ELECTRONIC & TECHNICAL SERVICES LTD.

40 ACREVILLE ROAD, BEBINGTON,
WIRRAL. CH63 2HY
TEL/FAX: 0151 645 8491
www.ets-controls.co.uk
email john@ets-controls.co.uk

GENERAL DESCRIPTION AND TECHNICAL OPERATION OF THE MIST WEAN UNIT

Design Concepts:
To produce a control to provide a cutting with the optimum conditions of growth. In the early stages of growth the control can be set to give predominantly mist conditions. As the cutting matures, the interval between misting can be increased thereby effectively weaning the plant.

General Description
The one overriding factor in the operating of the Mist Wean unit that the grower must remember is that the leaf always overrides the burst timer.

The control section of the unit consists of an interval timer, a burst timer, a leaf or continuous switch, a manual burst push switch and a leaf sensitivity control.

Safety controls consist of a mains fuse and a secondary fuse on the low voltage supply to the valve. The interval timer, determines the time in between bursts, irrespective of whether the leaf is dry. The burst timer determines the time for the operation of the irrigation valve. Should the leaf become sufficiently wet, the leaf will always override the burst timer.

Operation:

OPTION 1 TIMER ONLY

By disconnecting the leaf the controller can be used as timer with no sensory (wet leaf) feedback. If for example the period timer is set to 10 minutes the burst length timer set to 10 seconds, after the 10 minute period the misting valve will be on for 10 seconds. The manual push to burst switch is always active.

OPTION 2 MIST ONLY

Set the interval timer to a minimum of 30 seconds, when the leaf is dry the mist burst length timer runs for the time set, unless the wet becomes sufficiently wet and overrides the timer.

OPTION 3 MIST AND WEAN

If the interval timer is set at l0 minutes. the burst timer set at l0 seconds. and the leaf is dry. After l0 minutes. the burst timer is initiated and opens the irrigation valve. The burst timer will run for its full length of l0 seconds. so long as the leaf remains dry. Should the leaf become sufficiently wet, during the l0 seconds. period, the leaf will override and turn off the burst timer. The sensitivity of the leaf can be adjusted by the front panel control. Clockwise increases the sensitivity, and anti-clockwise decreases the sensitivity.
The manual burst push switch will operate the burst timer for the time indicated on the scale, but only when the leaf is dry, the leaf will override the burst length timer when sufficiently wet.

<u>The leaf/continuous switch</u>
When this is in the "leaf" position the unit is controlled by the leaf, when in the "continuous" position the irrigation valve is on continuously.

Making the leaf DRIER reduces the frequency of misting, making the leaf WETTER increases the frequency of misting.

The manual burst push switch will operate the burst timer for the time indicated on the scale - the leaf will override if sufficiently wet.

Operational Hints

To check the satisfactory operation of the unit, do the following;

1. Leaf/continuous switch is in "leaf" position.
2. Turn interval time to max.
3. Select a burst time.
4. Cover dry leaf.
5. Push manual burst, irrigation valve should be on for burst time.
6. Wet leaf.
7. Push manual burst, nothing should happen.
8. Turn interval to 30 secs. and dry leaf.
9. After a period of 30 secs. burst time should be initiated.
l0. Select continuous position irrigation valve should be permanently on.

Technical Specifications:

1. Integral 3-way mains terminal block connected to a 240V ac 50/60 Hz supply
2. Safe 24v AC 50/60 Hz to irrigation valve. Output rated at 0.5 amp.
3. Interval timing range from 30 seconds to 30 minutes.
4. Burst length timer range from 0 to 10 seconds.
5. Can be used solely as a mist controller.
6. Leaf or continuous control, switch selectable.
7. Manual trigger for mist burst.
8. Adjustable leaf sensitivity control with LED indications.
9. Fused on primary and secondary outputs.
10. Dimensions L 150mm W 110mm D 80mm

ELECTRICAL CONNECTIONS FOR MIST WEAN UNIT

WE STRONGLY ADVISE THE USE OF AN E.L.C.B. ON THE MAINS SUPPLY TO THIS UNIT

Unscrew the four plastic corner screws and with great care remove the front panel, do not put any undue strain on the inter-connecting cables.
A fused mains supply of 240v needs to be connected to the internally mounted fused terminal.

