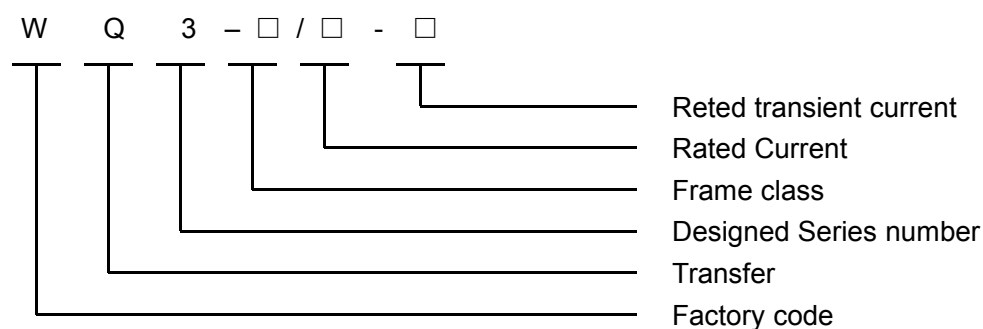# WQ3 Automatic Transfer Switch

MANUAL

BEIJING WANGWEI ELECTRIC CO.,LTD

1. Summary

WQ3 Automatic Transfer Switch Controller integrating digital, intelligent and network techniques is used for automatic control system of ATS. It can carry out functions including automatic transfer, data measure and alarming. The controller uses graphical LCD display, optional Chinese and English display interface with operation easy and reliable.

WQ3 ATS controller uses micro-processing technique which can carry out precision measure, constant value adjustment, timing and threshold setting and etc. of multi-parameters. It can be widely used in all types of ATS automatic control system for compact structure, advanced circuits, simple connections and high reliability.

2. Order information

```
W    Q    3  – □ / □  -  □
│    │    │    │   │      │
│    │    │    │   │      └── Reted transient current
│    │    │    │   └───────── Rated Current
│    │    │    └───────────── Frame class
│    │    └────────────────── Designed Series number
│    └─────────────────────── Transfer
└──────────────────────────── Factory code
```

3. SPECIFICATION

3-phase AC input:

400V 50Hz(3 phase)

3-phase AC Rated Curremt class (unit Amp):

10、16、20、32、40、50、63、80、100、125、160、180、200、225250、315、400、500、630

3-phase Transientcurrent:

Max. 32kA

Communication Parameter:

Seriel port: RS232/RS485

Protocol: MODBUS

Baud rates: 1200/2400/4800/9600/19200

Data bit: 8bit

Parity bit::   none

module addr: 1-254

Operating Temperature Range:

-10 to +50°C

4. FEATURES

- Measuring two 3-phase AC Voltages and 3-phase AC current of load

- Provide for power supply of ATS (10A 220VAC)

- Configurable priority of transfer: I master or II master or NONE master

- Set AUTO or MANUAL via PUSHBOTTON on the front panel

- Two isolable Nature designed

- RS485/RS232 'Modbus' output.

- 8 LEDs display the status

- Operational timers can be altered by the customer.

- Function LAMP TEST

- Provide real time clock(RTC)

- 40 Event logs

5. DESCRIPTION

Operation of the module is via **pushbutton controls** (with security locking facility) mounted on the front panel with shut **I**,shut **II**, open **I** and open **II** functions.

The first eight LED indicate **I Master,II Master, auto, manual, Pos(I) , Pos(II), Normal(I),** and **Normal(II).** Further **PushButtons** provide DISPLAY SCROLL and ENTER(set) functions.

Communication protocol allows full system integration into new and existing building management and control schemes. It is also possible to monitor the operation of the system either locally or remotely.

The module provides **metering and alarm facilities** via the LCD display which is accessed via the 'display scroll' push-button.

The following instrumentation displays are available:

I Volts L1-N, L2-N, L3-N

I Volts L1-L2, L2-L3, L3-L1

I Frequency Hz

II Volts L1-N, L2-N, L3-N

II Volts L1-L2, L2-L3, L3-L1

II Frequency Hz

LOAD Amps L1,L2,L3

LOAD kVA L1,L2,L3, Total

Real time clock

The module accepts the **digital inputs:** SWITCH **I&II** position and alarm Input – active to conntect to DC supply(-)

Relay outputs are provided for Shut up and off **I & II ,** and   two configurable outputs.

Multiple alarm channels are provided to monitor the following:

 . Under/Over Volts

 . Under/Over Frequency

 . Over current

 . Miss phase

6. **TIMERS AND FUNCTIONS**

 .I volts normal delay timer

 .II volts normal delay timer

 .I&II volts abnormal delay timer

 .Transfer rest timers

 .Start generator delay Timer

 .Stop generator delay Timer

 .Start generator condition selected

 .Alarm out delay timer

7. **OPERATION**

  1. default password is '1234'

  2. Factory Fixed password is '0318'

  3. set communication baud rate:

   0000 –1200bps

   0001 – 2400bps

   0002 – 4800bps

0003 – 9600bps

0004 – 19200bps

default value is "0003"(9600bps)

4. configurable relay out

<u>0 0</u> <u>0 0</u> high two bytes define configurable relay out 1, the range of value is 0-19; low two bytes define configurable relay out 2, the range of value is 0-19. it's define:

00 – alarm (continued out)

01 – fail to transfer

02 – warning out

03 – alarm (preset delay time)

04 – volt I normally out

05 – volt I abnormally out

06 – volt II normally out

07 – volt II abnormal out

08 – over load current out

09 – system in AUTO out

10 – system in MANUAL out

11 – start generator

12 – shut up I

13 – shut off I

14 – shut up II

15 – shut off II

16 – reserved

17 – reserved

18 – reserved

19 – reserved

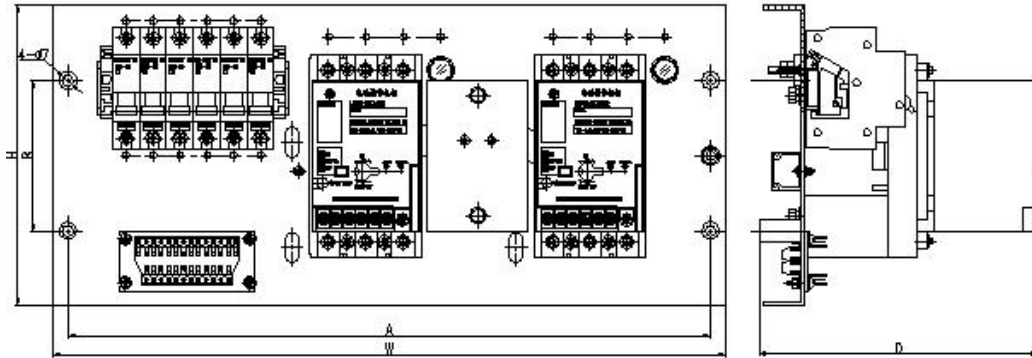5. Communication pin define on the rear panel:

RS485:

1 – "**+**",   9 – "**–**"

RS232:

2 – "RXD", 3 – "TXD", 5—"GND"

6. LAMP test oprate and reset alarm:

Push UP&DOWN BOTTON on the font panel at same time

8. **Case and   Installation**

Type	pole	Width	Height	Depth	Fixed A×B
WQ3-63H	3	450	200	200	430×100
	4				
WQ3-100H	3	480	200	204	460×100
	4				
WQ3-225H	3	510	200	224	490×100
	4				
WQ3-400H	3	540	330	274	520×270
WQ3-400S	4	630			610×270
WQ3-630H	3	600	340	290	580×270
WQ3-630S	4				

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