TEMPCONTROLS

User Manual

SEQUENCE INJECTION TIMER

SEQUENCE INJECTION TIMER TS-910

Ver. 1.0 English

Thank you very much for the choice of TempControls Product.

A content of manual can be different on each product
version or by TempCube's reason.
Some parts of manual can be changed without notice to the users.
Please contact to Head Office or Sales Office for questions of the product.

Contents

1. Environments

1) Main power input : AC220V (50-60Hz)
2) Signal Input Power : DC24V or AC220V
3) Solenoid Valve[I] (Solenoid Valve) Output Power :
DC24V Less than 100mA per GATE) or AC220V(Total less than 1A)

2. Composition of control module

1) CONTROL PCB : Power unit, MICOM, Input/Output unit
2) DISPLAY TOUCH LCD : Display unit, Switch

3. Main Processing Unit

1) S.M.P.S[II] : To transform input AC220V to DC24V/1A, DC15V/1A
2) MPU : To control input/output and display
3) RELAY : Solenoid Valve running element(DC24V or AC220V output)

4. Input

I Solenoid Valve : Wire coils as screw shape in cylindrical insulating material
II S.M.P.S : Switching Mode Power Supply

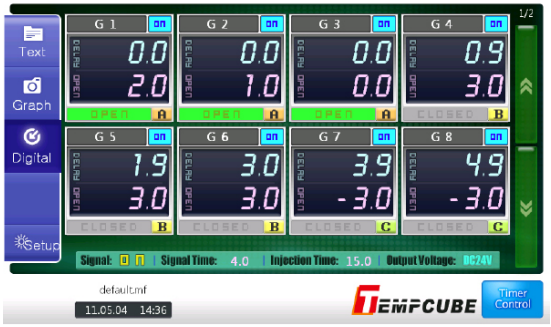
1) Text Screen

i) GATE NO : Indicate the number of gate.
ii) DELAY : Indicate setting time of Delay time.
iii) OPEN : Indicate open time of Valve gate.
iv) GATE : Indicate state of Open or Closed in Valve gate.
v) MODE : Indicate the control mode(A , B mode)
vi) Signal : Indicate input state of injection signal as ON/OFF in Injection machine.
vii) Signal time : Indicate input time of injection signal .
viii) Injection time : Indicate injection cycle time.
ix) Output Voltage : Indicate output voltage of Valve gate.(DC24V, AC220)

2) Graphic Screen

i) A : Gate number.
ii) B : Indicate the state of Open/Close in valve gate.
iii) C : Indicate the open progressing time in Open.
iv) D : Indicate the range of open time as bar graph.(Yellow).
v) E : Indicate the range of delay time as bar graph.(light blue).
vi) F : Delay time.
vii) G : Indicate the range of signal input time as bar graph.

3) Digital Screen



i) G 1 Gate number.

ii) on Gate ON/OFF.

iii) 0.0 Progressing Delay time.

iv) 0.0 Progressing Open time.

v) CLOSED Valve gate OPEN/CLOSED.

vi) B Mode A or B.

4) Setting Screen

Please select the gate which you would like to change at the gate number of right picture box, you can click anything at the left setting display.

i) Setting the Delay time: Can set the delay time from 0.0 to 999 second.
setting unit 1: setting 0-999 second, setting unit 0.1: setting 0-99.9 second, setting unit 0.01: setting 0-9.99 second

ii) Setting output time: can set the open time of valve gate from 0.0 to 999 second. (Output time can only work with B mode)
setting unit 1: setting 0-999 second, setting unit 0.1: setting 0-99.9 second, setting unit 0.01: setting 0-9.99 second

iii) Mode type : Can select A or B mode

iv) Setting unit: Can change the range of setting time in case of setting output time or delay time. (setting 0.01 and 0.1 and 1 second)

v) Gate : Setting gate ON/OFF

vi) Manual output: In case of needing open output in manual, please select the gate you would like to change and click manual output. the output gate will be ON/OFF

5) Setting mold file.

i) Load : Load the saved information

ii) Save : Save the state of setting

iii) Delete : Delete unnecessary file

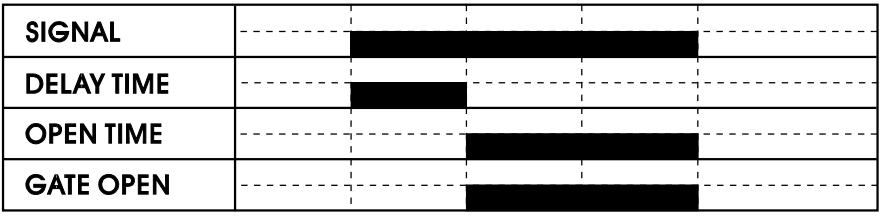
iv) The number of gates: Setting the number of gates which you actually use. (setting value: 0 - 40 gates)

5. Mode Setting

1) MODE A

When user select Mode A, get the injection signal and close the gate during Del TIME. After Del Time, open the gate and it keeps until finishing injection signal.

