HDP6 Motor Circuit Breakers

Standard: IEC60947-4

Range Presentation

HDP6 Motor Control & Protection range is meant to help optimize and secure your installation from HVAC to small Genset applications. It also helps your packaging or pumping businesses to run on a reliable product.

The range covers application up to 32A including wide range of voltage from 230V up to 690V

Features

- Frame Current: 32A, 80A
- Setting Current: 0.1-32A, 25-80A

Online Content

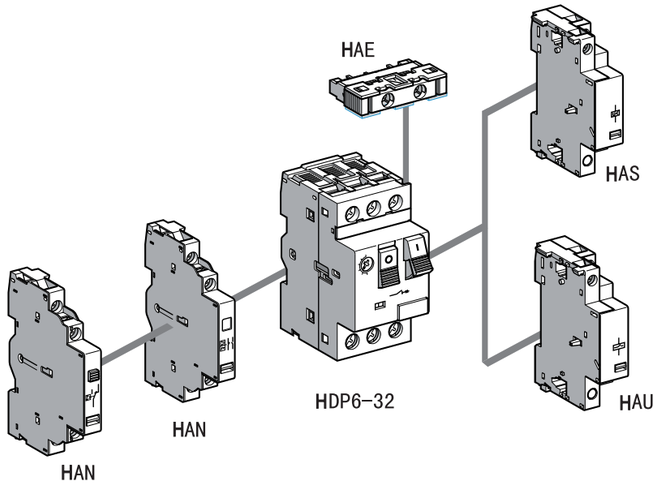
HDP6

Selection Code

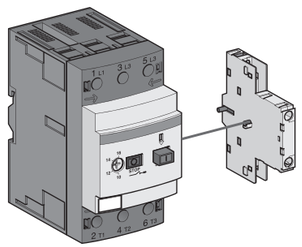
Range name	Frame size	Setting currents
HDP6	**32**	**P16**
HDP6	**32:** 32A	**P16:** 0.1-0.16A **32:** 24-32A
HDP17Z	**80:** 80A	**40:** 25-40A **63:** 40-63A **80:** 56-80A

Overview of Accessories

HDP6-32



HDP17Z-80



HDP6 Motor Circuit Breakers

Standard: IEC60947-4

Technical Parameter										
Rated Isolation Voltage Ui V		690								
Rated Operational Voltage Ue V		230/240, 400/415, 440, 500, 690								
Rated Impulse Withstand Voltage Uimp V		6000								
Rated Frequency Hz		50/60								
Applicable Category		AC - 3A								
Operation Mode		Button Type								
Trip Class		10A								
Electrical Durability Times		100000								
Mechanical Durability Times		100000								
Flash-Over Distance mm		⩾ 40								
Accessories		Under-Voltage Release, Shunt Release, Instantaneous Auxiliary Contact (Side and Face-up Installation)								
Rated Current In A		0.16	0.25	0.4	0.63	1	1.6	2.5	4	
Setting Current A		0.10-0.16	0.16-0.25	0.25-0.40	0.40-0.63	0.63-1.00	1.00-1.60	1.60-2.50	2.50-4.00	
Rated Operating Power KW Class AC-3 50/60 HZ	400V	-	-	-	-	-	0.37	0.75	1.5	
	690V	-	-	-	0.37	0.55	1.1	1.5	3	
Breaking Capacity KA	400V Icu	100	100	100	100	100	100	100	100	
	690V Ics	100	100	100	100	100	100	100	100	
	400V Icu	100	100	100	100	100	100	3	3	
	690V Ics	100	100	100	100	100	100	2.25	2.25	

