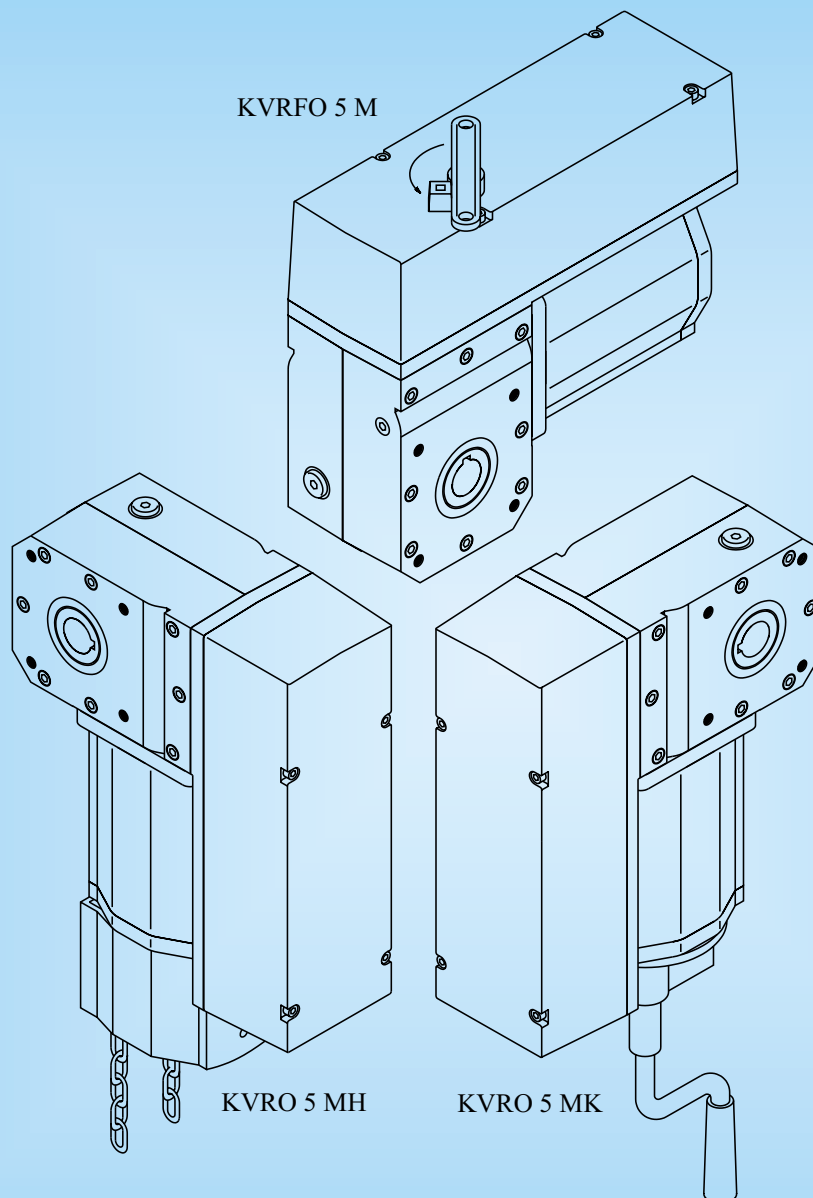


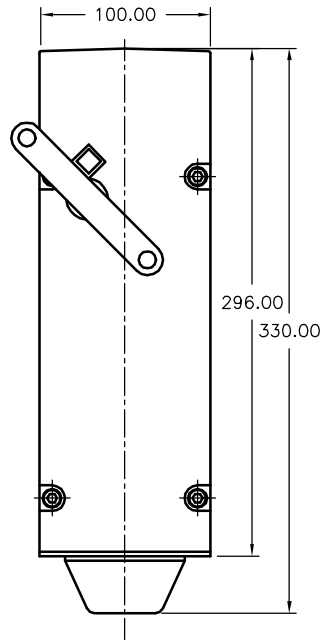
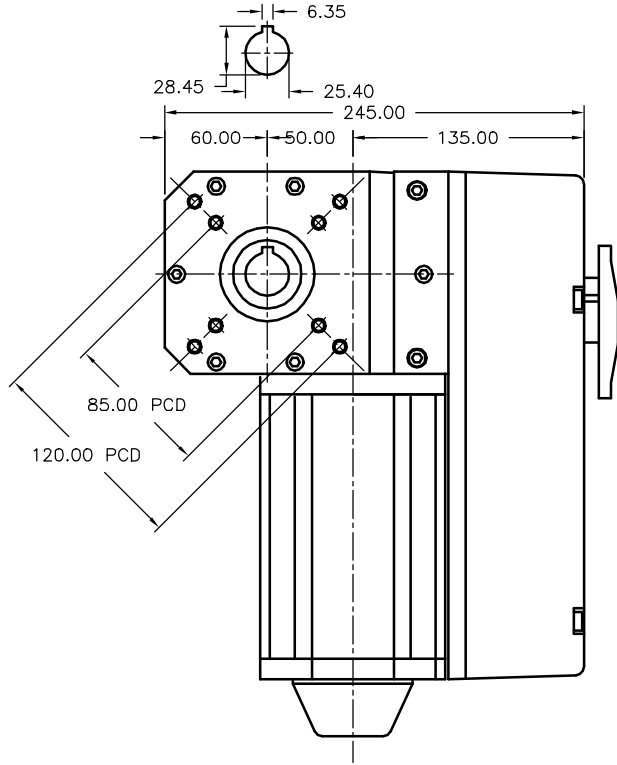
TEMEC

Door operator with control Unit KV1

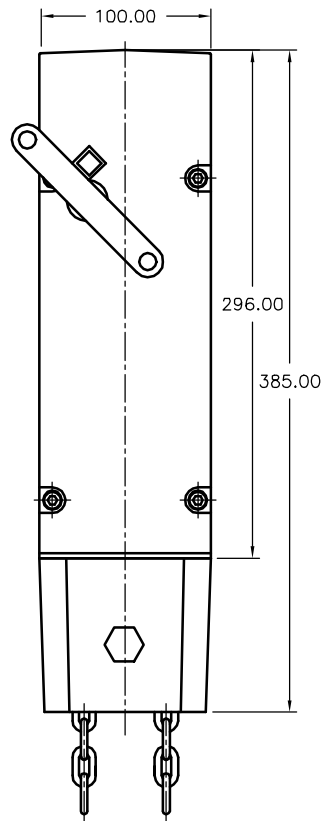
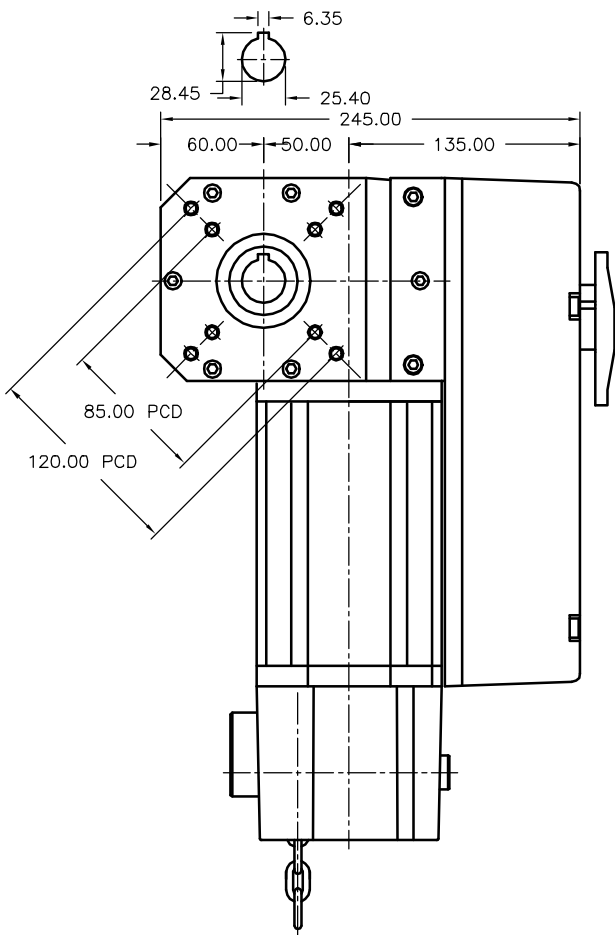
**OVITOR OY**

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KV1 CONTROL BOARD / OPERATOR COMBINATIONS INSTALLATION INSTRUCTIONS



KVRF C/W BUILT ON
P.C.B. STARTER



KVR C/W FLOOR LEVEL
HAND CHAIN MECHANISM
P.C.B. STARTER

INSTALLATION INSTRUCTIONS

1. MOUNT THE OPERATOR SECURELY IN A SUITABLE POSITION.
2. MANUALLY OPERATE THE DOOR AND ADJUST THE LIMITSWITCHES.

ATTENTION: THE LIMIT SWITCHES MUST BE SET BEFORE POWER IS APPLIED TO THE OPERATOR.

