

DFQ5000
Intelligent Manual Controller
Operation Instruction

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1. Function Features

DFQ5000 output a 4-20mA or 0-10mA or 0-5V or 1-5V signal, this output signal can be changed by panel key operation.

It is indicated in the upper display

DFQ5000 receive a actual valve position feedback signal, this input may be 4-20mA or 0-10mA or 0-5V or 1-5V signal.

It is indicated in the lower display.

DFQ5000 is used to control a valve manually.

DFQ5000 has a RS485 communication port, it can be used as a output channel of computer control system

2. Technique Parameter

Environment condition: temperature 0~50℃ relative humidity ≤90%

Power supply: 80VAC~260VAC, 50Hz ~60Hz, Power consumption: 4~10W

Accuracy: 0.5%FS+1 digital, Resolution: 1 digital

Outline dimension: 80×160×150mm 160×80×150mm 96×96×112mm

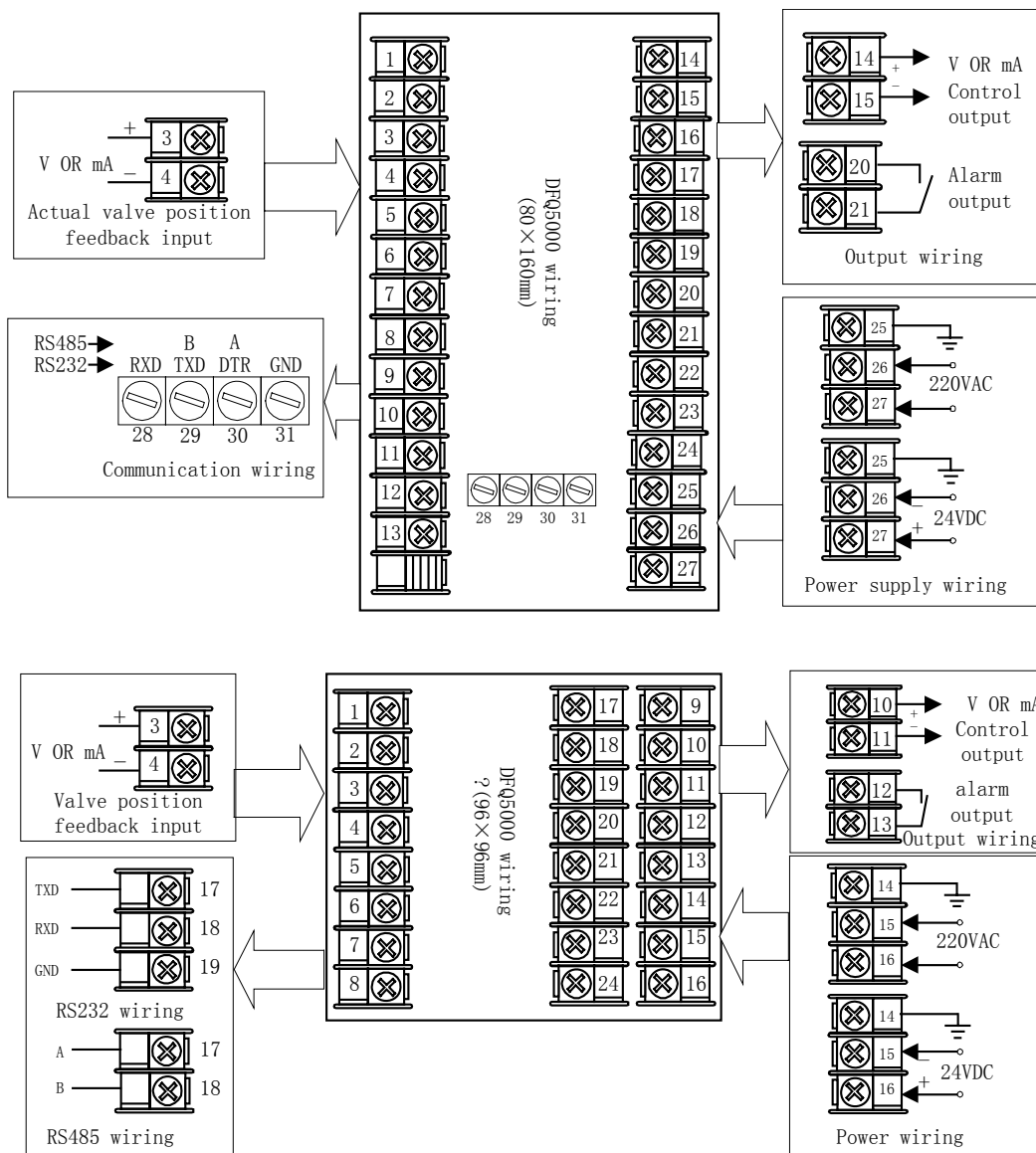
Panel cut-out dimension: $152^{+1.00} \times 76^{+0.74}$ mm $92^{+1.00} \times 92^{+1.00}$ mm

