



NEVER SUPPLY POWER  
DIRECTLY TO THE  
STRUTS.  
ALWAYS CONNECT  
CORRECTLY THROUGH  
THE CONTROL BOX

NEVER CUT THE CABLES

# INSTRUCTIONS MANUAL

## For 1 or 2 Struts with encoder SINCRO

### Starting Point

The struts (or pedestals) are delivered with pre-set ends of stroke. The end of stroke corresponds to the mechanical limit of the struts. *Exceptions* are the boards supplied with *open worm struts*, which need complete programming when installed (Follow in page 2 step E to program your personal ends of stroke)

If the connecting cable(s) from the strut(s) to the control box (1,3 m long) is too short, it is necessary to purchase the appropriate extension(s) from the supplier (2 – 5 or 8 m).

The keyboard is the interface with the strut(s) giving access to all programming features required for set up.

### Simboli della tastiera:

① ② ③ ④: identify the four numerical keys.

▲/▼: identify respectively the EXTEND (OUT) and SHORTEN (IN) keys.

### Meaning of the red flashing LED signals

LED	STATUS	SITUATION
⊙	OFF	System in standby
⊙ ⊙ ⊙	SLOW flashing	Programming Menu
⊙⊙⊙⊙⊙⊙	FAST flashing	Ready to be programmed
⊙	LED ON for 3 seconds	Confirmation of command received
⊙	LED ON for 10 seconds	Electronic overload blockade. The load exceeds the maximum nominal load of the strut(s) or, if the ends of stroke have been cancelled, the physical mechanical end of stroke has been reached (move the struts carefully and set up the electronic ends of stroke).



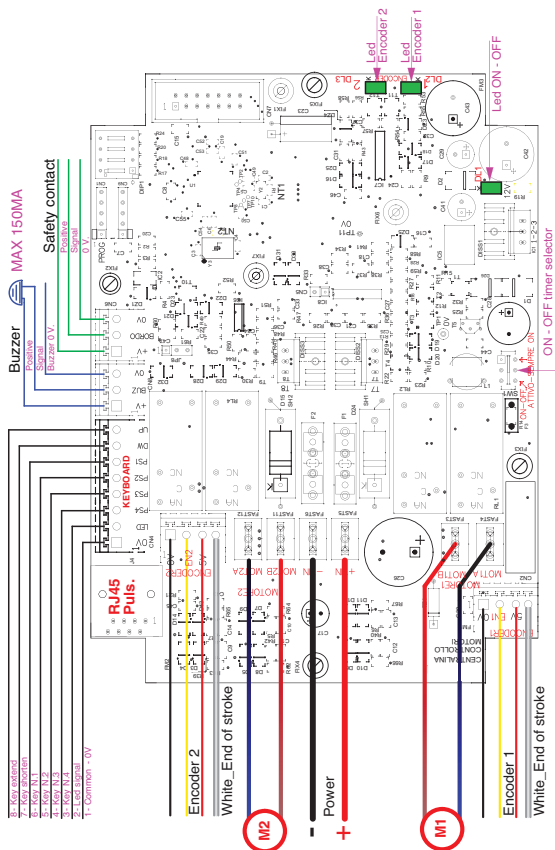
## PROGRAMMING THE SINCRO BOARD

REQUIREMENT	STEPS TO CARRY OUT
<b>Modify pre-set end(s) of stroke</b> and/or move one strut at a time to get two asymmetrical struts	<b>C + D → E</b> Finish with <b>A + B</b>
<b>Memorize the Automatic Translation Points (ATP)</b> (possible only AFTER the end of stroke have been programmed)	<b>F</b>
<b>Cancel the Automatic Translation Points (ATP)</b>	<b>G</b>