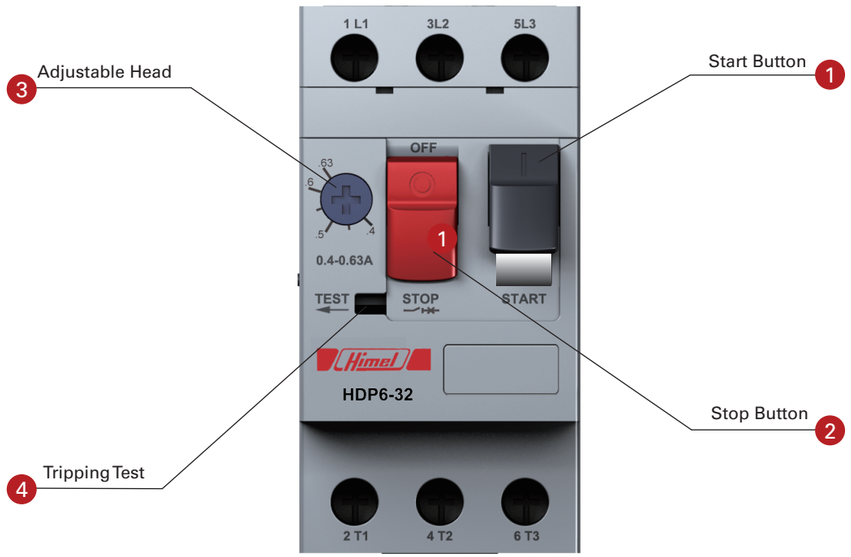
Technical Parameter											
Rated Isolation Voltage Ui V		690									
Rated Operational Voltage Ue V		230/240, 400/415, 440, 500, 690									
Rated Impulse Withstand Voltage Uimp V		6000									
Rated Frequency Hz		50/60									
Applicable Category		AC - 3A									
Operation Mode		Button Type									
Trip Class		10A									
Electrical Durability Times		100000									
Mechanical Durability Times		100000									
Flash-Over Distance mm		⩾ 40									
Accessories		Under-Voltage Release, Shunt Release, Instantaneous Auxiliary Contact (Side and Face-up Installation)									
Rated Current In A		6.3	10	14	18	23	25	32	40	63	80
Setting Current A		4.00-6.30	6.00-10.0	9.00-14.0	13.0-18.0	17.0-23.0	20.0-25.0	24.0-32.0	25.0-40.0	40.0-63.0	56.0-80.0
Rated Operating Power KW Class AC-3 50/60 HZ	400V	2.2	4	5.5	7.5	11	11	15	16	20	25
	690V	4	7.5	9	11	15	18.5	23	18.5	30	40
Breaking Capacity KA	400V Icu	100	100	15	15	15	15	10	30	30	35
	690V Ics	100	100	7.5	7.5	6	6	5	15	15	17.5
	400V Icu	3	3	3	3	3	3	3	5	6	8
	690V Ics	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	3	4

Note: Ics means the breaking capacity of rated short circuit operation; Icu means the breaking capacity of rated short circuit limited short circuit.

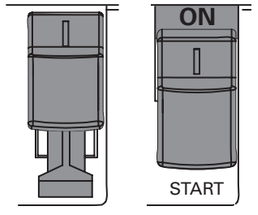
HDP6 Motor Circuit Breakers

Standard: IEC60947-4

Introduction for Functions

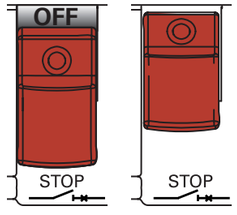


1 Start Button



- Press to start HDP6
- After downward pull-out, lock the start button to stop the work

2 Stop Button



- Press to stop HDP6

3 Adjustable Head

- Set the thermal tripping current

4 Tripping Test

- Can simulate the tripping action, test product performance

MOTOR MANAGEMENT

HDP6 Motor Circuit Breakers

Standard: IEC60947-4

Breaking Capacity

Setting Current	Ue:230/240V		Ue:400/415V		Ue:440V		Ue:500V		Ue:690V	
	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics
0.1-0.16A	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA
0.16-0.25A	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA
0.25-0.4A	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA
0.4-0.63A	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA
0.63-1A	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA
1-1.6A	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA
1.6-2.5A	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	3kA	2.25kA
2.5-4A	100kA	100kA	100kA	100kA	100kA	100kA	100kA	100kA	3kA	2.25kA
4-6.3A	100kA	100kA	100kA	100kA	50kA	50kA	50kA	50kA	3kA	2.25kA
6-10A	100kA	100kA	100kA	100kA	15kA	15kA	10kA	10kA	3kA	2.25kA
9-14A	100kA	100kA	15kA	7.5kA	8kA	4kA	6kA	4.5kA	3kA	2.25kA
13-18A	100kA	100kA	15kA	7.5kA	8kA	4kA	6kA	4.5kA	3kA	2.25kA
17-23A	50kA	50kA	15kA	6kA	6kA	3kA	4kA	3kA	3kA	2.25kA
20-25A	50kA	50kA	15kA	6kA	6kA	3kA	4kA	3kA	3kA	2.25kA
24-32A	50kA	50kA	10kA	5kA	6kA	3kA	4kA	3kA	3kA	2.25kA

