HOPEWIND



HV510 Series High-Performance Inverter Selection Manual (0.75kW-560kW)

www.hopewind.com



Shenzhen Hopewind Electric Co., Ltd. (Stock Code: 603063) focuses on the R&D, manufacturing, sales and services of renewable energy & electric drive products, including products for wind power generation, photovoltaic generation, energy storage, hydrogen production power supply, power quality and electric drive. Furthermore, Hopewind owns integrated independent R&D and testing platforms of high-power power electrical equipment and monitoring systems. Through innovation in technology and service, Hopewind continuously creates value for customers, and has become one of China's most competitive enterprises in the renewable energy field.

In the field of industrial drive, Hopewind provides a wide range of inverters with various voltage and power classes, mainly including HV350 series low-voltage general purpose inverter, HV510 series low-voltage high-performance inverter, HV610 series crane inverter, HV500 series low-voltage engineering single transmission inverter, HD2000 series low-voltage engineering inverter, HD8000 series medium-voltage engineering inverter, etc., and also provides solutions for 0.75kW~22400kW low-voltage inverter and 4MVA~102MVA (single inverter) medium-voltage inverter. These products can be widely used in metallurgy, petroleum and petrochemical, mining machinery, port lifting, distributed energy generation, large-scale testing platforms, marine equipment, textiles, chemicals, cement, municipal and various other industrial applications.

[Honors]





Laboratory Qualification

RONMENTAL MANAGEMEN SYSTEM CERTIFICATE

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Environmental Management System

Approved by CNAS

National Science and Technology Progress Award

[Quality System]



Quality Management System

Headquarter-Shenzhen

5 major R&D and manufacturing bases: Shenzhen, Suzhou, Xi'an, Heyuan, Wuhan













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高新技术企业 ₩E =|3

National High-tech Enterprise

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Occupational Health and

Safety Management System

三年十一月十五日

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证书编号:6820234 有效期:三年

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HV510 Series High-Performance Inverters

Technical Specifications

Product Overview

The HV510 series inverters (the "HV510") are Hopewind's new generation of highperformance vector inverters. They adopt new high-performance open and closed-loop vector control technology and support asynchronous motor and permanent magnet synchronous motor drive control. Their excellent quality, powerful performance, and high power density design enhance the products' ease of use, reliability, environmental adaptability, functional diversity and application flexibility in industrial scenarios. Their design criteria have been improved and their space minimized, comprehensively upgrading the user experience.



• Typical Application

The HV510 can be widely used in the drives of various kinds of automated production equipment in the fields of metallurgy, lifting, petroleum, machine tools, plastics, metal products, papermaking, textile, printing, and packaging.









Metallurgy

Machine Tools

ls Lifting Equipment

Petroleum

Papermaking



| Basic Functions |
|-----------------|
|-----------------|

| Input voltage | 380V (-15%) - 4 |
|-------------------------------------------|---------------------------------------------------------|
| Input power supply frequency | (50Hz/60Hz) ±5 |
| Input voltage imbalance | ≤ 3% |
| Output voltage | 0 V to input volt |
| Output frequency | 0 Hz-1,500Hz |
| Motor type | Asynchronous r |
| Control mode | V/F, OLVC (open |
| Speed range | 1:100 for V/F; 1: |
| Startup torque | VF: 100% (0.5Hz |
| Torque precision | ±5% (OLVC, abo |
| Torque ripple | ≤±5% under ve |
| Speed stabilizing precision | OLVC: 0.2%; CL\ |
| Torque response | ≤ 5 ms under ve |
| Acceleration and deceleration time | 0.0s-3200.0s; 0 |
| Torque boost | 0.0%-30.0% |
| Overload capacity | Heavy load app Light load appl |
| V/F curves | Straight-line typ V/F complete se |
| Input frequency resolution | Digital setting : |
| Acceleration and deceleration curves | Straight-line an with four types deceleration tin |
| Jog control | In some applica equipment |
| Torque control | Torque control |
| Simple PLC and multi-segment speed | 16-segment sp |
| Built-in PID | Easy implemen |
| Virtual IO | 8 groups of virt |
| Overvoltage and overcurrent stall control | Automatic limit to overcurrent c |
| DC braking | Startup DC brak |
| Pre-excitation | When the invert motor that can |
| Overexcitation | This can effectiv overvoltage ale |
| Speed tracking | Speed tracking vector control a |
| Protection functions | Overvoltage su to ground, pha undervoltage, c |

