

## FZN25-12(D)/T630-20 Indoor Medium-voltage AC Vacuum Load Switch FZRN25-12(D)/T200-31.5 Indoor Medium-voltage AC Vacuum Load Switch – Fuse Combination Unit



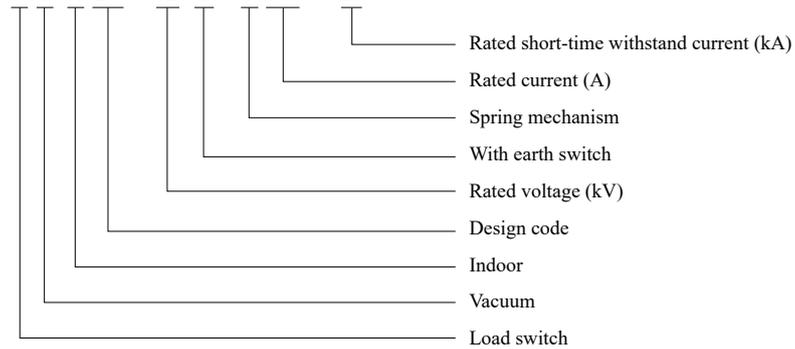
### 1 Overview

1.1 The product is suitable for the 10kV, 50Hz three-phase power distribution system for control and protection of electrical devices such as transformer, cables, and overhead lines. It is widely used in terminal substation and box-type transformer substation used in urban network and rural network for control and protection of ring network and dual radiant power supply unit.

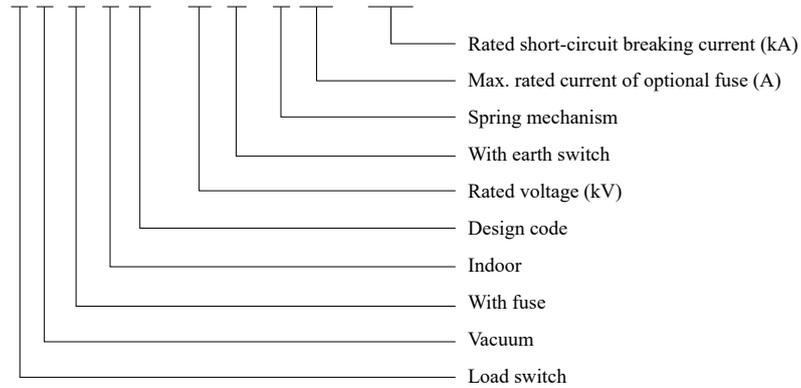


### 2 Type Designation

**F Z N 25 - 12 D / T 630 - 20**



**F Z R N 25 - 12 D / T 200 - 31.5**



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### 3 Technical Parameters

No.	Name		Unit	FZN25-12D	FZRN25-12D
1	Rated voltage		kV	12	12
2	Rated frequency		Hz	50	50
3	Rated current		A	630	200
4	Rated insulation level	Power frequency withstand voltage Imin	To earth, between phases	42	
			Isolating open contacts	48	
			Vacuum open contacts	30	
		Lightning impulse withstand voltage (peak)	To earth, between phases	75	
			Isolating gaps	85	
5	Rated short-circuit withstand current (thermal stability current)		kA	20	--
6	Rated short-circuit duration (thermal stability current)	Load switch	S	4	--
		Earth switch		2	
7	Rated short-circuit making current (peak)		kA	50	--
8	Rated active load breaking current		A	630	--
	Rated closed loop breaking current			630	--
	5% active load breaking current			31.5	--
	Rated cable-charging current			10	--
9	Breaking non-load transformer capacity		kVA	1600	
10	Rated short-circuit breaking current (current limiting fuse)		kA	-	31.5
11	Rated transfer current or take-over current		A	-	2000
12	Mechanical life		Times	10,000	
13	Impactor output energy		J	-	2~5
14	Main circuit resistance		$\mu\Omega$	$\leq 170$	$\leq 300$

### 4 Operating Conditions

- 4.1 Ambient temperature: Max.: +40°C; Min.: -15°C.
  - 4.2 Altitude: Not exceed 1,000 meters.
  - 4.3 Relative humidity: Daily mean  $\leq 95\%$ ; monthly mean  $\leq 90\%$ ;
  - 4.4 Seismic intensity does not exceed 8 magnitude scales.
  - 4.5 Used in a place where there is no fire, explosive risk, chemical corrosion, and violent vibration.
  - 4.6 The installation site shall be free of flammable matters, explosion risks, chemical corrosion, and violent vibration.
- Note: If deviation of normal service conditions occurs, the customer should negotiate with the manufacturer.

