









# AUTOMATIC SOLUTIONS




J300 logic controller for one or two 240 volt swing gate motors.

**Important:** Read this manual before the installation. This manual is integral part of your product, keep it for reference.

Warnings:

-  First of all verify that this product is suitable for the installation.
-  Read carefully technical characteristic before the installation.
-  Installation of this control unit must be properly done by qualified installers, following rules and regulations of installation country.
-  It is mandatory do periodic maintenance.
-  Maintenance or repairing must be done by qualified technicians.
-  Turn power off before maintenance or repairing.
-  This device is intended for gate automation, any other applications is not advised.
-  Don't leave this control unit unattended or where children can reach.

Preliminary checking: Before installation of this control unit:

-  Verify that all the connected devices respect the technical characteristics mentioned in the table which follows.
-  Verify that a working and suitable RCD switch is installed up line the installation.
-  Verify that cables composing the installation, are suitable for it.

The manufacturer:

Declares:

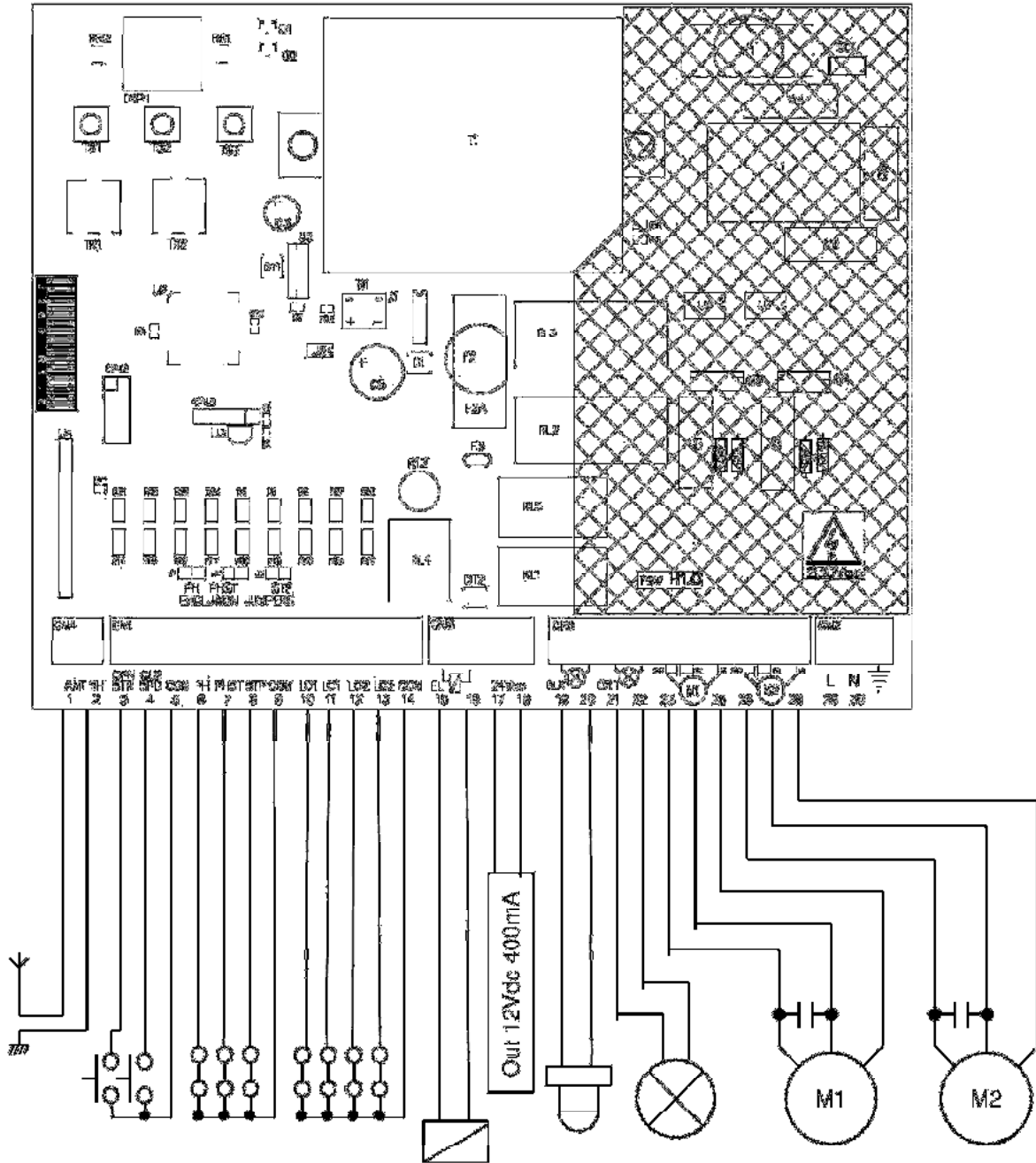
The control unit J300 is compliant to following

