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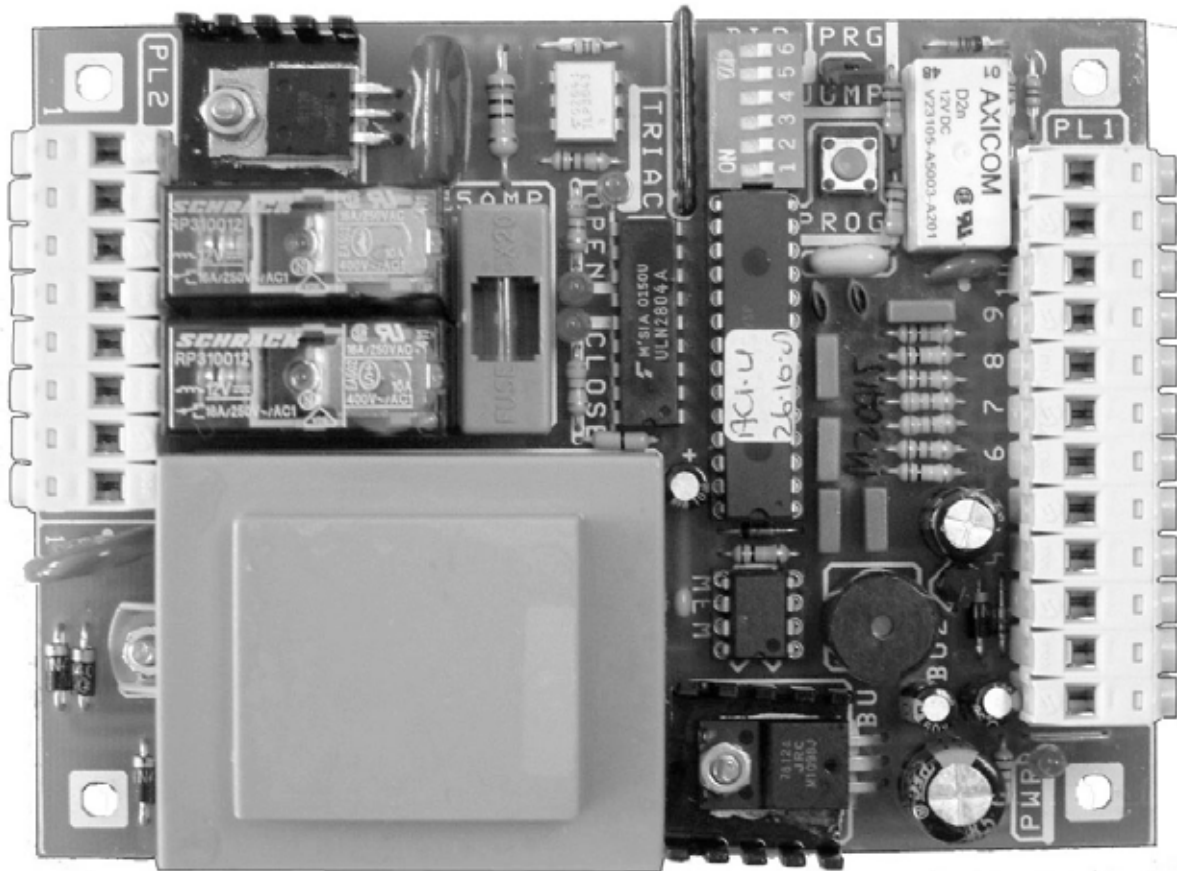
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Take Control Of Your World !

