

Delixi Industrial-control Product Type Selection Manual

DELIXI

Delixi Inverters, Your Only Choice

Inverter

- CDI-E180-series Vector Control Inverter
- CDI-E100-series Economical-type Inverter
- CDI-E102-series Mini Inverter
- CDI-EM60-series Single-phase Inverter

Soft Starter

- CDRA Device-type Soft Starter
- CDRA Comprehensive-protection Soft Starter

Brake Unit

- CD-BR Energy-consumption Brake Unit

Accessories

- CDI-E-series Multi-functional Expansion Card

Distributor Contact Information:

Hangzhou Delixi Group Co., Ltd.

Address: No.8, Economic Plot, Zhuantang Science & Technology Park,
Zhuantang Street, Xihu District, Hangzhou, Zhejiang
Hotline: 400-188-8155
Website: //www.delixidrive.com
Postal Code: 310023
Fax: 0571-85223288; 85243783

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Our products and the manual contents are subject to change without prior notice.



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Our Mission

Devoted to the World,
Create the Future

Our Vision

To be a world-famous company with leading core
technology and outstanding comprehensive strength

Core Value

Excellence, Efficiency,
Cooperation, Responsibility

Company Profile

杭州德力西是德力西的三大先进制造业基地之一，是目前中国最大的仪器仪表与自动化高科技产业基地之一。公司包括家居电气、电度表、变频器、三元催化器、变送器、自动化等主导产业。公司投资2亿多元建成高科技生态工业园，配置国内一流的加工及检测设备。拥有关键生产设备1000台套，流水线100多条；建立了企业技术中心，重点开发高新技术产品，实施技术改造和工艺改进。并依托德力西遍布全国的15家物流配送中心和1000多家经销网点，做好销售服务，积极配送产品。在全国行业中率先获得质量管理、环境管理和职业健康安全管理体系认证，通过了KEMA和CCC等国际国内权威认证，保证产品质量满足市场需求。

公司致力于成为以自主研发为导向的高科技产业的企业，长期以来不断提高企业核心竞争力。先后推出了CDI9000系列变频器，CDI9100系列变频器、CDI9100-S系列变频器、CDI9200-G系列通用型变频器、CDI9200-P系列风机水泵型变频器、CDI9200-ZS系列注塑机专用变频器、CDI9200-GS系列恒压供水系统、CDI9200-ZY系列注塑机一体机、CDI9600系列低压矢量变频器、CDI9800系列矢量变频器、CDIE180系列变频器、伺服驱动器、电机软启动器、电焊机等系列产品。公司拥有高素质人才，领先的技术，一流的设备，在新产品的研究开发能力，按客户需求改造能力，应对复杂工况能力、市场营销能力、生产组织能力上达到行业领先水平。公司能够向市场提供适应我国国情和国际区域需求特征的产品，在技术、质量和服务方面具有较强综合优势的产品，在市场竞争中始终处于领先地位。

近年来，已有数十项产品获得国家级专利。行业内率先通过了ISO9001:2008体系认证，2008年高新技术企业的重新认定中第一批被授予高新技术企业，生产的DELIXI牌变频调速器成为“杭州名牌产品”，荣获“浙江省守合同重信用企业”等荣誉称号，交流永磁同步电机伺服驱动系统获得市重点技术创新项目，CDRA系列软启动器获得中国质量认证中心颁发的“CCC”认证证书。CDI9100-S系列、CDI9200系列、CDI9600系列变频调速器均通过CE认证。

公司在全国近200个城市建立了销售网点，市场占有率增长迅速。产品广泛应用于电力、纺织与化纤、建材、石油、化工、冶金、市政、造纸、食品饮料、烟草等行业以及公用工程。我们不断为客户提供优质产品和服务，积极在各地配备技术服务中心，建立了一个庞大、完整、有效的销售和服务体系，部分产品已经出口日本、东南亚、中东等地区。

公司积极创建学习型氛围，尊重每一位员工，发挥员工的潜能。把企业文化作为企业灵魂，以独具特色的价值理念体系和丰富多彩的文化生活，建立了完善的保障体系，让员工与公司共同成长。转塘开发区德力西科技园的建立，预示着我们将书写新的篇章，开创新的辉煌。

Awards

- 2006年8月 通过了万泰认证有限公司的ISO9001:2000认证；
- 2007年10月 “CDI9100系列变频调速器”被浙江省科学技术厅评为“高新技术产品”；
- 2008年9月 第一批被授予国家重点扶持的“高新技术企业”；
- 2008年5月 “交流永磁同步电机伺服驱动系列”被杭州市经济委员会评为“杭州市技术创新项目”；
- 2008年12月 “DELIXI牌变频调速器”被杭州市名牌战略推进委员会评为“杭州名牌产品”；
- 2009年12月 被授予“2009年度西湖区专利试点企业”；
- 2010年8月 获得浙江省工商企业信用级“守合同重信用”称号；
- 2011年2月 获得国家科技部“科技型中小企业技术创新基金立项证书”；
- 2011年9月 获得变频器世界“最具成长性企业”；
- 2012年7月 获得变频器世界“最具潜力奖”；
- 2013年8月 获得变频器世界“具投资价值奖”，E系列高性能矢量变频器获得“十大人气产品”称号；
- 2014年8月 获得变频器世界“成长力十强企业”……

Patents



Product
Certification

Utility
Model Patent

Software
Copyright

WIT
Assessment

Inverters: CDI-E180-series Vector Control Inverter

AC 3PH 340V-420V 0.75-630kW
AC 3PH 200V-240V 0.4-30kW

Introduction

The CDI-E180-series inverter is a stable and versatile high-performance vector control inverter with optimum control modes such as SVC, V/F control and VC, and is widely used in situations with demanding requirements for speed control precision, torque respond speed and low-frequency output torque.

Technical Characteristics

◆ Excellent Performance

Due to the new vector control algorithm, the inverter features large start torque, quick torque response and high control precision to further improve the efficiency of the motor.

◆ Strong Function and Low Cost

The large number of internal function modules such as timer, virtual time-delay relay and math operation modules are as a whole equivalent to an additional small PLC, so that the cost is significantly reduced.

◆ Easy Operation

A special-purpose function is embedded, and the conversion between the special-purpose function and the common function is available through one function code, for the convenience of type selection and flexibility in use.

◆ Flexible Type Selection

The 15kW or below types have standard internal brake units, the 18.5-30kW types can have optional internal brake units, and the 37kW above types shall be connected with external brake units. The 11kW, 15 kW, 200 kW or above types have standard DC inductors, and 18.5-55kW types can have optional DC inductors.



Applications

Electric power, textile and chemical fiber, building materials, oil industry, chemical industry, metallurgy, municipal facilities, paper-making, food & beverage and tobacco.

Accessories

E180-I/O expansion card; E180-PG coder expansion card; E180-485 communication expansion card; E180-DP communication expansion card.
E180-ZS injection molding machine expansion card; E180-WSP constant pressure water supply expansion card.

Inverters: CDI-E100-series Economical-type Inverter

AC 1PH 200V-240V, 0.4-2.2kW
AC 3PH 200V-240V, 0.4-2.2kW
AC 3PH 340V-420V, 0.75-22kW

Introduction

The CDI-E100-series inverter is a general-purpose low-power inverter with optimum control modes including SVC and V/F control, stable performance, diversified functions, high cost performance, optimum structure and elegant appearance.

Technical Characteristics

◆ Compact Structure

Optimum structure and elegant appearance; can be installed through both slides and holes; easy to use.

◆ Reliable Small Integrated Module

Reliable small integrated module to ensure good quality and performance at a lower price.

◆ Integrated Communication Module

Standard internal RS-485 communication module which enables standard MODBUS-RTU communication; through such a module, one host computer can communicate with several inverters simultaneously and quickly with perfect anti-interference performance.

◆ Flexible Type Selection

The 15kW or below types have standard internal brake units, and the 18.5-22kW types can have optional internal brake units. The 11kW, 15 kW types have standard DC inductors, and 18.5-22kW types can have optional DC inductors.

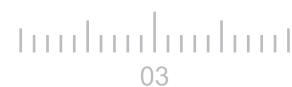


Applications

Mainly applies to low-power non-VC situations with demanding requirements for input/output. Carving machine, textile machine, glass-making machine and dyeing machine.