directives:

- 2006/95/CE Low voltage directive.
- 2004/108/CE Electromagnetic compatibility.

Castiglione 10-11-2016

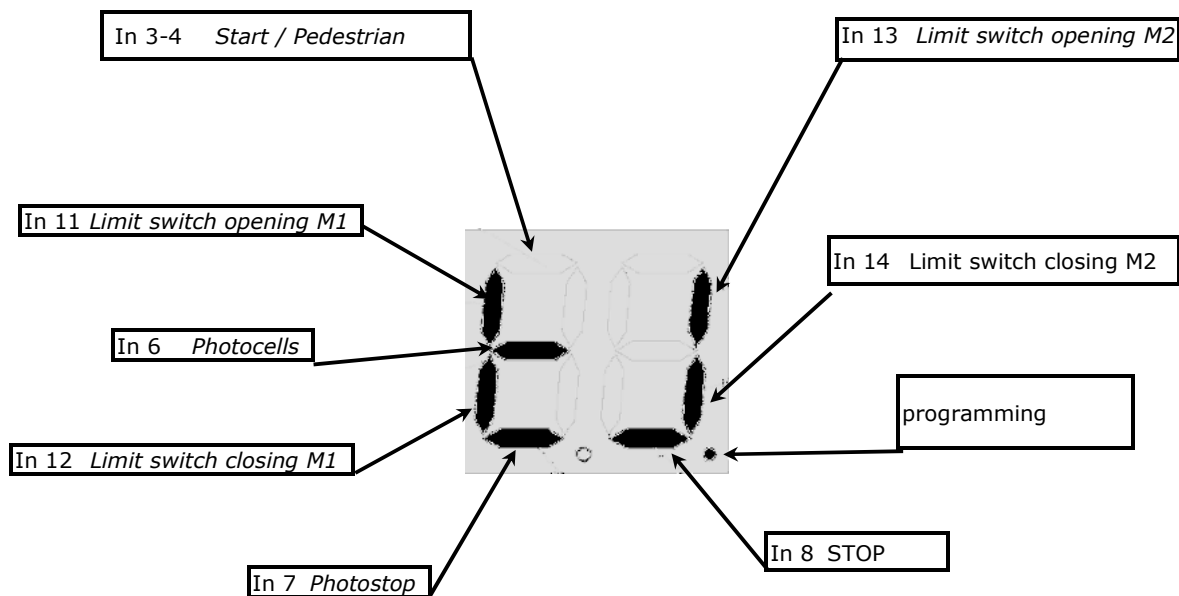
Technical characteristics	
Power Supply	230Vac +/- 10%
Power consumption	800mW (stand-by)
Auxiliary supply out	24Vac, 400mA
Electric-Lock output	12Vac, 1A
Motors outputs	230Vac, 750W
Flashing light output	230Vac, 100W
Courtesy light output	230Vac, 100W
Operating temperature range	-5 +60°C