GREEN CAM = FULLY OPEN.
WHITE CAM = FULLY CLOSED.

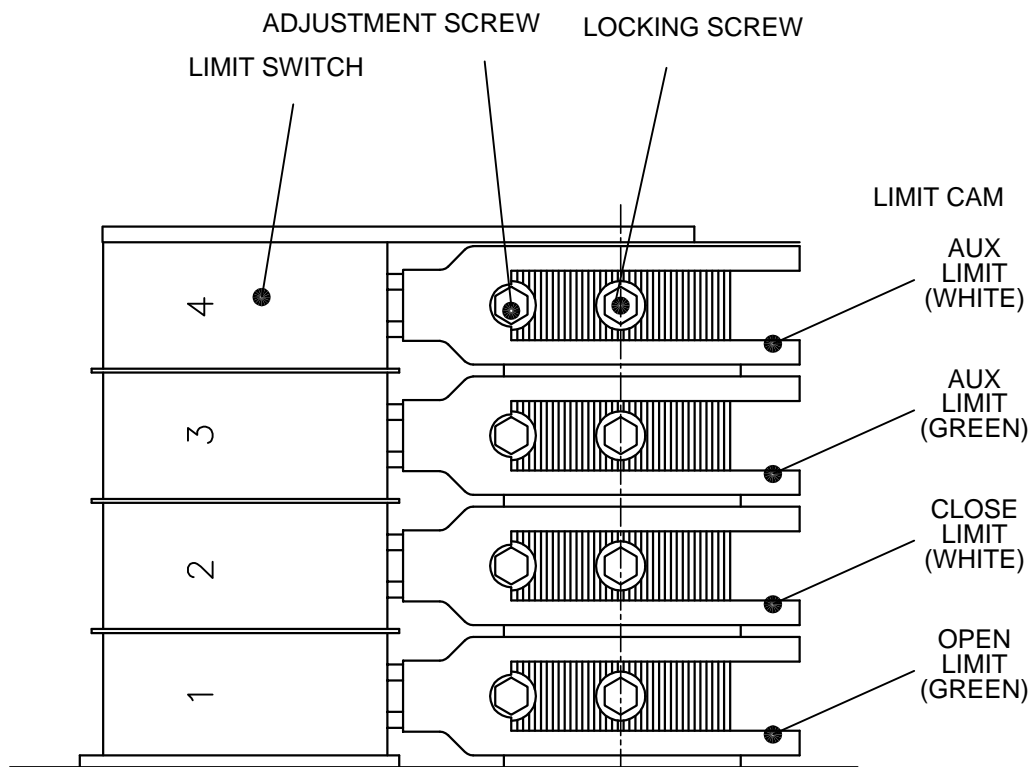
3. ENSURE THAT THE POWER SUPPLY IS SUITABLY FUSED (max 10 amps normal or fast-blow).
 - i. CONNECT THE POWER SUPPLY TO THE OPERATOR.
 - ii. MANUALLY OPERATE THE DOOR TO THE MID-POSITION AND CHECK THAT THE DOOR OPERATES IN THE CORRECT DIRECTION.

WARNING

AFTER INITIAL INSTALLATION THE DIRECTION OF OPERATION MAY BE WRONG SO BE PREPARED TO PRESS THE STOP BUTTON, AS INCORRECT ROTATION MAY RESULT IN DAMAGE TO THE DOOR.

