

DGM2E Series Moulded Case Circuit Breaker

Product Desctription

● CHT 's DGM2E is a electronic trip MCCB, to provide protection for low voltage distribution systems. The device has very small size, high bearking capacity, short flashover and anti-vibration function. The insulation voltage of this model is 800V. It can be used an infrequent switch or an infrequent starter of motor in an alternating circuit with 50/60Hz frequency and 690V maximum retaed voltage.It has wide functions such as overload long time-delay,short circuit instantaneous, short circuit short time-delay,residual protection,under voltage protection etc. And it can be compatible with functional auxiliaries such as shunt release,alarm contact and communication contact.

Features

● Attractive appearance

● Wide models which can be compatible with different functional auxiliaries

● High reliability and long duration

● Fast installation of internal modular auxiliaries, quick response to customer's different requirements.

● Smart and communication-capable, GM2E's shunt release is a smart release consists of mircoprocessors. It has communication interface connecting to the fieldbus. Through a networked computer, it can detect and compute the accurate data of the circuit,monitor the status of the breaker and the circuit, and send the status information of the circuit to the control center for communication and exchanging; Remote-control the circuit and detect the fault to save the reaction time; Flexible

● Small size cut the raw material and power consumption and recyclable ABS enclosue make it a complete environment-friendly prouct.

● Overload-alarm but non-tripping function: DGM2E can apply to different fields such as power distribution and motor protection, fire protection. With this

● Self-generated function: smart release requires no external power supply during working, it acquires power supply automatically only if the main circuit electrified.

● Pre-paid function: The Energy Meter will swicth off the "K" and make there is no signal in the signaling line which make the breaker trip and can not be swicthed on

Working Environment

● Ambient Temperature: -5℃ —40℃, and the average temperature within 24hours can not exceed 35℃.

● Altitude: The altitude of the installaion site of this device can not exceed 2000M.

● Air Condition: The humidity can not exceed 50℃ while the temperature is at 40℃, and the device can stand higher humidity if temperature is low. In the most humid month, when the average temperature is 25℃, the average humidity can not exceed 90℃ and the condensation matter should be considered in this situation.

● Safety: To ensure the safety, it should have no explosive danger,no conductive dust, no severe metal corrosion and no damage to the insulation in the working environment of the device.

● Pollution : Class III, but it is only Calss II of the auxiliaries inside the device.

● Installation Type: The installation type is III for main circuit and is II for auxiliary circuit and control circuit.

● Insttallation Conditions: The device should be installed vertically and the inlet wire should be from upside other than unerside. And the magnetic field at any directions in the installation site can not exceed 5 times of the geomagnetic field.