480V (+10%)/three phases

6%

age

notor, permanent magnet synchronous motor

-loop vector control), CLVC (closed-loop vector control)

200 for OLVC; 1:1000 for CLVC

z); OLVC: 150% (0.25Hz); CLVC: 200% (OHz)

ove 5Hz), ±3% (CLVC)

ector control

VC: 0.01%

ector control

0.0min-3200.0 min

plication: 150% for 1min/5min, 200% for 3 s/5min lication: 110% for 1min/5min, 150% for 10 s/5min

pe, multi-point type, V/F half separation mode, eparation mode

: 0.01Hz ; analog setting : maximum frequency ×0.025%

nd S-curve acceleration and deceleration modes s of acceleration and deceleration time and one type of emergency stop me

ations, the inverter can run briefly at low speed to test the condition of the

supported during vector control

eed operation via control terminals

ntation of closed-loop process control systems

tual VDI/VDO, 3 groups of AI as DI, enabling simple logic control

tation of current and voltage during operation to prevent frequent tripping due or overvoltage

king and shutdown DC braking

ter starts up, pre-excitation of the motor establishes a magnetic field inside the effectively improve the torque characteristics of the motor during startup

vely inhibit the rise of bus voltage during deceleration to avoid frequent erts, and enable quick stop upon power failure

is supported for both asynchronous and synchronous motors and for both and V/F control

ppression, undervoltage suppression, V/F overcurrent suppression, short se loss, detection of excessive speed deviation, overvoltage, overcurrent, overload, over-heating, startup, bus undervoltage, bus overvoltage, etc

Technical Specifications

Customization Functions

| Restart upon power failure | The inverter resumes operation automatically when power is restored after failure |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Master-slave control | Master-slave synchronous control between two or more motors |
| Position lock | Zero-speed hovering can be achieved under CLVC mode |
| Brake control | Motor brake control during inverter start and stop |
| Parameter copy | Backup and recovery of local user parameters With the help of a removable keypad, parameters can be copied between different inverters |
| Parameters and key lock | Locking of parameters and some/all keys |
| Keypad UP/DOWN | The keypad UP/DOWN key can be configured to modify parameters |
| Keypad priority | Commands can be entered using the built-in keypad or an external keypad |
| Restart after fault auto reset | The inverter can be set to restart automatically after fault auto reset |
| Stop speed detection | Two stop speed detection modes are supported: detection based on the speed setting value and detection based on the speed feedback value |
| Braking usage | Both braking and braking pipe protection through pipe on-off frequency setting |
| Energy-saving operation | When the motor runs at light load/no load, reducing the output voltage (motor flux) can reduce wear and tear on the motor, and the noise generated by the motor |
| Timing control | Timing control function allows for a time range of 0-65,000 s/m/h and supports 3 different unit settings |
| Fixed length control | Control with given length |
| Hibernation and wakeup | Used to enable hibernation and wakeup in water supply applications |
| Fan control | Three fan control modes are supported: always working, working automatically and working during inverter running |
| Overmodulation | Used to increase the inverter output voltage |
| Random PWM | Used to mitigate motor noise |
| Multi-motor switchover | Switchover between 2 motors through motor parameter switchover |
| Multiple encoder types supported | Incremental, resolver |
| Encoder running in redundancy mode | Automatic switching to OLVC mode in event of encoder failure under CLVC mode |
| Statistics | Current running time, current power-on time, accumulative running time, accumulative power- on time, accumulative fan running time |
| User-defined parameters | Parameters can be viewed and changed through the user-defined menu mode and non- continuous address continuously read and written |
| Background debugging software | hopeInsight: Supports inverter parameter operation and virtual oscilloscope function. The virtual oscilloscope can perform graphical monitoring of the internal state of the inverter, which, coupled with extensive background monitoring functionality, facilitates on-site data acquisition and debugging |
| Fault recording | Record of fault waveform for parameters of 100 channels to facilitate on-site problem location and analysis Recording duration: 100ms before to 100ms after the fault; Sampling rate: up to 3kHz |
| Various communication modes | Modbus RTU (standard); Profibus-DP, CANopen, Profinet IO, Modbus TCP/IP, EtherCAT, EtherNet/ IP (optional) |
| Various optional accessories | Removable LED/LCD keypad, encoder card, communication card, I/O terminal expansion card, etc |