Accessories

External keyboard, extension cord.



Inverters: CDI-E102-series Mini Inverter

AC 1PH 200V-240V, 0.4-2.2kW
AC 3PH 200V-240V, 0.4-2.2kW
AC 3PH 340V-420V, 0.75-22kW

Introduction

The CDI-E102-series inverter is a classic-type low-power inverter with optimum SVC and V/F control, stable performance and simplified functions. It reserves the configuration most-frequently used by users, and is more cost-effective.

Technical Characteristics

◆ Simplified Functions and More Cost-effective

Optimized configuration according to the functions most-frequently used by users, so as to reduce resource waste, improve cost performance and competitiveness.

◆ Compact Structure

Optimum structure and elegant appearance; can be installed through both slides and holes; easy to use.

◆ Flexible Type Selection

The 15kW or below types have standard internal brake units, and the 18.5-22kW types can have optional internal brake units. The 11kW, 15 kW types have standard DC inductors, and 18.5-22kW types can have optional DC inductors.



Applications

Mainly applies to low-power non-VC situations with demanding requirements for input/output. Die-cutting machine, carving machine, textile machine, glass-making machine and dyeing machine.

Accessories

External keyboard, extension cord, E102-485 communication expansion card.

Inverters: CDI-EM60-series Single-phase Inverter

AC 1PH 200V-240V, 0.4-2.2kW

Introduction

The CDI-EM60-series inverter is a mini-type low-power single-phase inverter with optimum SVC and V/F control, stable performance and simplified functions. It reserves the configuration most-frequently used by users, and can be extended with several I/O and communication interfaces.

Technical Characteristics

◆ Small size and easy operation; Embedded with DC brake function and can have optional external brake unit; Accuracy of stop position.

◆ Separate keyboard that supports hot plug and can be pulled out to a distance of 50m at most; a copy keyboard with parameter control is optional.

◆ Extensible RS485 communication interface which enables standard MODBUS-RTU communication and can be compatible with a variety of host computers.

◆ Long service-life with a controllable fan; the AVR (Automatic Voltage Regulation) function ensures large output torque in case of low input voltage.

◆ Multiple protection functions to ensure safe and reliable operation of the motor.

◆ All standard products have been treated with conformal coatings.

◆ Air-duct isolated by windshields to ensure good thermal dissipation and thus significantly improved adaption to the environment.



Applications

Mainly applies to low-power non-VC situations with demanding requirements for input/output. Die-cutting machine, carving machine, textile machine, glass-making machine, dyeing machine, book sewer, automatic production line and food machine.

Accessories

EM60-IO expansion card, EM60-485 communication expansion card, internal brake unit.

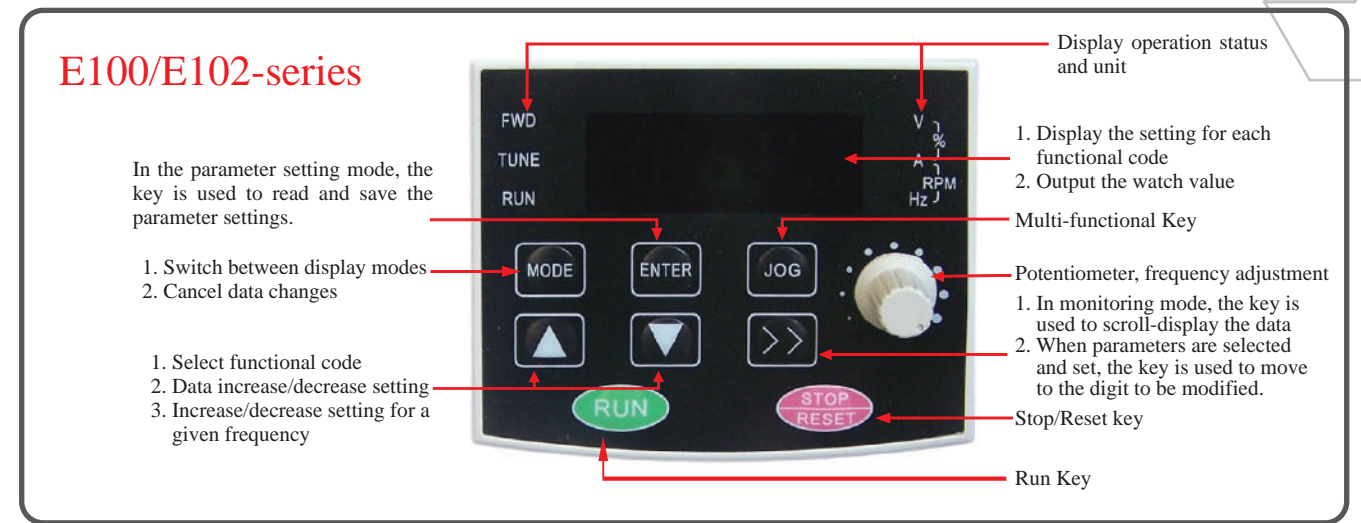


E-series Inverter Technical Standard

	Item	Specifications
Enhanced Function	Internal Virtual Time-Delay Relay	Simple logic programming for the multi-functional output terminals and the digital input terminals. The logic results can be equivalent to the digital input terminal function, and can be output through the multi-functional output terminals
	Internal Timer	Two internal timers to collect timing input signals and to output timing signals. The two timers can be used separately or together
	Internal Math Operation Module	One internal 4-way math operation module for elementary arithmetic operations, numerical magnitude judgment and integral operation
Communication	E100	The control panel has a RS485 communication interface which supports standard MODBUS-RTU protocol
	E102/E180/EM60	The control panel does not have a RS485 communication interface, and an external 485 communication expansion card shall be connected. Support standard MODBUS-RTU protocol. The E180-series also support standard PROFIBUS-DP protocol (through an external E180-DP expansion card).
Coder	E100	The coder can be connected directly through the DI5 and DI6 terminals on the control panel, and simple closed-loop control is available through PID control. Such connection is used in undemanding situations.
	EM60	The control panel does not have any interface for the coder, and a one-way high-speed pulser can be extended (through DI6).
	E102	The control panel only has one coder interface (DI6).
	E180	The control panel does not have any coder interface, and an external coder expansion card is necessary. The inverter supports ABZ incremental coder, UVW incremental coder and resolver. Such connection enables high-performance VC, and can be used in situations with demanding control precision requirements.
Motor	E100/E102	Only for asynchronous motors
	E180	For asynchronous motors and synchronous motors
Display	Operation Information	Given frequency, output frequency, output voltage, busbar voltage, input signal, feedback value, module temperature, and synchronous speed of the motor. At most 32 parameters can be displayed in cycle through the ">>>" key.
	Fault Information	In the fault protection mode, three pieces of history fault information can be saved. Every piece includes the frequency, current, busbar voltage and I/O terminal status when the fault takes place.
Protection	Inverter Protection	Over-current, over-voltage, module fault protection, under-voltage, overheat, overload, external fault protection, EEPROM fault protection, ground protection, and default phase
	Inverter Alarm	Locked-rotor protection, overload alarm
	Instantaneous Power Down	Less than 15 ms: continuous operation More than 15ms: automatic restart
Environment	Ambient Temperature	-10 C ~ 40 C
	Storage Temperature	-10 C ~ 40 C
	Ambient Humidity	Max. 90% RH (No condensation)
	Altitude/Vibration	Below 1000m; below 0.6g
	Working Place	No corrosive gas, inflammable gas, oil mist or dust
	Cooling	Force-air cooling