PLEASE SEE ATTACHED SCHEMATIC WIRING DIAGRAM

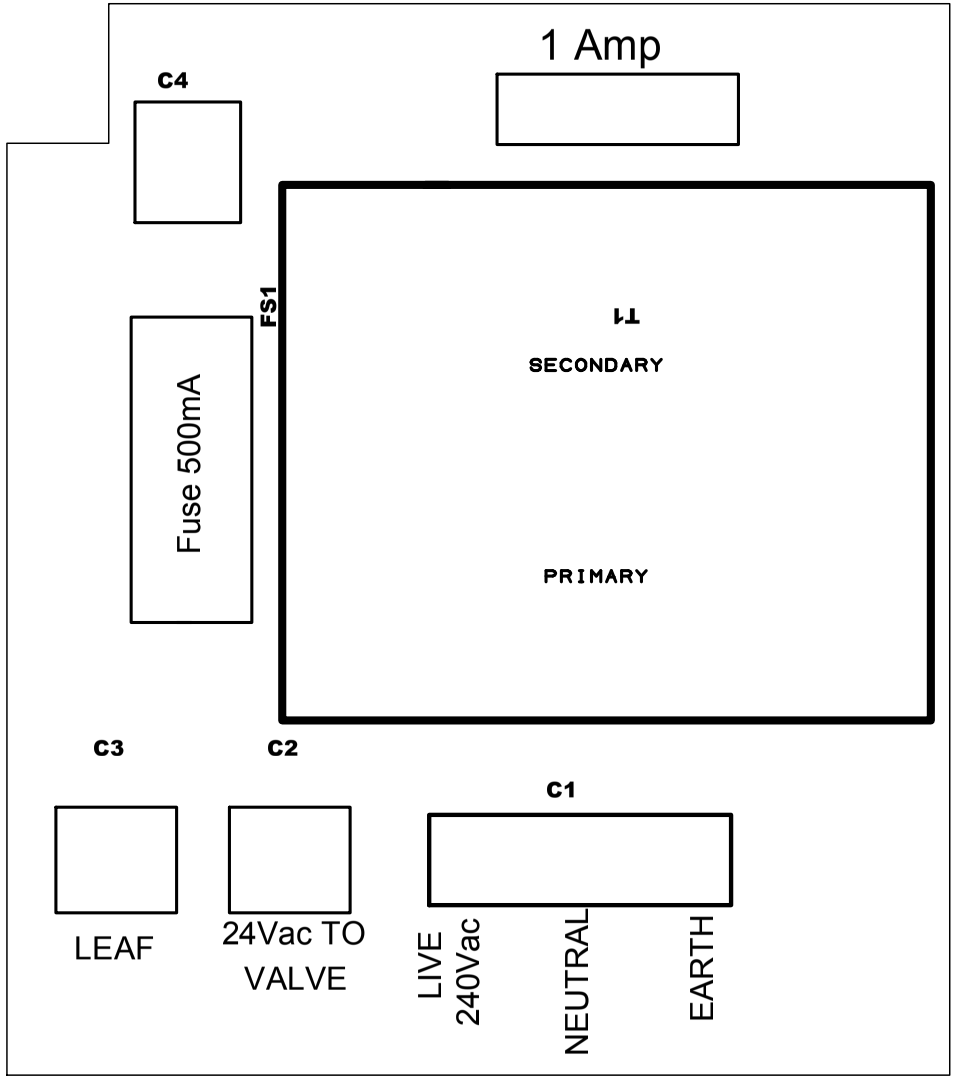
Leaf and Valve Connections

Valve must be of a 24V a.c. type, maximum rating 6 watts.

Connect the electronic leaf to the terminal strip marked "LEAF".
DO **NOT** OVERTIGHTEN the two terminal screws as this will damage the copper track on the PCB and will invalidate your guarantee.

Connect the valve to the terminal strip marked "VALVE" using a 2-core cable rating 3A size 7/0.2mm squared from the 24V ac solenoid valve. DO **NOT** OVERTIGHTEN fixing screws in the terminal blocks. **SEE ATTACHED SCHEMATIC WIRING DIAGRAM**

ELECTRICAL CONNECTIONS FOR THE MIST WEAN



MAINS CONNECTIONS

BROWN LIVE 240Vac

BLUE NEUTRAL

GREEN EARTH

ENSURE ALL CONNECTIONS ARE FIRM BUT AVOID OVERTIGHTENING

STANDARD VOLTAGE TO MISTING VALVE IS 24Vac

RECOMMENDED CONDUCTOR SIZE 7/0.2mm SQUARED