Input/Output Functions

| Command sources | Switchover betwe |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency sources | Supporting switc reference (DI5), n frequency source |
| Input terminal functions | 66 kinds of DI inp |
| Output terminal functions | 48 kinds of DO ou functions for stat |
| Analog input terminals | AI1, AI2: 0 V-10 V |
| Digital input terminals | DI1-DI5: 5 progra sourcing and sinl DI5 supports high |
| Digital output terminals | 2 open collector o current load capa DO1 supports hig |
| Analog output terminals | 1-Channel voltag |
| Relay output | 1-Channel Form |
| Communication terminals | 1 channel (A/B), s |
| Expansion capability I/O terminal card (optional) | DI6-DI8: 3 progra coupled isolation DO3: 1 open coll Al3: 1 analog inp AO2, AO3: 2 anal 1 relay output ch. 1 motor tempera |

Keypad Display and Operation

| Build-in LED keypad | Parameter displ |
|------------------------|-----------------|
| Removable LED keypad | Parameter displ |
| Removable LCD keypad | Parameter displ |
| Key function selection | The MF.K key ca |

Environmental Conditions

| Altitude | ≤ 1000 m: no ne 1000-3000 m: c |
|---------------------|-----------------------------------|
| Ambient temperature | -25°C to +40°C (|
| Humidity | 15%-95% with r |
| Vibration | 3M3, IEC60721- |
| Storage temperature | -40°C to +70°C |
| Place of use | Indoors with no or conductive p |
| Installation | Wall-mounted |
| Protection rating | IP20 |
| Cooling method | Air-cooling |
| | |

ween keypad, terminal, and communication supported

tchover between 11 sources: digital setting, analog inputs (AI1/AI2/AI3), pulse multi-reference, simple PLC, PID, communication, terminal UP/DOWN and ce bound to command source

nput terminal functions for logic control

output terminal functions and 23 kinds of AO and HDO output terminal atus indication

V/0 (4) mA-20 mA

rammable digital input terminals with light-coupled isolation, compatible with nking inputs

gh-speed pulse input with a maximum input frequency of 100 kHz

r output channels; output voltage range: 0 V-24 V; pacity: 50 mA

igh-speed pulse output with a maximum output frequency of 100 kHz

age/current: 0 V-10 V/ 0(4) mA-20 mA

n C contact: NO+NC

, supporting RS485 communication cable connection

rammable digital input channels with light-

on, compatible with sourcing and sinking inputs

ollector output channel

nput channel supporting -10 V to +10 V input alog output channels supporting 0-10 V/0-20 mA output

hannel (NO+NC)

rature sampling channel supporting PT100, PT1000 and KTY84

lay and setting

olay, setting and copy

lay, setting and copy with multilanguage support

an be customized to select specific functions

eed for derating

current derating by 1% per 100 m increased

(allowed to run at 40°C to 55°C with derating)

no condensation

-3-3

o direct sunlight, flammable, corrosive gases or liquids, particles etc.

Standard Wiring Diagram



Note (1): The maximum output of +10 V port is 25 mA

Note (2): The maximum current load of +24 V port is 50 mA.

Note (3): Internal resistance of AI1 and AI2 ports (in current mode): 500 $\boldsymbol{\Omega}$

Note (4): The activation ports for RS485 terminal resistance (120 Ω).

Note (5): For terminals DI1-DI5, NPN or PNP transistor signals can be selected as inputs, and the bias voltage can be selected from the inverter's internal power supply (+24 V terminal) or external power supply (DGND terminal).

Note (6): When the digital output terminals drive the relay, a freewheel diode needs to be added with correct polarity at both ends of the relay coil, otherwise, the internal circuit may be damaged. The driving capacity is not more than 50 mA.

Note (7): The optional I/O terminal expansion card and the communication expansion card share the same expansion card slot, and cannot be installed and used at the same time



Reliable structural design

· Innovative independent air duct design improves the product's heat dissipation performance and environmental adaptability · Compact type design minimizes the installation space in the cabinet

Professional thermal design

- · Efficient and accurate thermal simulation platform software is adopted to ensure the thermal reliability of the machine
- · Advanced thermal testing together with verification techniques and devices effectively verify the theoretical results of the thermal design

Rigorous temperature rise test

· A stringent full-load and overload verification test program is adopted for temperature rise testing on the machine

· High-temperature load aging test for the product before leaving the factory effectively prevents and intercepts component failures