AC1-U CONTROL CARD

THIS IS A GENERAL PURPOSE CONTROL CARD FOR A SINGLE PHASE 220V AC MOTOR WITH A FORWARD, COMMON AND REVERSE WINDING CONFIGURATION AND START CAPACITOR



FEATURES

- ❑ Open and close limit input
- ❑ Selectable normally open (N/O) or normally closed (N/C) limit inputs
- ❑ Pedestrian opening input
- ❑ Infra red beam safety input
- ❑ Button or receiver control input
- ❑ Courtesy 220V AC light output and programmable time
- ❑ LED output for gate status indication
- ❑ Programmable motor run time for protection on limit switch failure.
- ❑ Selectable and programmable auto-closing time
- ❑ Selectable PRIRAC mode
- ❑ Selectable SECURITY mode
- ❑ Selectable CONDOMINIUM mode
- ❑ Selectable GARAGE DOOR mode
- ❑ Auxiliary 12V DC output supply for external devices

TECHNICAL SPECIFICATIONS

POWER SUPPLY VOLTAGE	220V AC
MOTOR VOLTAGE	220V AC
MOTOR POWER	900W Max
AUXILIARY OUTPUT VOLTAGE	12V DC
AUXILIARY OUTPUT CURRENT	230 mA

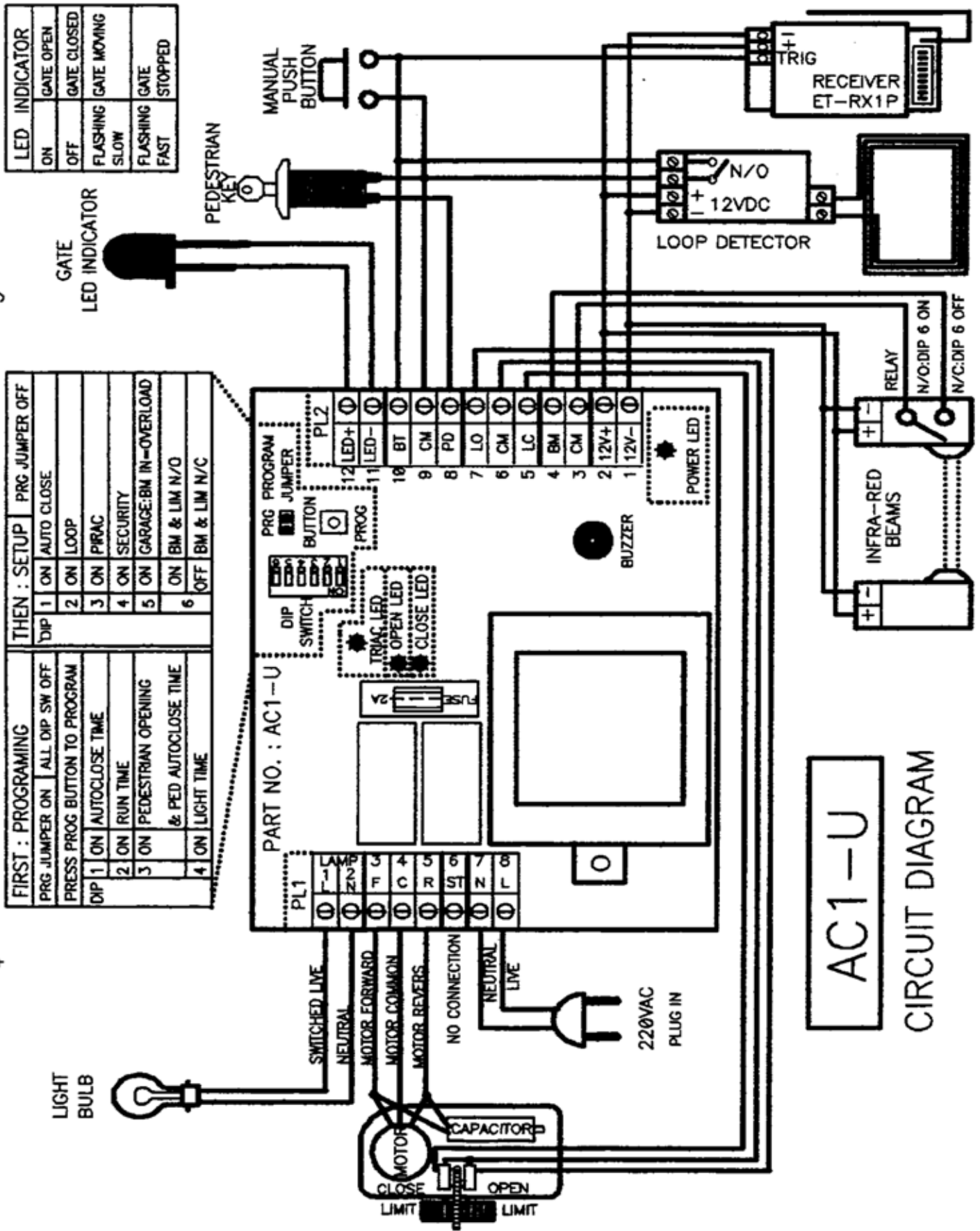
REFER TO CIRCUIT DIAGRAM PAGE 4 & 5

A. LIMIT SWITCH CONNECTION

LIMIT SWITCH	Normally closed (N/C) or normally open (N/O) switches are connected: OPEN LIMIT to PL1 Pin 7 (LO) CLOSE LIMIT to PL1 Pin 5 (LC) COMMON to PL1 Pin 6 (CM) DIPSWITCH 6 (DIP) OFF : LIMITS (N/C), BEAM (N/C) ON : LIMITS (N/O), BEAM (N/O)
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MOTOR: Forward, common, Reverse windings	forward winding is connected to PL2 Pin 3 (F - motor). reverse winding is connected to PL2 Pin 5 (R- motor) common winding is connected to PL2 Pin 4 (C-motor) . starter capacitor is connected to PL2 Pin3 (F-motor) & Pin 5 (R-motor)
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<p>GATE OPENING</p> <p>PUSH BUTTON/ RECEIVER/ FREE EXIT LOOP</p>	<p>(N/O): push button , receiver contacts, free exit loop contacts to PL1 Pin10 (BT) & Pin 9 (CM). A receiver[ET-RX1P] with a (-) trigger output can be used, connect to PL1 Pin10 (BT) . If a magnetic free exit loop detector [ET-MD98] is used, card must be set to condominium mode.</p>										