Weights: About 0.5Kg, structure: plug in

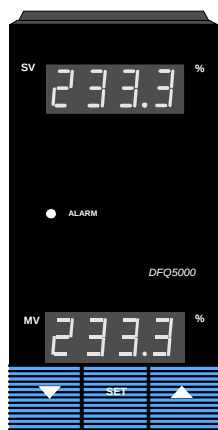
3. Ordering number

Ordering number				Explain
DFQ				Intelligent manual controller
Series	5			Electronic transformer
Control output		6		4-20mA/0-10mA/1-5V/0-5V output
Valve position feed back input		6		4-20mA/0-10mA/1-5V/0-5V input
Outline type			F	96×96×112mm square type
			V	80×160×150mm upright type
Power supply				Power supply: 220VAC
			D	Power supply: 24VDC
Communication port				Without communication port
			RS232	With isolated RS232 port
			RS485	With isolated RS485 port

4. Wiring terminal



5. Panel message



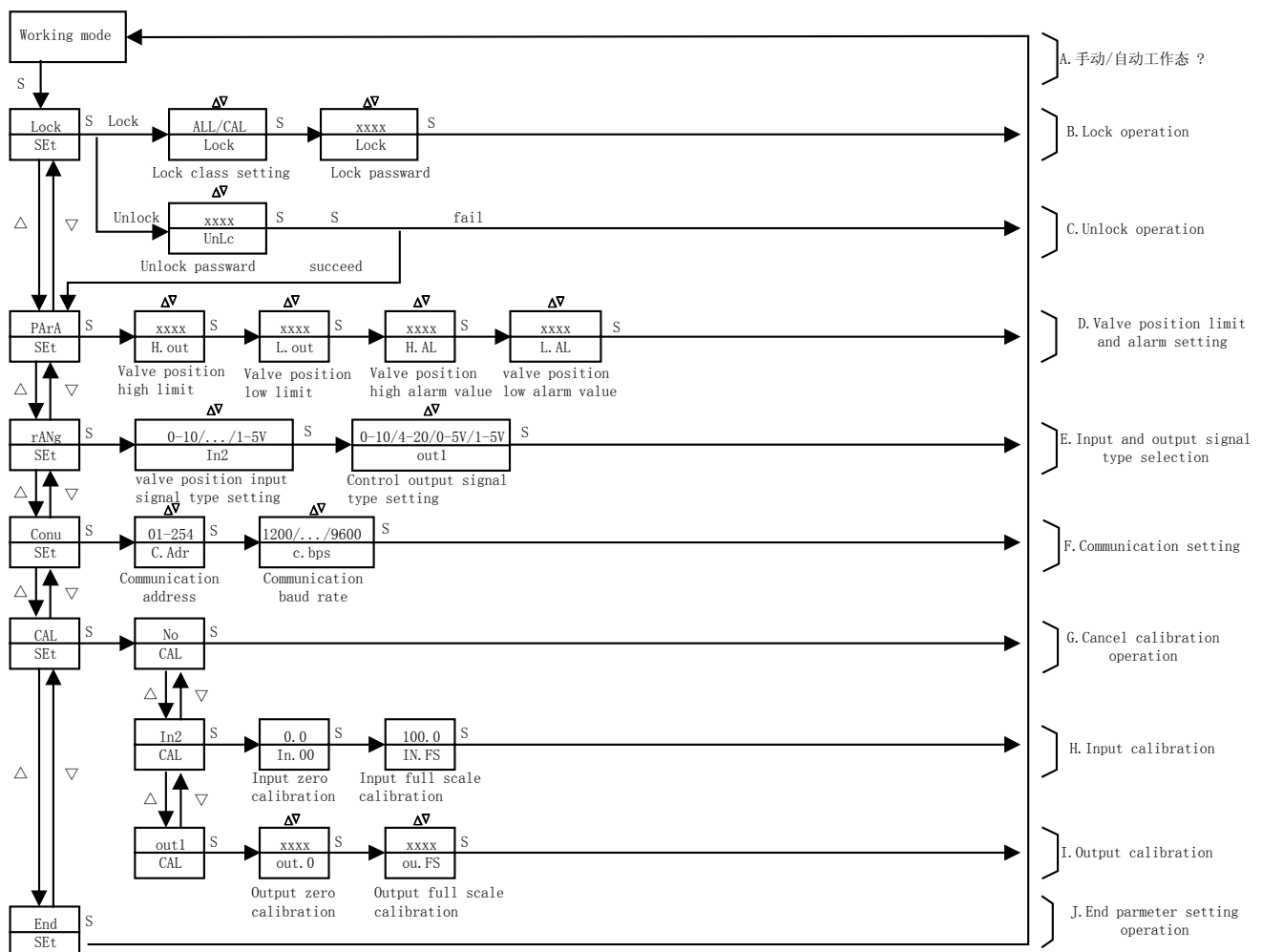
Outline: 80x160x150mm
Panel cutoff: 76x152mm