Effective anti-interference design

• Built-in C3 filter can effectively suppress high-frequency harmonics generated by the inverter. · EMC filter ungrounded design effectively reduces leakage current to ground

Comprehensive protection functions

• The entire series supports multiple protections against overvoltage, undervoltage, overcurrent, phase loss, overspeed, locked-motor, overload, motor temperature, short circuit to ground, etc

· Based on the severity of the type of fault, the inverter can be set to report alarm, shut down or continue running, which makes daily maintenance more convenient



Advanced motor drive technology

· Supports both asynchronous and synchronous motors to achieve high-performance current vector control

- · Supports switchover between two groups of motor parameters
- · Supports speed and torque mode control of motors





Excellent Performance

Extensive auto-tuning function

· Accurate auto-tuning ability of motor parameters: improves motor control accuracy and response speed · Comprehensive auto-tuning modes: support motor auto-tuning needs in different scenarios

Complete braking function

· Supports DC braking at startup/stop

· Supports overexcitation function which can effectively suppress the rise of bus voltage during deceleration, thereby avoiding frequent overvoltage faults

• The entire series can be configured with a built-in brake unit, saving installation space and electrical costs

Powerful overload capacity

· Low overload: 110% of I, for 60s or 150% of I, for 10s in a duty cycle

 \cdot High overload: 150% of I_H for 60s or 200% of I_H for 3s in a duty cycle



Extensive Functionality

High frequency output

· Output up to 1,500 Hz, suitable for high-frequency, high-speed motors



Extensive Functionality

Oiversified expansion functions

· Communication card: supports major communication protocols, including Profibus-DP, Profinet IO, CANopen, Modbus TCP/IP, Ethercat, and EtherNet/IP · Encoder card: supports the wiring of the incremental encoder and resolver · I/O terminal card: provides more terminal functions

· 110 kW or below inverters are configured with a built-in LED keypad as standard, which cannot be removed and used externally. If external use is needed, an optional LED keypad can be configured ,The keypad can be installed on the cabinet when combined with the mounting base. · 132 kW or above inverters are configured with a removable LED keypad (mounting base excluded) as standard. To install it on the cabinet, a mounting base should be selected. Inverters of all power ranges support optional configuration of a removable LCD keypad.

Note: The optional I/O terminal expansion card and the communication expansion card share the same expansion card slot, and cannot be installed and used at the same time.

Background quick debugging software

· Supports inverter event recording and virtual oscilloscope function

· Supports parameter editing and status monitoring, to facilitate debugging and maintenance

Parameter interface

| INTE NO. | 18 8 8 | an tea | and and | | | | | | | State sig | | | | | | | | | | | | | |
|----------|---------------|---------|---------------------|---------------|-----------|------|---------|-----|----|-----------------|-----------------------------------------|-------|------------|----------|-----------------------------------------|---------------------------------------|------------------|---------------------------------------|-----------------------------------------|-----------|--------|-----------|----------|
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• Special application software functions

· Master-slave control: suitable for master-slave synchronous control between two or more motors

- · Simple PLC: supports cyclic operation of up to 16 segments with fixed time and speed
- PID: suitable for closed-loop systems for process control such as constant temperature, constant pressure, tension, etc · Virtual I/O: easy internal logic control by means of simple settings

- · Position lock: Zero-speed hovering can be achieved under CLVC mode
- The wobble function is applicable to textile and chemical fiber processing equipment, which can improve the quality of spindle winding
- · Random PWM depth: mitigates the harsh motor noise
- · Encoder running in redundancy: automatic switching to OLVC mode in event of encoder failure under CLVC mode





I/O terminal expansion card



Removable LED keypad

PN communication card



DP communication card



Removable LCD keypad

- · Restart upon power failure: The inverter resumes operation automatically when power is restored after failure
- Multi-motor switchover: Two groups of motor parameters can be stored to enable switchover



