JSL-72 Instruction Manual

JSL-72 Timer for Coffee Grinder
Version 1.2

1. Overview

This JSL-72 timer is specifically designed for controlling coffee grinder. It can count from 0.01" to 99.99" or from 1" to 99'59". Counting direction can be set by user(counting up or counting down). Accumulated time/cups can be automatically stored in the timer and reset by user. Operating function modes include single dose, double dose and manual. Most function features can be activated by front key pad or remote switch. However, manual function can only be accessed through remote switch. Three different display modes can be programmed. User can shift among single/double dose display mode, total running time display mode, and total number of cups display mode. Timer adjust function can be deactivated to prevent any accidental change.

2. Specification

Timer range: 0.01" to 99.99". Or 1" to 99'59"
Timer mode: single dose, double dose, manual
Timer trigger: power on, front key pad, or remote switch
Timer accuracy: <1s/day.
Power supply: 90-260V AC or DC.
Power consumption: <2W
Relay output:7A@240VAC,10@120VAC and 24VDC
Relay life: 100,000 times.
Operating temperature: 0-60 °C.
Humidity: 0-95%RH
Panel cutout: 44.5x44.5mm
Outer dimension: 48x48x85 mm.

3. Front Panel

Figure1. Front panel

1. Time range indicators: M for minutes, S for seconds. Both will be illuminated when the time base is M:S(Minutes : Seconds)
2. Timer indicators: T1 is illuminated for single dose, T2 is illuminated for double dose.
3. OUT indicator: illuminated when relay is on; turns off when relay is off.
4. SET key. When timer is not running, in single/double dose display mode, press it will shift between single dose time (T1) and double dose time (T2)(see section 5.1 for details); press and hold it for 3 seconds will shift between single/double dose display mode and total running time/cups display mode(see section 5.1 for details); press and hold it for 5 seconds will enter the parameter programming menu(see section 5.2 for details).

5. Down key: When timer is not running, in single/double dose display mode, press it will lower the time setting value; in total running time/cups display mode, hold it for 4 seconds will reset the value. When timer is running, in either display mode, press it will stop the timer. In programming mode, press it will go to the next programming value.
6. Up key: When timer is not running, in single/double dose display mode, press it will increase the time setting value. When timer is running, press it will stop the timer. In programming mode, press it will go to the previous programming value.
7. RST key: Reset key. When timer is not running, press it will activate the timer. When timer is running, press it will stop the timer.
8. LED digital display. In single/double dose display mode, the top displays the actual time; the bottom displays the set value. In total running time/cups modes, the top displays the accumulated running time/cups; the bottom displays tot/CuPS. In programming mode, the top displays setting parameters; the bottom displays programming value.
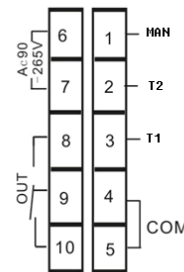
4. Terminal Assignment

Figure 2. Terminal assignment

Terminal functions when timer is running:
Manual(MAN),T2 (double dose time), T1(single dose time), Common(COM).
Connecting MAN and COM: Timer starts running when they are connected.
Connecting T2 and COM: Timer starts running for T2 when they are disconnected .
Connecting T1 and COM: Timer starts running for T1 when they are disconnected.

5. Programming

When timer is not running, press SET key for 5 seconds to enter the programming menu. For each parameter setting, use up/down key to select different programming values. Press SET key to confirm and move on to next parameter. See figure 3 on next page for the procedure. For the definition of each programming value, see following section.
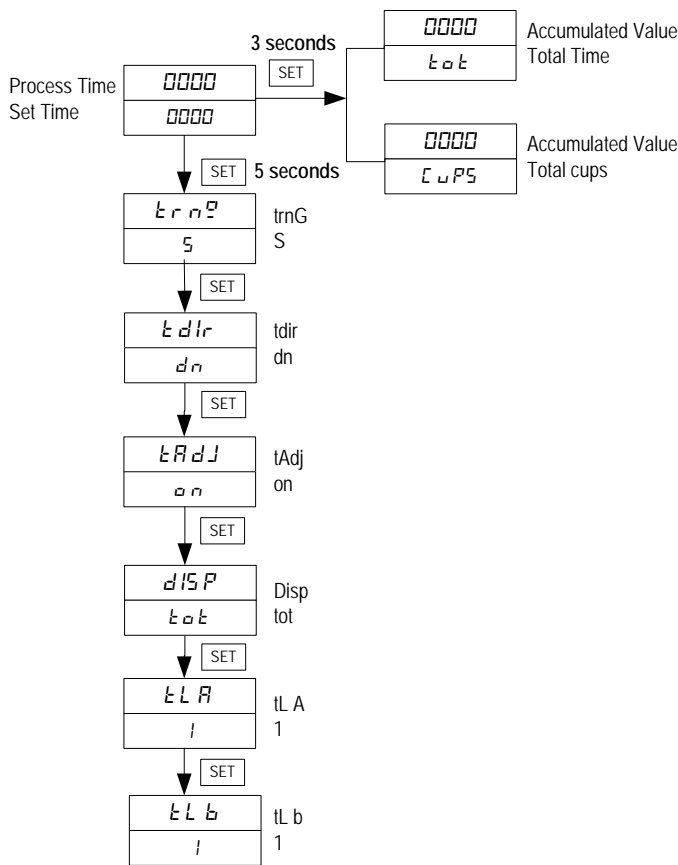
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Figure 3. Flow chart of programming