96x96x112mm
92x92 mm

- 1) Upper display
In working mode, it indicates the valve control output value.
In setting mode, it indicates parameter value.
- 2) Lower display
In working mode, it indicates the actual valve position feedback input value. If the input wire is break out, it indicates "brok"
In setting mode, it indicates the parameter name.
- 3) LED=on
It indicates the actual valve position alarm.
- 4) Key
In working mode, press key Δ will increase the control output value. In setting mode, press key Δ will increase parameter value
In working mode, press key ∇ will decrease the control output value. In setting mode, press key ∇ will decrease parameter value..
In working mode, press key SET will enter the setting mode. In setting mode, press key SET will confirm the parameter.

6. Parameter setting diagram



7.Operation Guide

A. Working mode

Turn on the power or keep no key operation for 40 seconds, it will go into the working mode automatically.

B. Lock operation

C. Unlock operation

Menu and operation		Factory setting
Lock SEt	- Entry of the lock unlock menu group - Press key SET to confirm - Press key Δ、▽ to exit	Entry of the lock unlock menu group
B		
ALL/cal Lock	- Lock class setting ALL: lock all menu Cal: lock calibration menu only - Press key Δ、▽ to modify - Press key SET to confirm	Cal
xxxx Lock	- Lock password setting - Press key Δ、▽ to modify - Press key SET to confirm The 00 is invalid password	18 or 1997
C		
xxxx unLc	- Unlock password setting - Press key Δ、▽ to modify. - Press key SET to confirm	18 or 1997

D. Valve position limit and alarm value setting

Menu and operation		Factory setting
PArA SEt	- Entry of the valve position limit and alarm menu group - Press key SET to confirm - Press key Δ、▽ to exit	
xxxx H.out	- Control output high limit value setting - Press key Δ、▽ to modify. - Press key SET to confirm	100.0
xxxx L.out	- Control output low limit setting - Press key Δ、▽ to modify. - Press key SET to confirm	0.0
xxxx H.AL	- Valve posotion high alarm value setting - Press key Δ、▽ to modify. - Press key SET to confirm	80.0
xxxx L.AL	- Valve position low alarm value setting - Press key Δ、▽ to modify. - Press key SET to confirm	20.0

E. Input and ouput signal type setting

Menu and operation		Factory setting
rANg SEt	- Entry of the range menu group - Press key SET to confirm - Press key Δ、▽ to exit	
0-10/4-20/0-5V/1-5V In2	- Input signal type setting 0-10: 0-10mA; 4-10: 4-10mA; 0-5V:0-5V; 1-5V: 1-5V; - Press key Δ、▽ to modify - Press key SET to confirm	As ordering or 4-20mA

Menu and operation		Factory setting
0-10/.../1-5V Out1	- Output signal type setting 0-10: 0-10mA; 4-10: 4-10mA; 0-5V:0-5V; 1-5V: 1-5V; - Press key Δ、▽ to modify. - Press key SET to confirm	As ordering or 4-20mA