1	Antenna
2	Antenna's shield
3	Start input (NO) It completely opens the gate
4	Pedestrian start in. (NO) It opens just motor 2
5	Common
6	Photocell input (NC) During pause: Reloads pause During closing: Reverses motors direction
7	Photostop input (NC) During pause During closing: Reverses motors direction During opening: stops the motors and waits till contact returns close.
8	Stop input (NC) It always stops motors and blocks control unit activity.
9	Common
10-11	Motor 1 limit switches (NC) Letting both inputs not connected, it disables limit switches for this channel
12-13	Motor 2 limit switches (NC) Letting both inputs not connected, it disables limit switches for this channel
14	Common
15-16	Electric lock output 12Vac 1A
17-18	Auxiliary supply output 24Vac 400mA
19-20	Flashing light output 230Vac 100W
21-22	Courtesy light output 230Vac 100W
23-25	Output motor 1, 240Vac 750W
26-28	Output motor 2, 240Vac 750W
29-30	Power supply input 230V
J1	Photocell exclusion jumper
J2	Photostop exclusion jumper
J3	Stop exclusion jumper
TR1	Slowing down speed trimmer
TR2	Motors torque trimmer
TS1-TS3	Buttons up/down
TS2	Enter button
DSP	Display
CN7	Power supply input 230Vac
F1	230Vac outputs fuse, 5A Fast
F2	Electric-lock/logic fuse, 2A Fast

### INPUT STATUS

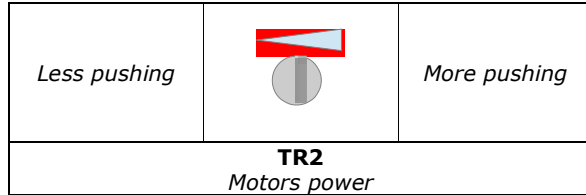
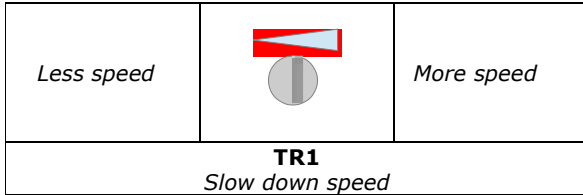
When the control unit is waiting for an opening or closing cycle, or when it's in pause, status of inputs is displayed as following diagram.



## TRIMMER REGULATIONS

**TR1** The slow down speed trimmer regulates the slow down speed.

**TR2** The motor torque trimmer tunes the power on the motor. Attention: during the first 2 seconds after start, each motor pushes at 100% of its power (Boost power).



## QUICK INSTALLATION

To program simply the working times, open both wings using the manual opening procedure, then keep pushed **UP** till you read **AL** on the display. Both wings start closing.

If limit switches are installed, wait until motors are fully closed, otherwise Push **ENTER** when the first wing is fully closed, push **ENTER** once when second wing is fully closed also.

## BOARD PROGRAMMING

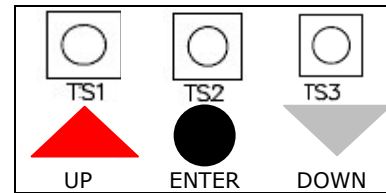
### BASE MENU

Push **ENTER** for at least 1 sec. to enter base menu.

