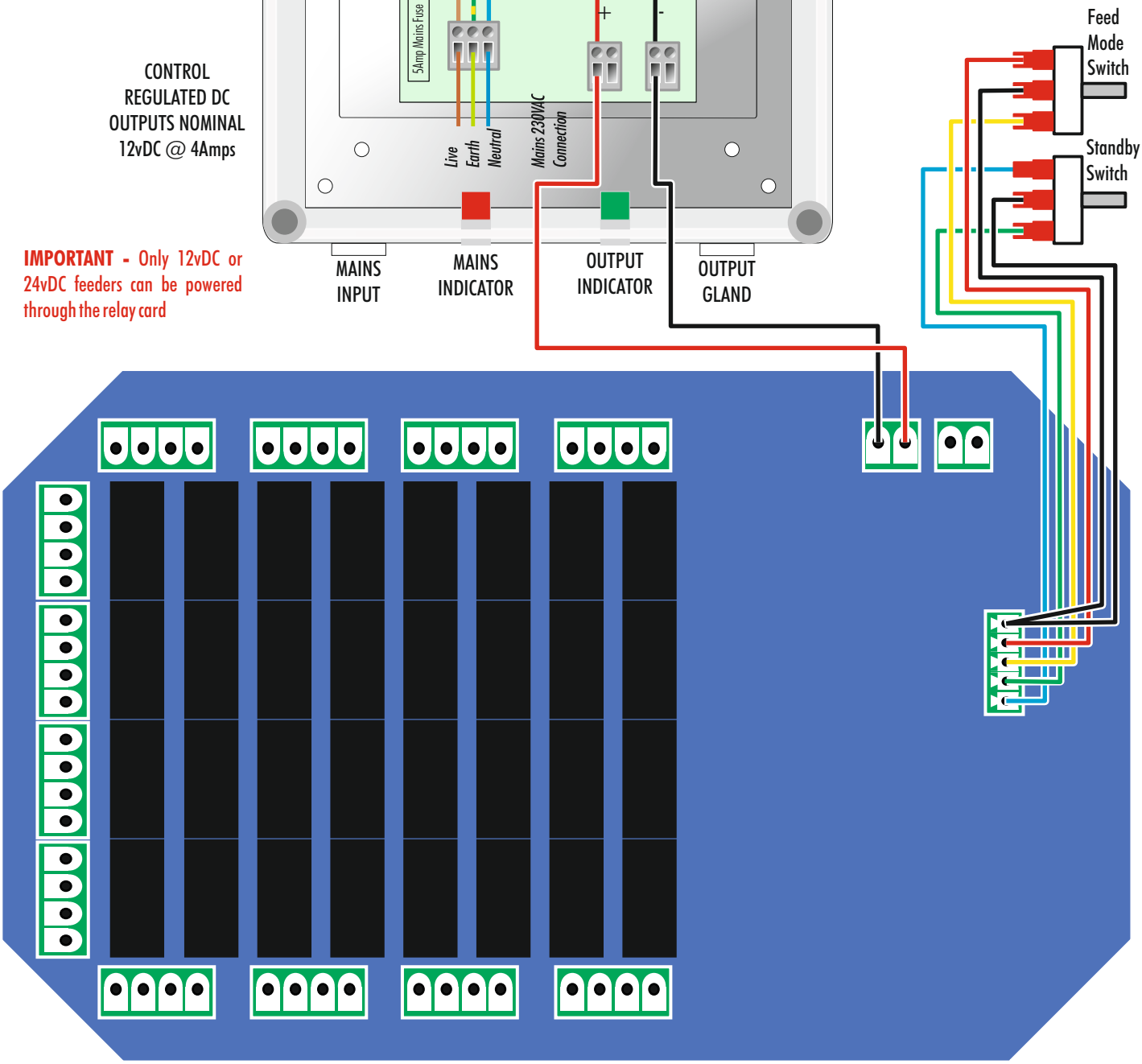
IMPORTANT - Only 12vDC or 24vDC feeders can be powered through the relay card



***WARNING:** DISCONNECT THE MAINS SUPPLY BEFORE REMOVING THE POWER SUPPLY COVER*

IMPORTANT - OUTPUT FACTORY SET TO 14vDC TO ACCOUNT FOR VOLTAGE DROP ALONG CABLE LENGTHS.