F. Communication parameter setting

Menu and operation		Factory setting
Conu SEt	- Entry of communication menu group - Press key SET to confirm - Press key Δ、▽ to exit	
01-254 C.Adr	- Communication address setting: 01-254 - Press key Δ、▽ to modify. - Press key SET to confirm	01
1200/.../9600 C.bps	- Communication baud rate setting 1200: 1200bps; 2400: 2400 bps; 4800: 4800 bps; 9600: 9600 bps; - Press key Δ、▽ to modify - Press key SET to confirm	1200

G. Cancel the calibration operation

H. Valve position feedback input calibration

I. Control output calibration

Menu and operation		Factory setting
CAL SEt	- Entry of calibration menu group - Press key SET to confirm - Press key Δ、▽ to exit	
G		
No CAL	- Cancel calibration operation - Press key SET to confirm - Press key Δ、▽ to exit	
H		
In2 CAL	- Entry of input calibration menu group - Press key SET to confirm - Press key Δ、▽ to exit	
0.0 In.00	- Input signal zero calibration 0-10mA/4-20mA's zero signal is 0.000mA 0-5V/1-5V's zero signal is 0.000V - Press key SET to confirm	
100.0 In.FS	- Input full scale signal calibration 0-10mA/4-20mA's full scale signal is 20.000mA 0-5V/1-5V's full scale signal is 5.000V - Press key SET to confirm	
I		
Out1 CAL	- Entry of output calibration menu group - Press key SET to confirm - Press key Δ、▽ to exit	
xxxx Out.0	- Output zero signal calibration - Press key Δ、▽ to modify, supervision with a meter connected to the output terminal - Press key SET to confirm 0-10mA/4-20mA's zero signal is 4.000mA 0- 5V/1-5V's full scale signal is 1.000V - Other output is the actual zero signal	

Menu and operation		Factory setting
xxxx OU.FS	- Output full scale signal calibration - Press key Δ、▽ to modify, supervision with a meter connected to the output terminal. - Press key SET to confirm 0-10mA/4-20mA's full scale signal is 20.00mA 0-5V/1-5V's full scale signal is 5.000V Other output is the actual full scale signal	

J. End setting operation

End SEt	- End setting operation - Press key SET to confirm - Press key Δ、▽ to exit	
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8. Trouble shooting

8.1 Trouble shooting

Trouble		Cause	Eliminate method
Not lighting		Power fail	Check the power
		Power terminal fail	Take out the device core and check the power terminal
		Device go wrong	Contact to the distribute or manufacture
LED display		Input type setting wrong	Check the input type setting
		Input signal overflow	Check the input signal
		Input signal line break	Check the input signal wire
		Input type wrong	Check the input type setting
		Input signal overflow	Check input signal
		Calibration wrong	Calibration the input again
LED display		Input type wrong	Check input type setting
		Input signal under -range	Check input signal
		Calibration wrong	Calibration the input again
Display wrong		Input type wrong	Check the input type setting
		Correction menu setting wrong	Check the correction setting menu
		Input wire wrong	Check the input wire
		Input signal wrong	Check the input signal
Can not enter the corresponding menu		Device type wrong	Contact to the distribute or manufacture
		The menu be locked	Unlock the menu
Can't unlock the menu		Have not the menu	Contact to the distribute or manufacture
		Lose the unlock code	Contact to the distribute or manufacture
Display change suddenly		Electro-magnetic contactor spark influence	Remove the spark with a spark absorber
		Signal disturbance too strong	Depart the input signal cable from the power line
		Power disturbance too strong	Depart the device power from the power motor/transducer.
		Field cable confusion	VDC load connect a parallel reverse diode
			Signal cable depart from power cable
			Using shield signal cable, the shield connect to the earth
		Power pollution	Depart the device power supply from other power supply
			Depart the device power from the SCR device/transducer
Add a on line power supply			
Power unit fail		Power supply wrong	Check the power supply cleaner
Relay action wrong		Power supply pollution	Instead of a independent power supply ; add a power supply cleaner
		Contactor spark influence	Add a spark absorber to the AC contactor Add a parallel reverse diode to the DC load

8.2 Overcoming the severe field disturbance

If the field disturbance is severe and method listing in table 4.1 is of no effect, please add a EMC-filter to the power, to the input, to the relay output.

8.3 Accessories

- An operation instruction
- A QC certificate

8.4 Installation and wiring

- Signal cable should depart from the power supply, and must be the shield cable, and the shield must be connected to the signal earth, to avoid the signal influence
- The device power should be an independent power, a cleaning power, and should not be connected to other polluted power.