Product Dimensions

| Rated voltage: three phases 380 Vac/50 Hz | | | | | | | | | |
|-------------------------------------------|---------------------|-----------------------------|---------------------|-----------------------------|--------------|--|--|--|--|
| | Heavy | y Load | Ligh | it Load | | | | | |
| Model | Rated Power (kW) | Rated output current (A) | Rated power (kW) | Rated output current (A) | - Frame Type | | | | |
| HV510-A04T00007B | 0.75 | 2.5 | 1.5 | 4.2 | | | | | |
| HV510-A04T00015B | 1.5 | 4.2 | 2.2 | 5.8 | FA | | | | |
| HV510-A04T00022B | 2.2 | 5.8 | 4 | 9.5 | | | | | |
| HV510-A04T00040B | 4 | 9.5 | 5.5 | 13 | | | | | |
| HV510-A04T00055B | 5.5 | 13 | 7.5 | 17 | - FR | | | | |
| HV510-A04T00075B | 7.5 | 17 | 11 | 25 | | | | | |
| HV510-A04T00110B | 11 | 25 | 15 | 32 | FL | | | | |
| HV510-A04T00150B | 15 | 32 | 18.5 | 38 | | | | | |
| HV510-A04T00185B | 18.5 | 38 | 22 | 46 | FD | | | | |
| HV510-A04T00220B | 22 | 46 | - | - | | | | | |
| HV510-A04T00300(B) | 30 | 60 | 37 | 75 | | | | | |
| HV510-A04T00370(B) | 37 | 75 | 45 | 91 | FE | | | | |
| HV510-A04T00450(B) | 45 | 91 | 55 | 125 | | | | | |
| HV510-A04T00550(B) | 55 | 125 | 75 | 150 | FF | | | | |
| HV510-A04T00750(B) | 75 | 150 | 90 | 180 | | | | | |
| HV510-A04T00900(B) | 90 | 180 | 110 | 210 | 56 | | | | |
| HV510-A04T01100(B) | 110 | 210 | 132 | 250 | FG | | | | |
| HV510-A04T01320(B) | 132 | 256 | 160 | 310 | | | | | |
| HV510-A04T01600(B) | 160 | 312 | 200 | 380 | F8 | | | | |
| HV510-A04T02000(B) | 200 | 380 | 220 | 415 | | | | | |
| HV510-A04T02200(B) | 220 | 415 | 250 | 471 | | | | | |
| HV510-A04T02500(B) | 250 | 471 | 280 | 510 | F9 | | | | |
| HV510-A04T02800(B) | 280 | 510 | 315 | 610 | | | | | |
| HV510-A04T03150(B) | 315 | 610 | 355 | 670 | | | | | |
| HV510-A04T03550(B) | 355 | 670 | 400 | 745 | F10 | | | | |
| HV510-A04T04000(B) | 400 | 745 | 450 | 820 | | | | | |
| HV510-A04T04500(B) | 450 | 820 | 500 | 860 | | | | | |
| HV510-A04T05000(B) | 500 | 860 | 560 | 990 | F11 | | | | |
| HV510-A04T05600(B) | 560 | 990 | 630 | 1100 | | | | | |





FA structure and installation dimensions





FD structure and installation dimensions FE structure and installation dimensions





FD structure and installation dimensions



Note: 1. Standard FA-FD frame models come with a built-in brake unit. To configure a brake unit for models from FE onwards, add "B" at the end of the model, such as "HV510-A04T00300B".

2. Only 132kW-400kW products are equipped with built-in DC reactors as standard. For other power segment products, DC reactors are not supported and users can install AC input reactors by themselves as needed. 450kW-560kW inverters must be installed with AC reactors.

3. A periodic overload of 150% of the baseload is allowed under heavy load rated working conditions (140% for the HV510-A04T05600) and 110% under light load rated working conditions. The overload cycle is 1 min every 5 min.











FF structure and installation dimensions

*0



F8 structure and installation dimensions





F11 structure and installation dimensions

Product Dimensions

| Frame | Width (mm) | Height (mm) | Depth (mm) | Mounting Hole Horizontal Spacing M1(mm) | Mounting Hole Horizontal Spacing M2(mm) | Mounting Hole Vertical Spacing H2 (mm) | Mounting Hole DiameterΦ (mm) | Net Weight(kg) |
|-------|---------------|----------------|---------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------------|------------------------------------|----------------|
| FA | 76 | 232 | 175.5 | 55 | 55 | 221 | 5 | 1.7 |
| FB | 95 | 232 | 175.5 | 70 | 70 | 221 | 5 | 1.8 |
| FC | 121.5 | 272 | 187 | 90 | 90 | 262 | 6 | 3.3 |
| FD | 140 | 377 | 237 | 105 | 105 | 357 | 6.5 | 5.5 |
| FE | 240 | 500 | 225 | 160 | 160 | 485 | 7 | 16 |
| FF | 270 | 615 | 240 | 200 | 200 | 594 | 9 | 24 |
| FG | 335 | 712 | 255 | 230 | 230 | 688 | 9 | 38 |
| F8 | 300 | 880 | 450 | 160 | 160 | 825 | 9 | 105 |
| F9 | 300 | 980 | 545 | 160 | 160 | 925 | 9 | 122 |
| F10 | 300 | 1100 | 545 | 160 | 160 | 1050 | 9 | 156 |
| F11 | 330 | 1220 | 590 | 110 | 220 | 1150 | 9 | 209 |