<p>PEDESTRIAN OPENING</p>	<p>This facility opens the gate partially for pedestrians. A (N/O) key switch or intercom (N/O) button is connected to PL1 Pin 8 (PD) & Pin 9 (CM).</p>										
<p>INFRA RED BEAM</p>	<p>This prevents the gate closing on an object in its path. When closing, breaking the beam will make the gate stop and open. Beams (N/O) contacts are connected to PL1 Pin 4 (BM) & Pin 3 (CM). Dipswitch 6 (DIP) OFF=N/C, ON=N/O</p>										
<p>LED GATE STATUS INDICATION</p>	<p>An LED inside the house can be used. LED cathode to PL1 Pin 11 (-LED) & anode to Pin 12 (+LED)</p> <table border="1" data-bbox="673 1003 1275 1265" style="margin-left: auto; margin-right: auto;"> <tr> <th colspan="2" style="text-align: center;">LED INDICATOR</th> </tr> <tr> <td style="text-align: center;">ON</td> <td style="text-align: center;">GATE OPEN</td> </tr> <tr> <td style="text-align: center;">OFF</td> <td style="text-align: center;">GATE CLOSED</td> </tr> <tr> <td style="text-align: center;">FLASHING SLOW</td> <td style="text-align: center;">GATE MOVING</td> </tr> <tr> <td style="text-align: center;">FLASHING FAST</td> <td style="text-align: center;">GATE STOPPED</td> </tr> </table>	LED INDICATOR		ON	GATE OPEN	OFF	GATE CLOSED	FLASHING SLOW	GATE MOVING	FLASHING FAST	GATE STOPPED
LED INDICATOR											
ON	GATE OPEN										
OFF	GATE CLOSED										
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FLASHING FAST	GATE STOPPED										
<p>COURTESY LIGHT</p>	<p>The courtesy light will switch on automatically, timed from when the gate is opened and for a period after the gate is closed. Connect an incandescent light to PL2 switched LIVE Pin 1 (LAMP L) & NEUTRAL Pin 2 (LAMP N).</p>										