Remark: Icu Rated Ultimate Short-circuit Breaking Capacity
Ics Rated Service Short-circuit Breaking Capacity

Main Technical Parameters

Fuse gL/gG (When the prospective short-circuit current is greater than the rated ultimate short-circuit breaking capacity Icu, need a spare fuse)

Setting Current	Ue: 230/240V	Ue: 400/415V	Ue: 690V
0.1-0.16A	-	-	-
0.16-0.25A	-	-	-
0.25-0.4A	-	-	-
0.4-0.63A	-	-	-
0.63-1A	-	-	-
1-1.6A	-	-	-
1.6-2.5A	-	-	20
2.5-4A	-	-	32
4-6.3A	-	-	40
6-10A	-	-	40
9-14A	-	80	50
13-18A	-	80	50
17-23A	100	100	50
20-25A	100	100	50
24-32A	100	100	50

Note: '-'no need to use fuse

HDP6 Motor Circuit Breakers

Standard: IEC60947-4

3 Phase Motor Rated Power, 50/60Hz, AC-3			
Setting Current	Ue: 230/240V	Ue: 400/415V	Ue: 690V
0.1-0.16A	-	-	-
0.16-0.25A	-	0.06kw	-
0.25-0.4A	-	0.09kw	-
0.4-0.63A	-	0.12kw	0.37kw
0.63-1A	-	0.25kw	0.55kw
1-1.6A	-	0.37kw	1.1kw
1.6-2.5A	0.37kw	0.75kw	1.5kw
2.5-4A	0.75kw	1.5kw	3kw
4-6.3A	1.1kw	2.2kw	4kw
6-10A	2.2kw	4kw	7.5kw
9-14A	3kw	5.5kw	9kw
13-18A	4kw	7.5kw	11kw
17-23A	5.5kw	9kw	15kw
20-25A	5.5kw	11kw	18.5kw
24-32A	7.5kw	15kw	22kw

Order Information

Thermal release Setting current	Magnetic release Current Id	400/415V, 50/60Hz, AC-3 Rated operating power	Recommended Contactor	Reference
0.1-0.16A	1.5A	-	HDC3-0911	HDP632P16
0.16-0.25A	2.4A	0.06kW	HDC3-0911	HDP632P25
0.25-0.4A	5A	0.09kW	HDC3-0911	HDP632P4
0.4-0.63A	8A	0.12kW	HDC3-0911	HDP632P63
0.63-1A	13A	0.25kW	HDC3-0911	HDP6321
1-1.6A	22.5A	0.37kW	HDC3-0911	HDP6321P6
1.6-2.5A	33.5A	0.75kW	HDC3-0911	HDP6322P5
2.5-4A	51A	1.5kW	HDC3-0911	HDP6324
4-6.3A	78A	2.2kW	HDC3-0911	HDP6326P3
6-10A	138A	4kW	HDC3-0911	HDP63210
9-14A	170A	5.5kW	HDC3-1211	HDP63214
13-18A	223A	7.5kW	HDC3-1811	HDP63218
17-23A	327A	9kW	HDC3-2511	HDP63223
20-25A	327A	11kW	HDC3-2511	HDP63225
24-32A	416A	15kW	HDC3-3211	HDP63232
25-40A	480A	16kW	HDC3-4011	HDP17K8040
40-63A	756A	20kW	HDC3-6511	HDP17K8065
56-80A	960A	25kW	HDC3-8011	HDP17K8080