TO REVERSE THE DIRECTION OF OPERATION, INTERCHANGE TWO OF THE INCOMING SUPPLY PHASES WITH EACH OTHER. (OR SEE PHASE REVERSAL PLUG INSTRUCTIONS OPPOSITE, IF FITTED)

LIMIT SWITCH ADJUSTMENT (SIDE VIEW)



- LIMIT SWITCH `1` :- OPEN LIMIT SWITCH (N/C)
LIMIT SWITCH `2` :- CLOSE LIMIT SWITCH (N/C)
LIMIT SWITCH `3` :- AUX LIMIT SWITCH
LIMIT SWITCH `4` :- AUX LIMIT SWITCH

HOW TO SET THE LIMIT SWITCHES

1. REMOVE THE TERMINAL / LIMIT BOX COVER FROM THE OPERATOR, THE LIMIT SWITCHES ARE SUPPLIED UNSET.
2. THE LIMIT SWITCHES CAN BE EASILY IDENTIFIED. THE LOWEST 'GREEN' IS FOR 'OPEN' AND THE NEXT 'WHITE' IS FOR 'CLOSE' (SEE PICTURE).
3. MANUALLY WIND THE DOOR IN THE CLOSE DIRECTION, NOTING THE DIRECTION OF TRAVEL OF THE WHITE CAM, UNTIL THE DESIRED CLOSED POSITION IS REACHED.
4. LOOSEN THE LOCKING SCREW ON THE LIMIT CAM AND ROTATE THE CAM IN THE REQUIRED DIRECTION. TIGHTEN THE LOCKING SCREW AND FOR FINE ADJUSTMENT USE THE ADJUSTMENT SCREW.
5. SET THE SAFETY (AUXILIARY) LIMIT SWITCH SO THAT IT WILL OPERATE AFTER THE END OF TRAVEL LIMIT SWITCH. THIS IS IMPORTANT AS WHEN POWER IS APPLIED INITIALLY THE DOOR MAY TRAVEL IN THE WRONG DIRECTION.
6. REPEAT STEPS 3, 4, AND 5 FOR THE OPEN DIRECTION OF TRAVEL. NOTE: THE 'GREEN' CAM IS FOR THE OPEN DIRECTION OF TRAVEL.

AUXILIARY LIMIT SWITCHES

CONNECTIONS FOR THESE LIMIT SWITCHES MUST BE MADE DIRECTLY ONTO THE REQUIRED SWITCH AND TERMINATED USING AN APPROPRIATE FEMALE RED INSULATED SPADE CRIMP TO SUIT 0.5 - 1.5mm CABLE.

THESE LIMIT SWITCHES MAYBE WIRED N/O or N/C AS REQUIRED.

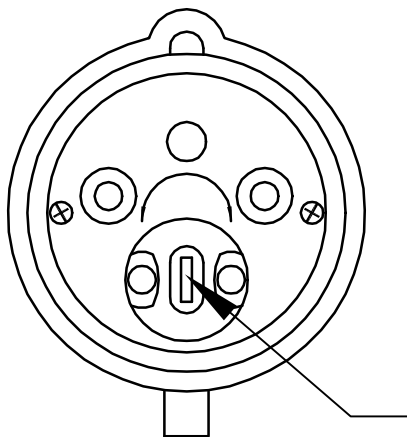
3PH/NEUTRAL/EARTH INDUSTRIAL 16A PLUG (IF FITTED)

WARNING

AFTER INITIAL INSTALLATION THE OPERATOR DIRECTION MAY BE WRONG SO BE PREPARED TO PRESS THE STOP BUTTON AS INCORRECT ROTATION MAY RESULT IN DAMAGE TO THE DOOR.

TO CORRECT THE OPERATOR DIRECTION:-

1. REMOVE THE PLUG FROM THE SOCKET
2. PLACE A LARGE FLAT BLADED SCREWDRIVER INTO THE SLOT PROVIDED
3. PRESS DOWN AND ROTATE THE PINS THRU' 180°
4. PLUG THE OPERATOR BACK INTO THE SOCKET.



