Motor Control and Protection Range

Guaranteed Protection Control

:hager

The reliable partner for intelligent solutions.

Under one roof

Members of Hager Group

:hager

B. Berker

ELCOM.

DAITEM

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EFEN

BOCCHIOTTI

One family

The world is changing, and we are changing with it. As a family company, we have grown steadily over the last sixty years to become a reliable partner to expert technicians and electrical wholesalers around the world. All while remaining true to ourselves and to our values. And so we continue today, with a number of well-known brands – each with their own distinctive strengths – working together under the Hager Group umbrella.

Hager Forum in Obernai, France, is a place where we can work with customers and partners to shape the future. That makes it a perfect symbol of the innovative power of Hager Group.

hagergroup

Your trust

As a partner and customer, you can choose from the entire range of products and services offered by every member of our brand family. Our new corporate image highlights our shared strengths even more clearly. From now on, each of our brands will be easily recognisable as a 'Member of Hager Group'. The new corporate image also involves some colour and design changes. Our core promise remains the same: we will always work with you to succeed together.

Our strengths

We have huge opportunities ahead. The upcoming modernisation of existing buildings, intelligent building technology, digital services, new energy sources and technologies – all of this opens up new, exciting potential for you and for us. At the same time, business requirements are becoming more and more complex. That's why it's so important for you to have Hager Group specialists supporting you with all of their expertise. Together, we are stronger. Together, we will overcome the complex challenges of our time with simple, impressive solutions – just as we have been doing for the last six decades.

Premium performance

Energy efficiency lies at the heart of present and future building construction. Energy performance relies on the quality of the networks transmitting the energy: sizing, maintenance and monitoring. And to guarantee maximum reliability in electrical installations, low voltage panels must incorporate solutions renowned for their simplicity and efficiency.

40 %

of energy consumption is accounted for by buildings.

Energy is also believed to make up 40 % of the costs generated throughout a building's life cycle. Faced with the inevitable rise in energy costs, the challenge is clear: manage consumption to bring down bills. Creating intelligent buildings means optimising and streamlining their consumption based on usage.

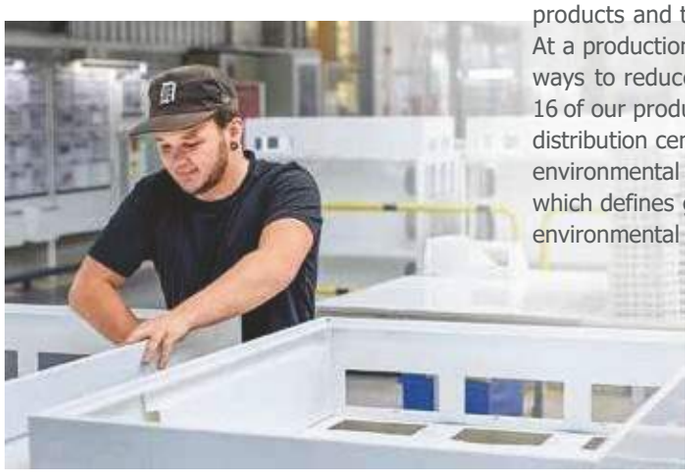
Sustainable success with E3

As a family-run business, we think in generations and sustainability is at the core of our business approach. We constantly invest in our employees, their training and further education, optimize our ecological balance Sheet, develop more energy- efficient processes and solutions. We operate worldwide and integrate high ethical standards in all our decision making processes. Our Corporate Social Responsibility approach

Ethics

Our ethical principles determine how we behave towards our customers, our colleagues and society as a whole. Our Hager Group Ethics Charter is shared with all our employees, external customers, partners, suppliers and stakeholders to emphasise our engagement to ethical and sustainable business. Since 2007, we are signatories of the United Nations Global Compact, as such we give preference to suppliers and partners who, like us, respect the principles of ethical and sustainable business.