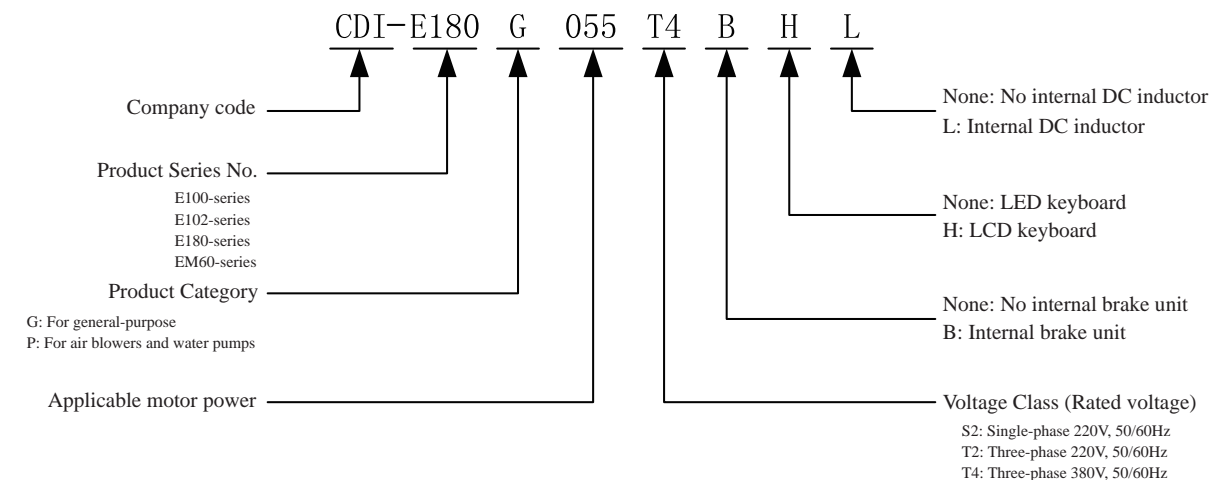


E-series Inverter Keyboard

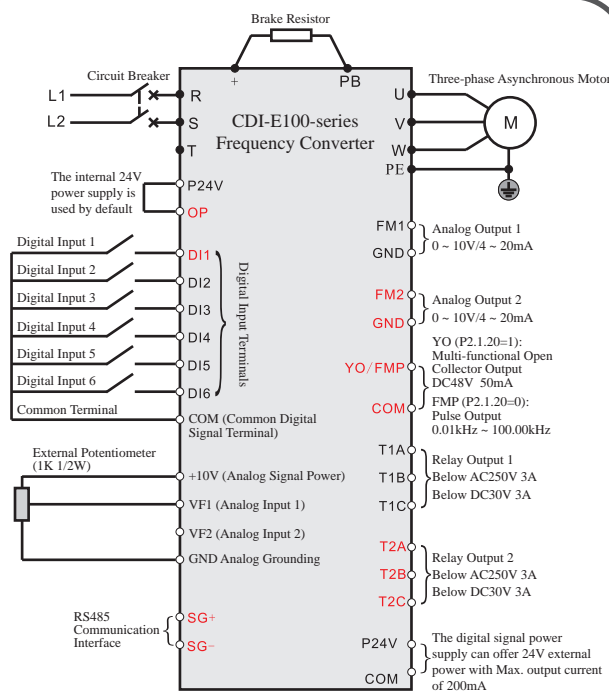


Nameplate Data and Naming Rules

Nameplate Data: e.g. CDI-E180G055T4BHL

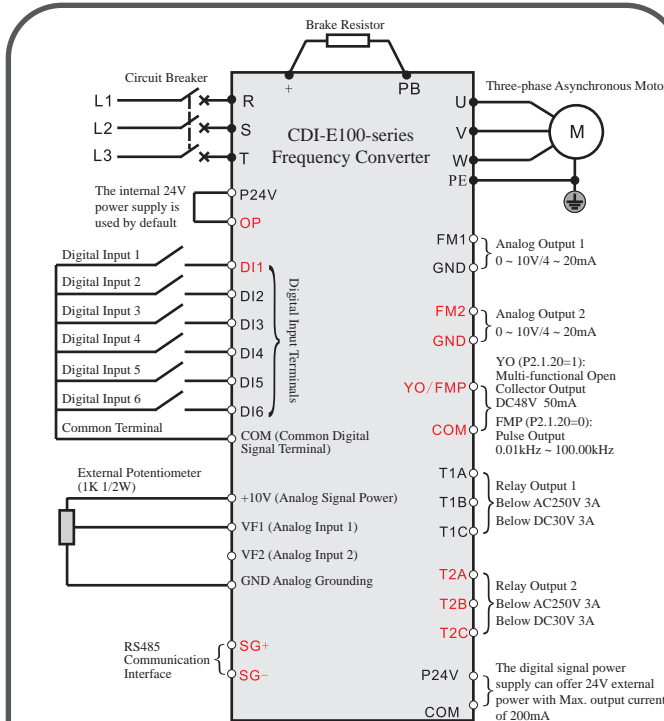


E-series Inverter Wiring Diagram



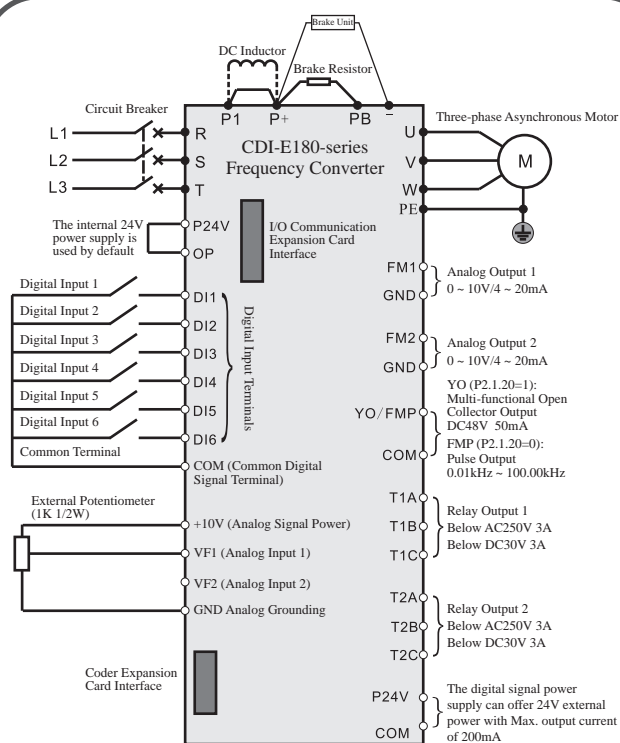
Application: E100/E102-series with single-phase 220V power supply

(Note: The E102-series inverter is not configured with red terminals)

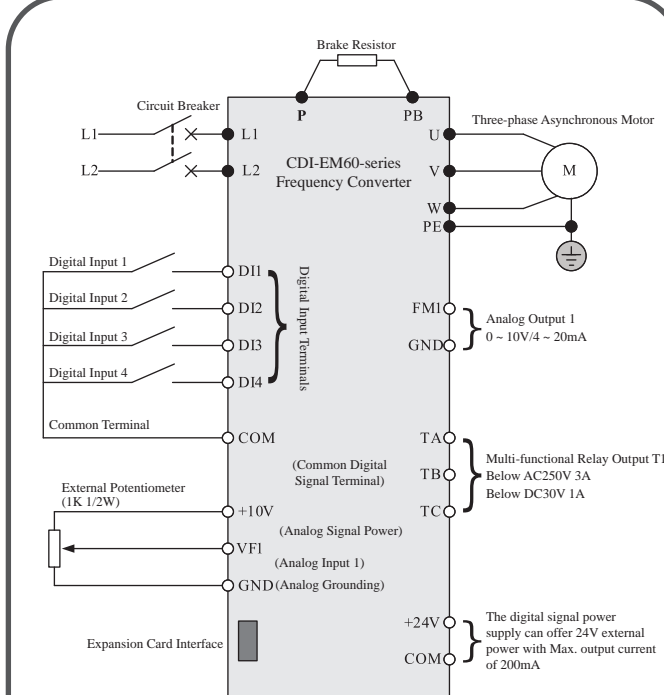


Application: E100/E102-series with three-phase 220V power supply
Application: E100/E102-series with three-phase 380V power supply

(Note: The E102-series inverter is not configured with red terminals)



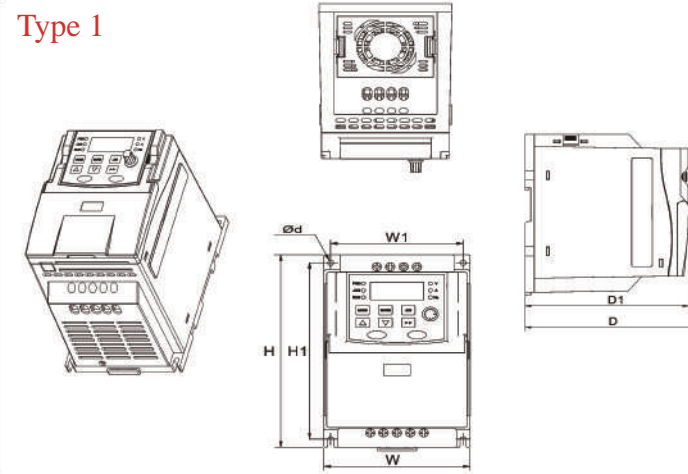
Application: E180-series with three-phase 380V power supply
Application: E180-series with three-phase 220V power supply