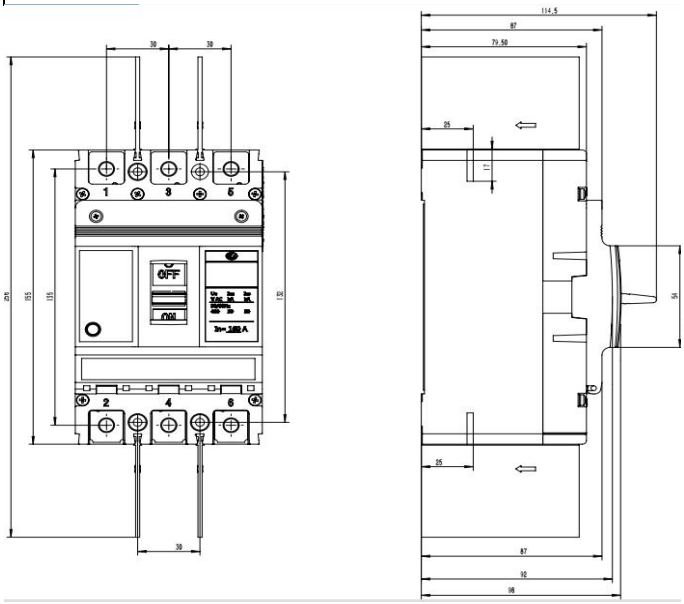
Technical Specifications

			DGM2E-100	DGM2E-160	DGM2E-250	DGM2E-400	DGM2E-630
Poles			3P/4P	3P/4P	3P/4P	3P/4P	3P/4P
Operation Type	Rotary handle operation		YES	YES	YES	YES	YES
	Motor-driven operation		YES	YES	YES	YES	YES
Connection	Fixed type	Front connection	YES	YES	YES	YES	YES
		Rear connection	YES	YES	YES	YES	YES
	Plug-in type	Front connection	YES	YES	YES	YES	YES
		Rear connection	YES	YES	YES	YES	YES
	Drow-out type	Front connection	NO	YES	YES	YES	YES
		Rear connection	NO	YES	YES	YES	YES
Electrical Characteristics							
Rated Current (In) 40℃			20-50 adjustable 40-100 adjustable	100-160 adjustable	100-250 adjustable	160-400 adjustable	400-630 adjustable
Rated operating voltage(V) Ue AC50/60Hz			400/690	400/690	400/690	400/690	400/690
Rated insulation voltage(V) Ui 800			800	800	800	800	800
Rated impulse withstand voltage(kV) Uimp			8	8	8	8	8
Rated ultimate short-circuit breaking capacity(kA)							
Icu AC50/60Hz		400V	50	50	50	50	50
		690V	15	15	15	20	20

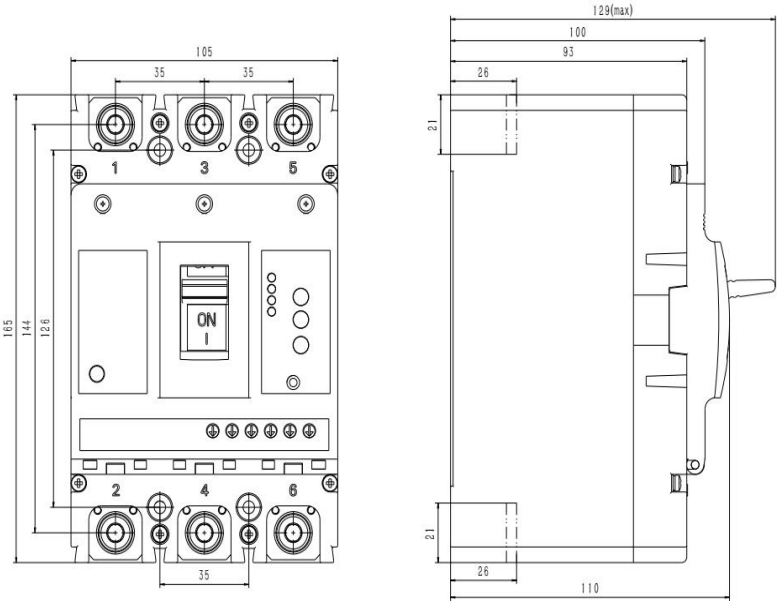
Rated operating circuit breaking capacity(kA)							
Icu AC50/60Hz		400V	50	50	50	50	50
		690V	10	10	10	15	15
Flashover distance(mm)			≦50	≦50	≦50	≦50	≦50
Isolation function			YES	YES	YES	YES	YES
Application type			A	A	A	A	B
Life time (C/O)	Mechanical life		20000	20000	20000	15000	15000
	Electric life 400V	In	8000	8000	8000	7500	7500
Protection							
Release	Thermomagnetic type		NO	NO	NO	NO	NO
	Electronic type		YES	YES	YES	YES	YES
Overload protection	Long time-delay		YES	YES	YES	YES	YES
Short circuit proection	Short time-delay		YES	YES	YES	YES	YES
	Instantaneous		YES	YES	YES	YES	YES
Accessories							
Alarm contact			YES	YES	YES	YES	YES
Auxiliary contact			YES	YES	YES	YES	YES
Shunt release			YES	YES	YES	YES	YES
Under-voltage modular			YES	YES	YES	YES	YES
Pre-paid modular			YES	YES	YES	YES	YES
Communication modular			YES	YES	YES	YES	YES
Overload alarm modular without function			YES	YES	YES	YES	YES
Motor driven operating system			YES	YES	YES	YES	YES
Rotary handle operating system			YES	YES	YES	YES	YES
Product Dimensions/Weight							
Dimensions(LxWxH)		3P	155x90x114.5	165x105x114.5	165x105x114.5	257x140x153	257x140x153
		4P	155x120x114.5	165x140x114.5	165x140x114.5	257x184x153	257x184x153
Weight(kg)		3P	1.4	1.9	1.9	7	7
		4P	1.8	2.5	2.5	9	9

