TOPAS CONTROL UNIT

SAFETY RULES

Any repairing, fitting or adjustment made from people not qualified is strictly forbidden and in order to avoid any possible accident, all necessary precautions must been taken (ex: switch off the power supply as well as disconnect batteries). BERNAL is not responsible for possible damages or injuries to people, objects or animals caused by any unauthorized modification of product. Do not install this product into an explosive place

Keep scrupulously this booklet and include it into the main user manual in a suitable place well known by all the interested people.

MODEL

The control panel Topas has been designed for driving 1 or 2 operators for swing gates and it has an electric clutch. BERNAL is not responsible for any different use of control panel Topas

LIST OF MAIN COMPONENTS

TR1	Transformer: main tension 230 Vac secondary tension 24 Vac
F1	Controls protection's fuse 2A
F2	Net protection's fuse 5A
1...28	Terminals for the connection of power supply – accessories – controls – safety devices
POWER	Adjusting of pushing power with 5 steps; from 50% up to 98% (electric clutch)
SW1-2	Dip-switches for control panel programming
RADIO	Receiver terminal

Leds showing control panel entrances connections (switching on after power supply has been connected)

DL1	It switches on with power supply
DL2	Always switched off, it switches on by start
DL3	Always switched on, it switches off by stop
DL4	Always switched off, it switches on by pedestrian
DL5	Always switched on, it switches off by control photocells open
DL6	Always switched on, it switches off by control photocells close
DL7	Always switched on, it switches off by limit switch opening with motor 2 or limit switch closing if working with just 1 motor
DL8	Always switched on, it switches off by limit switch opening with motor 1 or limit switch closing if working with just 1 motor
DL9	It switches on when gate is open and it shows that contact on entrances 27-28 is closed

Check again the connections and the devices if the above led don't correspond.

CONTROL PANEL PROGRAMMING AND ADJUSTING

The programming of dip switches SW1 – SW2 must be made with control panel switched off

SW1	ON	OFF
1	For working with 1 motor, use ONLY exit MOTORE 2 at entrances 8-9-10	For working with 2 motors
2	It switches on service light for 90 seconds	For working with led "gate open"
3	It cancels control START during opening (residential system)	Control START always active. if set during opening it stops the operator
4	It sets automatic shutting of gates with time adjustable by trimmer BREAK	Automatic shutting not working.

SW2	ON	OFF
1	Take off during starting not working	Take off during starting working
2	Extra pressure (inversion) of 2 sec. during starting	Extra pressure (inversion) of 2 sec. not working

Adjusting of trimmers: BREAK Breaking time – DELAY Delay between the leaves - WORK Working time

BREAK	DELAY	WORK
It counts the time of break after opening and before closing.	Adjusting of the delay between the leaves: in closing motor 2 delays from 2 up to 15 sec. In opening motor 1 is always delayed 2 seconds	It counts the working time either in opening and closing. Time must be always adjusted 2-3 seconds more than real movement time of gate

Adjusting of electric clutch POWER

- Any adjust of electric clutch must be made from qualified people in order to avoid any possible accident and reduce all crashing risks.
- Check that leaves on movement can be stopped at any time easily.
- Power measurements on leaves have to be made following to actual norms.
- Check periodically the clutch system in order to guarantee full safety.

TERMINALS DESCRIPTIONS

Join with a bridge the N.C. (normally closed) entrances you don't used

If you are using more contacts N.C. on same entrance, they must be connected in set. If you are using more contacts N.O. on same entrance, they must be connected in parallel

1 Entrances 1 and 2 for power supply 230 Vac 50 Hz 2	13 Entrance pedestrian system. It opens just motor 2, 17 If working with just one motor it opens 2 or 15 sec. adjustable by trimmer DELAY
3 Entrances for flashing light 220 Vac max. 100 Watt 4	18 Entrance photocells. With 2 motors photocells working also 22 in opening they stop and re-opening. During closing stop and invert. With 1 motor, entrance can be used as safety device system. During opening it stops and invert of 10 cm. Contact N.C
5 Entrance motor 1 delayed during opening max 500 Watt 6 6 common 5 close 7 open Capacitor connects to 5-7 7	19 Entrance for photocells working during closing. They stop 22 and re-open. Contact N.C.
8 Entrance motor 2 (pedestrian) delayed during closing 9 max 500 Watt 9 common 8 close 10 10 open Capacitor connects to 8-10	20 Entrance limit switch open of motor 2 if working with 2 22 motors or limit switch open when working with 1 motor. Contact N.C
11 Exit 12 Vac for electric look with max 15 Watt 12	21 Entrance limit switch open of motor 1 with 2 motors or limit 22 switch close with 1 motor. Contact N.C.
13 Entrance START. During opening it stops; 15 during closing invert. Contact N.O.	23 Exit 24 Vac for external devices as well as extra photocells 24
13 Entrance STOP. If set it stops any movement and 16 cancel the automatic shutting. Contact N.C.	25 Entrance for antenna: 26 hot pole – 25 copper cable 26
	27
	28

TESTING

To be made with leaves of gate in the middle position and only after installing the safety devices required from actual rules in order to reduce any risk.

- Check all motor connections remembering that first operation made by the control panel is an opening.
- Check that motor 2 is the first one starting otherwise invert the wires of 2 motors. (entrances 5-6-7 with 8-9-10)
- Be sure that motor 2 starts opening otherwise invert the wires on entrances 8-10
- Be sure that motor 1 starts opening otherwise invert the wires on entrances 5-7
- Make the completely opening and adjust the limit switches
- Make the closing and adjust the delay between the leaves
- Check that pushing power follows the actual norms adjusting it by electronic clutch
- Check that all safety devices installed are working properly in order to reduce any risk.
- All people in charge of the automation must be trained about the safety devices, controls and dangerousness of system
- Fill up technical booklet and carry out the obligations required from actual rules and norms