Application: EM60-series with single-phase 220V power supply, 0.4-2.2kW

E100/E102-series External Dimensions

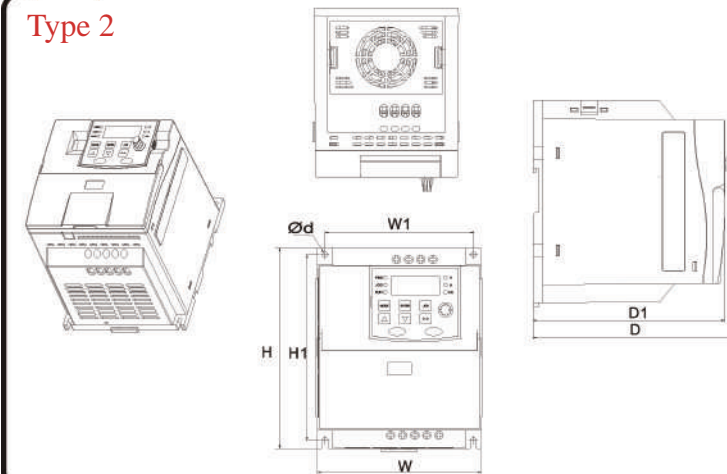
Type 1



Model	W	W1	H	H1	D	D1	φd
CDI-E100G0R4S2B							
CDI-E100G0R75S2B							
CDI-E100G1R5S2B							
CDI-E100G0R4T2B	109	99	167	153	161	148	5
CDI-E100G1R5T2B							
CDI-E100G0R75T4B							
CDI-E100G1R5T4B							
CDI-E100G2R2T4B							

Dimension Unit: Millimeter (mm)

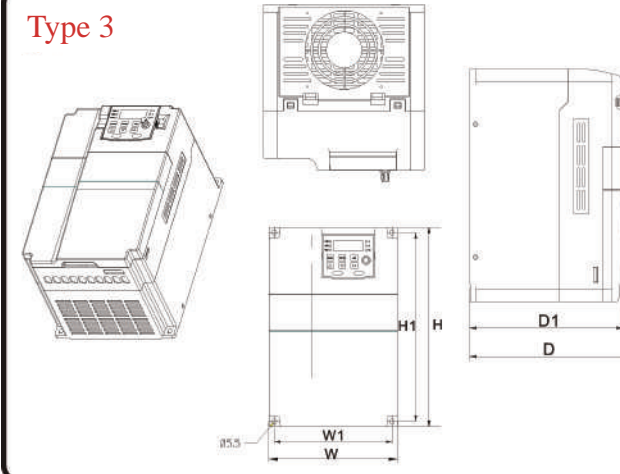
Type 2



Model	W	W1	H	H1	D	D1	φd
CDI-E100G2R2S2B							
CDI-E100G2R2T2B	135	122	167	153	171	158	5
CDI-E100G3R7T4B							

Dimension Unit: Millimeter (mm)

Type 3



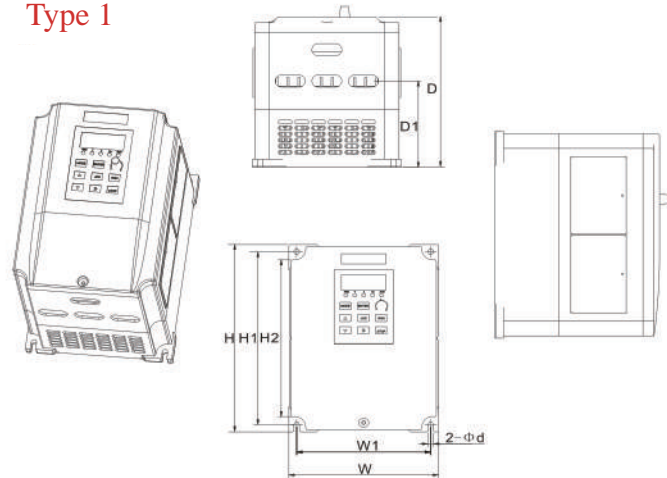
Model	W	W1	H	H1	D	D1	φd
CDI-E100G5R5/P5R5T4B	180	165	280	265	197.5	185	5.5
CDI-E100G7R5/P011T4B							
CDI-E100G011/P015T4BL	230	215	310	295	206	193.5	5.5
CDI-E100G015/P018.5T4BL							
CDI-E100G018.5/P022T4	260	245	340	325	223	210.5	5.5
CDI-E100G022T4							

Dimension Unit: Millimeter (mm)

Note: The external dimensions of E102-series are the same as that of E100-series.

E180-series External Dimensions

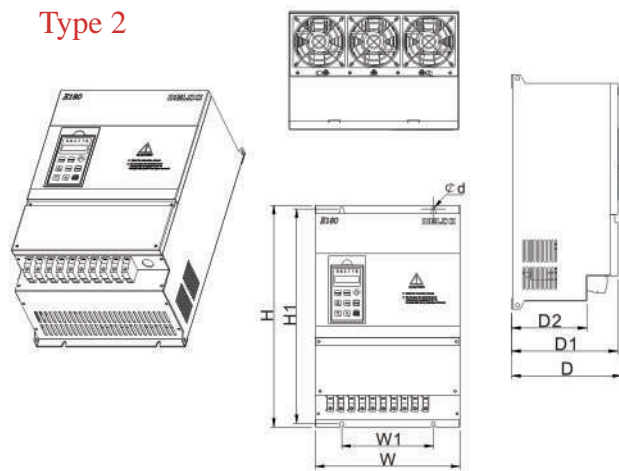
Type 1



Model	W	W1	H	H1	H2	D	D1	φ d
CDI-E180G0R4T2B	130	120	180	170	154	148	85	5
CDI-E180G0R75T2B								
CDI-E180G0R75T4B								
CDI-E180G1R5T4B								
CDI-E180G2R2T4B	155	145	225	215	199	160	97	5
CDI-E180G1R5T2B								
CDI-E180G2R2T2B								
CDI-E180G3R7/P5R5T4B								
CDI-E180G5R5/MT4B	200	188	300	288	270	172	130	6
CDI-E180G3R7T2B								
CDI-E180G5R5/P7R5T4B								
CDI-E180G7R5/P011T4B								
CDI-E180G011MT4B								

Dimension Unit: Millimeter (mm)

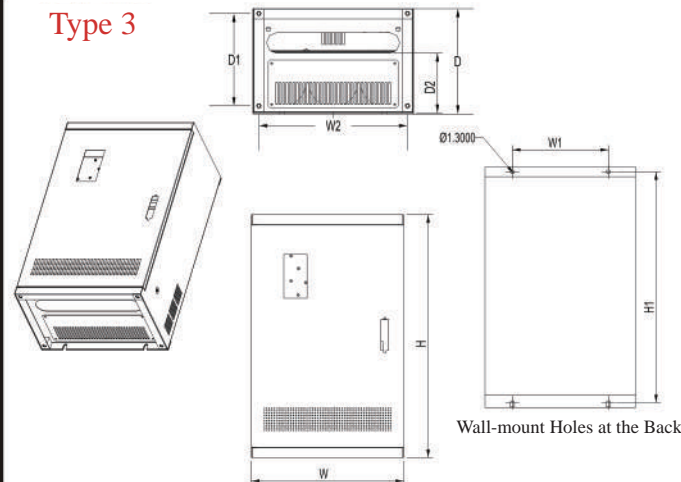
Type 2



Model	W	W1	H	H1	D	D1	D2	φ d
CDI-E180G5P5T2B	250	180	420	405	197	187	126	7
CDI-E180G7P5T2BL								
CDI-E180G011/P015T4BL								
CDI-E180G015/P018.5T4BL								
CDI-E180G011T2	300	190	460	445	219	209	148	7
CDI-E180G018.5/P022T4								
CDI-E180G022/P030T4								
CDI-E180G030/P037T4								
CDI-E180G018.5T2	355	290	530	515	257	247	174	9
CDI-E180G022T2								
CDI-E180G037/P045T4								
CDI-E180G045/P055T4								
CDI-E180G030T2	390	290	600	585	267	257	174	9
CDI-E180G055/P075T4								
CDI-E180G075/P093T4								