Environment



Considering products in terms of their lifecycles revolutionises the way in which we view product development, resource usage and our environmental footprint. We provide a full life cycle analysis of all our products and then a Product Environmental Profile (PEP). At a production level, we are continuously looking for ways to reduce our resources consumption. Currently, 16 of our production facility locations and 4 of our distribution centres are certified to the international environmental management standard ISO 14001, which defines globally recognised requirements for environmental management.

Energy

Contributing to the energy transition, our energy storage systems, integrated energy management systems and e-mobility solutions help our customers. It's all about using renewable energy sources, producing energy autonomously and optimising energy consumption. Our environmentally friendly, forward-looking solutions are now developed by Hager Energy.

Together with our partners, employees and customers, we have a strong network that is even able to withstand serious crises.

Daniel Hager
Hager Group CEO

Dear customers, partners and friends of Hager Group.

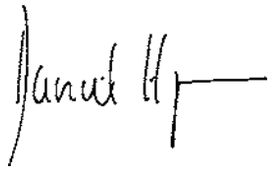
We live in a time when the ability to react swiftly to changing circumstances is becoming increasingly important. In the face of unpredictability, however, it is equally important to remain focused on your chosen path and to respond to whatever life throws your way calmly, reflectively and with a level head.

There is a special strength in pulling together, in finding common ground, in talking to each other and understanding what the other party needs most and how we can support them. What 2020 has shown us at Hager Group is that, together with our partners, employees and customers, we have a strong network that is even able to withstand serious crises. We have learned just how quickly nowadays seemingly distant events can have a global impact on us all. However, the fact that our world is growing ever smaller also presents us with an opportunity to address problems more quickly and effectively together; by being there for one another and finding solutions together.

It is this certitude that makes me look forward with optimism. It is up to us to turn the challenges of this time into opportunities. Today, our awareness of the importance of our living and working environment is more heightened than ever. And never before have we had such an opportunity to have a positive influence on the design of these important living spaces.

Let us be courageous together and develop ideas about our contribution to achieving a low-carbon world. As a family company committed to sustainable business, we look forward to working with you on solutions that will make the world of tomorrow safer, cleaner and more enjoyable.

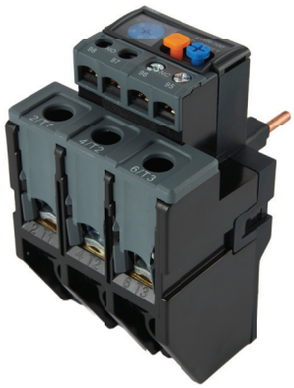
Committed to shaping our future together.



Complete Panel solution under one roof

The hager range of switchgear and motor control products are developed considering the energy efficiency approach and maintaining unpeckable performance.

The hager range of switchgear products Air circuit breaker, Moulded case circuit breaker and motor control products Contactor, OLR & MPCB ensures unmatched performance of your panel




U2.4
QG1
C2
A3
A2
B5
C3
B6
C6
CKT 800
KOCH
C4
C5
C1
B1

Your installation is under control

The size of residential and commercial buildings determines the energy requirements. Regulations are becoming increasingly strict. You therefore need effective protection suited to your electrical installation.

The new range of Motor protection and control devices offers efficient and easy way to control and protect the motor. The new motor starter range coupled with our state of the art h3 and h3+ moulded case circuit breaker offers complete panel need under one roof.

Advanced technology for optimal safety.

Protection Devices

Hager protection devices set the industry standard for reliability, quality and performance. It is the mission of company to provide the highest quality products that clearly set themselves apart from the market. Hager range of modular protection devices comprises of over-current protection, residual current protection, surge protection, over-voltage and under-voltage protection solution.

High powered air circuit breakers

Air Circuit Breakers get their name from the fact that their breaking chambers are in the open air to allow better energy dissipation Their electrical and mechanical strength breaking capacity, mantainability and accessories make them ideal for protection for low voltage installations.

