3SERIES
MORE VALUE FOR PRICE!

User Manual

HDM3v

Moulded Case Circuit Breaker

Please carefully read this User Manual before installing and operating the product, and keep this manual properly for future reference

Himel
The Right Choice!

Himel
The Right Choice!

Safety Notice

Please carefully read this instruction before the installation, operation, run, maintenance, and inspection, and follow the contents of the instruction to properly install and operate this product.

Danger:

- Do not operate the circuit breaker with your wet hands;
- Do not touch the live parts during operation;
- Mark sure that the product is deenergized during the maintenance and service;
- Do not use the short circuit method for product testing;

Caution:

- The installation, maintenance and service shall be performed by the qualified professional;
- Various characteristics of product have been set in factory and cannot be removed or adjusted without permission during operation;
- Please confirm that the rated voltage, rated current and characteristics of the product meet the operating requirements before use;
- In order to prevent interphase circuit breaker, a phase partition is provided for the product before shipment, and shall be installed properly before use; the exposed wires or copper busbars at the terminal block shall be insulated to ensure the safety of insulation;
- To test the insulation resistance or power frequency withstand voltage, the electronic components between the current loops must be disconnected, otherwise the product performance will be affected;
- If found damage or abnormal sound when unpacking, please stop the operation immediately and contact the supplier;
- Overload alarm non-trip products do not have overload protection function, so that they are only suitable for overload alarm non-trip applications;
- For products equipping with undervoltage release, the rated voltage first be applied onto the undervoltage release before closing;
- To purchase accessories, please select the supporting accessories provided by the company to ensure quality; our company is not responsible for any adverse consequence caused by the use of the accessories not provided by our company;
- When scrapping the product, please dispose the product waste properly. Thanks for your cooperation.

Test:

- This circuit breaker has passed the insulation test according to the available standards. If retest is required before installation, its steps are as follows:
- A 1000VDC megohmmeter is used;
- The insulation resistance should not be less than 20MΩ;
- Test is performed between the circuit breaker contacts, between the phases, between the phase and the case (the case is covered with metal foil);
- The undervoltage release device connected to main circuit shall be located between the incoming wire and the circuit breaker case;

Note: If there is no megohmmeter, the power frequency withstand voltage tester can be used instead of it. For measurement parts, refer to the insulation test method; the voltage 2000V shall be applied for 5s.

Please strictly follow the information marked with ⚠

3SERIES
MORE VALUE FOR PRICE!

Himel
The Right Choice!

1. About HDM3v

1.1 Packing list

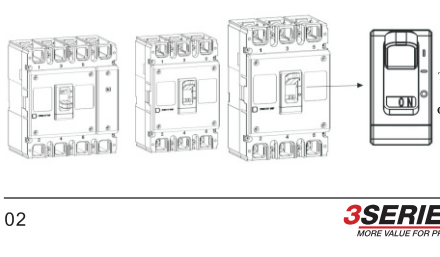
Model HDM3v-	Mounting screw-Qty.	Wiring screw - Qty. (3P/4P)	Phase partition - Qty. (3P/4P)	Extended handle	Circuit breaker	Manual (with certificates)
630b M/N	M5×85-4	M12×30-6/8	4/6	1	1	1
800 M/N	M6×95-4	M12×35-6/8	4/6	1	1	1

1.2 Working environment and conditions

- The protection grade of this product is IP30 (IP00 at the terminal block)
- The pollution level of this product is Level 3.
- Rated working voltages: 400/415V, 500V, 690V
- The altitude of the installation site should not exceed 2000m. When the product is installed and used in a place where the altitude exceeds 2000m, please contact the manufacturer.
- Allowable ambient temperature: -25℃~ +70℃; relative humidity (at ambient temperature 25℃): ≤95%; The mean temperature for 24h does not exceed 35℃. (Note: When the working temperature is ranged -25℃~ -5℃ and +40℃~+70℃,please contact the manufacturer).

2. Operation and Debugging HDM3v

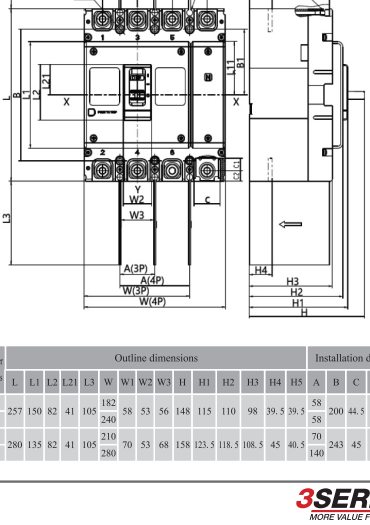
- The handle of circuit breaker is in the "Trip" position in factory.
- Turn the operating handle to the "OFF" position for re-trip operation.
- Turn the circuit breaker to the "ON" position.
- With the Trip button pressed, the circuit breaker handle shall return to the "Trip" position.



3SERIES
MORE VALUE FOR PRICE!

Himel
The Right Choice!