Recommended AC Reactor Selection

| March 1 | AC Inpu | it Reactor | AC Output Reactor | | | |
|--------------------|-----------------|-------------|-------------------|-------------|--|--|
| Model | Inductance (mH) | Current (A) | Inductance (mH) | Current (A) | | |
| HV510-A04T00007B | 7 | 2.2 | 1.7 | 4.4 | | |
| HV510-A04T00015B | 3.5 | 4.4 | 1.3 | 6 | | |
| HV510-A04T00022B | 2.4 | 6.4 | 0.8 | 10 | | |
| HV510-A04T00040B | 1.4 | 12 | 0.6 | 14 | | |
| HV510-A04T00055B | 1 | 16 | 0.43 | 18 | | |
| HV510-A04T00075B | 0.8 | 20 | 0.3 | 26 | | |
| HV510-A04T00110B | 0.52 | 30 | 0.23 | 34 | | |
| HV510-A04T00150B | 0.4 | 40 | 0.2 | 40 | | |
| HV510-A04T00185B | 0.31 | 50 | 0.16 | 48 | | |
| HV510-A04T00220B | 0.26 | 60 | 0.12 | 63 | | |
| HV510-A04T00300(B) | 0.2 | 81 | 0.1 | 78 | | |
| HV510-A04T00370(B) | 0.16 | 100 | 0.08 | 95 | | |
| HV510-A04T00450(B) | 0.13 | 121 | 0.06 | 130 | | |
| HV510-A04T00550(B) | 0.1 | 148 | 0.05 | 155 | | |
| HV510-A04T00750(B) | 0.08 | 202 | 0.04 | 190 | | |
| HV510-A04T00900(B) | 0.07 | 225 | 0.035 | 220 | | |
| HV510-A04T01100(B) | 0.06 | 275 | 0.03 | 265 | | |
| HV510-A04T01320(B) | 0.041 | 345 | 0.021 | 325 | | |
| HV510-A04T01600(B) | 0.036 | 385 | 0.017 | 400 | | |
| HV510-A04T02000(B) | 0.033 | 420 | 0.016 | 435 | | |
| HV510-A04T02200(B) | 0.029 | 480 | 0.014 | 495 | | |
| HV510-A04T02500(B) | 0.026 | 540 | 0.013 | 535 | | |
| HV510-A04T02800(B) | 0.023 | 605 | 0.011 | 640 | | |
| HV510-A04T03150(B) | 0.021 | 680 | 0.01 | 705 | | |
| HV510-A04T03550(B) | 0.018 | 770 | 0.009 | 785 | | |
| HV510-A04T04000(B) | 0.016 | 865 | 0.008 | 860 | | |
| HV510-A04T04500(B) | 0.032 | 840 | 0.0077 | 905 | | |
| HV510-A04T05000(B) | 0.026 | 960 | 0.0067 | 1040 | | |
| HV510-A04T05600(B) | 0.022 | 1100 | 0.006 | 1155 | | |

