APPEL INNOVATION
The future Technology Company

Appel Innovation Ltd., Reg. No.: 2458246
1A-1L Tung Choi Street, 20F Witty Commercial Bldg., Mong Kok, Kowloon, Hong Kong
email: contact@appelinnovation.com, website: http://www.appelinnovation.com

The F-Series: Intelligent Hybrid Switches

General:

The intelligent combination switches of the series KS-F combine the advantages of low energy consumption of a mechanical contact and the arc-free operation by a semiconductor relay in which an arc-free switching-on and switching-off process and a zero-cross switching on of a relay are made possible. These products combine the advantages of magnetic latching relays and thyristors, guaranteeing a zero-voltage switching-on and a current-zero switch-off when a capacitor is switched on or off; Low impulse current and no overvoltage when it is switched on or off; No risk of burned contacts; Low voltage drop in operation, low power consumption, no harmonic , suitable for turning on or off a load, for example a capacitor serving for low voltage reactive power compensation, a heating wire, a lamp, an electric motor, a resistor, etc. This product is an innovative intelligent environmentally-friendly low-voltage switch.

Features:

1. Very low power consumption: A magnetic latch relay is used that consumes only small electrical energy at the time of switching on and off and does not require any electrical energy during normal operation. Due to the low contact resistance, no heat is generated by a magnetic latching relay so that an additional external cooler is not needed. Thus, cost is reduced and the burning of a thyristor is avoided, which contributes to energy savings and lower energy consumption.
2. In contrast to similar products, the intelligent combination switches of the KS-F series use a sector-leading patented control technology, which prevents the sticking/melting of contacts or breakthroughs in mechanical switches and thyristors due to inaccurate zero-crossing detection. This significantly increases the reliability of the products.
3. In contrast to similar products, a patented technique for triggering with current feedback and capacitive energy storage is used in the intelligent combination switches of the series KS-F, which is why the duty cycle of a thyristor is less than a sinus half wave. This is a theoretical minimum and currently unrivaled worldwide. With a high resistance to short-term surge current as a result of load errors, the failure probability of the switch is considerably reduced.

Operating Conditions:

Temperature: -25℃--+45℃ Relative Humidity: 20%--90% [40℃]
Rated frequency: 50/60Hz Circuit power consumption: ≤1VA
Voltage Drop across contacts: ≤0.1V Rated voltage: 450V/250V Ac
Load connection: △ for 3 phase, Y single phase
Internal time required: One cycle of on and off: ≥1 second
Internal time required: Interval between two consecutive connect: ≥10 seconds
Control signal: 12V DC Service lifetime: 100.000 times

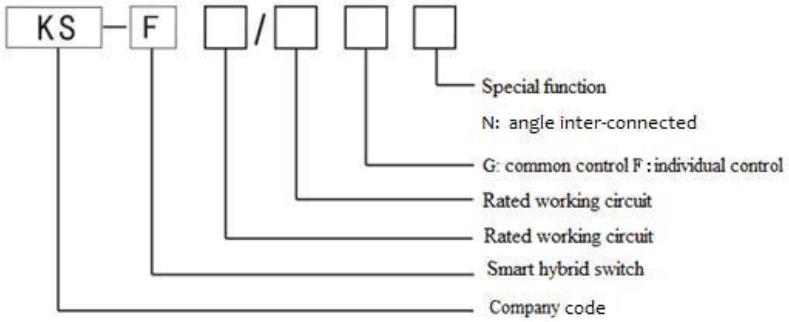
Appel Innovation Ltd., Reg. No.: 2458246
1A-1L Tung Choi Street, 20F Witty Commercial Bldg., Mong Kok, Kowloon, Hong Kong
email: contact@appelinnovation.com, website: http://www.appelinnovation.com

Protection Functions:

1. Voltage phase failure protection
2. Voltage phase lack protection
3. Fault self-diagnosis protection
4. No load protection
5. Power outage protection
6. Atresia protection

(The Magnetic latching relay is not allowed to input only after thysitor done)
*Different models have different protection function

Product Code:



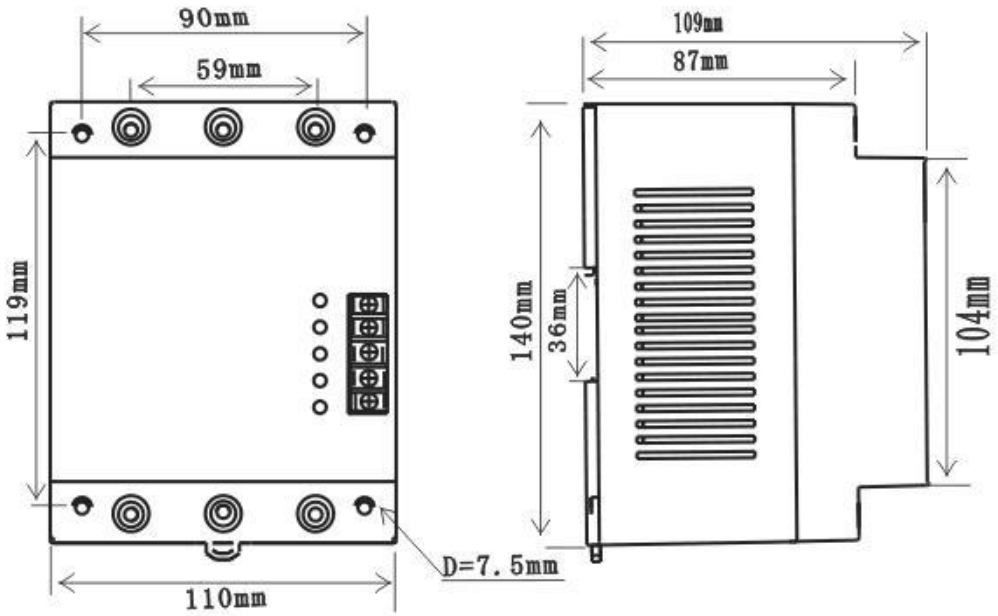
Model List and Parameter Table:

Name	Model	R-voltage	R-current	Control capaci ty	Other loads capacity	Current/ Voltage*
SHS 3 phase common control	KS-F450/60G	450V	60A	≤36Kvar	≤36KW	6-16VDC 5-20mA
	KS-F450/80G	450V	80A	≤50Kvar	≤50KW	
	KS-F450/100G	450V	100A	≤60Kvar	≤60KW	
	KS-F450/60GN	450V	60A	≤55Kvar	≤55KW	
	KS-F450/80GN	450V	80A	≤72Kvar	≤72KW	
	KS-F450/100GN	450V	100A	≤108Kvar	≤108KW	
SHS 3 phas e indi vi dual cont rol	KS-F250/60F	250V	60A	≤12Kvar*3	≤12KW*3	
	KS-F250/80F	250V	80A	≤16Kvar*3	≤16KW*3	
	KS-F250/100F	250V	100A	≤20Kvar*3	≤20KW*3	
	KS-F450/60F	450V	60A	≤20Kvar*3	≤20KW*3	
	KS-F450/80F	450V	80A	≤27Kvar*3	≤27KW*3	
	KS-F450/100F	450V	100A	≤36Kvar*3	≤36KW*3	

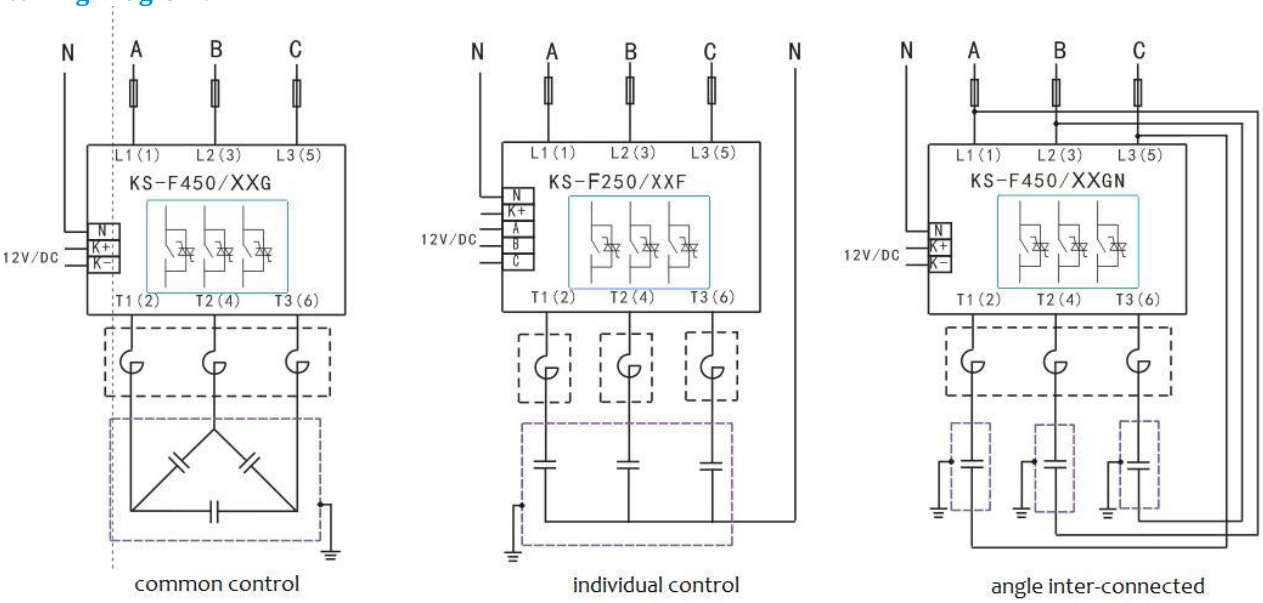
*Customers can choose the control voltage.

Appel Innovation Ltd., Reg. No.: 2458246
1A-1L Tung Choi Street, 20F Witty Commercial Bldg., Mong Kok, Kowloon, Hong Kong
email: contact@appelinnovation.com, website: http://www.appelinnovation.com

Dimensions (Unit: mm)**:**



Wiring Diagram:



Note: Customers can choose the reactor and other load capacitors