3. Outline, Installation, and Wiring Dimensions of HDM3v



Unit: mm

Model HDM3v-	Number of poles	Outline dimensions														Installation dimensions					
		L	L1	L2	L21	L3	W	W1	W2	W3	H	H1	H2	H3	H4	H5	A	B	C	C1	C2	Ød
630b M/N	3	257	150	82	41	105	182	58	53	56	148	115	110	98	39.5	39.5	58	200	44.5	19	17.5	6.2
	4						240										58					
800 M/N	3	280	135	82	41	105	210	70	53	68	158	123.5	118.5	108.5	45	40.5	70	243	45	16	19	7
	4						280										140					

3SERIES
MORE VALUE FOR PRICE!

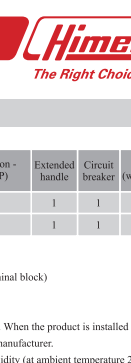
Himel
The Right Choice!

4. Install HDM3v

4.1 Safety distance of circuit breaker

Unit: mm

Model HDM3v-	Amin	Bmin	Cmin	Dmin
630b M/N	110	55	10	0
800 M/N	110	55	10	0



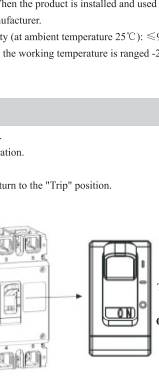
Caution:

1. When the circuit breakers are installed side by side, it is necessary to ensure the insulation safety between the terminals;
it is recommended to install a long terminal cover or use an additional phase partition for insulation protection between the two products;
2. If a more compact installation is required, a zero-arcing hood is recommended to obtain a smaller safety distance;
3. Please provide the insulation protection of the mounting base to prevent that the ground clearance of the busbar, terminal or screw is < 8mm, and it is recommended to install the base plate attached to the long terminal cover or provide additional ground insulation protection treatment.

4.2 Size of hole on the circuit breaker panel

Unit: mm

Model HDM3v-	Number of poles	Exposed front cover and toggle handle				Exposed toggle handle		
		L1	L11	W11	W1	L2	L21	W2
630b M/N	3P	153	76.5	92.5	185	85	42.5	56
	4P				243			
800 M/N	3P	138	69	106.5	213	85	42.5	56
	4P				283			



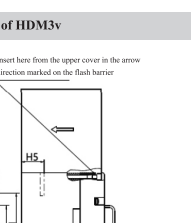
3SERIES
MORE VALUE FOR PRICE!

Himel
The Right Choice!

4.3 Size of hole on the mounting plate

Unit: m

		A	B	C	ΦD
630b M/N	3P	200	58	-	6.5
	4P			-	
800 M/N	3P	243	70	-	7.5
	4P			70	



4.4 Recommended value of wiring capacity

Rated current (A)	10	16 20	25	32	40 50	63	80	100	125 140	160	180 200 225	250	315 350	400
Recommended cross section of conductor (mm^2)	1.5	3	4	6	10	16	25	35	50	70	95	120	185	240

Rated current (A)	500	630	700 800
Recommended cross section of conductor (mm^2)	150x2	185x2	240x2
Recommended cross section of copper busbar (mm^2)	150x2	200x2	250x2

Caution:

Please follow the dimensions C, C1, and C2 in the Outline, Installation, and Wiring Dimensions of HDM3v Series, and select the appropriate terminal block or busbar to meet the corresponding wiring capacity requirements.

4.5 Recommended values of tightening torque of wiring screw

Specification HDM3v-	630b M/N	800 M/N
Hex wiring screw	M12	M12
Torque (N.m)	18-20	18-20

Caution:

Please tighten the wiring screw of product according to the recommended value, because too large or too small tightening torque may cause poor contact or damage to the case.

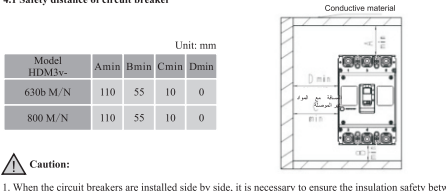
3SERIES
MORE VALUE FOR PRICE!

Himel
The Right Choice!

5 Internal Accessories and Extended Functions

5.1 Internal Accessories (undervoltage release, shunt release, auxiliary, alarm, dual-auxiliary, and auxiliary alarm)

- Assembly diagram

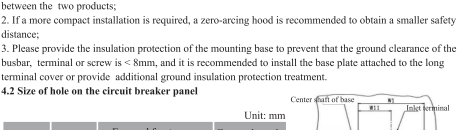


- Mountable accessories in each cavity

Left accessory cavity: Left shunt, left undervoltage, left single auxiliary, left dual auxiliary, left alarm, and left auxiliary alarm

Right accessory cavity: Right shunt, right single auxiliary, right dual auxiliary, right alarm, and right auxiliary alarm

- Wiring and schematic diagram



- Electrical parameters

Specification HDM3v-	Undervoltage coil holding power (W)		Min. suction power of undervoltage coil (W)	
	AC400V	AC230V	AC400V	AC230V
630b/800	0.77	0.75	225	190

Specification CDM3v-	Mounting location	Min. operating power of shunt coil (W)		
		AC400V	AC230V	DC24
630b/800	Left and right cavities -	101	60	98

Electrical parameters of alarm and auxiliary			
Resistive current 3A		3A	
Usage category (GB14048.5-1)		AC15	DC13
Operating voltage	AC400V	0.3A	-
	DC220V	-	0.15A

3SERIES
MORE VALUE FOR PRICE!