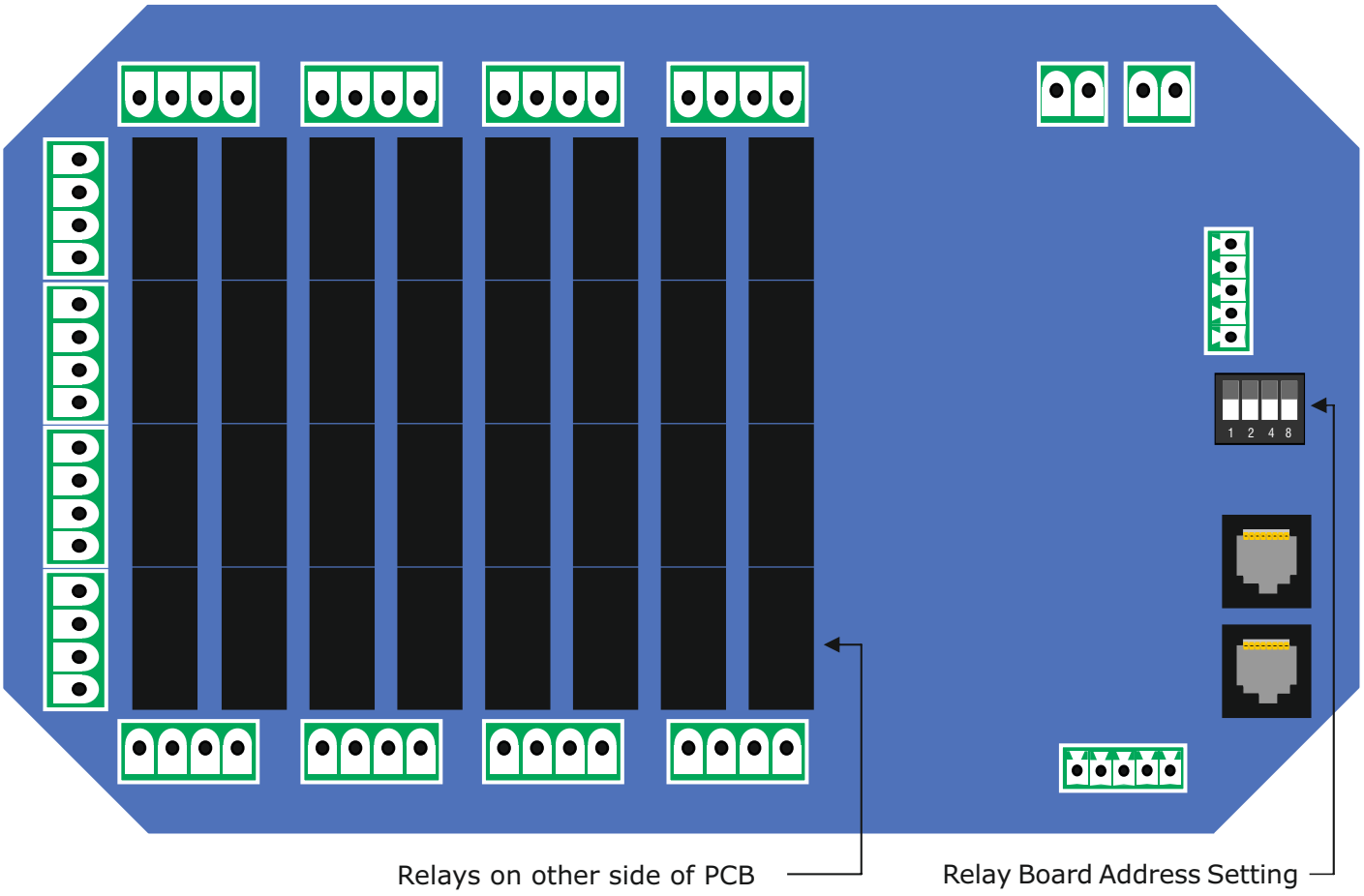
Feed Mode and Standby Switch Wiring



Setting the Relay Board Address

The relay board address is set using the DIP switch located on it's right hand side. The address should be set as follows:

Board No.	Feeder No.	DIP Switches
Relay Board 1	Feeder No.s 1 - 16 LHS & RHS	
Relay Board 2	Feeder No.s 17 - 32 LHS & RHS	



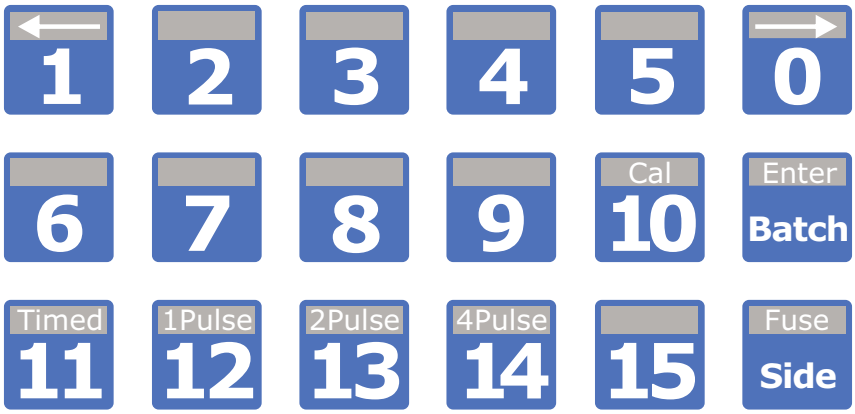
Setting up the Auto Control

Before it can be used, the Auto Control must be setup. This is outlined in the following pages.

