



OPERATION MANUAL FOR

FK-1C

DISPENSING CONTROLLER

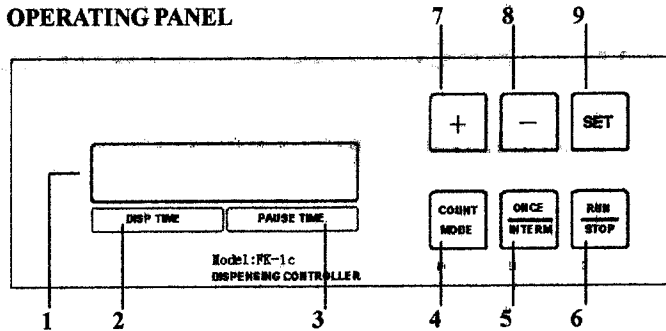


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MAIN FUNCTION

Fk-1c is designed specially for some longer peristaltic pumps to realize automatic dispensing by time.

OPERATING PANEL



- 1 LCD display
 - 2 **DISP TIME**
Dispensing time (0.01s to 99.9s)
 - 3 **PAUSE TIME**
Pause time for intermittent dispensing (0.01s to 99.9 s) or “once”
 - 4 **COUNT MODE KEY**
Changes between count-up (from 0 to 999) and count-down (from 999 to 0) during intermittent dispensing mode.
 - 5 **ONCE/INERM KEY**
 - Changes between once and intermittent dispensing mode.
 - Once dispensing mode: presses down **RUN/STOP KEY**, finishing one
-

control, it must be connected to pin 2.

PIN 4, +12V

+12V dc is available (max. current 20ma).

PIN 8, INPUT (TTL)

For external start control input

1 MAN. EXT. SWITCH

- External/manual control switch
- Changes between external and manual control mode

STARTING THE DISPENSING SYSTEM

2 Preparing the pump:

- Insert the tubing
- Connect the pump to the mains

3 Connect fk-1c to the pump

4 Connect the foot switch or photoelectric sampler to fk-1b if necessary

5 Switch the dispensing system on with the mains switch of the pump

OPERATING MODE

● **ONCE/INTERMITTENT MODE**

1 Switch MAN. EXT. switch to MAN. (manual)

2 Change to once or intermittent mode with ONCE/INTERM key.

- In once mode,

LCD displays "99.99 sec once"

- In intermittent mode,

LCD displays "99.99 sec 99.99 sec"



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- 3 Entering the required dispensing time or pause time with +, — key and SET key.
- 4 Start the dispensing process with RUN/STOP.
 - In once mode, the pump stops automatically after the dispensing time has elapsed.
 - In intermittent mode, the pump dispenses at intervals.
 - The dispensing process can be stopped by pressing RUN/STOP.
 - The dispensing or pause time can only be changed after the dispensing process has been stopped.
- **COUNT MODE**
 - 1 Switch MAN.EXT. switch to MAN (manual)
 - 1 Change to intermittent mode
 - 2 Entering the required dispensing time and pause time
 - 1 Change to count-up or count-down mode with COUNT MODE key.
 - In count-up mode, count value increases, LCD displays "999 time→run 0".
 - In count-down mode, count value drops, LCD displays "999 time←run999".
 - 3 Entering the required count value of the dispensing cycles with + and — key.
 - 4 Start the dispensing process with RUN/STOP.
 - The dispensing process can be stopped by pressing RUN/STOP.
 - The dispensing time, pause time and count value can only be changed

time dispensing according to the dispensing time

- Intermittent dispensing mode: once RUN/STOP pressed down, dispensing cycles begin according to dispensing time and pause time until RUN/STOP KEY is pressed down again.

5 **RUN/STOP KEY**

- Starts and stops a dispensing process
- The function start can also be triggered by external device such as a foot switch or photoelectric sampler.

6 **+ KEY**

Increase value

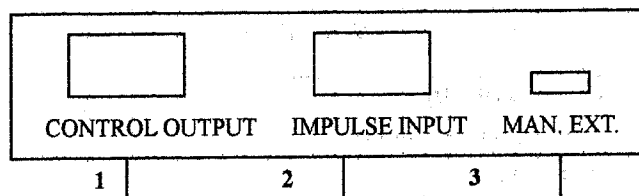
8 **- KEY**

Reduce value

9 **SET KEY**

Changes between setting dispensing time and pause time

REAR PANEL



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1 CONTROL OUTPUT PORT

A db9 port connected to the pump through an exclusively original cord.

①②③④⑤ ②-GND ④+12V
⑥⑦⑧⑨ ⑨ STOP (TTL)

PIN 2, GND (GROUND)

Reference potential for all other pins

PIN 4, +12V

+12V input from the pump

PIN 9, STOP (TTL)

- Starts and stops the pump
- Stops the pump when connected to pin 2

2 IMPULSE INPUT PORT

A db9 port connected to the foot switch or photoelectric sampler through an exclusively cord.

①②③④⑤ ②-GND ③ EXT.
⑥⑦⑧⑨ ④+12V ⑧ INPUT

PIN 2, GND (GROUND)

Reference potential for all other pins

PIN 3, EXT. (TTL)

Changes between external and manual control for activating external

after the dispensing process has been stopped.

● **EXTERNAL CONTROL MODE**

- 1 Switch **MAN.EXT** switch to **EXT.** (external), LCD displays “ 0
TIME EXT ”.
- 2 Operate foot switch or photoelectric sampler to start the dispensing process.
 - The pump stops automatically after the dispensing time has elapsed
 - counting up the dispensing process
 - During external control mode, all the keys are out of action
 - The dispensing time can only be changed during manual control mode and the dispensing process has been stopped.

TECHNICAL SPECIFICATIONS

- Dispensing time 0.01s to 99.9s
- Pause time 0.01s to 99.9s
- Count range 1 to 999
- Operating voltage +12v dc
- Operating current ≤ 50 ma
- Operating conditions: Temperature 0- 40°C
Relative humidity <80%

FOOT SWITCH

Jk-2 foot switch is designed for fk-1c dispensing controller specially. It serves as a start device, which is very useful when using the pump as a dispenser for filling tubes, bottles, etc. Both hands are free for handling bottles and tubes.