Dimension Unit: Millimeter (mm)

Type 3



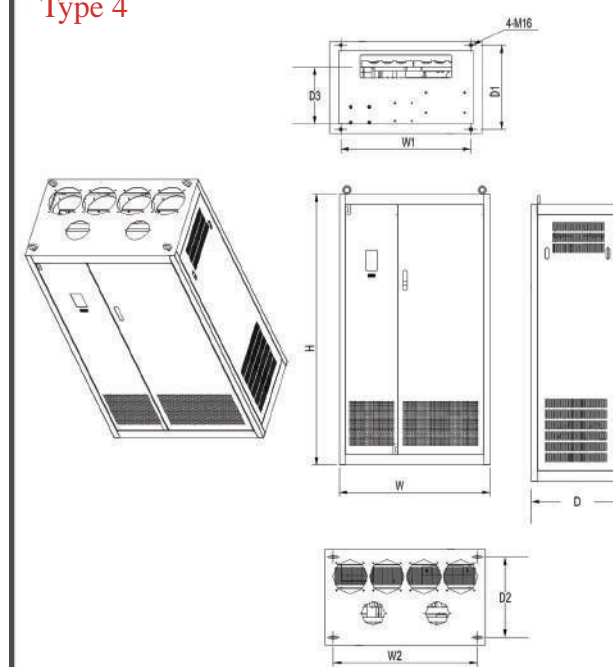
Model	W	W1	W2	H	H1	D	D1	D2	φ d
CDI-E180G093/P110T4	470	300	435	750	720	305	270	175	13
CDI-E180G110/P132T4									
CDI-E180G132/P160T4	530	350	495	950	920	375	345	262	13
CDI-E180G160/P185T4									
CDI-E180G185/P200T4	620	450	580	1250	1210	420	380	324	15
CDI-E180G200/P220T4L									
CDI-E180G220/P250T4L									
CDI-E180G250/P280T4L	700	500	600	1400	1360	420	380	324	15
CDI-E180G280/P315T4L									
CDI-E180G315/P355T4L									

Dimension Unit: Millimeter (mm)



E180-series External Dimensions

Type 4

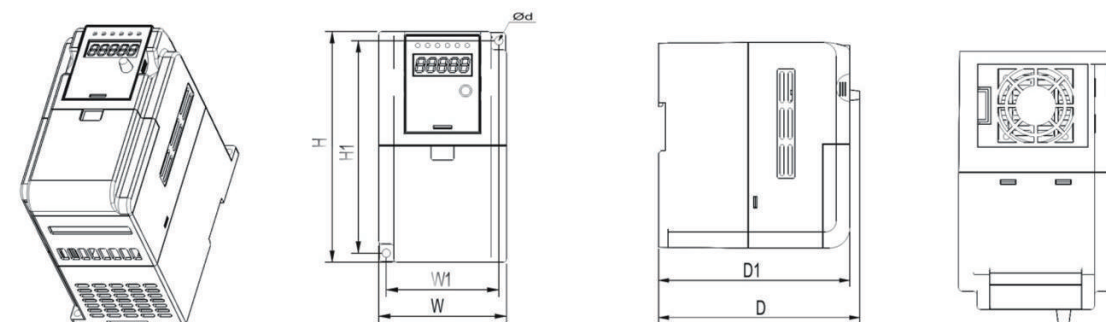


Model	W	W1	W2	H	D	D1	D2	D3	φ d
CDI-E180G355/P375T4L	1000	850	900	1800	600	550	500	300	16
CDI-E180G375/P400T4L									
CDI-E180G400/P500T4L									
CDI-E180G500T4L									
CDI-E180G630T4L									

Dimension Unit: Millimeter (mm)

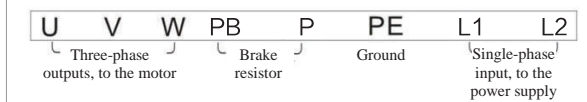
EM60-series External Dimensions

Type 1



Model	W	W1	H	H1	D	D1	φ d
CDI-EM60G0R4S2	84	74	152	140	148.4	141	5.5
CDI-EM60G0R4S2B							
CDI-EM60G0R75S2							
CDI-EM60G0R75S2B							
CDI-EM60G1R1S2							
CDI-EM60G1R1S2B							

Main Circuit Wiring Diagram:

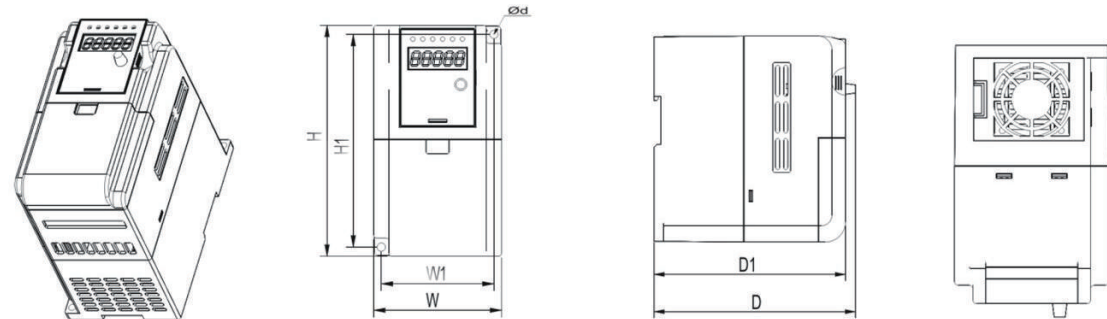


Note:
1. Plastic Shell Type
2. The sequence of the terminals as shown in the real product



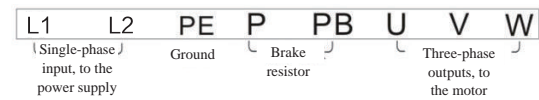
EM60-series External Dimensions

Type 2



Model	W	W1	H	H1	D	D1	ϕd
CDI-EM60G1R5S2	105	95	165	153	161.4	154	5.5
CDI-EM60G1R5S2B							
CDI-EM60G2R2S2							
CDI-EM60G2R2S2B							

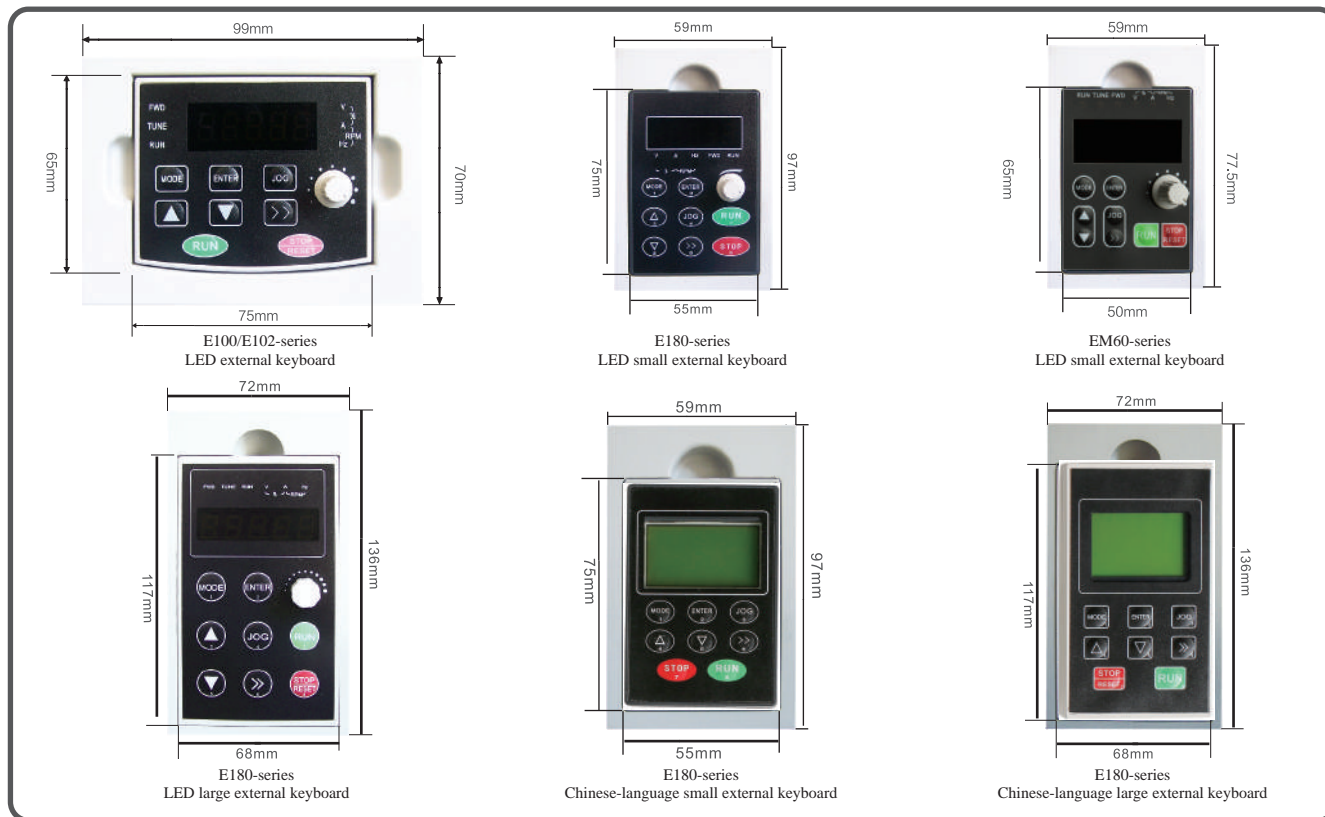
Main Circuit Wiring Diagram:





Note:
 1. Plastic Shell Type
 2. The sequence of the terminals as shown in the real product

Accessories for E-series

E-series External Keyboard Dimensions and Installation Holes



Accessories: Multi-functional Expansion Card

Model	Description	Model	Description
 E180-IO1	E180-IO1 Expansion Card 4-way digital input (DI7-DI10) 1-way analog input (VF3) 2-way multi-functional open collector output (YO1, YO2) RS-485 communication interface (standard MODBUS-RTU protocol)	 E102-485	E102 Communication Expansion Card Standard MODBUS-RTU protocol
 E180-IO2	E180-IO2 Expansion Card 4-way digital input (DI7-DI10) 1-way analog input (VF3) 2-way multi-functional open collector output (YO1, YO2)	 E180-DP	E180 PROFIBUS Expansion Card Standard PROFIBUS-DP protocol Optional only for 3.7kW or above types Note: The expansion card E180-DP only applies to models with "DP" endings, e.g. Model CDI-E180G3R7/P5R5T4B (DP)
 E180-PG1	E180 Coder Expansion Card 1 A/B/Z differential input No frequency division output Max. Rate: 100kHz Input differential signal amplitude: $\leq 7V$	 E180-ZS	E180 Injection Molding Machine Expansion Card 2-way digital input (DI7-DI8) 2-way analog conversion
 E180-PG2	E180 Coder Expansion Card 2 A/B/Z/U/V/W differential input No frequency division output Max. Rate: 100kHz Input differential signal amplitude: $\leq 7V$	 E180-WSP	E180 Water Supply Expansion Card 4 main pumps + 1 auxiliary pump automatic control Pressure control for 8 intervals: any pressure can be set and ON/OFF timing is available within every interval Sleep function and the auxiliary pump to reduce energy consumption and prolong service life Note: Only 5.5kW or above types support rapid configuration
 E180-PG3	E180 Coder Expansion Card 3 A/B/Z open collector input Max. Rate: 100kHz	 EM60-IO	EM60-IO Expansion Card 2-way digital input (DI5, DI6) 1-way analog input (VF2) 1-way analog output (FM2)
 E180-PG4	E180 Resolver Expansion Card 10kHz 7VRMS stimulus output 12-digit resolution No frequency division output	 E180-485	EM60 Communication Expansion Card SG+: 485 communication positive signal terminal SG-: 485 communication negative signal terminal MODBUS-RTU protocol

CDRA Series Full-digital Intelligent Soft Starter for AC Motors

The CDRA-series Full-digital Intelligent Soft Starter for AC Motors is new advanced-level start equipment featuring electric & electronic technology, micro-processing technology and modern control theory. It enables effective control of start current for asynchronous motors, and is a desired alternative to reduced-voltage starting equipments featuring star-delta conversion starting and self-coupling transformer starting. Furthermore, the soft starter has a variety of control modes through keyboard, external terminals or host computer, as well as output functions such as fault relay output, multi-functional relay output and analog output, so as to be flexible to play a role in the system.

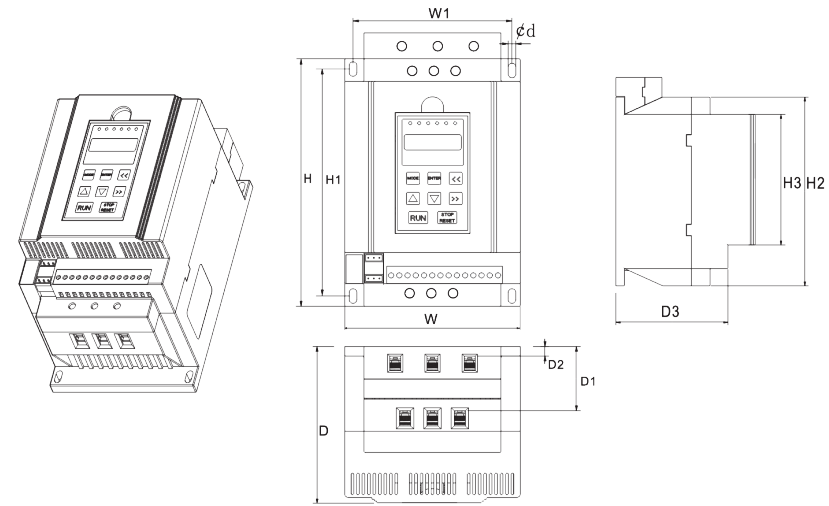
Technical Standard

Operation	Operation Control Mode	Keyboard/External Terminals/RS485 Communication	
	Start Mode	Current Limit/ Voltage/ Heavy-load	
	Start/Stop Time	Digital Settings	
	Start Delay	Digital Settings	
	Emergency Stop	Interrupt the output of the soft starter	
	Current Limit	Start current below this value in the current limit and heavy-load modes	
	Start Voltage	Start voltage can be set digitally in the voltage mode	
	Light-load Control	Belt tripping can be detected	
	Restart	Restart automatically after stopped due to fault	
	Fault Output	Contact output: < AC 250V 5A; < DC 30V 5A	
	Multi-functional Relay Output	Start delay, start, operation, stop, complete stop, restart	
	Analog Output	0-20mA/ 4-20mA, optional	
	Protection	Soft Starter Protection	Over-current, overload, overheat, three-phase imbalance, default phase, light-load, external fault
		Soft Starter Alarming	Emergency stop, light-load, restart
Display	Keyboard	Operation Information	Ready, start delay, start, operation, stop, fault alarm
		Parameter Protection	Protect the parameters from being altered
Working Conditions	Type	AC-53b	
	Rated Insulation Voltage	660V Rated Impact-withstanding Voltage: 4kV	
	Degree of Protection	CDRA011T4~CDRA055T4: IP20 CDRA075T4~CDRA600T4: IP00	
Environment	Ambient Temperature	-10 C ~ 40 C	
	Storage Temperature	-20 C ~ 65 C	
	Ambient Humidity	90% RH at most (No condensation)	
	Altitude/Vibration	< 1000m; < 5.9m/s ² (=0.6g)	
	Working Place	No corrosive gas, inflammable gas, oil mist, or dust	
Cooling	Natural Cooling		