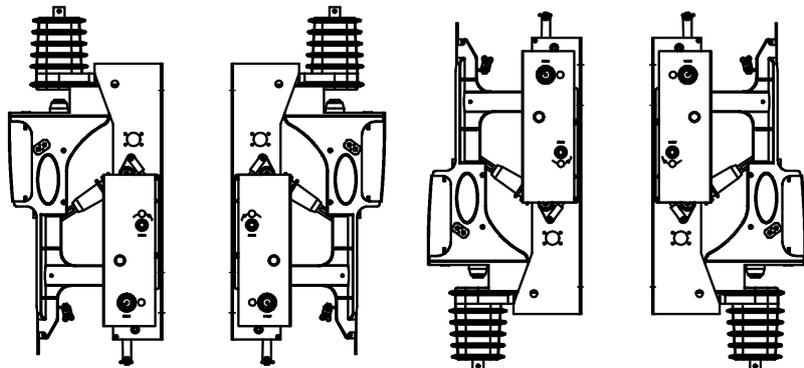
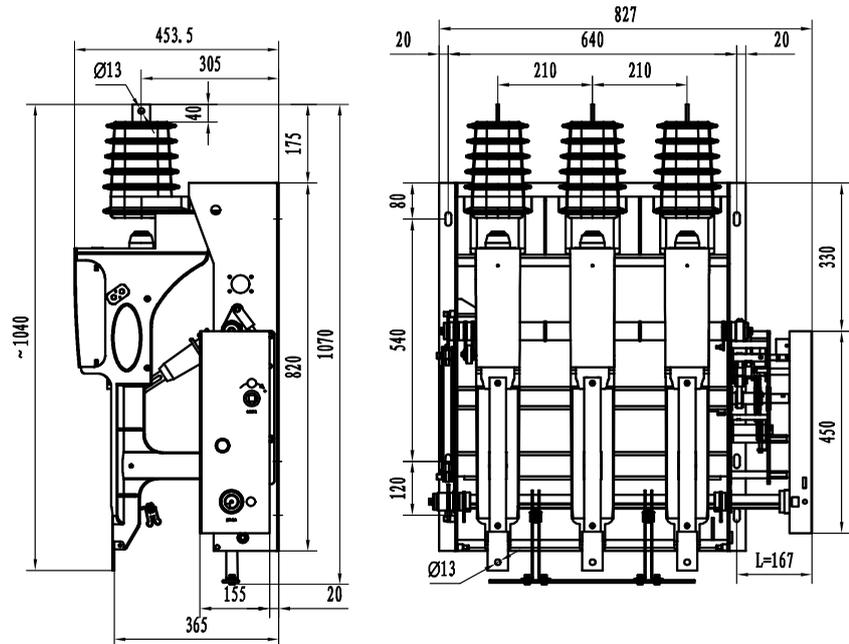
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**5 Technical Features**

- 5.1 Vacuum extinguishing method is used, featuring with stable and reliable performance, long electrical life, high opening and closing times, and strong making and breaking capacity;
- 5.2 By integrating the disconnecter, load switch and earthing switch together, the structure is compact;
- 5.3 The direct-acting type isolating break is connected to the vacuum interrupter in series, and the unique operating program linkage is completed one time;
- 5.4 The load switch, earthing switch, valve, and switch cabinet are equipped with “Five-preventive” mechanical interlock to prevent misoperation for safe and reliable action.