The Keypad

There are 18 keys on the keypad. 15 are for rations, '0' is a zero ration providing a stall step function, Batch(ENTER) is a dual function key allowing batch feeding and data entry and the Side key changes the parlour side, resetting to Stall(1) and provides an electronic fuse reset..

The '0' and '1' are also dual function keys providing the ability to move left or right through the menu during setup. The '10', '11', '12', '13' and '14' keys are further dual function keys controlling feeder calibration, timed feeders and pulsed feeders.



The keypad is constructed from a tough membrane overlaying individual key switches. This is a proven, reliable construction which will last for many years provided it is cleaned only with warm soapy water and not hosed down at high pressure.

The Display

The display area comprises five windows. The Ration window shows the ration that has been keyed. The Totals window shows the feed dispensed or cows fed during the current milking, the total feed consumed to date and various values during the setup procedure.

In the Stall/Side window the current stall number is displayed. The left and right arrows are parlour side indicators and show the side the control is currently on.

The Auto Control is very energy efficient; power saving was an important element of the design criteria. If a key is not pressed for 30 minutes, the display will shut down but can be re-illuminated by pressing any key.

Entering Setup

During the setup process, it is necessary to enter and modify data. Before this can be achieved, the Auto Control has to be put into setup using this key sequence:

Press the Side key 

then press the Batch key 

and then press the 0 key 

The first time setup is entered after each power up, the display will show 'Access'. The code is 638.

Press 6, press 3, press 8 and then the Enter key 

Please see the Exiting Setup section for how to prevent access to the Auto Control.

The number of stalls per side setting will be displayed.

Setting the Number of Stalls per Side

This sets the number of stalls per side. The number can be between 1 and 32. The factory default is 16.

Press the Batch (Enter) key 

to change the number of stalls.

Use the number keys to set the number of stalls and press the Batch (Enter) key 

to save.

Press the 0 (Right) key 

to move onto the number of feeders to run setting.

Setting the Number of Feeders to Run at Once

This sets the number of feeders that run together. The number depends upon the power supply, but a 'safe' value is 4. If in doubt consult your dealer. The number can be between 1 and 64. The default setting is 16.

Press the Batch (Enter) key 

to change the number of stalls.

Use the number keys to set the number of stalls and press the Batch (Enter) key 

to save.

Press the 0 (Right) key 

to move onto the stored feed mode setting.

Setting the Feeding Mode

The Auto Control has two feeding modes:

1. Sequential mode in which feed is delivered to the stalls as each cow passes the control point, and
2. Stored mode in which each ration is 'stored' and the feed withheld until the parlour side is fully occupied. Pressing the Batch (Enter) key triggers the feeding.

It is an ON / OFF setting. The factory default is OFF.

Press the Batch (Enter) key 

to toggle between OFF or ON.

Press the 0 (Right) key 

to move onto the fuse detection setting.

Setting the Fuse Detection

An audible buzzer can sound when a feeder fuse is tripped and can be turned on or off in this setting. It is an ON/OFF setting. The factory default is ON.

Press the Batch (Enter) key 

to toggle between OFF or ON.

Press the 0 (Right) key 

to move onto the unit value setting.

Setting the Unit Value

The unit value is the amount in grams that the 1 key will dispense through feeder 1 and the standby batch switch on the side of the box. The number can be between 10 and 9999. The default setting is 500.

Press the Batch (Enter) key 

to change the unit value.

Setting the Unit Value Continued

Use the number keys to set the unit value and then press the Enter key 

to save.

Press the 0 (Right) key 

to move onto the global calibration setting.

Setting Up the Feeders

The portion of cake delivered by a feeder depends upon the time that the feeder is running or being pulsed. With ATL power supplies and precision feeders, the Auto Control will consistently deliver accurate rations.

Two factors affect the feeder accuracy:

1. The feeder run time which is a broad time adjustment, and
2. Calibration which 'fine tunes' the feeders as a group.

There are 3 simple stages to setting up the feeders:

1: Global feeder calibration

2: Setting the feeder calibration for all feeders

3: Checking the feeder calibration for each feeder individually and individually calibrating if required.

Setting the Global Feeder Calibration - Step 1

The global calibration setting represents a percentage (%) of the feeder run time and must be set to '100' before adjusting the run time.

Press the Batch (Enter) key 

to change the global feeder calibration value.

Use the number keys to set global calibration value and press the Batch (Enter) key 

to save.

Press the 0 (Right) key 

to move onto the feeder calibration setting.

Setting the Feeder Calibration for All Feeders - Step 2

The feeder calibration routine uses the weight of feed delivered to automatically calculate the run time (i.e. how long the feeder will operate) and therefore, how much cake will be delivered. The aim of this function is to get feeder (1) on the default parlour side delivering a single portion of cake weighing 500 grams. To achieve this simply, the feeder is operated and the delivered cake weighed. This delivered weight is simply entered into the control.