MOTOR MANAGEMENT

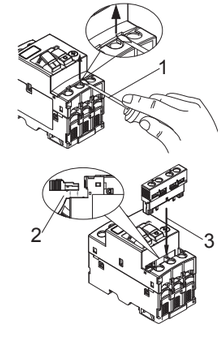
HDP6 Motor Circuit Breakers

Standard: IEC60947-4

Accessories

HDP-32 Accessories				
Name		Type	Spec.	Reference
Undervoltage Release		HAU	110~115V,50Hz;110~127V,60Hz	HAU110
			220~240V,50/60Hz	HAU220
			380~400V,50Hz;380~440V,60Hz	HAU380
			415V,50/60Hz	HAU415
Shunt Release		HAS	110~115V,50Hz;110~127V,60Hz	HAS110
			220~240V,50/60Hz	HAS220
			380~400V,50Hz;380~440V,60Hz	HAS380
			415V,50/60Hz	HAS415
Auxiliary Contact	Top	HAE	2NO	HAE20
			1NC+1NO	HAE11
	Side	HAN	2NO	HAN20
			1NC+1NO	HAN11
HDP17Z-80 Accessories				
Auxiliary Contact	Side	HAN	2NO	HDP17Z80A02
			1NC+1NO	HDP17Z80A01

Installation of HAE11 or HAE20



1. Pry the top auxiliary protective cover up;
2. Put the flat surface of the top auxiliary contact close to the circuit breaker;
3. Align the installation position and insert it.

Parameters of instantaneous auxiliary contact

Name	Rated Insulation Voltage Ui	Utilization Category	Rated Operating Voltage	Rated Operating Current	Conventional Thermal Current
Top Auxiliary Contact	250V	AC-15	24V	2A	2.5A
			48V	1.25A	2.5A
			110V	1A	2.5A
			230V	0.5A	2.5A
		DC-13	24V	1A	2.5A
			48V	0.3A	2.5A
Side Auxiliary Contact	690V	AC-15	48V	6A	6A
			110V	4.5A	6A
			230V	3.3A	6A
			380V	2.2A	6A
		DC-13	24V	6A	6A
			48V	5A	6A
			220V	0.5A	6A

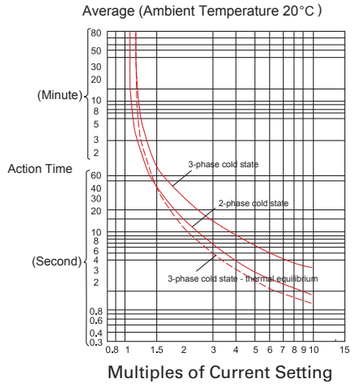
HDP6 Motor Circuit Breakers

Standard: IEC60947-4

Operating Characteristics

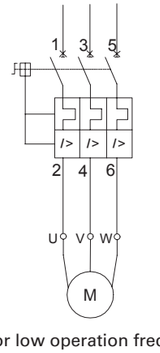
No.	Multiples of Current Setting		Tripping time	Initial Conditions	Reference Ambient Air Temperature
Tripping Characteristics for Phase Load Balance					
1	1.05		Non-tripping within 2h	Cold State	+20°C
2	1.2		Tripping within 2h	Immediately after No.1 test	+20°C
3	1.5		Tripping within 2m	Immediately after No.1 test	+20°C
4	7.2		Tripping within 2s<Tp≤10s	Cold State	+20°C
Tripping Characteristics for Phase Load Unbalance (Phase Failure)					
	Any 2-Phase	3rd Phase			
1	1.0	0.9	Non-tripping within 2h	Cold State	+20°C
2	1.15	0	Tripping within 2h	Immediately after No.1 test	+20°C
The temperature compensation performance					
1	1.0		Non-tripping within 2h	Cold State	+40°C
2	1.2		Tripping within 2h	Immediately after No.1 test	+40°C
3	1.05		Non-tripping within 2h	Cold State	-5°C
4	1.3		Tripping within 2h	Immediately after No.3 test	-5°C