HWC AC CONTACTOR

Parameters

- Rated operation current Ie: 6A~630A
- Rated operation voltage Ue: 220V~690V
- Rated insulation voltage: 690V (HWC-06M~100), 1000V (HWC-120~630)
- Number of poles: 3P
- Coil control method: AC (HWC-06(M)~225)
  AC/DC (HWC-265~630)
- Installation method: HWC-06M~100 rail and screw installation, HWC-120~630 screw installation

Operation and installation conditions

Type	Operation and installation conditions
Installation class	Ⅲ
Pollution degree	3
Compliant standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1
Certification mark	CE
Enclosure protection degree	HWC-06M~38: IP20; HWC-40~100: IP10; HWC-120~630: IP00
Ambient temperature	Operation temperature limits: -35℃~+70℃. Normal operation temperature range:- 5℃~+40℃. The 24-hour average temperature should not exceed +35℃.
Altitude	Not exceeding 2000 m above sea level
Atmospheric conditions	The relative humidity should not exceed 50% at the upper temperature limitof+70℃. A higher relative humidity is allowed at a lower temperature, e.g. 90% at+20℃.Special precautions should be taken against occasional condensation due to humidity variations.
Installation conditions	The angle between the installation surface and the vertical surface shouldnot exceed ±5°.
Shock and vibration	The product should be installed in places without significant shaking, shock, and vibration.

Contactor Selection table

Motor power kW			Maximum operation current A	Inbuilt auxiliary contacts		Contactor model
220V/230V/240V	380V/400V	660V/690V	(AC-3 380V/400V)	NO	NC	
1.5	2.2	3	6	1	0	HWC-06M10
1.5	2.2	3	6	0	1	HWC-06M01
1.5	2.2	3	6	1	1	HWC-06
2.2	4	4	9	1	0	HWC-09M10
2.2	4	4	9	0	1	HWC-09M01
2.2	4	5.5	9	1	1	HWC-09
3	5.5	4	12	1	0	HWC-12M10
3	5.5	4	12	0	1	HWC-12M01
3	5.5	7.5	12	1	1	HWC-12
3	7.5	7.5	16	1	1	HWC-16
4	7.5	10	18	1	1	HWC-18
5.5	11	11	22	1	1	HWC-22
5.5	11	15	25	1	1	HWC-25
7.5	15	18.5	32	1	1	HWC-32
9	18.5	18.5	38	1	1	HWC-38
11	18.5	30	40	1	1	HWC-40
15	22	37	50	1	1	HWC-50
18.5	30	37	65	1	1	HWC-65
22	37	37	75	1	1	HWC-75
22	37	45	85	1	1	HWC-85
25	45	45	100	1	1	HWC-100
37	55	80	120	2	2	HWC-120
45	75	100	160	2	2	HWC-160
55	90	100	185	2	2	HWC-185
63	110	110	225	2	2	HWC-225
75	132	160	265	2	2	HWC-265
90	160	200	330	2	2	HWC-330
132	200	300	400	2	2	HWC-400
160	250	335	500	2	2	HWC-500
200	335	350	630	2	2	HWC-630

Main circuit parameters and technical performance

Contactor model				**HWC-06**	**HWC-09**	**HWC-12**	**HWC-16**	**HWC-18**	**HWC-22**
Conventional thermal currentIth (A)				20	20	25	25	32	32
Rated insulation voltageUi (V)				690					
Rated impulse withstand voltage Uimp (kV)				8					
Rated making capacity				Making current: 10×Ie (AC-3) or 12×Ie (AC-4)					
Rated breaking capacity				Breaking current: 8×Ie (AC-3) or 10×Ie (AC-4)					
Rated operation current Ie (A)	220V/230V/240V		AC-3	6	9	12	16	18	22
			AC-4	6	9	12	16	18	22
	380V/400V/415V		AC-3	6	9	12	16	18	22
			AC-4	6	9	12	16	18	22
	660V/690V		AC-3	3.8	6.6	8.9	8.9	12	12
			AC-4	3.8	6.6	8.9	8.9	12	12
Rated control power	AC-3 (kW)	220V / 230V / 240V		1.5	2.2	3	3	4	5.5
		380V / 400V / 415V		2.2	4	5.5	7.5	7.5	11
		660V / 690V		3	5.5	7.5	7.5	10	11
Electrical life (cycles)			AC-3	1.2×10^6					
Mechanicallife (cycles)				1.2×10^7					
Main contact				3 NO					
Matching thermal overload relay			Model	HWR-25					
Built-in auxiliary contact			3P	1 NO or NC					
			4P	-	-	-	-	-	-