Start the calibration process by placing a suitable container- a plastic carrier bag is ideal - beneath the down pipe of feeder (1).

Press the Batch (Enter) key 

The existing weight value will appear in the Totals window and the message 'ALL TI'* in the Ration window. The stall number will be reset to '1' on the right side.

All Feeders on Parlour

Feeder Type TI = Timed*

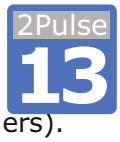
Feed Weight Value (grams)

*The type of feeder is shown by either 'TI', 'P1', 'P2' or 'P4' being displayed in the ration window after 'ALL'.

Press the 11 (Timed) key 

to select timed feeders (i.e. electric motor).

Or press the 12 (1Pulse) key 

, the 13 (2Pulse) key 

, or the 14 (4Pulse) key 

to select 1 pulsed feeders (i.e. compressed air or vacuum feeders).

Press the 10 (Cal) key 

Feeder (1) on the default side will deliver a portion of cake.

For added accuracy, drop 3 drops consecutively using the 10 (Cal) key 

and divide total feed weight by 3.

Press the Batch (Enter) key 

to change the weight value to match the weighed weight

Press the Batch (Enter) key 

to store the new weight.

Checking the Feeder Calibration - Step 3

When feeder (1) on the default side is delivering the desired weight of feed for 1 unit, the remaining feeders in the parlour need to be checked to make sure this calibration is correct for them.

Go to the feeder calibration routine in the setup menu and press the Batch (Enter) key 

The following screen will appear:

Press the 0 (Right) key 

to step to stall 1 and the display will now show:

Press the 10 (Cal) key 

Feeder (2) on the default side will deliver a portion of cake.

For added accuracy, drop 3 drops consecutively using the 10 (Cal) key 

and divide total feed weight by 3.

Press the Batch (Enter) key 

to change the weight value to match the weighed weight

Press the Batch (Enter) key 

to store the new weight..

Repeat the above procedure on all feeders on this side of the parlour using the 0 (Right) key 

to step stalls.

Change sides by pressing the Side (Fuse) key 

and repeat the procedure for the other side of the parlour.

NB - The type of feeder (i.e. timed, 1 pulse, 2 pulse or 4 pulse) be individually set for each feeder output. Please follow the steps on the previous page.

Setting the Pulse On Value

The pulse on value allows the global pulse on time, for pulsed feeder outputs, to be altered. The pulse on time is in tenths of a second. The default is 10 tenths of a second (i.e. 1 second).

Press the Batch (Enter) key  to change the pulse on value.

Use the number keys to set the pulse on value and press the Batch (Enter) key  to save.

Press the 0 (Right) key  to move onto the pulse off value.

Setting the Pulse Off Value

The pulse off value allows the global pulse off time, for pulsed feeder outputs, to be altered. The pulse off time is in tenths of a second. The default is 50 tenths of a second (i.e. 5 seconds).

Press the Batch (Enter) key  to change the pulse on value.

Use the number keys to set the pulse off value and press the Batch (Enter) key  to save.

Press the 0 (Right) key  to move onto the buzzer setting.

Turning the Buzzer On and Off

An audible buzzer can sound when buttons are pressed. It is an ON/OFF setting. The factory default is ON.

Press the Batch (Enter) key  to toggle between OFF or ON.

Press the 0 (Right) key  to move onto the totals displayed setting.

Setting the Totals Displayed

The Auto Control can display any one of four totals on it's display. The totals are the number of cows fed during this milking, the amount of feed fed during this milking, the cumulative feed fed total since total was last reset and the amount of feed left in the feed bin. Every time the control is used, the totals are incremented or decremented as required. The total number of cows fed includes those cows that have been 'stepped over'- in effect given a 'zero' ration.

At 30 minutes after milking, the display will clear. This is the automatic power down mode to save energy; press the Side key to 'wakeup' the machine. When power down occurs, the number of cows fed during this milking and the amount of feed fed during this milking are cleared.

Total Feed Fed during this Milking

or

Total Cows Fed during this Milking

or

Cumulative Feed Total since Total was last Reset

or

Feed Left in Feed Bin

Press the Batch (Enter) key 

to toggle between the totals.

Press the 0 (Right) key 

to move onto the clear the number of cows fed during milking total.

Clearing the Number of Cows Fed Total

This setting manually clears the number of cows fed during milking total.

Press the Batch (Enter) key 

to clear the number of cows fed during milking total.

Press the 0 (Right) key 

to move onto the clear the total amount of feed fed during the milking.

Clearing the Total Amount of Feed Fed During the Milking

This setting manually clears the total amount of feed fed during the milking.

Press the Batch (Enter) key 

to clear the total feed total.

Press the 0 (Right) key 

to move onto the cumulative feed total.

Clearing the Cumulative Feed Total

This setting manually clears the total amount of feed fed the since total was last reset.