Thermel Tripping Curve



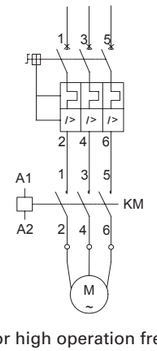
Wiring Diagram

HDP6 drive motor directly



Used for low operation frequency area

HDP6 use with HDC6



Used for high operation frequency area

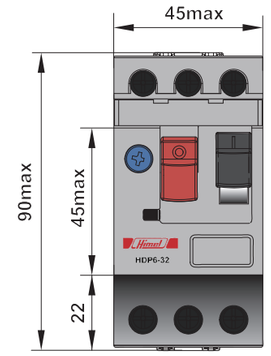
MOTOR MANAGEMENT

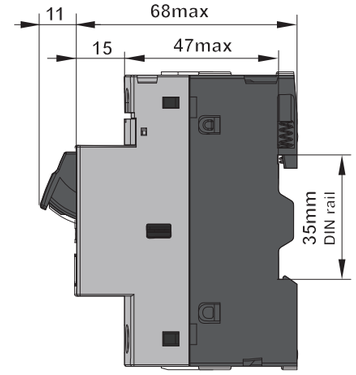
HDP6 Motor Circuit Breakers

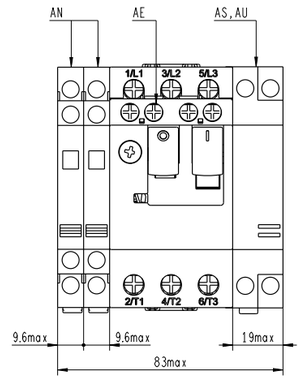
Standard: IEC60947-4

Overall Dimension for Installation

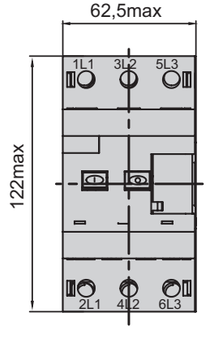
HDP6-32

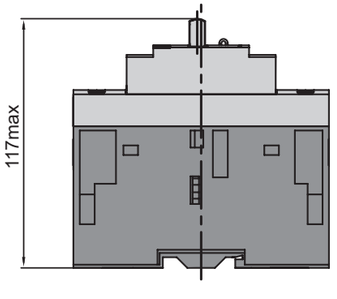






HDP17Z-80





HDS3 Magnetic Starters

Standard: IEC60947-4

Range Presentation

HDS3 is Himel 3 series range of Magnetic Starter mainly used for AC 50/60Hz control system and maximum rated working voltage up to 660V. Direct start and stop of three-phase squirrel cage induction motor with maximum rated working current up to 95A under AC-3 using type, and overload protection is provided for the motor.

Features

- Frame size 38 with plastic housing
- Frame size 18/38/95 with metal housing
- IP54 Protection level
- With HDC3 series contactor and HDR3s series thermal relay

Online Content

HDS3

Selection Code

Range name	Frame size	Operation type	Rated current	Coil voltage	Coil frequency	Thermal relay	Housing
HDS3	**38**	**B**	**09**	**M**	**7**	**P16**	
HDS3	**18:** 18A **38:** 38A **95:** 95A	**B:** with push button	**09:** 9A …….. **95:** 95A	**C:** 36V **F:** 110V **S:** 127V **M:** 220/230V **Q:** 380/400V **L:** 415V **X:** 440V	**7:** 50/60Hz	**P16:** 0.1-0.16A **1P6:** 1.0-1.6 A …….. **93:** 80-93A	**Default:** Plastic **M:** Metal

Technical Parameters

Magnetic Starters		HDS3-18 Metal / HDS3-38 Plastic			HDS3-38 Metal			HDS3-95 Metal				
Rated operatiing current (Ie) AC-3		9A	12A	18A	25A	32A	38A	40A	50A	65A	80A	95A
Maximum motor power kW (AC-3,380V)		4	5.5	7.5	11	15	18.5	18.5	22	30	37	45
Horse power hp (AC-3,380V)		5.4	7.4	10.1	20.1	24.8	40.2	40.2	44.2	49.6	60.4	60.4
Mechanical endurance	10 thousand times	1200			1000			900			650	
Electrical endurance AC-3	10 thousand times	110			90						65	
Operation frequency AC-3	time/h	1200			600							
Rated insultaion voltage (Ui)		690V										
Rated operating voltage (Ue)		240V, 380V/400V, 440V, 660V										
Rated control circuit voltage (Uc)		36V, 110V, 127V, 220/230, 380/400, 415V, 440V										
Coil frequency		50/60Hz										
Operation type		With Pushbutton										
IP grade		IP54										
Certificate		CE, SEMKO										
Standard		IEC 60947-4-1										
Environmental requirement	Altitude	2000m										
	Ambient temperature	-5°C~+40°C										
	Storage temperatAure	-25°C~+70°C										
	Installation position	The inclination to the vertical plane does not exceed ±5°										
	Rated withstand voltage	6kV										
	Humidity requirement	The atmospheric relative humidity does not exceed 50% when the highest ambient temperature is +40°C. It is allowed to have a higher humidity under lower temperature, e.g. up to 90% at +25°C and the dew on the product due to the temperature change should be taken into consideration.										
	Installation condition	a. In a medium where is no explosion danger, and the medium has no place where can corrode matal and damage insulated gas and conductive dust; b. In a place where has snow-proof equipment and lack of water vapour; c. In a place without significant shock andd vibration.										