**6 Outline and Installation Dimensions**

6.1 Load switch



Right console installed at front side

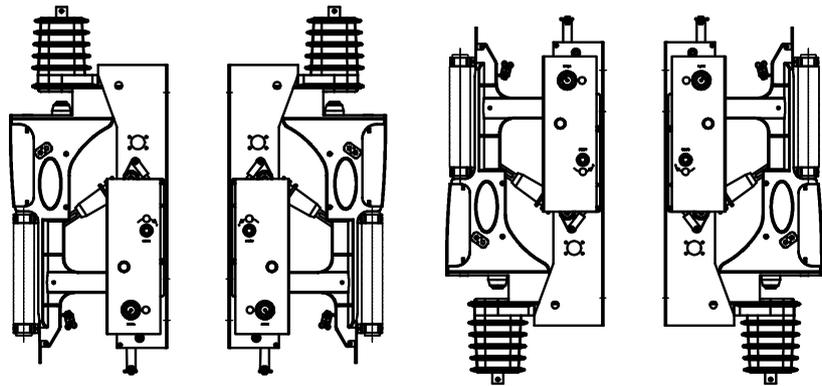
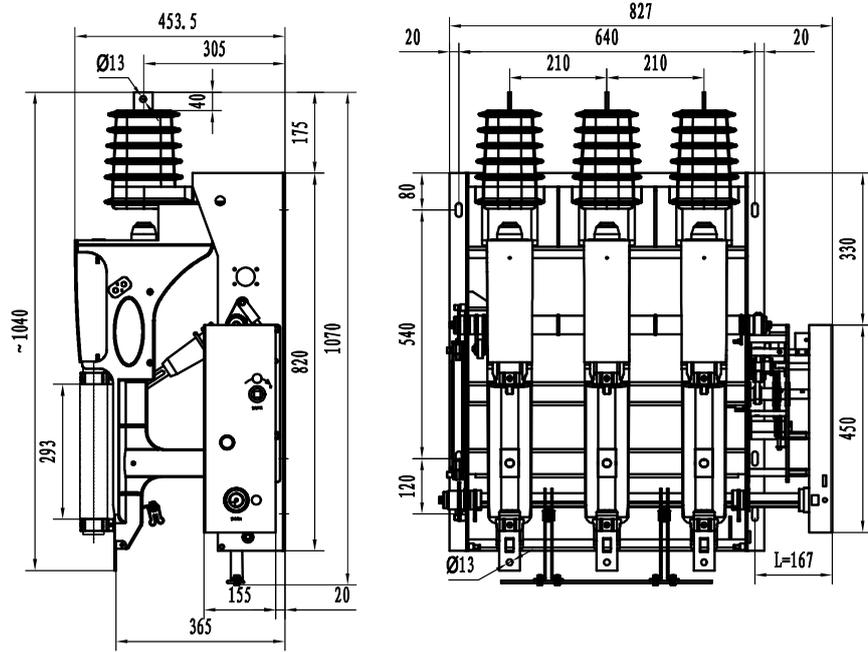
Left console installed at front side

Right console installed at back side

Left console installed at back side

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6.2 Load switch – fuse combination unit