INSERT FLAT SCREWDRIVER BLADE HERE
PUSH DOWN AND ROTATE THRU' 180°

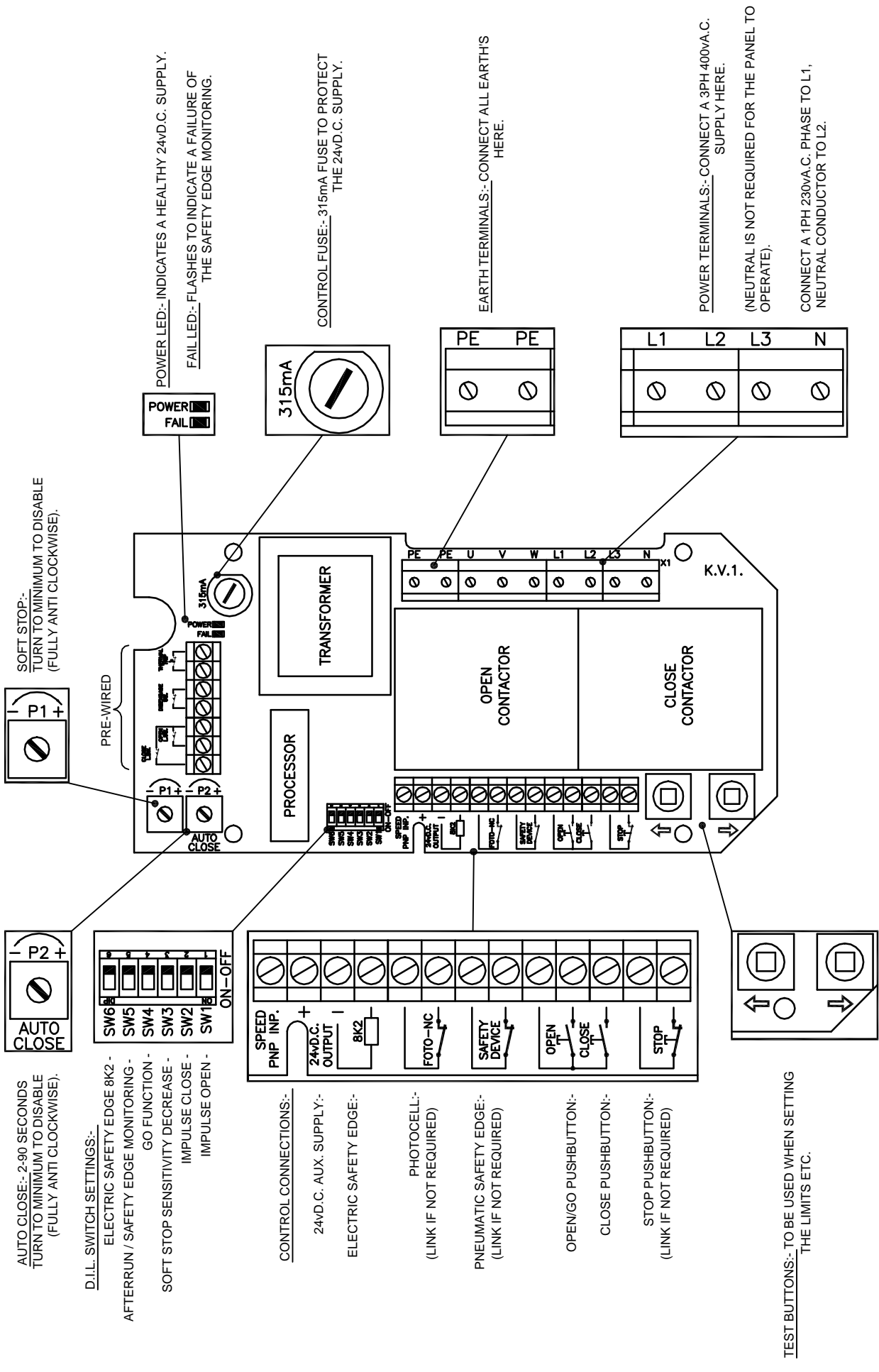
INTEGRAL SAFETY CIRCUIT

THE SAFETY CIRCUIT COMBINES THE THERMAL TRIP, THE DISENGAGEMENT CLUTCH SWITCH AND FOR OPERATORS WITH HAND CHAIN, THE HAND CHAIN INTERLOCK SWITCH.

THE THERMAL TRIP IS A HEAT SENSITIVE SWITCH EMBEDDED INTO THE MOTOR WINDINGS.

THIS WILL OPERATE SHOULD THE MOTOR BE OVERLOADED.

THE HAND CHAIN INTERLOCK PROVIDES A MEANS OF ISOLATION OF THE CONTROL CIRCUIT TO PREVENT ELECTRICAL OPERATION WHEN THE DOOR IS BEING USED MANUALLY.



AUTO CLOSE:- 2-90 SECONDS
TURN TO MINIMUM TO DISABLE
(FULLY ANTI CLOCKWISE).