HDS3 Magnetic Starters

Standard: IEC60947-4

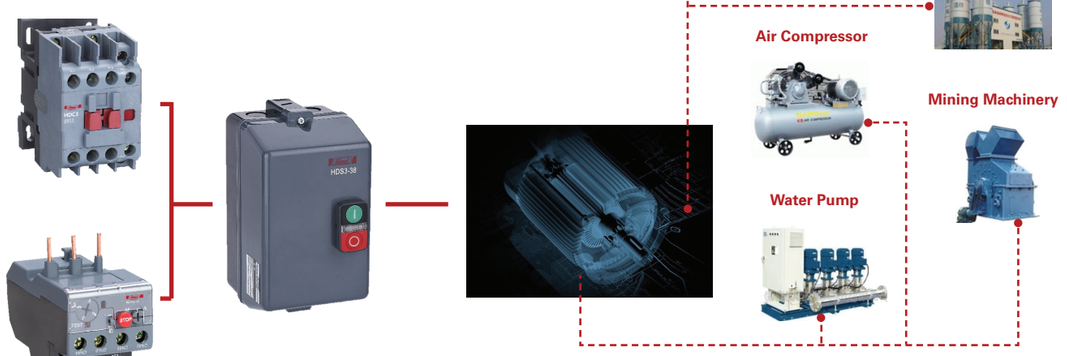
Order Information

Motor power pe (KW,AC-3, 380V)	Rated current (A)	Frame size HDS3		Setting current (A) Range	Setting current (A) Code	AC Contactor type HDC3	Thermal overload relay type HDR3s	Order reference with pushbutton
	9	HDS3-18 Metallic	HDS3-38 Plastic	0.1~0.16	P16	HDC3-9A	HDR3s-25	HDS318B09*7P16M /HDS338B09*7P16
				0.16~0.25	P25			HDS318B09*7P25M /HDS338B09*7P25
				0.25~0.4	P4			HDS318B09*7P4M /HDS338B09*7P4
				0.4~0.63	P63			HDS318B09*7P63M /HDS338B09*7P63
				0.63~1	1			HDS318B09*701M /HDS338B09*701
0.37				1~1.6	1P6			HDS318B09*71P6M /HDS338B09*71P6
0.75				1.6~2.5	2P5			HDS318B09*72P5M /HDS338B09*72P5
1.5				2.5~4	4			HDS318B09*704M /HDS338B09*704
2.2				4~6	6			HDS318B09*706M /HDS338B096*706
3	12			5.5~8	8			HDS318B09*708M /HDS338B09*708
4				7~10	10	HDC3-12A		HDS318B12*710M /HDS338B12*710
5.5	18			9~13	13	HDC3-18A		HDS318B18*713M /HDS338B18*713
7.5	25	HDS3-38 Metallic		12~18	18	HDC3-25A		HDS338B25*718M /HDS338B25*718
11				17~25	25			HDS338B25*725M /HDS338B25*725
15	32			23~32	32	HDC3-32A	HDR3s-3	HDS338B32*732M /HDS338B32*732
18.5	38			30~40	38	HDC3-38A		HDS338B38*740M /HDS338B38*740
18.5	40	HDS3-95 Metallic		30~40	40	HDC3-40A	HDR3s-93	HDS395B40*740
22	50			37~50	50	HDC3-50A		HDS395B50*750
30	65			48~65	65	HDC3-65A		HDS395B65*765
37	80			63~80	80	HDC3-80A		HDS395B80*780
45	93A			80~93	93	HDC3-95A		HDS395B95*793

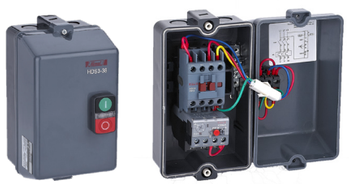
HDS3 Magnetic Starters

Standard: IEC60947-4

HDS3 Magnetic Starter is mainly used for control AC 50/60 Hz and maximum rated working voltage in up to 660V. Direct start and stop of three-phase squirrel cage induction motor with maximum rated working current is up to 95A under AC-3 using type, and over protection is provided for the motor.