Press the Batch (Enter) key 

to clear the cumulative feed total.

Press the 0 (Right) key 

to move onto the amount of feed in the feed bin (bin level) setting.

Setting the Amount of Feed in the Feed Bin (Bin Level)

The bin level setting allows the total amount of feed in the feed bin to be entered. The feed bin total is in kilograms. The default is 0 kilograms. The maximum allowable is 39,000 kilograms.

Press the Batch (Enter) key 

to change the bin level value.

Use the number keys to set the bin level value and press the Batch (Enter) key 

to save.

Press the 0 (Right) key 

to move onto the bin warning level setting.

Setting the Bin Warning Level

The bin warning level setting allows a feed bin total in kilograms to be set, whereby a warning displays on the Auto Control during parlour feeding, when the total feed left in the feed bin crosses the warning level. The bin warning level is in kilograms. The default is 250 kilograms. The maximum allowable is 39,000 kilograms.

Press the Batch (Enter) key  to change the bin warning level value.

Use the number keys to set the bin warning level value and press the Batch (Enter) key  to save.

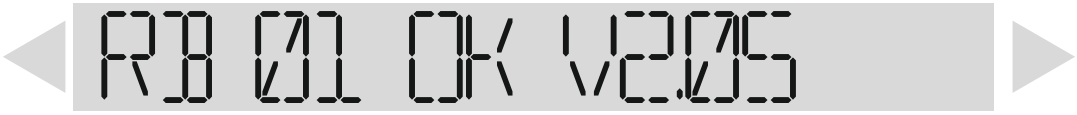
Press the 0 (Right) key  to move onto the feeder relay board diagnostics setting.

Feeder Relay Board Communications Diagnostics

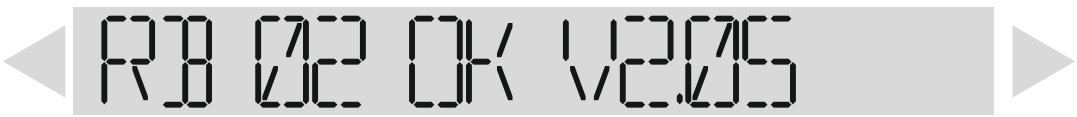
The feeder relay diagnostic routine provides a test of the communications to the relay PCB. The version of software on the relay card is also available.

Press the Batch (Enter) key  to go into the diagnostic routine.

If there is only 1 relay board connected to the Auto Control, the display will show:



If there are 2 relay boards connected to the Auto Control, the display will show:



If there is a communications error with the relay PCB, the display will show:

Feeder Relay Board Communications Diagnostics Continued

Press the 1 key 

to display the software version of relay PCB 1.

Press the 11 key 

to display the hardware serial number of relay PCB 1.

Press the 2 key 

to display the software version of relay PCB 2. **IMPORTANT -** This will only display if there is a second relay board on the system.

Press the 11 key 

to display the hardware serial number of relay PCB 1. **IMPORTANT -** This will only display if is a second relay board on the system.

When the relay board 1 or 2 is selected, if there is a communications error with the relay PCB, the display will show:

or

Press the 0 key 

to return to the main relay diagnostic screen.

Feeder Relay Board Communications Diagnostics Continued

Press the Side key 

to return to the setup menu.

Press the 0 (Right) key 

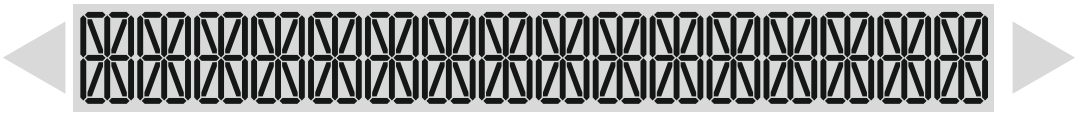
to move onto the test displays diagnostic routine.

Test Displays Diagnostic

This turns on all the display LEDs so faulty LEDs can be diagnosed.

Press the Batch (Enter) key 

to go into the diagnostic routine.



Press the Side key 

to return to the setup menu.

