# HF3606

## **WIPER CONTROLLER**



## **Typical Applications**

Automotive wiper control

#### **Features**

- Wiper operation (HS, LS, intermit) controls
- Motor stall protection
- Solid base design, stable structure
- Surface mounting technology, advanced craftwork

### **TYPE**

| Туре         | Nominal voltage | Operating voltage range | Nominal motor load | Dimensions        |
|--------------|-----------------|-------------------------|--------------------|-------------------|
| HF3606/ 12-G | 12VDC           | 9VDC to 16VDC           | 50W                | ( 30 × 30 × 40)mm |
| HF3606/ 12-L | 12VDC           | 9VDC to 16VDC           | 50W                | (30 × 30 × 40)mm  |

#### **CHARACTERISTICS**

| Wiping time          | 3.5s + 2.5s                                 |
|----------------------|---|
| Intermittent time    | 4s ± 0.6s (at 0 Ω)                          |
| intermittent time    | 12s ± 1s (at 10k Ω)                         |
| Electrical endurance | 1×10 <sup>5</sup> OPS (Norminal motor load) |
| Ambient temperature  | -40°C to 85°C                               |

| Vibration        | sine   | 10Hz ~ 200Hz 49m/s²                  |  |
|------------------|--------|--------------------------------------|--|
| resistance       | random | 10Hz ~ 1000Hz 19.6m/s <sup>2</sup>   |  |
| Shock resistance |        | 196m/s <sup>2</sup>                  |  |
| Weight           |        | Approx. 36g                          |  |
|                  |        | Cover retention: 160N min.           |  |
| Mechanical       | data   | Terminal retention: 28N min. (2.8mm) |  |
|                  |        | 100N min. (6.3mm)                    |  |
|                  |        |                                      |  |

### **ORDERING INFORMATION**

HF3606 / 12 -G -B

**Type** 

Ntominal voltage 12: 12VDC

Trigger level G: High level start-up L: Low level start-up

Packing style B: With bracket Nil: Without bracket

Special code<sup>1)</sup> XXX: Customer special requirement Nil: Standard

Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2019 Rev. 1.01

#### **Outline Dimensions**

HF3606/12-□(XXX)

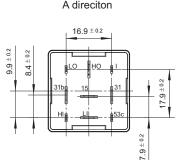
30 ±0.5

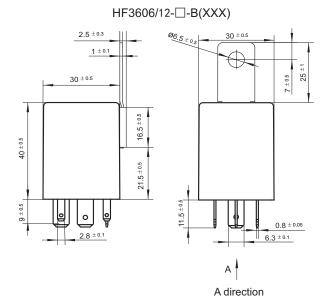
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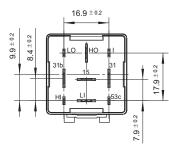
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A

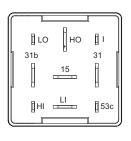
A direciton





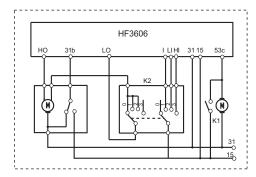


#### Terminal function



- HI: Wiper HS conrol signal
- LI: Wiper LS control signal
- 53c: Washing control signal
- 31b: Wiper parking signal
- 15: Power supply positivea
- 31: Power supply negative
- HO: Wiper motor HS control
- LO: Wiper motor LS control
- I: Wiper intermittent control signal

#### WIRING DIAGRAM



- 1) As shown on left circuit, the terminal 15 is connected with positive electrode of power supply, terminal 31 is connected with negative electrode of power supply, the terminal I,LO,LI and HI are connected with combined switch, the terminal 31b is connected with wiper motor switch, the terminal 53c is connected with washing bump switch.
- 2) Intermit wiping, when combined switch K2 is at position 1, the terminal I will receive 12V voltage, the internal relay will start function, the terminal LO and 15 will be connected, the wiper motor will start to work, when terminal 31b receive feeback signal from 0V, the internal relay will release and the terminal LO and 15 will be opend, the wiper motor will stop. The above process will repeat after  $4.0 \, \mathrm{s} \pm 0.4 \, \mathrm{s}$ .
- 3) Low speed wiping, when combined switch K2 is at position 2, the terminal LI will receive 12V voltage, the internal relay will start function, the terminal LO and 15 will be connected, the wiper motor will start to work at low speed.
- 4) High speed wiping, when combined switch K2 is at position 3, the terminal HI will receive 12V voltage, the internal relay will start function, the terminal HO and 15 will be connected, the wiper motor will start to work at high speed.
- 5) Washing wiping, when K1 is closed, the terminal 53c will receive 12V voltage, the internal relay will start to function, the terminal LO and 15 will be connected, the wiper motor will start to work, when K1 is opened and delayed for 3.5s + 2.5s, the internal relay will release and the wiper motor will stop and will remain at stop position.

#### Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications subject to change without notice. In case there is specific criterion (such as mission profile, technical specification, PPAP etc.) checked and agreed by and between customer and Hongfa, this specific criterion should be taken as standard regarding any requirement on Hongfa product.

We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.

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