tAdJ, Time adjust
On: When timer is not running, adjust timer directly by pressing up/down key from the front panel
Off: Values for timer T1/T2 are locked.

dISP: Display mode
Tot: total time (unit: second).
CUPS: number of cups
*note 1: in Tot mode: total time will only display integer part; when manual key is pressed and held, the running time is counted into total time until the manual switch is released
*note 2: in CUPS mode: number of cups will not be counted into total number when manual key is pressed
*note 3: press down key for 4 seconds will reset the display to zero in both modes

tL A: constant A
tL b: constant b
These two constants are used for converting the total time display to other units, such as weight in grams.
dISP= T x A/b
Where, T=T1 or T2. For example, if grinding 1 gram of coffee takes 2 seconds. Set A=1, b=2, will convert the total display unit from second to gram.

6. Wiring Example
Please see figure 4 on next page for the wiring example.

5. 1 How to Set the Timer and Dose Time T1/T2
When timer is not running, in single/double dose display mode,
a) press "SET" key to shift between single dose time T1 and double dose time T2. When parameter "tAdJ" is programmed to "ON"(see definition of "**tAdJ**" in next section), simply press up/ down key will increase/decrease the set value of each delay time. (hold up/down key will increase the changing speed exponentially).
b) hold "SET " key for 3s, the display will change to total running time/cups display mode. For how to program the two different display modes, please see the definition of "**dISP**" in next section.
c) hold "SET" key for 5s, the display will enter parameter programming menu

5.2 Definition of Programming Values:
trnG, Timer range
S：0.01s～99.99s；
M:S：1s～99m59s；

tdir , Timing direction
up：Counting up
dn：Counting down
*note: the timing direction can only be changed in the single and double dose timer display. The manual control always count up so that user can use its value to fine tune the single and double dose setting.
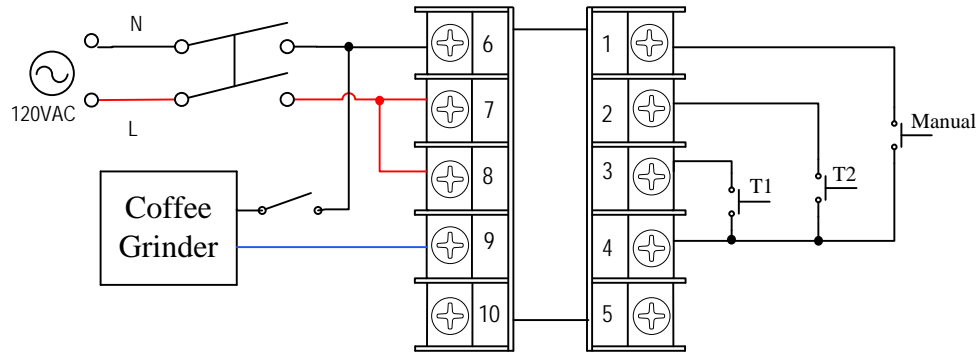
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Figure 4. Wiring example of JSL-72. Power (120 or 240V AC) is sent to terminal 6 and 7.The external switches should be momentary type. The manual remote switch is the only access to control the timer manually(no front key on the timer can be used for manual control). This switch can also be replaced with a control signal from computer or other control devices. The output terminals (#8, 9 and 10) are from a "C form" internal relay. It is a dry switch that does not provide the power by itself. In this case, the coffee grinder is powered by the same voltage as the power input .