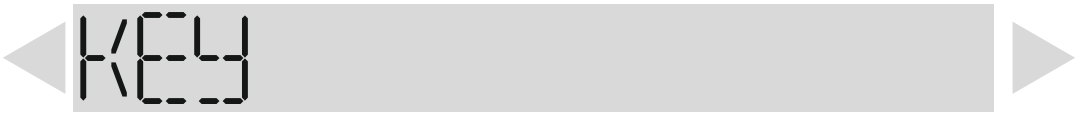
Press the 0 (Right) key 

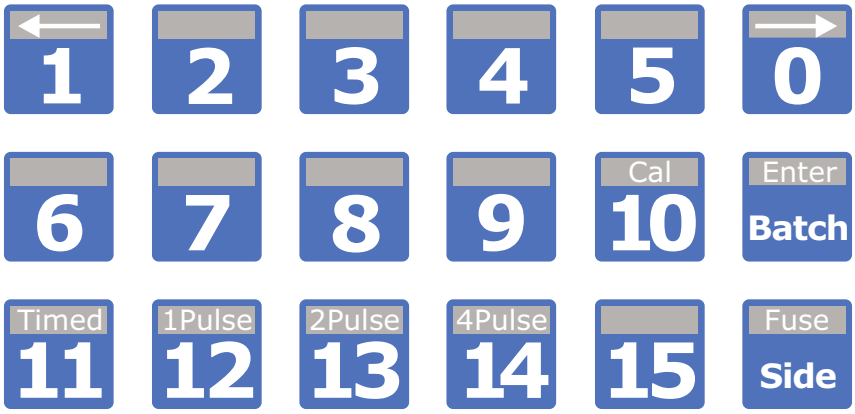
to move onto the test keyboard diagnostic routine.

Test Keyboard Diagnostic

This allows all the keys to be pressed so faulty keys can be diagnosed.

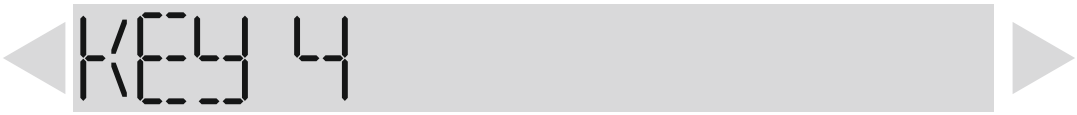
Press the Batch (Enter) key  to go into the diagnostic routine.





Press any of the keys and the display will show the key pressed. If a key does not show on the display, the key is more than likely faulty. The display below shows what happens if the 4 key is pressed.

IMPORTANT - Pressing the side key exits the test keyboard routine.



Press the Side key  to return to the setup menu.

Press the 0 (Right) key  to move onto the test relay board diagnostic routine.

Test Relay Board Diagnostic

This turns on all the feeder outputs set on the system sequentially to test they are all functioning correctly. Please note that one unit of feed will be dropped by each feeder in turn and is a continuous cycle.

Press the Enter key 

to go into the diagnostic routine.

etc

Press the Side (Fuse)key 

to return to the setup menu.

IMPORTANT - If upon exitings, the feeders are still running, reset the feeders by turning them off using the feed switch on the side of the control.

Press the 0 (Right) key 

to move onto show the display board hardware serial number.

Display Board Hardware Serial Number

Press the 0 (Right) key  to move onto the display the core software version.

Core Software Version

Press the 0 (Right) key  to move onto the display the display PCB software version

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Display Board Software Version

Press the 0 (Right) key  to move onto restore factory settings.

Restore Factory Settings

Factory settings can be restored by running this function. This function clears ALL of the settings. The data is lost and is not recoverable so use with caution.

Press the Batch (Enter) key  to proceed with the factory reset.

Press the 1 (Left)  or 0 (Right) key  to quit the factory reset routine.

Restore Factory Settings Continued

Press the Batch (Enter) key 

to confirm the factory reset.

Press the 0 (Right) key 

to return to the start of the setup routine.

Exiting the Setup Routine

Press the Side key 

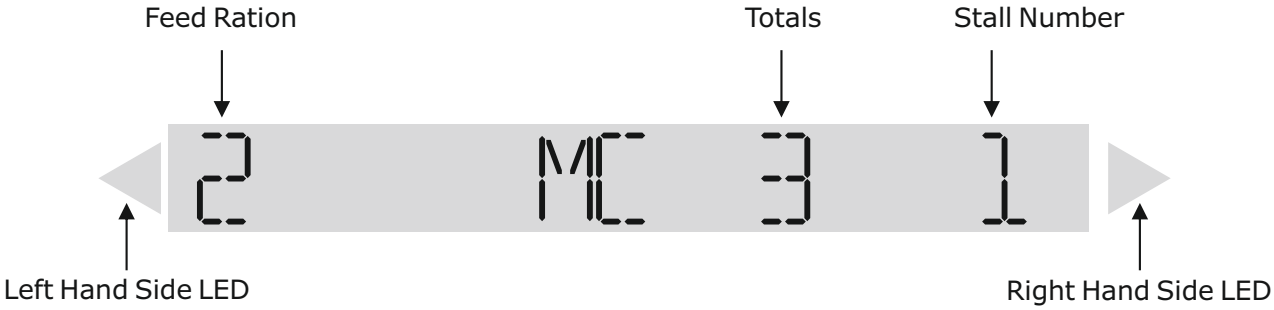
to exit setup without locking the control.

Press the Batch (Enter) key 

to exit setup and lock the control.

IMPORTANT - Locking the control prevents unauthorised access to the settings.

Individual Feeding



Press the Side (Fuse) key 

to change to the side to be fed.

As the cows enter the parlour, key in the feed ration that each cow requires. Choose the ration from one of the sixteen ration keys.