## Functions of the menu

	TARGET	STEPS TO CARRY OUT	LED SIGNALS
<b>C</b>	<b>Enter</b> into the menu	Press and hold <b>1</b> , press <b>▲</b> , then release both.	
<b>D</b>	<b>Cancel</b> ends of stroke	Press and hold <b>4</b> , press <b>3</b> then release both. Now press <b>4 1 2</b> as a sequence. (LED remains ON for 3 sec., then goes OFF)	
<b>E</b>	<b>Modify</b> the position of the struts together or move one at a time	Press <b>▲</b> or <b>▼</b> to move both struts together. <b>3</b> + <b>▲</b> or <b>▼</b> to move strut 1. <b>2</b> + <b>▲</b> or <b>▼</b> to move strut 2. Now move the struts into the chosen start (shortest) position. Go to target <b>A</b>	
<b>A</b>	<b>SET</b> the end of stroke <b>IN</b>	Shorten the struts with <b>▼</b> to the chosen start position, press and hold <b>1</b> , press <b>2</b> , then release both. (LED remains ON for 3 sec., then fast flashing). Go to target <b>B</b>	
<b>B</b>	<b>SET</b> the end of stroke <b>OUT</b>	Extend the struts with <b>▲</b> until you need, then press and hold <b>4</b> , press <b>▲</b> , then release both. (LED remains ON for 3 sec., then goes OFF)	
<b>F</b>	<b>Program</b> the Automatic Translation Points [Max 4 ATP]	Move the struts into desired position, enter the menu (target <b>C</b> ) and then press once <b>1</b> . (ATP memorized on key <b>1</b> ). LED remains ON for 3 sec., then goes off. To memorize more ATP repeat this step <b>F</b> changing the number of the key.	
<b>G</b>	<b>Cancel</b> all ATP	Step <b>C</b> , then press and hold <b>4</b> , press <b>▼</b> , then release both. LED remains ON for 3 sec., then goes OFF)	

## ENCODER WIRING DIAGRAM

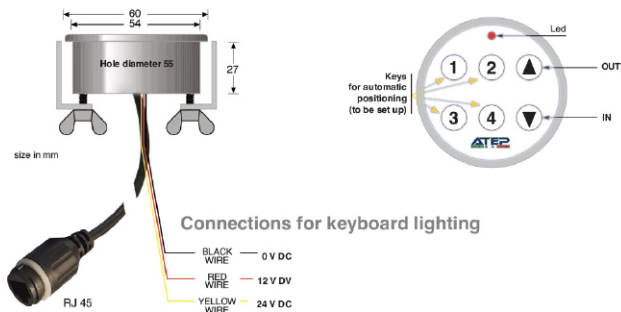
**ENCODER PCB WIRING DIAGRAM:**

The KEYBOARD 8 poles connector (black lines) near the RJ45 socket is meant to install repeater keys, or just an open/ close switch. If used, once the board is programmed, remove the keyboard.

The BUZZER 3 poles connector (blue lines) can be used to install an alarm bell as movement warning.

The SAFETY CONTACT 3 poles connector (green lines) is meant to connect the safety device that stops the movement when compressed.

### KEYBOARD'S FUNCTIONS (for end user)



### Functions of the keys

Key	Function	Signal
▲	Extends the piston/s to the maximum pre-set limit.	One flash at stop
▼	Shortens the piston/s to the minimum pre-set limit.	One flash at stop
① ② ③ ④	Moves the struts to programmed position or, during the set up, memorizes the chosen position.	
① + ▲	Access to the set function mode.	Slow flashing LED.
① + ▼	Quit the setting function.	LED goes off (stops flashing).
① + ▲ ④ + ▼	Cancel the stored positions for ① ② ③ ④	Slow flashing LED before RESET. LED ON for three seconds after the RESET has been completed.

**LED ON for about 10 seconds** →

**Electronic overload blockade**

**Fast blinking of the LED all the time.  
Act immediately.** →

**The electronic ends of stroke have not been set.  
RISK OF BREAKDOWN AND DAMAGE TO THE STRUTS.**

To stop the movement of the struts once the numeric keys ① ② ③ ④ have been pushed, press any key. For the sequence of the keys ① + ▲/▼ or ④ + ▲/▼ you must keep the numeric key depressed while pressing ▲ or ▼; then release both