Contactor technical characteristics

Contactor Model			HWC-25	HWC-32	HWC-38	HWC-40	HWC-50	HWC-65	HWC-75	HWC-85	HWC-100
Conventional thermal current Ith (A)			40	50	50	60	80	80	90	100	110
Rated insulation voltage Ui (V)			690								
Rated impulse withstand voltage Uimp (kV)			8								
Rated making capacity			Making current: 10×Ie (AC-3) or 12×Ie (AC-4)								
Rated breaking capacity			Breaking current: 8×Ie (AC-3) or 10×Ie (AC-4)								
Rated operation current Ie (A)	220V/230V/240V	AC-3	25	32	38	40	50	65	75	85	100
		AC-4	25	32	38	40	50	65	75	85	100
	380V/400V/415V	AC-3	25	32	38	40	50	65	75	85	100
		AC-4	25	32	32	40	50	65	75	85	100
	660V/690V	AC-3	18	22	22	34	39	42	42	49	49
		AC-4	18	22	22	34	39	42	42	49	49
Rated control power	AC-3 (kW)	220V/230V/240V	5.5	7.5	9	11	15	18.5	22	22	25
		380V/400V/415V	11	15	18.5	18.5	22	30	37	37	45
		660V/690V	15	18.5	18.5	30	37	37	37	45	45
Electrical life (cycles)		AC-3	1.2×10^6			1×10^6			0.8×10^6		
		AC-4	See electrical life curve								
Mechanical life (cycles)			1×10^7			0.9×10^7			0.65×10^7		
Main contact			3 NO								
Fuse supplied for SCPD			gG40	gG50	gG50	gG63	gG80	gG80	gG100	gG100	gG125
Matching thermal overload relay		Model	HWR-25	HWR-38		HWR-100					

Contactor technical characteristics

Contractor Model			HWC-120	HWC-160	HWC-185	HWC-225	HWC-265	HWC-330	HWC-400	HWC-500	HWC-630
Conventional thermal current Ith (A)			200	200	275	275	315	380	450	630	700
Rated insulation voltage Ui (V)			1000								
Rated impulse withstand voltage Uimp (kV)			12								
Rated making capacity			Making current: 10×Ie (AC-3) or 12×Ie (AC-4)								
Rated breaking capacity			Breaking current: 8×Ie (AC-3) or 10×Ie (AC-4)								
Rated operation current Ie (A)	220V/230V/240V	AC-3	120	160	185	225	265	330	400	500	630
		AC-4	120	160	160	185	265	330	330	500	500
	380V/400V/415V	AC-3	120	160	185	225	265	330	400	500	630
		AC-4	120	160	160	185	265	330	330	500	500
	660V/690V	AC-3	86	107	107	118	170	235	303	353	400
		AC-4	86	107	107	107	137	170	235	303	353
Rated control power	AC-3 (kW)	220V/230V/240V	37	45	55	63	75	90	132	160	200
		380V/400V/415V	55	75	90	110	132	160	200	250	335
		660V/690V	80	100	100	110	160	200	300	335	350
Electrical life (cycles)		AC-3	1.2×10^6				0.8×10^6				
		AC-4	See electrical life curve								
Mechanical life (cycles)			0.6×10^7								
Main contact			3 NO								
Matching thermal overload relay		Model	HWR-200			HWR-630					
Built-in auxiliary contact		3P	2 NO+2 NC								
		4P	-								