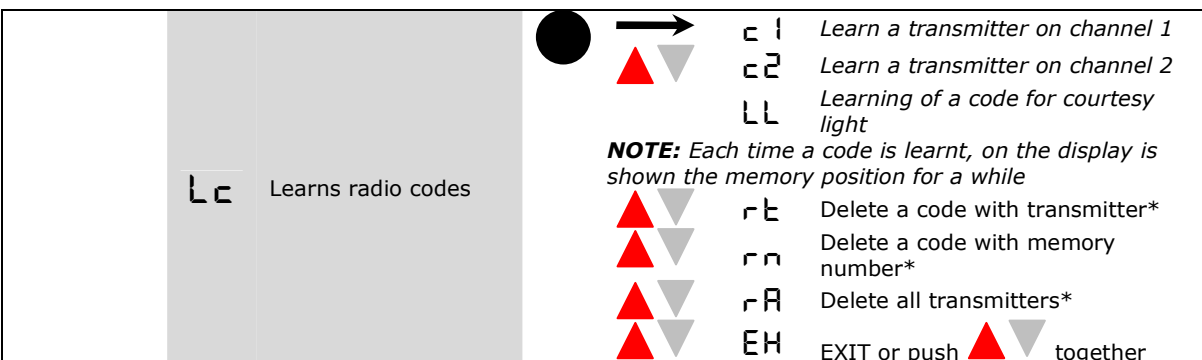
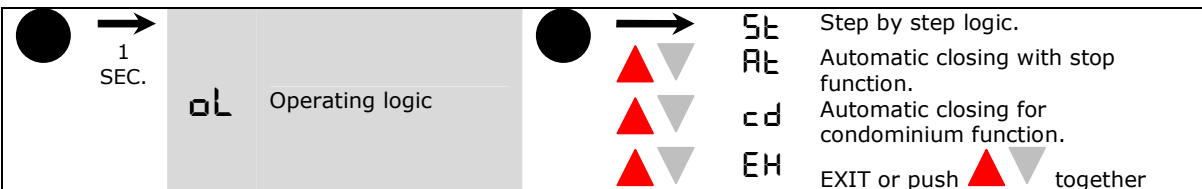
**OL** is on the display, with **UP** and **DOWN** it is possible to select other functions of this menu.

To exit this menu select exit (**EH**) or push **UP** and **DOWN** together.

After 2 minutes without actions, the control unit exits itself from this menu.



### BASE MENU MAP

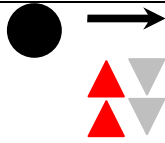


\* **rt**: Delete a code with transmitter, transmit the code to be removed, on the display is show "of" for a while if operation is done.

**rn**: Delete a code with memory number, select the number of memory to be deleted and confirm with enter.

**rA**: Delete all transmitters in memory. To delete all codes select **rA** and push enter, then confirm with **YS**.

**LE** Learn working times



**RU** Automatic learning procedure.  
**RN** Manual learning procedure.  
**EH** EXIT or push together

**LE** learn working time:

Attention: before to start leaning procedure, the gate must be open to do automatic procedure, otherwise must be closed to do the manual procedure. Use manual mode to put the gate in the right position.

Is it possible to program working time automatically, please refer to "Quick installation".  
 Select **LE** in the base menu and push enter, after select the learning mode with up/down.

**RU**: Automatic learning procedure.  
**RN**: Manual learning procedure.  
 To exit this menu select **EH** or push up/down together.

**RU Automatic procedure for working time learning:**

to do this procedure prepare at least a transmitter into memory. In this procedure all safety inputs are disabled.

The wings close themselves, in the meanwhile all the working times are learned. If the installation is single wing connect just motor 2 and enable this function in advanced menu.

If digital limit switches are installed (LO1,2 - LC1, 2) the control unit learns automatically working times. If limit switches aren't installed, user need to push enter or give a start command (by radio too) once first motor (M1) reach end when second motor reach end.

**RN Manual procedure for working time learning:**

Attention: to do this procedure prepare at least a transmitter into memory. In this procedure all safety inputs are disabled.

Both wings start opening, in this phase it's possible to set the slowing down speed with the trimmer 1. Once both wings are open, push enter or transmit with remote shortly.

**RI** is written on the display.  
 In the phase which follows, enter button or a memorized code control following sequence: start motor 1, start motor 2, slow down motor 1, slow down motor 2, stop motor 1, stop motor 2.  
 If just motor 2 is connected (single wing mode), program times just for this motor.  
 If digital limit switch are installed motors stop automatically at the end of travel.



**SP** Set pause time



**EH** push together

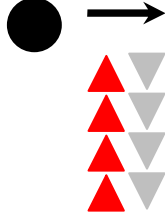
**SP** Set pause time:

Use up/down to set the pause time between **0** and **99** seconds. Push enter to confirm. To exit without modifications push together up and down.

Attention, setting a pause time doesn't enables automatic closing, please refer to chapter "OL operating logic" to enable this function.