CONTROL CARD PROGRAMMING

MOTOR MUST BE SETUP ONTO GATE
ALL MOTOR WIRING AND LIMITS MUST BE SETUP
SELECT (DIP) SWITCH 6 “OFF” FOR N/C LIMITS OR “ON” FOR N/O LIMITS
SWITCH ALL CONTROL CARD (DIP) SWITCHES 1-5 OFF

POWER ON
PLACE (PRG) JUMPER ON TWO PINS – BUZZER BEEPS TWICE

AUTOCLOSE USE INFRA- RED SAFETY BEAM	(DIP) SWITCH 1 ON Press & release (PROG BUT)- Buzzer beeps per second. At auto-close time, press & release (PROG BUT) – Buzzer stops, beeps twice Switch (Dip) 1 OFF
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RUN TIME	ON SWITCH (DIP) 2 Press & release (PROG BUT)- If gate is not on CLOSED LIMIT, it will close & stop on closed limit then open, or if already on closed limit will open and stop on open limit then close onto closed limit – then beep twice. SWITCH (DIP)2 OFF.
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PEDESTRIAN	SWITCH (DIP) 3 ON Press & release (PROG-BUT) – If gate not on CLOSED LIMIT, it will close & stop on CLOSED LIMIT then OPEN or if already on CLOSED LIMIT will open . Press & release (PROG-BUT) at required opening – gate will stop and beep per second for auto-close time. When auto-close time reached, press & release (PROG-BUT) – gate will close onto closed limit, buzzer beeps twice. SWITCH (DIP) 3 OFF.
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LIGHT ON TIME	SWITCH (DIP) 4 ON. Press & release (PROG-BUT) –Buzzer beeps per second. When required time reached, press & release (PROG-BUT)- buzzer stops, then beeps twice. SWITCH (DIP) 4 OFF.
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REMOVE (PRG JUMPER)- BUZZER GIVES LONG BEEP
SET (DIP) SWITCHES TO REQUIRED SETTINGS

CONTROL CARD SETUP

DIPSWITCH SETTINGS		
1	ON	AUTOCLOSE
2	ON	LOOP
3	ON	PIRAC
4	ON	SECURITY
5	ON	GARAGE: BM INPUT=OVERLOAD
6	ON	BM & LIM N/O
	OFF	BM & LIM N/C

1. **AUTOCLOSE (DIP 1)**
This is the time the gate will stay open before auto-closing.
2. **CONDOMINIUM/FREE EXIT/ LOOP (DIP 2)**
 - This mode is used for multiple user dwellings and its function is to prevent another user operating the gate while one user is in the process of driving through the gate.
 - The gate can only be triggered to open by remote, button or free exit loop and not to stop or close.
3. **PIRAC MODE – BEAM ACTIVATION (DIP 3)**
 - This mode works with an INFRA RED BEAM. While the gate is opening and a vehicle drives through, it breaks the beam. The beam is restored when the vehicle has passed, causing the gate to stop immediately and then close. This bypasses the open limit and auto-close time.
4. **SECURITY MODE – REMOTE ACTIVATION (DIP 4)**
 - This mode works with activation of the button input (BT), connected to a remote.
 - When the remote is activated while the gate is opening, the gate will stop and close.
 - This does not work in condominium mode i.e dipswitch 2 OFF.
5. **GARAGE MODE OVERRIDE INPUT (DIP 5)**
 - Used in some garage door openers or any motor that physically twists with load torque onto an override switch.
 - The beam input becomes the OVERLOAD/OVERRIDE SWITCH input.
 - The garage door motor on activation of the OVERLOAD/OVERRIDE SWITCH on opening will STOP and on CLOSING will STOP and REVERSE.
6. **BEAM & LIMIT SWITCH INPUTS**
 - They both become normally open N/O contact inputs (6 ON) or normally closed N/C contact inputs (6 OFF).

NB!

Auto-close should only be used with an infra-red beam for safety so the gate does not auto-close onto an object unsupervised.