Recommended Braking Resistor Selection

| Inverter model | Minimum braking resistance (Ω) | Maximum braking current (A) | Recommended resistance R (Ω) power P | Braking unit |
|--------------------|-----------------------------------|--------------------------------|-----------------------------------------|------------------------|
| HV510-A04T00007B | 120 | 7 | 750Ω/150W | Built-in (standard) |
| HV510-A04T00015B | 80 | 10.5 | 350Ω/320W | |
| HV510-A04T00022B | 80 | 10.5 | 250Ω/450W | |
| HV510-A04T00040B | 47 | 17.5 | 150Ω/750W | |
| HV510-A04T00055B | 29.6 | 28 | 150Ω/750W | |
| HV510-A04T00075B | 29.6 | 28 | 100Ω/1125W | |
| HV510-A04T00110B | 29.6 | 28 | 100Ω/1125W | |
| HV510-A04T00150B | 29.6 | 28 | 30Ω/3750W | |
| HV510-A04T00185B | 29.6 | 28 | 30Ω/3750W | |
| HV510-A04T00220B | 24 | 35 | 30Ω/3750W | |
| HV510-A04T00300(B) | 24 | 35 | 25Ω/4500W | Built-in (optional) |
| HV510-A04T00370(B) | 16 | 52.5 | 25Ω/4500W | |
| HV510-A04T00450(B) | 16 | 52.5 | 25Ω/4500W | |
| HV510-A04T00550(B) | 8 | 105 | 10Ω/14000W | |
| HV510-A04T00750(B) | 8 | 105 | 10Ω/14000W | |
| HV510-A04T00900(B) | 5.6 | 157 | 6Ω/21000W | |
| HV510-A04T01100(B) | 5.6 | 157 | 6Ω/21000W | |
| HV510-A04T01320(B) | 3 | 250 | 5Ω/27000W | |
| HV510-A04T01600(B) | 2.6 | 288 | 4Ω/33000W | |
| HV510-A04T02000(B) | 2.4 | 313 | 3.3Ω/41000W | |
| HV510-A04T02200(B) | 2.4 | 313 | 3Ω/45000W | |
| HV510-A04T02500(B) | 2.4 | 313 | 2.8Ω/48500W | |
| HV510-A04T02800(B) | 1.8 | 417 | 2.4Ω/56500W | |
| HV510-A04T03150(B) | 1.8 | 417 | 2.1Ω/65000W | |
| HV510-A04T03550(B) | 1.4 | 536 | 1.9Ω/71000W | |
| HV510-A04T04000(B) | 1.4 | 536 | 1.7Ω/80000W | |
| HV510-A04T04500(B) | 1.2 | 625 | 1.6Ω/85000W | |
| HV510-A04T05000(B) | 1.2 | 625 | 1.6Ω/85000W | |
| HV510-A04T05600(B) | 1 | 750 | 1.2Ω/115000W | |

Optional Accessories

| Model | Accessory Name | |
|----------------------------------------|------------------------------------|--------------------------------------------------------|
| HVLED | LED keypad | Supports p |
| HIC300-OP30 | LCD keypad | Supports p |
| HVKMB | Keypad mounting base | Supports ir |
| HVCOM-USB | Communication adapter | Enables hig debugging |
| HVIO-01 | I/O terminal expansion card | Supports 3 output cha KTY84), and |
| HVPG-ABZ-01 | Incremental encoder expansion card | Supports th |
| HVPG-ROT | Resolver expansion card | Supports th |
| HVCOM-DP-H | Profibus-DP communication card | Side insert All frames s |
| HVCOM-DP-V | Profibus-DP communication card | Direct inser Only FA, FB frames are should be |
| HVCOM-PN-H | Profinet communication card | Supports C |
| HVCOM-PN-V Profinet communication card | | Direct inser Only FA, FB frames are should be |
| HVCOM-CA | CANopen communication card | Supports C |
| HVCOM-TP-H | EtherNet/IP communication card | Supports M |
| HVCOM-EC-H | EtherCAT communication card | Supports E |
| HVCOM-EN-H | EtherNet/IP communication card | Supports E |

| Function | and | Use |
|----------|------|-----|
| i anceon | 0110 | 000 |

parameters setting, viewing, copying, etc. (Keypad mounting base included) parameters setting, viewing, copying, etc. (Keypad mounting base included) nverter control by the keypad after installing the base in the specified position

gh-speed communication between hopelnsight (the background quick g software of the inverter) and a computer

B DI input channels, 1 DO output channel, 1 AI input channel (-10 V-10 V), 2 AO annels (0-10 V/0-20 mA), 1 temperature sampling channel (PT100, PT1000, d 1 relay output channel

ne wiring of the ABZ incremental encoder

he wiring of the resolver

communication card supporting Profibus-DP bus communication. support side insert communication cards.

ert communication card supporting Profibus-DP bus communication. B and FC frames support direct insert communication cards. When the three e seamlessly installed side by side, the HVCOM-DP-V communication card used

ANopen bus communication

ert communication card supporting Profinet IO bus communication. B and FC frames support direct insert communication cards. When the three e seamlessly installed side by side, the HVCOM-PN-V communication card used

ANopen bus communication

Aodbus TCP/IP communication

therCAT communication

therNet/IP communication

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