Product Dimension And Installation Diagram

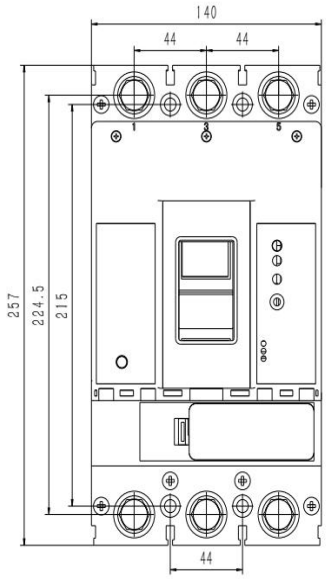
DGM2-100 DGM2-160

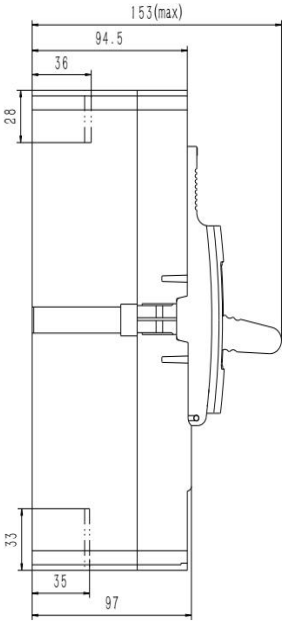


DGM2-250

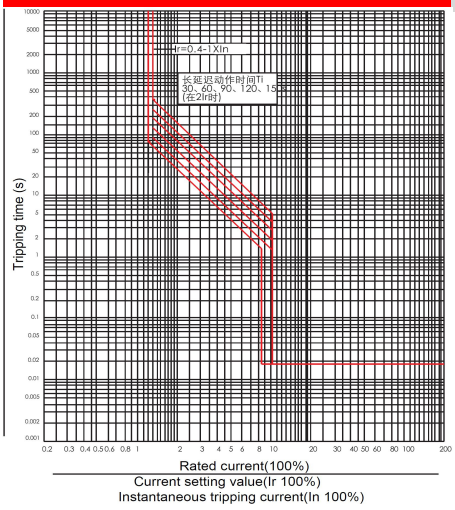


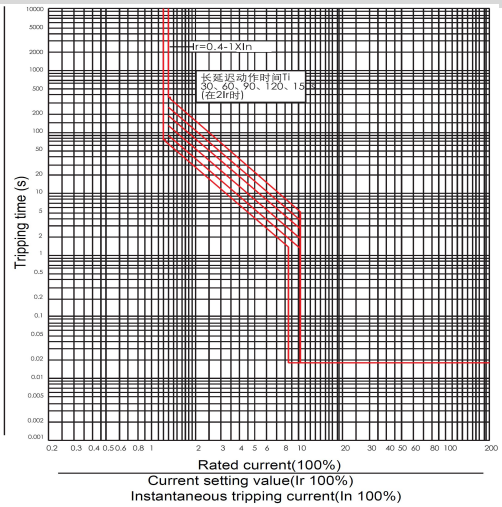
DGM2-400 **DGM2-630**



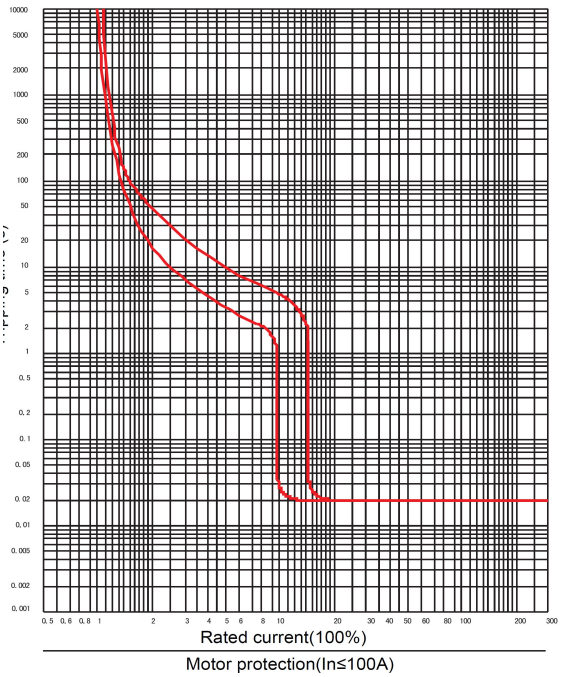


Protection Characteristics

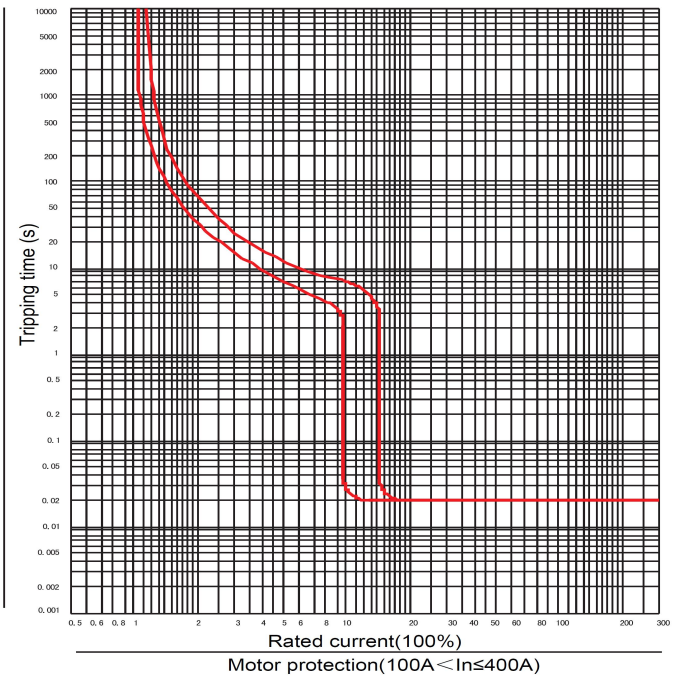




100A,160A,250A Frame



400A,630A,800A Frame



Derating Application

Derating coefficients in different ambient temperature!

Temperature / Model / Coefficient	40℃ (Marine 45℃)	45℃ (Marine 50℃)	50℃ (Marine 55℃)	55℃ (Marine 60℃)	60℃ (Marine 65℃)
Model / Coefficient	Derating Coefficient	Derating Coefficient	Derating Coefficient	Derating Coefficient	Derating Coefficient
DGM2-100	1In	0.95In	0.89In	0.84In	0.76In
DGM2-160	1In	0.95In	0.89In	0.84In	0.76In
DGM2-250	1In	0.96In	0.91In	0.87In	0.82In
DGM2-400	1In	0.94In	0.87In	0.81In	0.73In
DGM2-630	1In	0.93In	0.88In	0.83In	0.76In
DGM2-800	1In	0.88In	0.83In	0.79In	0.76In
DGM2-1250	1In	0.95In	0.91In	0.875In	0.8In
DGM2-1600	1In	0.95In	0.91In	0.875In	0.8In

Notice: Above derating coefficients are measured under rated current of each model!

High altitude derating

The electric characteristic of the device could be correted accordingly as in following chart if the altitude is higher than 2000M.

Altitude(m)	2000	3000	4000	5000
Power frequency withstand voltage(V)	3000	2500	2000	1800
Operating current correction coefficient	1	0.94In	0.88	0.83In
short-circuit breaking capacity correction	1	0.83	0.71	0.63

Installation

● Connecting to the main circuit must be handled by trained electricians and must ensure the power supply is cut off completely before the installation.

● The connection should comply with " upper terminals for incoming and bottom terminals for outgoing", that mens 1,3,5 terminal should be connected to power supply and