FAULT FINDING 220V AC SLIDING GATE MOTOR

SYMPTOM	CAUSE	ACTION
Motor moves, then stops when button is pressed.	Limit switch wired to incorrect contacts.	Wire correct contact settings see A.
	Limit switch faulty.	Replace limit switch.
Motor does not turn when button is pressed, but card relays are operating and there is voltage at motor terminals.	Motor too hot, thermal cut-out switch	Wait for motor to cool.
	Motor faulty.	Replace motor.
	Motor capacitor faulty.	Replace capacitor.
Gate opens a short distance, then stops.	Pedestrian or button input permanently pressed.	Check pedestrian and button switch.
	Induced voltage on pedestrian or button long line input.	Wire up a relay and use contacts on pedestrian or button input.
Gate opens but does not auto close.	Auto close not selected.	Set auto-close.
Auto close time too long or short.	Auto close not programmed correctly.	Re-program auto-close
Gate will not respond to button while opening.	Card set to condominium mode.	Switch Dip-2 off.
While closing, gate will stop and open after button is pressed.	Card set to condominium mode.	Remove jumper J1.
Gate will open then auto closes.	Auto close has been selected.	Remove jumper J1, turn auto CL pot fully anti-clockwise.
Gate auto opens instead of auto closing.	Motor wired incorrectly.	Swap motor forward and reverse winding. Make sure open and close limit switches correspond to open and close winding.
Motor control card does not respond to button. Power LED OFF.	Main fuse blown.	Replace with 5A fuse.
	Card faulty	Contact supplier.
Motor control card does not respond to button. Power LED ON.	Card locked up.	Switch power OFF, wait then switch ON.
	Card faulty.	Contact supplier.
	Short on button.	Remove and test at card button input.
	Interference on long wire to button.	Wire up a relay and use contacts on button input.

ADDENDUM TO AC1-U CONTROL CARD

Software (Ver:shutter) for the control card to work with run time on
a slipping clutch AC motor and no limit switches

e.g window roller shutter

CONTROL CARD PROGRAMMING

MOTOR MUST BE WIRED TO CONTROL CARD
WINDOW ROLLER SHUTTER MUST BE INSTALLED AND PROPERLY SET UP
SWITCH ALL CONTROL CARD (DIP) SWITCHES 1-6 OFF
POWER ON
PLACE (PRG) JUMPER ON TWO PINS – BUZZER BEEPS TWICE

AUTO CLOSE USE INFRA- RED SAFETY BEAM	<p>(DIP) SWITCH 1 ON Press & release (PROG BUT)- Buzzer beeps per half second. At required auto-close time, press & release (PROG BUT) – Buzzer stops, then beeps twice Switch (Dip) 1 OFF</p>
RUN TIME	<p>SWITCH (DIP) 2 ON Press & release (PROG BUT)- Shutter motor will run closed. When shutter closed and motor slipping: press and release (PROG BUT) – shutter will stop & open. When shutter has opened and motor slipping: press & release (PROG BUT) – motor will stop. Press & release (PROG BUT) – shutter will close. When shutter is closed and motor slipping: press & release (PROG BUT)- motor will stop and buzzer will beep twice. SWITCH (DIP)2 OFF.</p>
PEDESTRIAN (if required)	<p>SWITCH (DIP) 3 ON Press & release (PROG-BUT) – Shutter will run closed then motor will slip. Press & release (PROG-BUT– shutter motor will stop and then open. Press & release (PROG-BUT) button at required opening – motor will stop & buzzer will beep per second for pedestrian autoclose time. When required pedestrian autoclose time reached, press & release (PROG-BUT) –buzzer will stop and shutter motor will close. When shutter is closed and motor slipping, press (PROG BUT)- motor will stop and buzzer will beep twice SWITCH (DIP) 3 OFF.</p>
REMOVE (PRG JUMPER)- BUZZER GIVES LONG BEEP	
SET (DIP) SWITCHES TO REQUIRED SETTINGS	

CONTROL CARD SETUP

DIPSWITCH SETTINGS		
1	ON	AUTOCLOSE ON
1	OFF	AUTOCLOSE OFF
2	OFF	(NA)=NOT APLICABLE
3	OFF	(NA)
4	OFF	(NA)
5	OFF	(NA)
6	OFF	(NA)