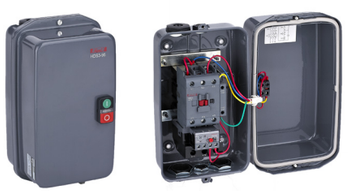


38 frame – Plastic housing



Rated Insolation Voltage (Ui)	690V
Rated Operating Voltage (Ue)	240V, 380V/400V, 440V, 660V
Rated Control Circuit Voltage (Uc)	36V, 110V, 127V, 220/230, 380/400, 415V, 440V
Coil Frequency	50/60Hz
Operation Type	With Pushbutton
IP Grade	IP54
Certification	CE
Standard	IEC 60947-4-1

18/38/95 frame – Metal housing



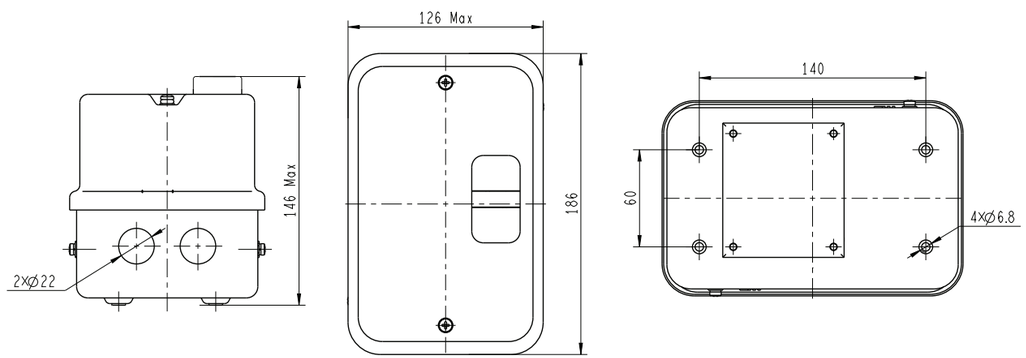
- IP54 Protection level ;
- With better contactor
- and better thermal relay ;
- Better performance ;
- More reliable ;
- RoHS2.0, CE

MOTOR MANAGEMENT

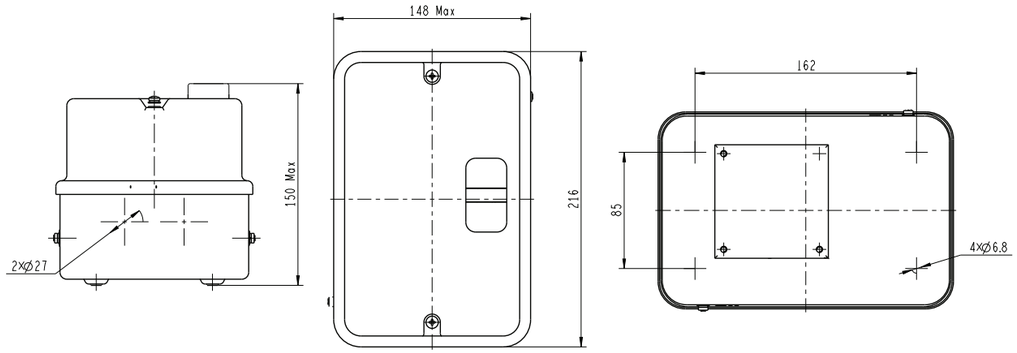
HDS3 Magnetic Starters

Standard: IEC60947-4

Overall Dimension of Installation (mm)