Himel
The Right Choice!

- Testing requirements for internal accessories

1) Undervoltage release:

1.1) When the rated operating voltage is 35%~70%, the undervoltage release can work to trip the circuit breaker;

1.2) When the rated operating voltage is 85%~110%, the undervoltage release can work to make the circuit breaker can be closed reliably;

1.3) When the rated operating voltage is below 35%, the undervoltage release shall work to prevent the circuit breaker from closing;

2) When the 70%~110% of the rated voltage is applied onto the shunt release, the circuit breaker can open reliably and the handle indicates the Trip position.

3) For circuit breaker equipping with an auxiliary contact, the circuit breaker open and closing action as well as the auxiliary contact conversion signal shall be normal;

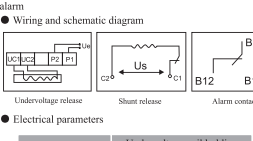
4) For circuit breaker equipping with an alarm contact, the circuit breaker can be closed and trip normally (with red Trip button pressed) and the alarm contact conversion signal shall be normal.

Caution:

1. When the rated power voltage of shunt release is DC24V, the maximum length of copper wire shall not exceed the value listed in the table below:

Rated control power voltage Us (DC24V)	Cross-sectional area 1.5mm^2	Cross-sectional area 2.5mm^2
100%Us	150m	250m
80%Us	100m	160m

2. If the requirements of the above table are not met, it is recommended to use the shunt release control loop design shown in figure below:



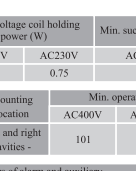
3. The continuous power-on time of shunt release shall not exceed 5s, otherwise the shunt release may burn; when therated control power voltage selected is DC24V, the rated current of control loop shall reach 4.5A~5.5A.

4. The undervoltage release is of the backpack structure, and all accessories are of the lead structure by default except for the undervoltage release.

5. The default wire length of the product with lead structure is about 500mm. If a longer lead wire is used by the customer, when the shunt or undervoltage release cannot be driven, it is recommended to use a relay mode recommended in the "Note 2" to ensure the minimum drive power.

5.2 Overload alarm non-trip

- Wiring schematic diagram



3SERIES
MORE VALUE FOR PRICE!

Himel
The Right Choice!

Principle: A set of normally-open contacts are used in the product. In case of an overload fault of any phase of the product, an alarm signal will be issued from the product within a certain delay time range; RB11/RB14 refers to the wire number.

- Electrical parameters

Overload alarm non-trip	
Rated operating voltage	Operating current
AC250V	0.5A
DC30V	0.5A

Caution:

1. Products with this function are not equipped with an overload protection.
2. After the fault is eliminated, this product still maintains at the alarm state continuously for a period of time based on the thermal effect.
3. The product is of the lead structure by default, and the default wire length is about 220mm.

6. Maintenance and Service

- Maintenance and service must be performed by the qualified professionals.
- Mark sure that the product is de-energized;
- The maintenance and service shall be conducted once a year under normal operating conditions, and the maintenance contents are listed in table below.

Item	Content
Appearance	No dust or condensation; clean if necessary; the case is not damaged
Terminal connection	Tighten it firmly according to the torque listed in the 4.5 Recommended values of tightening torque of wiring screw without any looseness.
ON/OFF/Trip operation via handle	The handle shall be operated flexibly without blockage; the product adopts the self-clean contact structure; if found any change of the contact resistance due to the oxidation phenomenon, conduct the ON/OFF operations several times to peel off the oxidation layer between the dynamic and static silver points to reduce the contact resistance.

7. Unpacking Inspection

After unpacking, check the product for damage and the exposed metal for rust and the product for any defect caused by poor transport or storage. If found any phenomenon, stop the product, and contact the supplier in time for solution.

8. Company Commitment

Under the condition that users follow the use and storage conditions and the product are well sealed, within 36 months from the production date, our company will provide repair and replacement service free of charge for any damage or abnormal operation due to poor manufacture quality. A paid repair will be provided if the warranty period expires. For any damage due to one of the following situations, a paid repair will be given even if within the warranty period:

- Improper operation, maintenance, or storage;
- Modified without permission or improper repair;
- Damage due to falling off or caused during installation after purchase;
- Force majeure such as earthquakes, fires, lightning strikes, abnormal voltages, and secondary disasters;

3SERIES
MORE VALUE FOR PRICE!

Himel
The Right Choice!

If you have any question, please contact the dealer or our company□fs customer service department.
Customer service hotline: 400-826-8008

Himel website

HIMEL

www.himel.com

♻Paper can be recycled

Nov.2022

3SERIES
MORE VALUE FOR PRICE!