CDRA-series Soft Starter Models

Model	Rated Power (kW)	Rated Current (A)	Circuit Breaker (QF)	Bypass Contactor (KM)	Primary Line
CDRA011T4	11	25	CDM1-63L/32	CJ20-25	6mm Cable
CDRA015T4	15	32	CDM1-63L/40	CJ20-40	10mm Cable
CDRA018T4	18.5	37	CDM1-63L/50	CJ20-40	10mm Cable
CDRA022T4	22	45	CDM1-63L/63	CJ20-63	16mm Cable
CDRA030T4	30	60	CDM1-100L/80	CJ20-63	25mm Cable
CDRA037T4	37	75	CDM1-100L/100	CJ20-100	35mm Cable
CDRA045T4	45	90	CDM1-225L/125	CJ20-100	35mm Cable
CDRA055T4	55	110	CDM1-225L/160	CJ20-160	35mm Cable
CDRA075T4	75	152	CDM1-225L/180	CJ20-160	35mm Cable
CDRA093T4	93	176	CDM1-225L/200	CJ20-250	30*3mm Copper Bar
CDRA110T4	110	210	CDM1-400L/250	CJ20-250	30*3mm Copper Bar
CDRA132T4	132	253	CDM1-400L/315	CJ20-400	30*4mm Copper Bar
CDRA160T4	160	300	CDM1-400L/350	CJ20-400	30*4mm Copper Bar
CDRA200T4	200	380	CDM1-400L/400	CJ20-400	40*4mm Copper Bar
CDRA250T4	250	480	CDM1-630L/630	CJ20-630	40*5mm Copper Bar
CDRA320T4	320	600	CDM1-800H/700	CJ40-800	40*5mm Copper Bar
CDRA400T4	400	750	CDM1-800H/800	CJ40-1000	50*5mm Copper Bar
CDRA450T4	450	892	CDM1-1250/1000	CJ40-1000	50*5mm Copper Bar
CDRA500T4	500	930	CDM1-1250/1250	CJ40-1000	50*5mm Copper Bar
CDRA600T4	600	1100	CDM1-1250/1250	CJ40-1000	50*5mm Copper Bar

CDRA-series Soft Starter External and Installation Dimensions

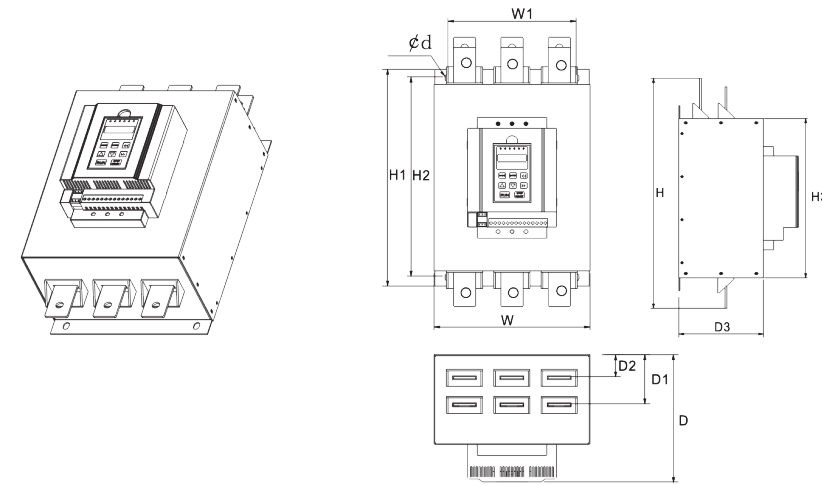


Model	W	W1	H	H1	H2	H3	D	D1	D2	D3	ϕd
CDRA011T4											
CDRA015T4											
CDRA018T4											
CDRA022T4	160	145	265	220	240	166	164	67	10	111	8
CDRA030T4											
CDRA037T4											
CDRA045T4											
CDRA055T4											

Dimension Unit: Millimeter (mm)

CDRA-series Soft Starter External and Installation Dimensions

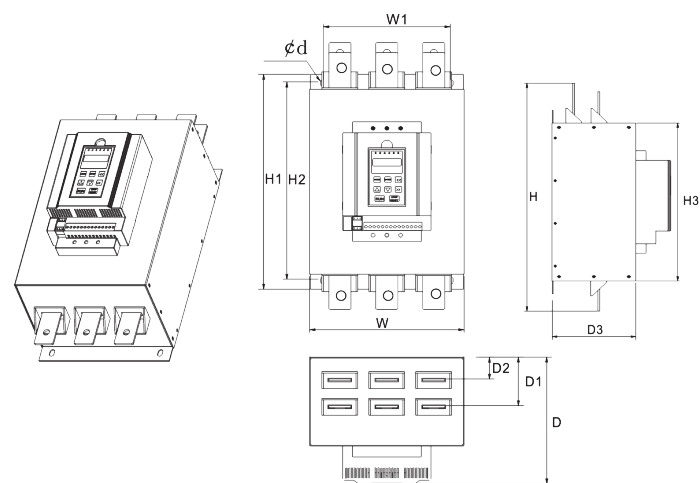
CDRA-series Soft Starter External and Installation Dimensions



Model	W	W1	H	H1	H2	H3	D	D1	D2	D3	ϕd
CDRA200T4											
CDRA250T4	310	265	594	475	440	415	255	98	44	180	10
CDRA320T4											

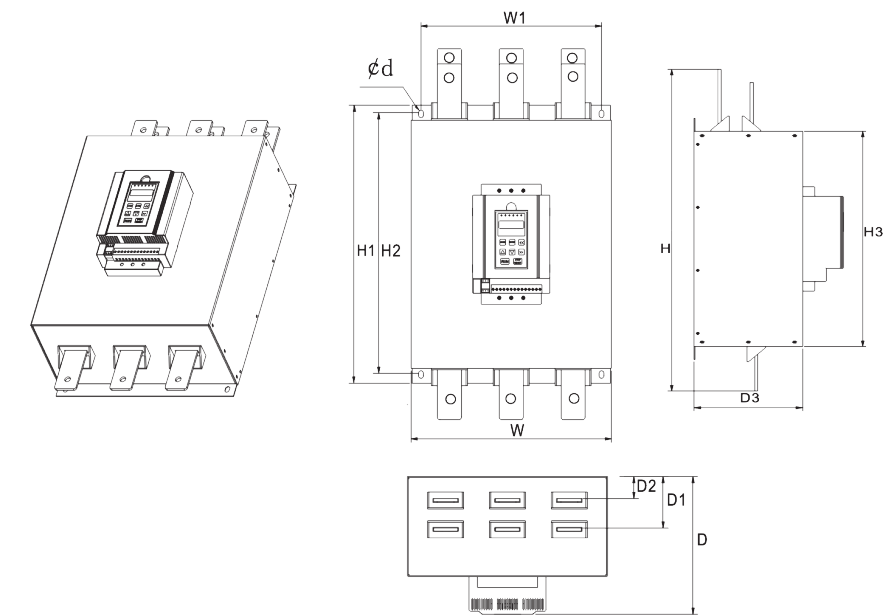
Dimension Unit: Millimeter (mm)

CDRA-series Soft Starter External and Installation Dimensions



Model	W	W1	H	H1	H2	H3	D	D1	D2	D3	ϕd
CDRA075T4											
CDRA093T4											
CDRA110T4	280	230	534	430	395	370	255	98	44	180	10
CDRA132T4											
CDRA160T4											

Dimension Unit: Millimeter (mm)



Model	W	W1	H	H1	H2	H3	D	D1	D2	D3	ϕd
CDRA400T4											
CDRA450T4	416	375	740	555	520	495	275	106	44	200	10
CDRA500T4											
CDRA600T4											

Dimension Unit: Millimeter (mm)

Energy-consumption Brake Unit and Energy-consumption Brake Resistor

All EM60-series inverters can have optional internal brake units; the E100-series and E102-series 15kW or below types all have standard internal brake units and the 18.5-22kW types can have optional internal brake units; brake resistors can be connected to the inverter if the brake torque is to be increased. E180-series 15kW or below types all have internal brake units, the 18.5-30kW types can have optional internal brake units, and external brake resistors can be connected to the inverter if the brake torque is to be increased. As the 30kW-above types don't have internal brake units, external brake resistors and brake units shall be connected if the brake torque is to be increased. (The types selected in the following table have 100% brake torques and 10%-20% resistor efficiency.)