Pressing the 1 (Left) key 

will deliver 1 unit value of feed.

Each key (2 through 15) represents a multiple of this amount. For example, if the unit value has been set to 500 grams, pressing the 7 key will deliver 7 x 500 grams which equals 3.5 kilograms.

Press the 0 (Right) key 

to step a stall (i.e. feed a ration of zero).

Each time a key is pressed, the feed ration is added to the Cumulative Feed Total and the Milking Feed Total, taken off the Feed Bin Total and the stall number is incremented. The Auto Control also keeps count of the number of cows fed during the milking - including those fed zero.

When all the feed rations for a side have been entered, the control will change sides automatically, ready for the next sides feed rations to be entered.

The Auto Control will feed on both sides of the parlour at the same time.

At 30 minutes after milking, the display will clear. This is the automatic power down mode to save energy; press the Side key to 'wakeup' the machine. When power down occurs, the cows fed and feed dispensed totals for the last milking are cleared.

Batch Feeding

Press the Side (Fuse) key 

to change to the side to be fed.

As the cows enter the parlour, press the Batch (Enter) key 

and then choose the ration from one of the fifteen (1 - 15) ration keys.

Pressing the 1 (Left) key 

will deliver 1 unit value of feed.

Each key (2 through 15) represents a multiple of this amount. For example, if the unit value has been set to 500 grams, pressing the 7 key will deliver 7 x 500 grams which equals 3.5 kilograms.

Once the batch feeding routine has finished, the control will automatically change sides, ready for the next sides feed rations to be entered.

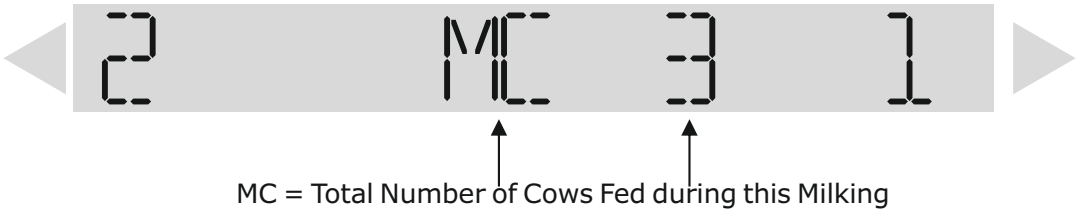
NB - Pressing the 0 key 

will enter setup.

How the Totals are Displayed

The Auto Control can display any one of four totals on it's display at any one time. These are the number of cows fed during this milking, the amount of feed fed during this milking, the cumulative feed fed total since total was last reset and the amount of feed left in the feed bin. Every time the control is used, the totals are incremented or decremented as required.

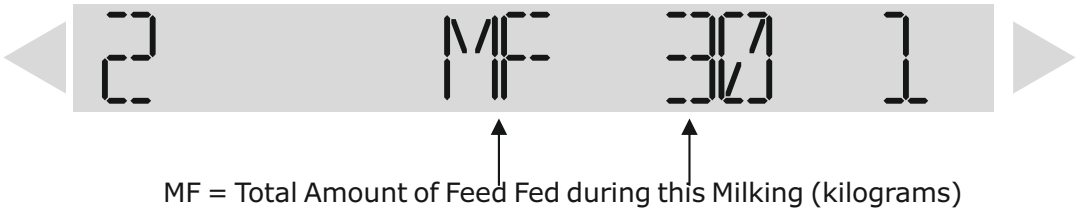
Total Number of Cows Fed During this Milking



MC = Total Number of Cows Fed during this Milking

This total increments during milking and resets 30 minutes after the last key press on the control.

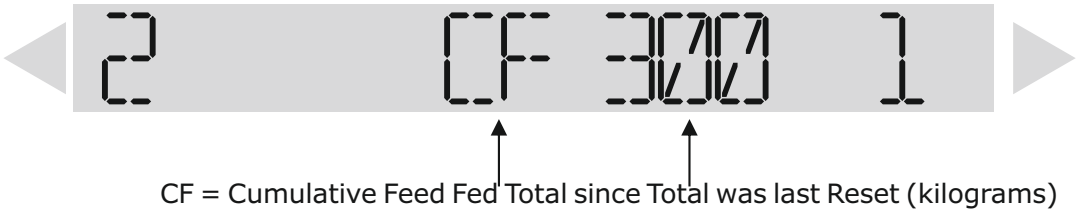
Total Amount of Feed Fed During this Milking



MF = Total Amount of Feed Fed during this Milking (kilograms)

This total increments during milking and resets 30 minutes after the last key press on the control.