**dn** Dead man mode



**o1** Open motor 1  
**c1** Close motor 1  
**o2** Open motor 2  
**c2** Close motor 2  
**EH** EXIT or push together

**dn** Dead man mode:

Selecting this menu it's possible to control each motor in dead man mode. Push up and down to select one of following item:

- o1** Open motor 1
- c1** Close motor 1
- o2** Open motor 2
- c2** Close motor 2
- EH** Exit

Keep pushed enter to start the selected motor in dead man mode.



EH Exit

### BOARD PROGRAMMING ADVANCED MENU

Push enter button till on the display is shown **EN**. With up/down it's possible to select all items in this menu. To exit this menu select **EH** or push up/down together. After 2 minutes without actions, control unit exits itself from this menu.

#### ADVANCED MENU MAP



**SG** Single wing mode:  
In this menu it's possible to verify or set if gate works in single wing mode (motor 2)




**rc** Release torque at work end:  
Enabling this function, the motors reverse direction for a while to release the torque at end of work.



**Ar** Enable automatic transmitters leaning:  
Enabling this function it's possible to insert new transmitters without accessing base menu. Refer to "Automatic transmitters learning"



**LP** Low power mode

45  
 nE  
 EH

Enable  
 Disable  
 EXIT or push together

**LP** Enable low power mode:  
 In this menu you can enable the low power mode.  
 Attention: when this function is enabled, the display is not longer showing input status (Display off in stand-by).



**cS** Kickback stroke

45  
 nE  
 EH

Enable  
 Disable  
 EXIT or push together

**cS** Enable kickback stroke:  
 In this menu you can enable the stroke at start to unlock electric lock and the final stroke to lock it.



**SS** SOFT START

45  
 nE  
 EH

Enable  
 Disable  
 EXIT or push together

**SS** Soft start:  
 In this menu you can enable the soft start of 1 second when motor starts moving.



Esci  
 Exit

**IS** Digital limit switches mode

nC  
 nO  
 EH

Enable  
 Disable  
 EXIT or push together

**IS**  
 In this menu you can select if limit switches inputs are N.C. Or N.O.

**QUICK TABLE BASE MENU**

DISPLAY	DESCRIPTION	DATA	DESCRIPTION	DATA	Descr
oL	Operating logic	5t	Step by step		
		At	Automatic closing with stop funcion.		
		cd	Automatic closing uninterruptible CONDOMINIUM		
		Et	EXIT		
Lc	Learning / removing transmitters code	c1	Learn a transmitter on channel 1		
		c2	Learn a transmitter on channel 2		
		rt	Erase codes	45	Erase all codes
		Et	Uscita		
Lt	Learn working time	Au	Automatic learning procedure		
		An	Mutomatic learning procedure		
		Et	EXIT		
5P	Set pause time	0-99			
dA	Dead man mode	o1	Open motor 1		
		c1	Close motor 1		
		o2	Open motor 2		
		c2	Close motor 2		
		Et	EXIT		
Et	EXIT				



**QUICK TABLE ADVANCED MENU**

DISPLAY	DESCRIPTION	DATA	DESCRIPTION
E0	Working times menu	E1	Working time motor1
		S1	Start time slowdown motor1
		E2	Working time motor2
		S2	Start time slowdown motor2
		do	Motors delay opening
		dc	Motors delay closing
		Ec	Courtesy light time x 10sec.
		EL	Electric lock activation time
		EH	EXIT
S0	Single wing mode	Y5	Yes
		nE	No
		EH	Exit
d2	Default settings	Y5	Yes
		nE	No
		EH	EXIT
rc	Release torque at work end	Y5	Yes
		nE	No
		EH	EXIT
Ar	Enable automatic transmitters leaning	Y5	Yes
		nE	No
		EH	EXIT
LP	Enable low power mode	Y5	Yes
		nE	No
		EH	EXIT
c5	Enable kickback stroke	Y5	Yes
		nE	No
		EH	EXIT
S5	Soft start	Y5	Yes
		nE	No
		EH	EXIT
IS	Digital limit switches	nc	N.C
		no	N.O
		EH	EXIT
EH	EXIT		