D.I.L. SWITCH SETTINGS:-
ELECTRIC SAFETY EDGE 8K2 -
AFTER RUN / SAFETY EDGE MONITORING -
GO FUNCTION -
SOFT STOP SENSITIVITY DECREASE -
IMPULSE CLOSE -
IMPULSE OPEN -

CONTROL CONNECTIONS:-
24VDC. AUX. SUPPLY:-
ELECTRIC SAFETY EDGE:-
PHOTOCELL:-
(LINK IF NOT REQUIRED)
PNEUMATIC SAFETY EDGE:-
(LINK IF NOT REQUIRED)
OPEN/GO PUSHBUTTON:-
CLOSE PUSHBUTTON:-
STOP PUSHBUTTON:-
(LINK IF NOT REQUIRED)

TEST BUTTONS:- TO BE USED WHEN SETTING
THE LIMITS ETC.

SOFT STOP:-
TURN TO MINIMUM TO DISABLE
(FULLY ANTI CLOCKWISE).

POWER LED:- INDICATES A HEALTHY 24VDC. SUPPLY.
FAIL LED:- FLASHES TO INDICATE A FAILURE OF
THE SAFETY EDGE MONITORING.

CONTROL FUSE:- 315mA FUSE TO PROTECT
THE 24VDC. SUPPLY.

EARTH TERMINALS:- CONNECT ALL EARTHS
HERE.

POWER TERMINALS:- CONNECT A 3PH 400VAC.
SUPPLY HERE.

(NEUTRAL IS NOT REQUIRED FOR THE PANEL TO
OPERATE).

CONNECT A 1PH 230VAC. PHASE TO L1,
NEUTRAL CONDUCTOR TO L2.

KV1 BUILT ON STARTER PCB INSTALLATION INSTRUCTIONS

INSTALLATION PROCEDURE - SAFETY BEAM & NO SAFETY EDGE

1. ENSURE ALL D.I.L. SWITCHES ARE OFF AND POTS ARE TURNED TO MINIMUM SETTINGS (FULLY ANTICLOCKWISE).
2. MANUALLY OPERATE THE DOOR INTO THE MID POSITION.
3. APPLY POWER TO THE CONTROL PANEL.
4. PRESS THE OPEN TEST BUTTON, THE DOOR WILL OPEN IN DEADMAN MODE.
5. STOP THE DOOR AT THE FULLY OPEN POSITION.
6. SET THE APPROPRIATE OPEN LIMIT CAM (GREEN).
7. PRESS THE CLOSE TEST BUTTON, THE DOOR WILL CLOSE IN DEADMAN MODE.
8. STOP THE DOOR ABOUT 20 MM BEFORE THE FULLY CLOSED POSITION.
9. SET THE APPROPRIATE CLOSE LIMIT CAM (WHITE).
10. SET D.I.L. SWITCHES 1 & 2 TO THE ON POSITION TO ENABLE IMPULSE OPERATION (i.e. PRESS AND RELEASE).
NOTE:- IF A SAFETY DEVICE IS NOT FITTED THEN D.I.L. SWITCH 2 MUST BE LEFT IN THE OFF POSITION (DEADMAN OPERATION).
11. OPEN THE DOOR FULLY.
12. DRIVE THE DOOR IN THE CLOSE DIRECTION WHILST TURNING POT P1 (SOFT STOP) IN THE CLOCKWISE DIRECTION UNTIL THE DOOR REVERSES.
13. REPEAT POINT 12 UNTIL THE DOOR COMPLETES A FULL CLOSE TRAVEL WITHOUT REVERSING (SOFT STOP SENSITIVITY IS NOW SET).
14. SET DILSWITCH 3 TO THE ON POSITION TO ALLOW FOR VARIATIONS IN DOOR WEAR OVER TIME.

INSTALLATION PROCEDURE - PNEUMATIC SAFETY EDGE

STEPS 1 - 7...AS ABOVE.

8. STOP THE DOOR 50mm FROM THE FULLY CLOSED POSITION.
STEPS 9 - 14...AS ABOVE.
15. SET D.I.L. SWITCH 5 TO THE ON POSITION TO ENABLE THE AFTER RUN / SAFETY EDGE MONITORING FUNCTION.
16. THE DOOR WILL NOW ELECTRONICALLY OVERRUN THE CLOSE LIMIT AND STOP ON THE FLOOR AFTER RECEIVING A SIGNAL FROM THE SAFETY EDGE.
17. IF THE FAIL LED FLASHES EITHER THE SAFETY EDGE IS NOT WORKING, OR THE CLOSE LIMIT IS SET TOO HIGH. WITHOUT SIGNAL FROM THE SAFETY EDGE THE DOOR WILL CHANGE TO DEADMAN MODE.
18. AFTER RECEIVING A HEALTHY SIGNAL FROM THE SAFETY EDGE THE DOOR WILL OPEN FRACTIONALLY TO RELIEVE PRESSURE FROM THE SAFETY EDGE (ENABLES THE OPERATOR TO BE DISENGAGED MANUALLY IF REQUIRED).