Right console installed  
at front side

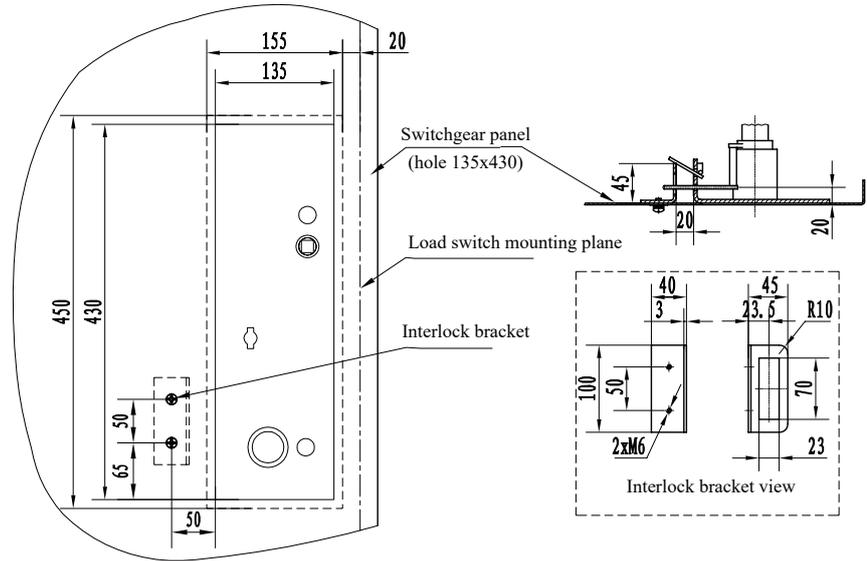
Left console installed  
at front side

Right console installed  
at back side

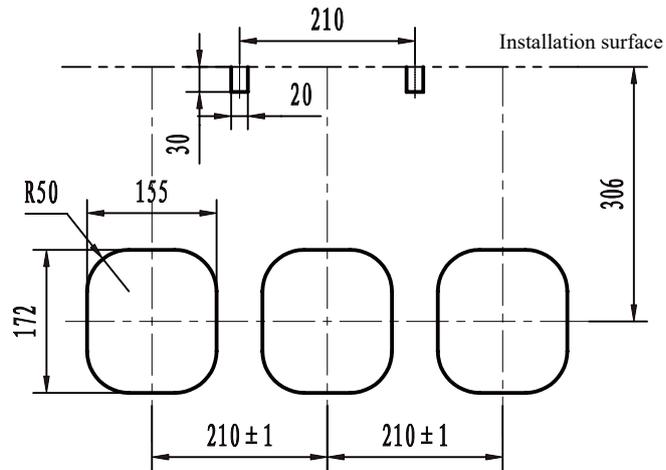
Left console installed  
at back side

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6.3 Cabinet door hole and interlock installation diagram (with right console installed at front side)