MODE A



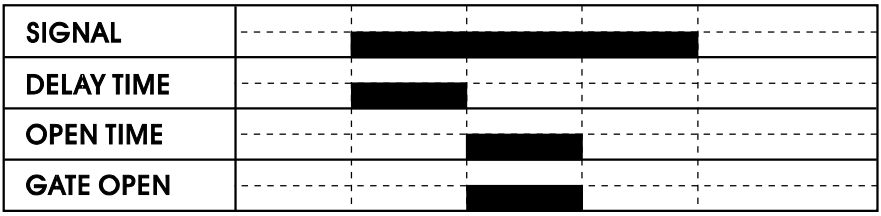
A. Example

i) In case injection signal: 10sec and DEL time: 4sec, then after DEL time, it opens(Relay ON) for 6sec
ii) For the delay time, it counts down and displays it in DEL display panel, and just after DEL time, it opens (Relay ON).
iii) In case injection signal is off before delay time passed, it reset to set time.
iv) Even after DELAY time passed, injection signal is keeping on, it opens, and it counts up the open time and displays it in OPEN display panel.
v) When injection signal is off, delay set time will be displayed in DEL display panel, and OPEN display panel displays counted open time until next injection signal comes on.

1) MODE B

When user select MODE B, get the injection signal and close the gate during DEL Time. After DEL Time, open the gate and it keeps during open time and then close the gate.

MODE B-1



A. Example

i) In case injection signal: 10sec, DEL time: 4sec and OPEN time: 4sec then when injection signal comes on, after DEL time, it opens for OPEN time(4sec)
ii) For the delay time, it counts down and displays it in DEL display panel.
iii) In case injection signal is off before delay time passed, it resets to set time.
iv) When injection signal is off, delay set time and open set time will be displayed in DEL display panel OPEN display panel respectively.

1) MODE B-2

When user selects Mode B-2, get the injection signal and go into stand-by during DEL Time. After DEL time, open the gate and it keeps during - open time and then close the gate.

MODE B-2

A. Example
(injection time: 10 seconds, DEL time: 4 seconds, open time: - 4 seconds)

i) It gets the injection signal and after 4 seconds open the gate then it keeps "open" during signal time. After being done signal, it keeps "open" next 4 seconds and then close the gate.
ii) For the delay time, it counts down and displays it in "DEL" display panel. After "DEL" time it displays "OPEN" time until finishing signal. After that, it counts down and displays in "OPEN" display panel.
iii) In case injection signal is off before delay time passed, it becomes initialization as setting time.

2) Other Menu

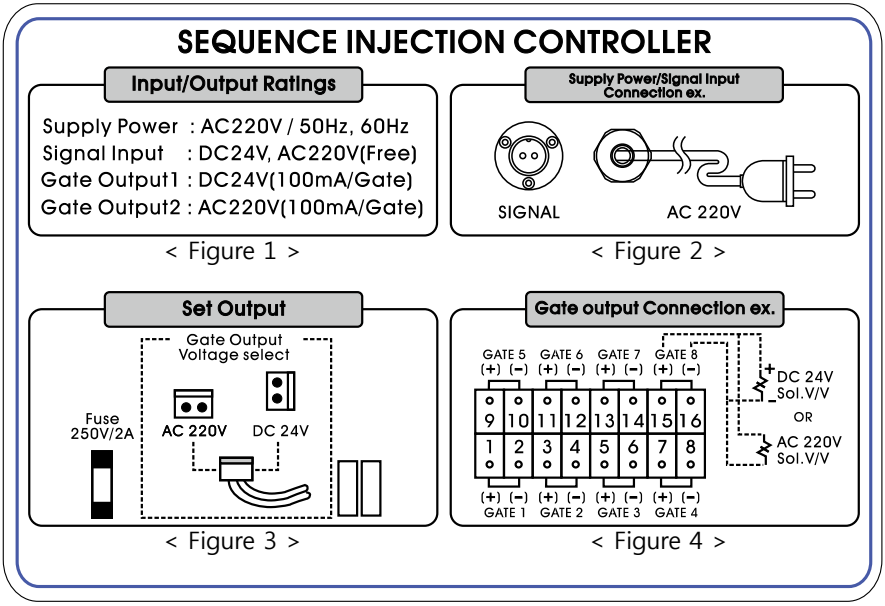
A. Output Voltage Indicator

i) Select output voltage DC24V or AC220V in compliance with Solenoid valve.
ii) Display output voltage in DC24V LED or AC220V LED.

B. Input ON / OFF indicator

iii) When input is on, SIGNAL LED is on.
iv) When input is off, SIGNAL LED is Off.

6. Wiring Specification



< Figure 1 > < Figure 2 >

< Figure 3 > < Figure 4 >

1) Power Input Connection

Connect power plug in AC 220V socket as <Figure 2>

2) Signal Input Connection

Connect SIGNAL-1 and SIGNAL-2 to signal injection output.

3) Gate Output Connection

Connect Solenoid Valve as referred to Figure 4.

(Caution : Use the same electric poles using DC24V Solenoid Valve connection)

4) Gate Output Voltage Select

When user open in back side of TS-780 Jumper connector is located on there <Figure 3> Connect AC220V in case that using AC220V Solenoid Valve and connect DC24V in case that using DC 24V Solenoid Valve.

TEMPCONTROLS

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