HWR Overload Relay

Overview

Applicable scope

HWR thermal overload relays (hereinafter abbreviated as thermal relays) are suitable for overload and phase loss protection for uninterrupted or intermittent AC motors with AC frequency of 50 Hz/60 Hz, a voltage up to 690 V, and a current of (0.1-630)A.
The thermal relays also provide temperature compensation, action indication, automatic and manual reset, stop, and testing functions. The products are characterized by stable and reliable performance. The thermal relays can be plugged into contactors or installed independently.
Compliant standards: IEC/EN 60947-4-1, IEC/EN 60947-5-1.

Structural characteristics

- Three-phase bi-metal sheet type or electronic type (HWR-200, HWR-630), with a tripping level of 10A
- Phase loss protection
- A device for continuous adjustment of setting current
- Temperature compensation
- Action indication
- Testing mechanism
- Stop bottom
- Manual and automatic reset button (HWR-200 and HWR-630 only have manual reset)
- One NO contact and one NC cortact that are electrically separable
- Installation method: Plugged into contactor (HWR-12, 25, 38, 100) or installed independently (HWR-200, 630)
- Protection characteristics

Operation environment

Type	Operation and installation conditions
Installation class	Ⅲ
Pollution degree	3
Compliant standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1
Certification mark	CE
Enclosure protection degree	HWR-06M~38: IP20; HWR-40~100: IP10; HWR-120~630: IP00
Ambient temperature	Operation temperature limits: -35℃~+70℃. Normal operation temperature range:- 5℃~+40℃. The 24-hour average temperature should not exceed +35℃.For use beyond the normal operation temperature range, see "Instructions for use in abnormal conditions" in the annex.
Altitude	Not exceeding 2000 m above sea level
Atmospheric conditions	The relative humidity should not exceed 50% at the upper temperature limitof+70℃. A higher relative humidity is allowed at a lower temperature, e.g. 90% at+20℃.Special precautions should be taken against occasional condensation due to humidity variations.
Installation conditions	The angle between the installation surface and the vertical surface shouldnot exceed ±5°.
Shock and vibration	The product should be installed in places without significant shaking, shock, and vibration.