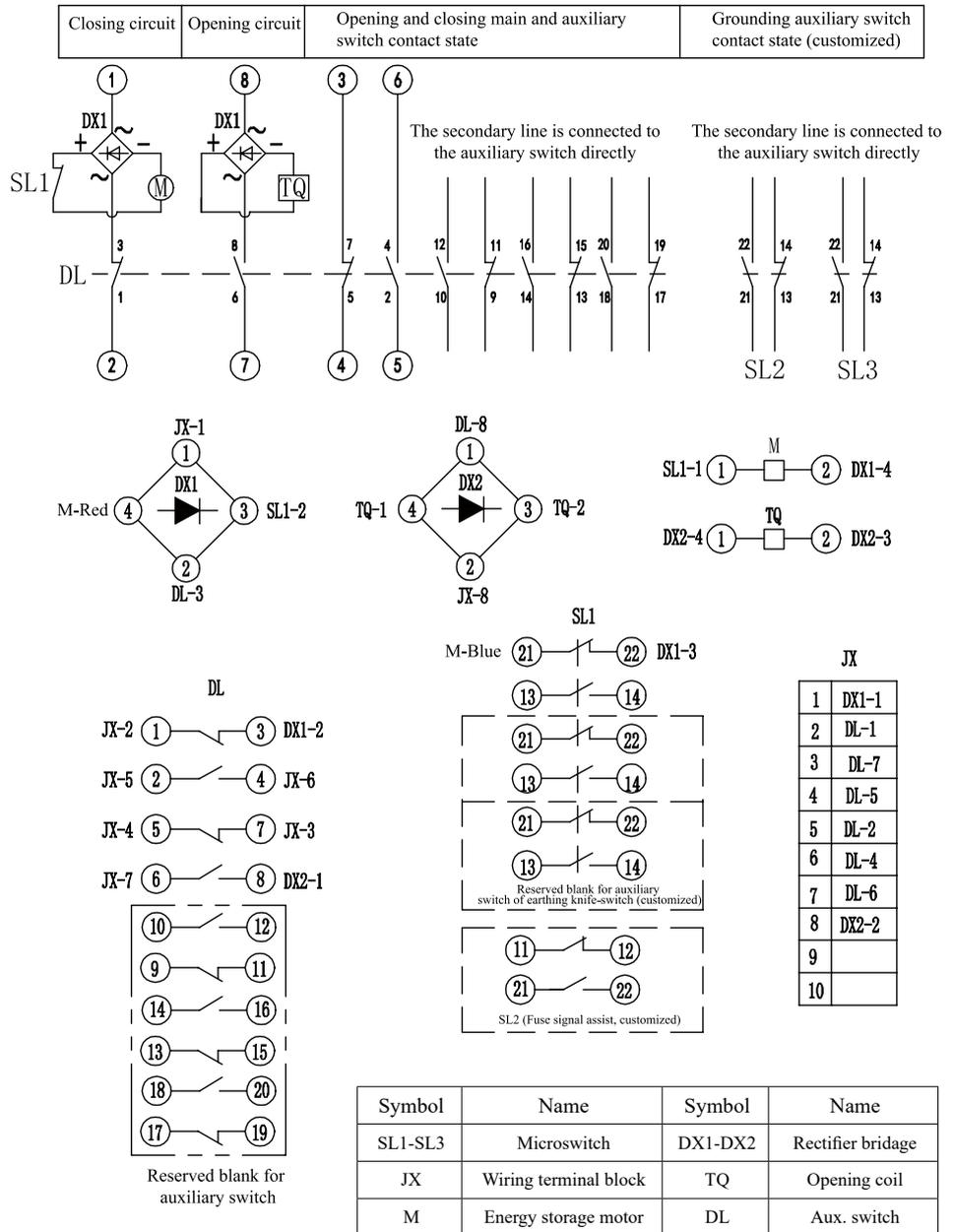
6.4 Baffle hole diagram



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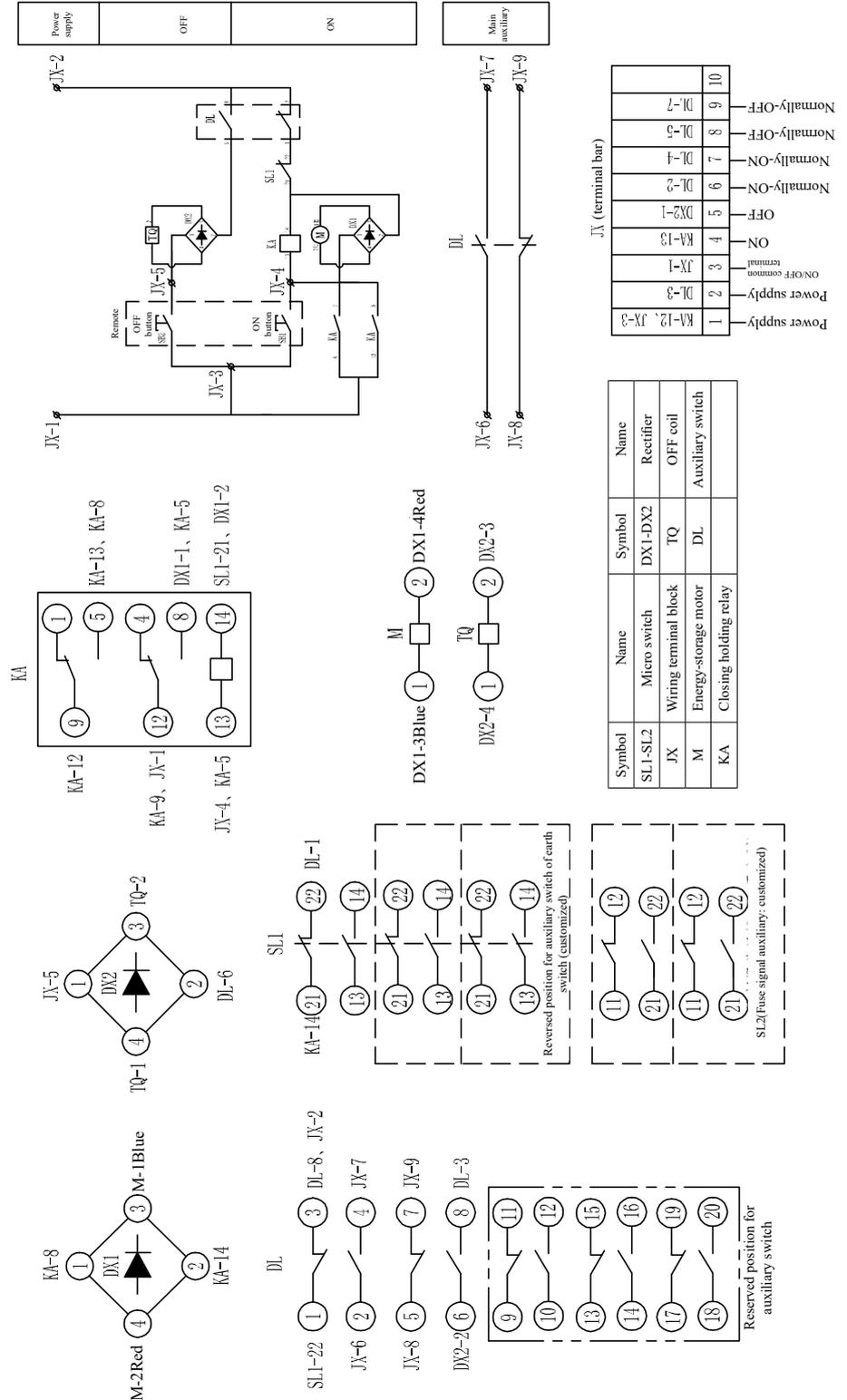
### 7 Secondary Scheme Diagram