**OPERATING LOGIC TABLES**

**St step by step**

<b>PHASE</b>	<b>COMMAND</b>				
	Start	<i>Pedestrian</i>	<i>Photocell</i>	Photostop	Stop
<i>CLOSED</i>	<i>Opens</i>	<i>Opens</i>	<i>Ignored</i>	<i>Stops</i>	Stop
<i>OPENING</i>	<i>Stops</i>	<i>Stops</i>	<i>Ignored</i>	<i>Stops and waits release</i>	
<i>OPEN</i>	<i>Closes</i>	<i>Closes</i>	<i>Ignored</i>	<i>Stops</i>	
<i>CLOSING</i>	<i>Stops</i>	<i>Stops</i>	<i>Reverses</i>	<i>Stops, wait release, reverses</i>	
<i>STOP</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Ignored</i>	

**RE Automatic closing**

<b>PHASE</b>	<b>COMMAND</b>				
	Start	<i>Pedestrian</i>	<i>Photocell</i>	Photostop	Stop
<i>CLOSED</i>	<i>Opens</i>	<i>Opens</i>	<i>Ignored</i>	<i>Stops</i>	Stop
<i>OPENING</i>	<i>Stops</i>	<i>Stops</i>	<i>Ignored</i>	<i>Stops and waits release</i>	
<i>OPEN</i>	<i>Closes</i>	<i>Closes</i>	<i>Ignored</i>	<i>Stops</i>	
<i>DURING PAUSE</i>	<i>Exits pause</i>	<i>Exits pause</i>	<i>Reloads time</i>	<i>Reloads time</i>	
<i>CLOSING</i>	<i>Stops</i>	<i>Stops</i>	<i>Reverses</i>	<i>Stops, wait release, reverses</i>	
<i>STOP</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Ignored</i>	-

**cd condominium mode**

<b>PHASE</b>	<b>COMMAND</b>				
	Start	<i>Pedestrian</i>	<i>Photocell</i>	Photostop	Stop
<i>CLOSED</i>	<i>Opens</i>	<i>Opens</i>	<i>Ignored</i>	<i>Stops</i>	Stop
<i>OPENING</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Stops and waits release</i>	
<i>OPEN</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Stops</i>	
<i>DURING PAUSE</i>	<i>Reloads time</i>	<i>Reloads time</i>	<i>Reloads time</i>	<i>Reloads time</i>	
<i>CLOSING</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Reverses</i>	<i>Stops, wait release, reverses</i>	
<i>STOP</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Ignored</i>	<i>Ignored</i>	-

## Default settings

Here it follows list of default settings, the same set after a **d2** command of advanced menu

Item		Default	
oL	Operating logic	St	Step by step
SP	Pause time	10	10 seconds
t1-t2	Working time motor 1 and 2	30	30 seconds
S1-S2	Slowing down time motor 1	20	20 seconds
do	Wings delay opening	02	2 seconds
dc	Wings delay closing	05	5 seconds
tc	Courtesy light time	12	120 seconds
tL	Electric-lock time	02	2 seconds
SG	Single gate mode	nt	Not
rc	Release end travel torque	nt	Not
Rr	Auto learning transmitters	Y5	Yes
LP	Low power mode	nt	Not
cS	Kickback stroke	nt	Not
SS	Soft-start	nt	Not
IS	Digital limit switches mode	nc	Normal Close

## Diagnostic and troubleshooting

The control unit has a self diagnostic software able to find problems. Once a problem occurs, a code is shown on the display in alternance with command status.

Here it follows a troubleshooting table.

Error code	Problem and eventual solution
E1	Power control system failure. Send board in assistance.
E2	Obstacle detected in the previous cycle (by analog edges). Verify that gate is free and there's no obstacles in the range.
E3	Photocells or photostop obstructed for longer than 2 minutes. Verify that photocells and photostop aren't obstructed, and if there's no bugs inside them. Verify wiring to this devices.
E4	Stop is engaged for longer than 2 minutes. Verify wiring to emergency device. If there isn't an emergency device installed, shunt this input with the common.