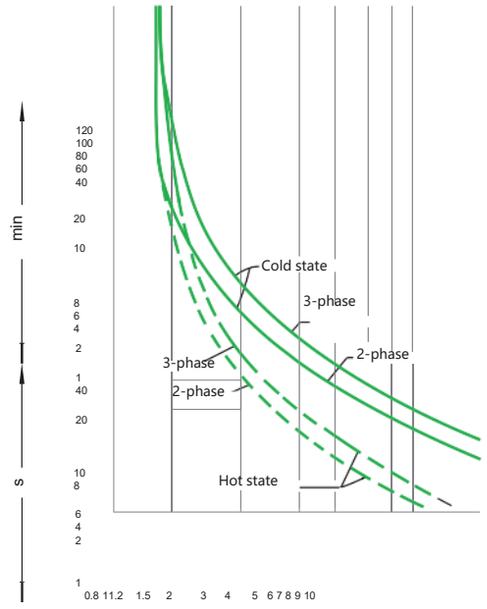
Parameters

Item		HWR-12	HWR-25	HWR-38	HWR-100	HWR-200	HWR-630
Current level		12	25	38	100	200	630
Rated insulation voltage V		690	690	690	690	690	690
Rated impulse withstand voltage V		6000	6000	6000	6000	6000	6000
Enclosure protection degree		IP20	IP20	IP20	IP20	-	-
Phase loss protection		Yes	Yes	Yes	Yes	Yes	Yes
Manual and automatic reset		Yes	Yes	Yes	Yes	Manual	Manual
Temperature compensation		Yes	Yes	Yes	Yes	Yes	Yes
Trip indication		Yes	Yes	Yes	Yes	Yes	Yes
Test button		Yes	Yes	Yes	Yes	Yes	Yes
Stop button		Yes	Yes	Yes	Yes	Yes	Yes
Installation method		Plugged	Plugged	Plugged	Plugged	Independent	Independent
Integrated auxiliary contact		1NO+1NC	1NO+1NC	1NO+1NC	1NO+1NC	1NO+1NC	1NO+1NC
AC-15 380V/400V/415V rated current A		1.5	1.5	1.5	1.5	1.5	1.5
DC-13 220V rated current A		0.2	0.2	0.2	0.2	0.2	0.2
Main Circuit	Single-core or stranded wire	1~4	1~6	4~10	4~35	25~95	50~2×185
	Wiring screw	M3.5	M4	M4	M10	M8	M10
	Tightening torque (N·m)	0.8	0.8	0.8	0.8	1.2	1.2
Auxilary Circuit	Single-core or stranded wire	1~2.5	1~2.5	1~2.5	1~2.5	1~2.5	1~2.5
	Wiring screw	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5
	Tightening torque (N·m)	1.2	1.7	1.7	10	10	20

Protection characteristics

Item	No.	Multiples of setting current		Action time	Test conditions
Overload protection	1	1.05		Without action in 2 hours	Start from cold state
	2	1.2		Act within 2 hours	Start from hot state (after No. 1)
	3	1.5		Act within 2 minutes	Start after thermal equilibrium is reached undersetting current
	4	7.2		2s < Tp≤10s	Start from cold state
Phase loss protection	5	Any two phases	The other phase	Without action in 2 hours	Start from cold state
		1.0	0.9		
	6	1.15	0	Act within 2 hours	Start from hot state (after No. 5)

Trip characteristics



Multiples of setting current →

Thermal relay time Vs current characteristics curve (+20℃)

• General

- Rating : AC690V 25A, 80A
- Standard: IEC/EN 60947-2, IEC60947-4-1

• Operating conditions

- Temperature: -5°C ~ +40°C,
- Average temperature in 24 hours not exceed +35°C
- Altitude: not exceed 2000m

• Air conditions

- At mounting site, relative humidity not exceed 50% at themax temperature of +40°C, higher relative humidity
- Is allowable under lower temperature, for example, RH could be 90% at +20°C
- Pollution grade: Grade DIII

• Trip class

- 10A (HS2-25X)
- 10 (HS2-80B)

• Rated operational system: Continuous operational system

• Mounting conditions

- The inclination between the mounting plane and the vertical plane shall not exceed 5°
- The product shall be installed and operated at a place without obvious shake, impact and vibration.

Always near

North
Delhi & NCR
Haryana
Uttar Pradesh
Panjab
Chandigarh
Jammu & Kashmir
Rajasthan