INSTALLATION PROCEDURE - ELECTRIC SAFETY EDGE

NOTE:-

AN 8K2 OHM RESISTOR MUST BE CONNECTED TO TERMINALS INDICATED IF USING ELECTRIC SAFETY EDGE.

STEPS 1 - 7...AS ABOVE.

8. STOP THE DOOR 50mm FROM THE FULLY CLOSED POSITION.
STEPS 9 - 14...AS ABOVE.
15. SET D.I.L. SWITCH 5 TO THE ON POSITION TO ENABLE THE AFTER RUN / SAFETY EDGE MONITORING FUNCTION.
16. SET D.I.L. SWITCH 6 TO THE ON POSITION TO ENABLE THE ELECTRIC SAFETY EDGE INPUT FUNCTION.
17. THE DOOR WILL NOW ELECTRONICALLY OVERRUN THE CLOSE LIMIT AND STOP ON THE FLOOR AFTER RECEIVING A SIGNAL FROM THE SAFETY EDGE.
18. IF THE FAIL LED FLASHES EITHER THE SAFETY EDGE IS NOT WORKING, OR THE CLOSE LIMIT IS SET TOO HIGH.

D.I.L. SWITCH SETTINGS

D.I.L. SWITCH 1 - IMPULSE OPEN
ACTIVATES IMPULSE OPEN OPERATION (PRESS & RELEASE).

D.I.L. SWITCH 2 - IMPULSE CLOSE
ACTIVATES IMPULSE CLOSE OPERATION (PRESS & RELEASE).

D.I.L. SWITCH 3 - SOFT STOP SENSITIVITY DECREASE
ACTIVATES SENSITIVITY DECREASE THIS ALLOWS FOR VARIATIONS IN DOOR WEAR OVER TIME.

D.I.L. SWITCH 4 - GO FUNCTION
ACTIVATES GO FUNCTION USING THE OPEN PUSH-BUTTON INPUT WHICH WILL OPEN A DOOR CLOSE A FULLY OPEN DOOR OR REVERSE A CLOSING DOOR.

D.I.L. SWITCH 5 - AFTERRUN / SAFETY EDGE MONITORING
ACTIVATES AFTERRUN FUNCTION WHICH USES THE CLOSE LIMIT (SET 50mm FROM THE FLOOR) AS A SAFETY EDGE OVERRIDE LIMIT.
WHEN THE CLOSED LIMIT IS ACTIVATED THE KV1 ELECTRONICALLY OVERRUNS THIS LIMIT UNTIL A SIGNAL FROM THE SAFETY EDGE IS RECEIVED.

D.I.L. SWITCH 6 - ELECTRIC EDGE 8K2
ACTIVATES INPUT FOR ELECTRIC EDGE.

KEY

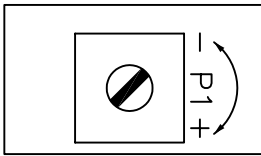


OFF - DISABLES FUNCTION

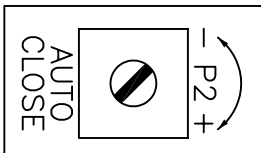


ON - ENABLES FUNCTION

POTENTIOMETER SETTINGS



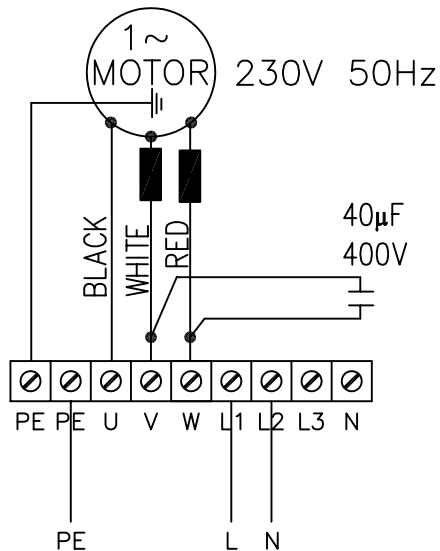
P1 - SOFT STOP
ALLOWS ADJUSTMENT OF THE MINIMUM FORCE TO REVERSE A CLOSING DOOR.
TURN CLOCKWISE TO INCREASE THE SENSITIVITY.
TO DISABLE TURN FULLY ANTICLOCKWISE.