HDS3-18 Metal

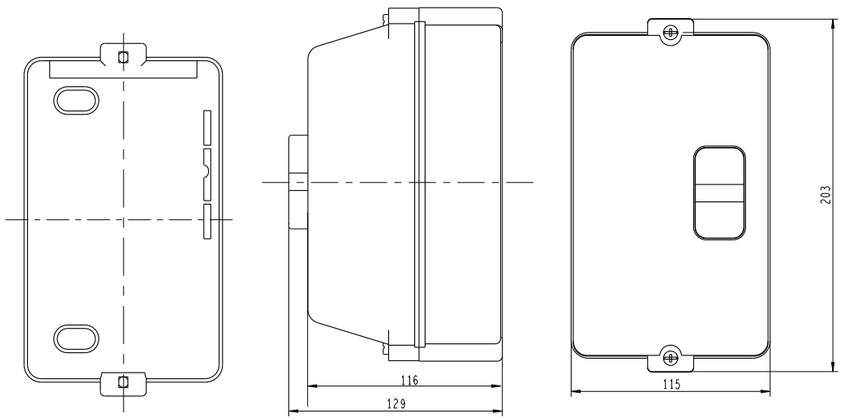


HDS3-38 Metal

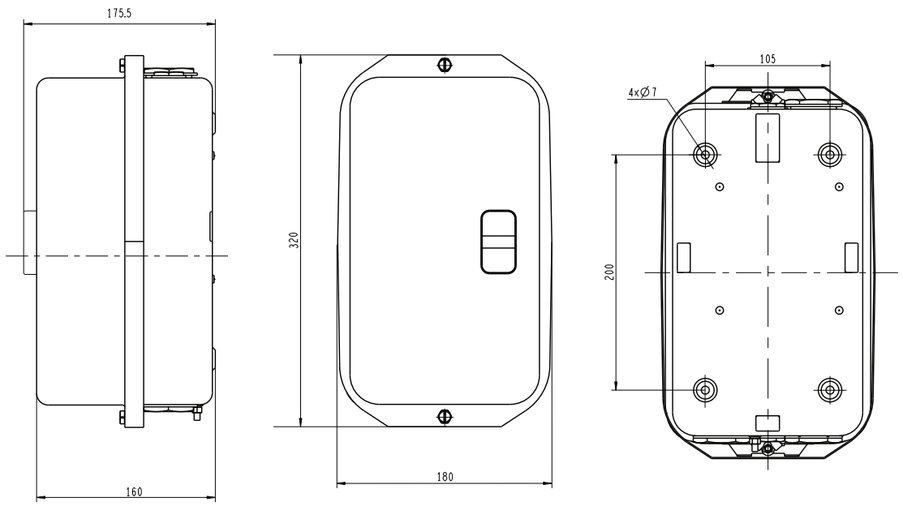
HDS3 Magnetic Starters

Standard: IEC60947-4

Overall Dimension of Installation (mm)



HDS3-38 Plastic



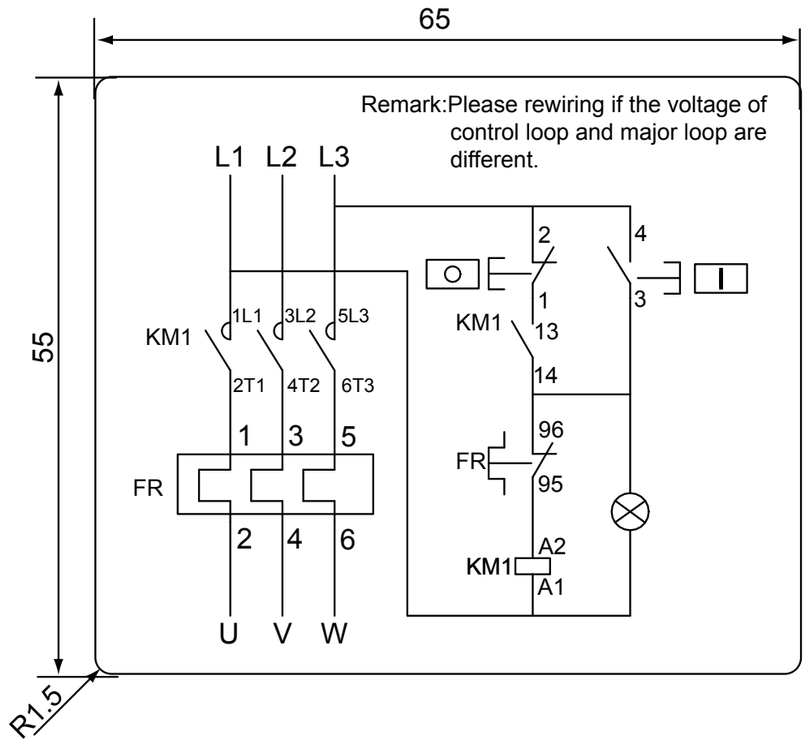
HDS3-95

MOTOR MANAGEMENT

HDS3 Magnetic Starters

Standard: IEC60947-4

Wiring Diagram



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Sep 2020