East
West Bengal
Orissa
Jharkhand
Assam

West
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Gujarat
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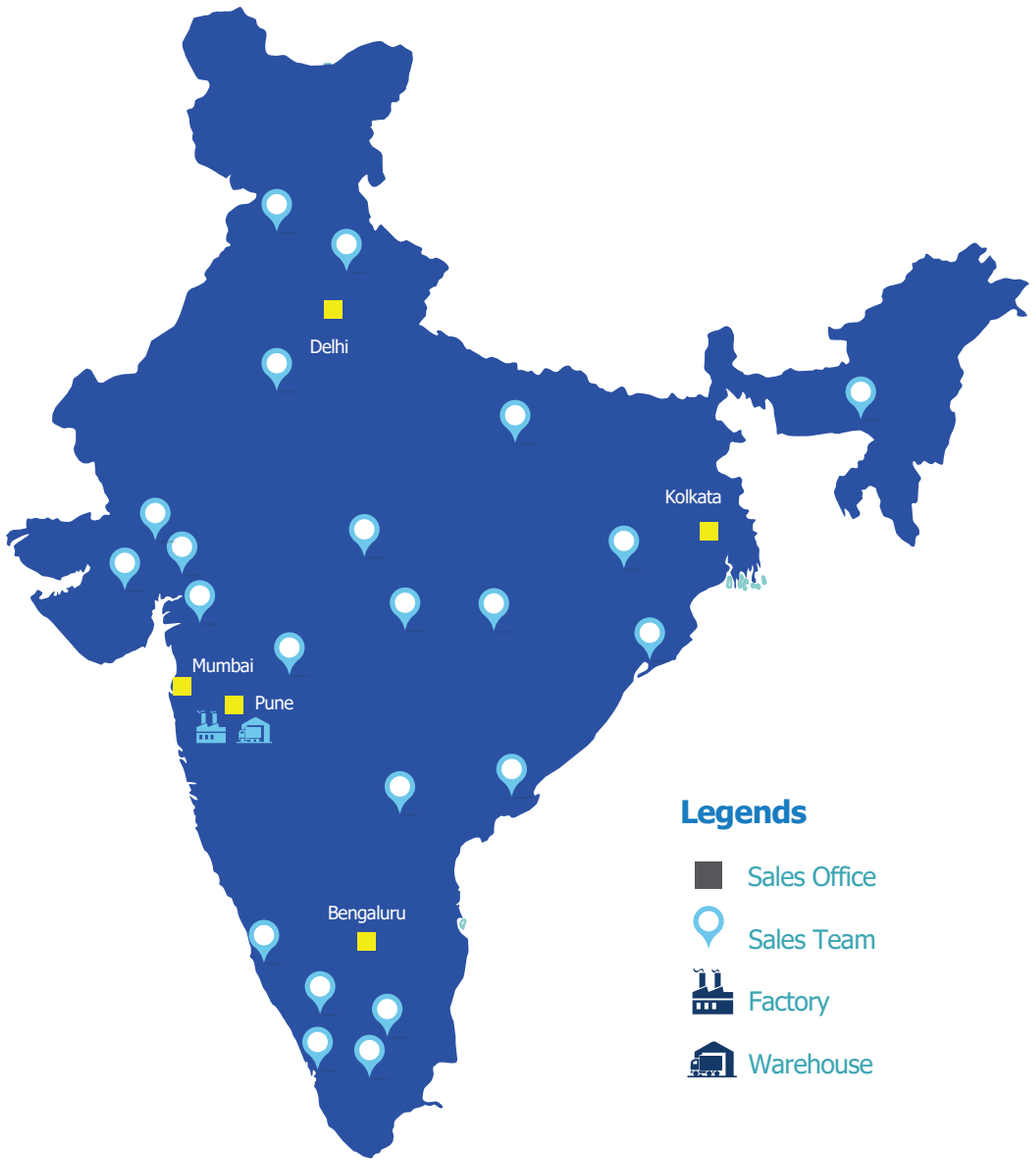
Chattisgarh

South
Tamilnadu
Karanataka
Kerala
Telangana
Andhra Pradesh



Our network to serve you better

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Hager Electro Private Limited
Global Industrial Park
G. No. 185, Alandi - Ahmednagar Road,
Phulgaon, Pune-412216
India

Tel: +91 20 66784500
Toll free no.: 1800 103 5440
hagerwow@hager.co.in
hager.co.in

Mumbai Sales Office:
WeWork The Masterpiece
Marol Metro Station
Marol, Andheri East
Mumbai-400059
India

Tel: +91 22 49097185

Delhi Sales Office:
B 217 Tower B
DLF Towers, Jasola
New Delhi-110025
India

Tel: +91 11 42548644

Kolkata Sales Office:
Office # 506, 5th Floor
Shantiniketan Building
8, Camac Street
Kolkata-700017
India

Bengaluru Sales Office:
WeWork Galaxy
02A129, 43 Residency Rd
Bangaluru-560025
India

Tel: +91 80 44451100