#### 7.1 Electric (without holding relay)



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7.2 Electric (with holding relay)



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**8 Ordering Technical Confirmation Form**

**FN(R) N25-12 (D) order technical confirmation table**

Please determine your requirements according to the items listed in table below:

Product model	Load switch: <input type="checkbox"/> FZN25-12(D)/T630-20	
	Load switch – fuse combination unit: <input type="checkbox"/> FZRN25-12(D)/T200-31.5	
Qty. (unit)		
Installation method	<input type="checkbox"/> Front mounted <input type="checkbox"/> Back mounted <input type="checkbox"/> Wall-mounted Note: The phase sequence of phase A, B, and C is far, medium and near for side-mounted method.	
Operating direction	<input type="checkbox"/> Right operated <input type="checkbox"/> Left operated	
Operating mode	<input type="checkbox"/> Electric	<input type="checkbox"/> Without holding relay (standard configuration) <input type="checkbox"/> With holding relay
		<input type="checkbox"/> AC110V <input type="checkbox"/> DC110V <input type="checkbox"/> AC220V <input type="checkbox"/> DC220V
	<input type="checkbox"/> Manual <input type="checkbox"/> Manual with electric opening (operating voltage AC/DC_)	
Earthing device	<input type="checkbox"/> With earthing knife-switch <input type="checkbox"/> Without earthing knife-switch	
Aux. switch of main knife switch	<input type="checkbox"/> Five-open and five-closed <input type="checkbox"/> No (manual as standad configuration) <input type="checkbox"/> Others _____	
Earthing aux. switch	<input type="checkbox"/> Two-open and two-closed <input type="checkbox"/> No (standad configuration) <input type="checkbox"/> Others _____	
Secondary wirintg scheme	<input type="checkbox"/> Tengen standard sheme (see catalogue) <input type="checkbox"/> Non-standard scheme (please attach the figure)	
Dimensions	<input type="checkbox"/> Tengen standard outline (see catalogue) <input type="checkbox"/> Non-standard outline (please attach the figure)	
Other special requirements		Ordering unit (seal)  Signature: _____ Confirmation date: _____ Tel: _____

Notes: 1. Options not checked are produced according to the TENGEN's standard configuration;  
 2. Load switch – fuse combination unit without fusible core.