2,4,6 terminal should be connected to loads. Inversion is not allowed.

● The terminal post should be isolated by an insulation sleeve if there has a back-panel wiring.

● Connect the crimped wires to the poles of the breaker with screws and make it tightened.

● The flash-barriers should be installed between breakers.

● Please make sure you follow the installation steps before electrify the breakers. Make sure the connections are all secure and do repeating-test on the operating mechanism to make sure its flexible and reliable.

Conductor's cross-sectional area and their matchning rated current as following chart

Rated current(A)	16 20	25	40 60	63	80	125 140	160
Conductor's cross-	2.5	6	10	16	25	50	70
Rated current(A)	160	180 200 225	250	315 350	400	500	630
Conductor's cross-	70	96	120	185	240	2x150	2x185

Rated current(A)	Electric cable		Copper busbar	
	Numbers	Conductor's cross-	Numbers	Size(mm)
500	2	150	2	30x5
630	2	185	2	40x5
700 800	2	240	2	50x5
1250	2	-	2	80x5
1600	2	-	2	-

Operation and Maintenance

● Select the right breaker for your circuit or equipment. Read the technical information of the breaker carefully and make sure it is exactly what you need.

● The characteristics and accessories of the breaker are set by manufacturer and don't change it during operation.

● Conduct a regular checking ,clean the dust on the surface to keep the device clean and in good insulation condition.

● Select the breaker with right rated current for your circuit or equipment otherwise it can not work properly.

● The maintenance work should be counducted by trained electrician.

● If there has accessories demand, please use our own accessories for our breaker, to guarantee the quality.

● Keep the device from raining and falling during operation,moving.