1. EM60-series

Model	Brake Unit	Brake Resistance (Ω)	Brake Resistor Power (W)
CDI-EM60G0R4S2B	Internal, Max. Current of 8A	400	80
CDI-EM60G0R7S2B	Internal, Max. Current of 8A	200	160
CDI-EM60G1R1S2B	Internal, Max. Current of 8A	160	200
CDI-EM60G1R5S2B	Internal, Max. Current of 15A	120	250
CDI-EM60G2R2S2B	Internal, Max. Current of 15A	80	400

2. E100/E102-series

Model	Brake Unit	Brake Resistance (Ω)	Brake Resistor Power (W)
S2 (Single-phase 220V)			
CDI-E100G0R4S2B	Internal, Max. Current of 8A	400	80
CDI-E100G0R7S2B	Internal, Max. Current of 8A	200	160
CDI-E100G1R5S2B	Internal, Max. Current of 15A	120	250
CDI-E100G2R2S2B	Internal, Max. Current of 15A	80	400
T2 (Three-phase 220V)			
CDI-E100G0R4T2B	Internal, Max. Current of 8A	400	80
CDI-E100G0R75T2B	Internal, Max. Current of 8A	200	160
CDI-E100G1R5T2B	Internal, Max. Current of 15A	120	250
CDI-E100G2R2T2B	Internal, Max. Current of 25A	80	400
T4 (Three-phase 380V)			
CDI-E100G0R75T4B	Internal, Max. Current of 8A	600	160
CDI-E100G1R5T2B	Internal, Max. Current of 8A	400	250
CDI-E100G2R2T4B	Internal, Max. Current of 15A	250	400
CDI-E100G3R7T4B	Internal, Max. Current of 15A	150	600
CDI-E100G5R5/P7R5T4B	Internal, Max. Current of 40A	100	1000
CDI-E100G7R5/P0R11T4B	Internal, Max. Current of 40A	75	1200
CDI-E100G011/P015T4BL	Internal, Max. Current of 50A	50	2000
CDI-E100G015/P018.5T4BL	Internal, Max. Current of 75A	40	2500
CDI-E100G0185/P022T4	Internal, Max. Current of 50A Connect to External CDI-BR-50	30	4000
CDI-E100G022T4	Internal, Max. Current of 50A Connect to External CDI-BR-50	30	4000

Note: The E102-series have the same brake components as that of the E100-series.



Energy-consumption Brake Unit and Energy-consumption Brake Resistor

3. E180-series

Model	Brake Unit	Brake Resistance (Ω)	Brake Resistor Power (W)
T2 (Three-phase 220V)			
CDI-E180G0R4T2B	Internal, Max. Current of 10A	350	160
CDI-E180G0R75T2B	Internal, Max. Current of 10A	200	160
CDI-E180G1R5T2B	Internal, Max. Current of 25A	100	250
CDI-E180G2R2T2B	Internal, Max. Current of 25A	75	400
CDI-E180G3R7T2B	Internal, Max. Current of 40A	45	600
CDI-E180G5R5T2B	Internal, Max. Current of 50A	30	1000
CDI-E180G7R5T2BL	Internal, Max. Current of 75A	20	1200
CDI-E180G011T2	Internal, Max. Current of 50A (Connect to External CDI-BR-50)	16	2000
CDI-E180G015T2	Internal, Max. Current of 75A (Connect to External CDI-BR-50)	12	2500
CDI-E180G018.5T2	CDI-BR-100	20/2	4000
CDI-E180G022T2	CDI-BR-100	16/2	4000
CDI-E180G030T2	CDI-BR-100	13.6/2	6000
T4 (Three-phase 380V)			
CDI-E180G0R75T4B	Internal, Max. Current of 10A	600	160
CDI-E180G1R5T4B	Internal, Max. Current of 10A	400	250
CDI-E180G2R2T4B	Internal, Max. Current of 15A	250	400
CDI-E180G3R7/P5R5T4B	Internal, Max. Current of 25A	150	600
CDI-E180G5R5MT4B	Internal, Max. Current of 40A	100	1000
CDI-E180G5R5/P7R5T4B	Internal, Max. Current of 40A	100	1000
CDI-E180G7R5/P011T4B	Internal, Max. Current of 40A	75	1200
CDI-E180G011MT4B	Internal, Max. Current of 50A	50	2000
CDI-E180G0011/P015T4BL	Internal, Max. Current of 50A	50	2000
CDI-E180G015/P018.5T4BL	Internal, Max. Current of 75A	40	2500
CDI-E180G018.5/P022T4	Internal, Max. Current of 50A (Connect to External CDI-BR-50)	30	4000
CDI-E180G022/P030T4	Internal, Max. Current of 50A (Connect to External CDI-BR-50)	30	4000
CDI-E180G030/P037T4	Internal, Max. Current of 75A (Connect to External CDI-BR-50)	20	6000
CDI-E180G037/P045T4	CDI-BR-100	16	9000
CDI-E180G045/P055T4	CDI-BR-100	13.6	9000
CDI-E180G055/P075T4	CDI-BR-100	20/2	12000
CDI-E180G075/P093T4	CDI-BR-200	13.6/2	18000
CDI-E180G093/P110T4	CDI-BR-200	20/3	18000
CDI-E180G110/P132T4	CDI-BR-200	20/3	18000
CDI-E180G132/P160T4	CDI-BR-200	20/4	24000
CDI-E180G160/P185T4	CDI-BR-400	13.6/4	36000
CDI-E180G185/P200T4	CDI-BR-400	13.6/5	45000
CDI-E180G200/P220T4L	CDI-BR-400	13.6/5	45000
CDI-E180G200T4L	CDI-BR-400	13.6/6	54000
CDI-E180P250T4L	CDI-BR-400	13.6/6	54000
CDI-E180G250/P280T4L	CDI-BR-400	13.6/6	54000
CDI-E180G280/P315T4L	CDI-BR-400	13.6/6	54000
CDI-E180G315/P355T4L	CDI-BR-400	13.6/6	54000
CDI-E180G355/P375T4L	CDI-BR-600	13.6/7	63000
CDI-E180G375T4L	CDI-BR-600	13.6/7	63000
CDI-E180G400T4L	CDI-BR-600	13.6/8	72000
CDI-E180G400T4L	CDI-BR-600	13.6/8	72000
CDI-E180G500T4L	CDI-BR-600	13.6/9	81000
CDI-E180G500T4L	CDI-BR-600	13.6/9	81000
CDI-E180G630T4L	2*CDI-BR-400	13.6/10	90000

Note: 13.6/2 represents two 13.6 resistors in parallel; 2*CDI-BR-400 represents two CDI-BR-400 brake units in parallel, where the brake resistance shall be equally distributed to the two brake units, and otherwise it will lead to damage to the brake units.



Typical Cases

Cement Industry	山水集团山东水泥厂 冷水江第六水泥厂 三狮和德水泥有限公司	登峰市国投新登水泥厂 平顶山市瑞平水泥有限公司 内蒙古赛马水泥有限公司
Textile & Dyeing	浙江永丰纺织印染有限公司 江阴市新华富染整有限公司 天津市天歌纺织有限公司	江阴巨龙印染有限公司 浙江湖州新景福纺织印整有限公司 平顶山神马集团有限公司
Water Supply & Thermal-electricity	长春远达热力公司 七天连锁酒店 长春九台自来水公司	长沙乐百氏桶装水有限公司 临汾市海姿供热公司 陕西榆林热电公司
Chemical & Pharmaceutical	湖北宜昌鄂中化工有限公司 浙江传化华洋化工有限公司 河南莲花味精股份有限公司	平泉县长城化工集团有限公司 平顶山市有色汇源有限公司 山西平陆化工有限公司
Plastics	上海吉祥塑铝制品有限公司 上海上丰集团有限公司 汕头市隆泰塑胶有限公司	永州长丰塑料制品有限公司 嘉兴市昌达塑业有限公司 浙江成盛达机电有限公司
Manufacturing	苏州神王金属有限公司 郑州富士康 湖北湖风机械制造有限公司	滁州市爱力特制冷设备有限公司 郴州丰越环保科技有限公司 烟台金洋旋流器有限公司
Paper-making	富阳市江滨造纸厂 杭州富亨纸业 杭州东大纸业有限公司	岳阳市信人造板有限公司 杭州华胜纸业 江苏南通纤维素有限公司
Oil & Coking	大庆油田 辽河油田 黑龙江鹤矿集团兴安选煤厂	长治市劲牛焦化有限公司 平顶山宏盛选煤有限公司 内蒙古乌海焦化厂

Note: The companies are listed regardless of order.