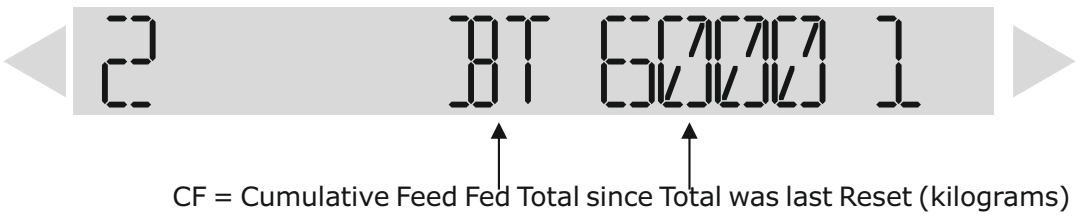
Cumulative Feed Fed Total



CF = Cumulative Feed Fed Total since Total was last Reset (kilograms)

This total increments until it is either reset or reaches 99999 and rolls over to 0.

Amount of Feed Left in the Feed Bin

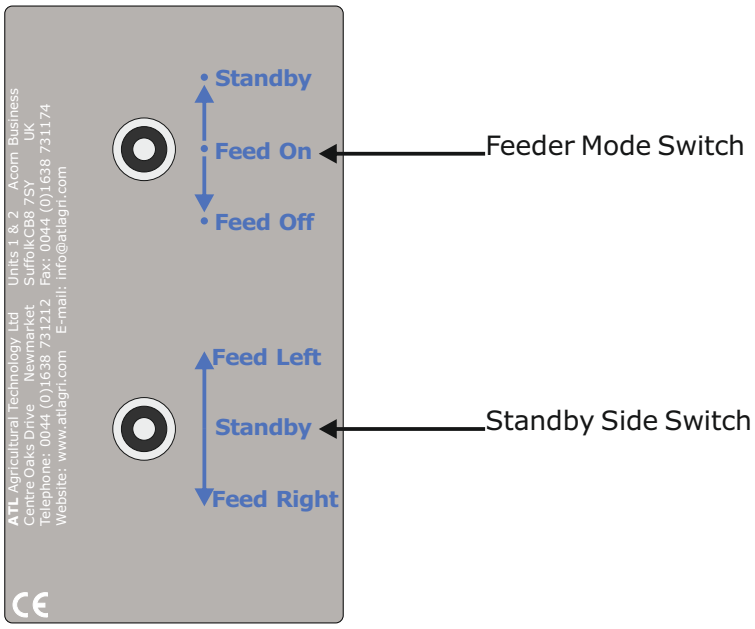


CF = Cumulative Feed Fed Total since Total was last Reset (kilograms)

This total decrements until it is either reset or reaches 0. It is linked to the feed bin level warning.

Standby Feeding

The standby feeding controls should be used if the Auto Control front panel develops a fault and will not operate the feeders.



To use the standby feeding mode, switch the feeder mode switch to standby and then flick the standby side switch to either the left or the right depending upon which side you would like to feed. This will then deliver a calibrated ration of 1 unit of feed to be delivered through all the feeders on the parlour side selected. Flick the switch to deliver as many units of feed as required.

Post milking call your local dealer and rectify the problem with the front panel. This is a temporary solution and should not be used long-term.

Electronic Fuse Trip Warning

The automatic electronic fuses will trip and cut off power to a feeder motor or solenoid if it draws to much current. The buzzer will sound and the display will show the stall with the problem.

Press the Batch (Enter) key 

to reset the electronic fuse.

Locate and rectify the fault before proceeding.

Power Supply Failure Warning

If there is a fault with the power supply, the buzzer will sound and the display will show which relay PCB has encountered the problem.

Relay PCB 1 - Right Hand Side Feeders PSU Failure

Relay PCB 1 - Left Hand Side Feeders PSU Failure

Relay PCB 2 - Right Hand Side Feeders PSU Failure

Relay PCB 2 - Left Hand Side Feeders PSU Failure

Press the Batch (Enter) key 

to acknowledge the warning.

Locate and rectify the fault before proceeding.

Feed Bin Level Warning

The bin warning level setting allows a feed bin total in kilograms to be set, whereby a warning displays on the Auto Control during parlour feeding, when the total feed left in the feed bin crosses the warning level. the warning only appears once.

Press the Batch (Enter) key 

to acknowledge the warning.

Feeders Turned Off Warning

If the feed switch on the side of the Auto Control is set to feeders off, the buzzer will sound and the following will be shown on the display.

Press the Batch (Enter) key 

to acknowledge the warning.

To rectify this warning, turn the feed switch on the side of the Auto Control to the feeders ON position.

Error Message During Feeding - Error shown whilst feeding if there is a communications failure.

Monthly/ Six Monthly / Yearly Routine Maintenance

- Visually inspect the Auto Control box for damage. Any damage will admit water causing the premature failure of the electronics and should be fixed as soon as possible.

Parlour Wash Down

- The Auto Control enclosure is IP65 rated. However, no indirect or direct pressure washing should be used to wash the Auto Control, as this will cause the seals to fail and water to ingress and damage the electronic components. Please note that water damage is not covered under warranty.