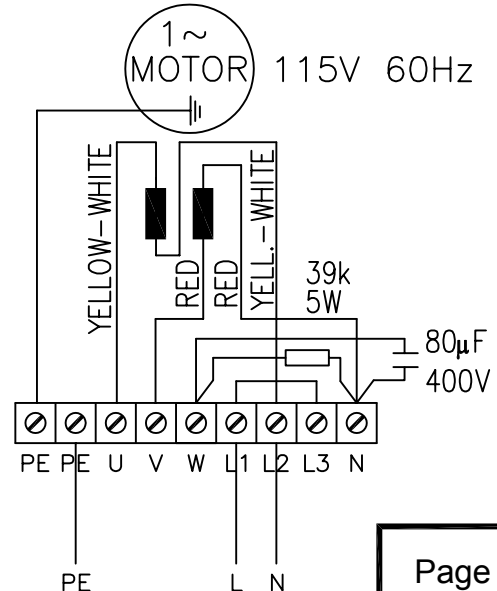
P2 - ADJUSTABLE AUTO CLOSE TIMER
ADJUSTABLE FROM 2 - 90 SECONDS. TO DISABLE TURN FULLY ANTICLOCKWISE

1PH SUPPLY CONNECTIONS

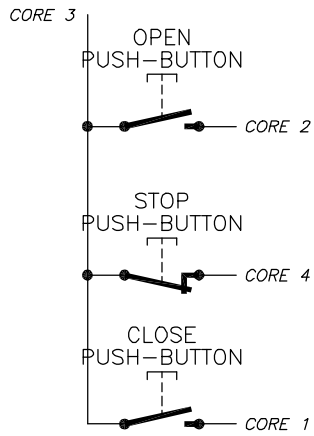
TO REVERSE THE OPERATION OF DIRECTION, INTERCHANGE THE PHASES V AND W WITH EACH OTHER.



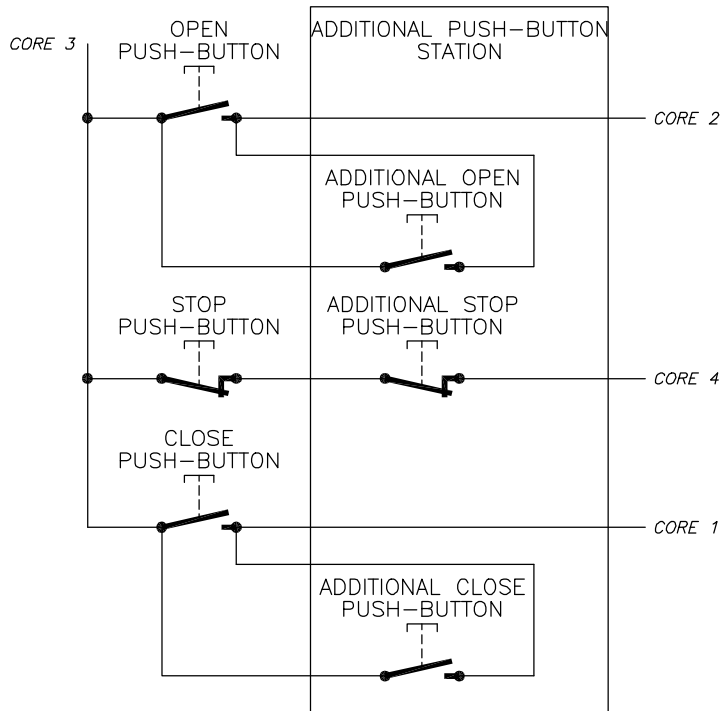
TO REVERSE THE OPERATION OF DIRECTION, INTERCHANGE THE YELLOW-WHITE LEADS WITH EACH OTHER.



PRE-WIRED PUSH-BUTTON CONNECTIONS



ADDITIONAL PUSH-BUTTON CONNECTIONS



ADDITIONAL KEY SWITCH CONNECTIONS

