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SHENZHEN INVT ELECTRIC CO., LTD.

Address: 5/F, Building M-6, Hi-Tech Industrial Park Central,
Shenzhen, 518057, China
Tel: +86 755 86028456/86028402/86028447
Fax: +86 755 86028412
Email: wangjian@invt.com.cn overseas@invt.com.cn
Website: www.invt.com.cn/eng

PRODUCT CATALOGUE

SHENZHEN INVT ELECTRIC CO., LTD.

Company Profile

Shenzhen INVT Electric Co., Ltd., founded in 2002, is a professional manufacturer of AC drives which has been widely recognized as leader in the field of AC drives in China. Thanks to high performance vector control algorithm and deep know-how of different kinds of applications, we have developed unique and outstanding frequency inverters to meet the most demanding needs of customers.

Depth of industry experience combined with innovative design talents in diverse technologies has ensured that INVT products are tough to beat. With competitively-priced, high-performance products and comprehensive support and service, we aim to be your most valued drives technology partner.

What we can offer

- CHV100 series close loop vector control inverter (1.5~315KW)
- CHE100 series sensorless vector control inverter (0.4~315KW)
- CHF100 series high performance universal inverter (0.75~945KW)
- CHV110 series energy saving cabinet (7.5~75KW)
- CHV130 series special inverter for wiring drawing (5.5~30KW)
- CHV150 series high speed inverter (0~3000Hz 1.5~22KW)
- CHV160 series special inverter for multi-pumps water supply (5.5~90KW)
- CHV170 series special inverter for tension control (4~110KW)
- CHV180 series special inverter for elevator (4~30KW)
- CHV series medium voltage inverter (690V/1140V 22~2800KW)
- CHH series high voltage inverter (3KV/6KV/10KV 315~2800KW)

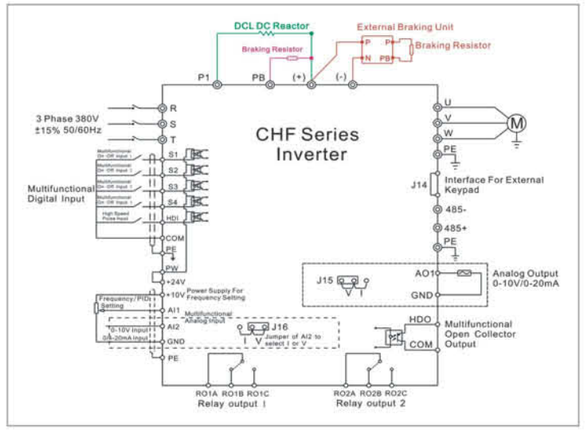
Features

CHF100 SERIES HIGH PERFORMANCE UNIVERSAL INVERTER

- Power range: 0.75~945kW
- Input voltage range:220V/380V/415V/440V/480V/525V ±15%
- Control mode: V/F control
- Speed adjust range:1:100
- Simple PLC,Multi-Steps Speed control function:16 steps speed can be set.
- Traverse control:Offer Multiple triangular wave to meet specific demand of textile industry
- PID control function
- None-Stop when instantaneous power off
- Speed trace function: Start the running motor smoothly
- Offer RS485 communication which support standard Modbus RTU and ASCII protocol
- Drive larger variable torque load directly, eliminate warehourse and fasten delivery time
- Length control: Implement constant length control by calculating the number of pulse
- Simple water supply control: Drive 1 variable speed pump and 2 fixed speed pumps
- Built-in DC reactor, improve power factor and efficiency

Typical Application

Pumps and fans, extruder, automatic production line, air conditioner, water supply, food machine, blender, packing machine, medicine machine, conveyor, blowmolding machine, oil pump, fountain.



Wiring Diagram

Features

CHE100 SERIES SENSORLESS VECTOR CONTROL INVERTER

- Power range: 0.4~315kW
- Input voltage range: 220V/380V/415V/440V/480V/525V ±15%
- Achieve excellent sensorless vector control based on DSP platform
- Static and rotation motor parameter autotune, ensure excellent vector control
- Independent duct design
- Built-in DC reactors above 18.5kW to improve power factor
- Traverse control: Offer Multiple triangular wave to meet specific demand of textile industry
- Offer RS485 communication which support standard Modbus RTU and ASCII protocol
- Quick/Jog Function: Offer shortcut to view and modify function parameter in common use
- Support local and remote operation panel at same time, make commisioning more convenient

Typical Application

Textile, printing & dyeing, chemical fibers, paper making, wire-drawing, manipulator, solid warehouse, oxygen making machine, machine tools, air-compressor, ceramic machine

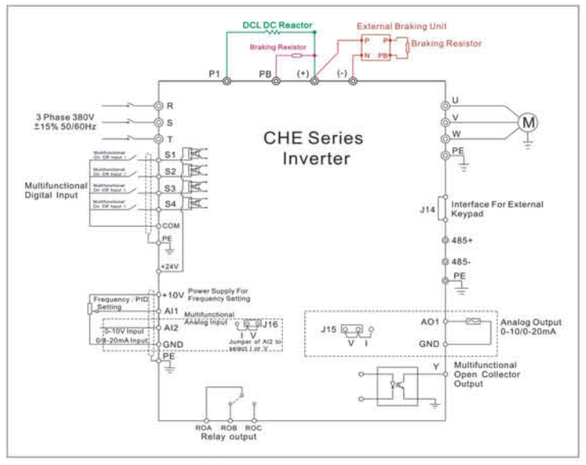
CHE150 SERIES HIGH SPEED INVERTER

Power range: 1.5~22kW

Output Frequency range: 0~3000Hz

Typical Applications:

High speed spinning machine, machine tools



Wiring Diagram

Features

CHV 100 SERIES CLOSE LOOP VECTOR CONTROL INVERTER

- Power range: 1.5~315kW
- Input voltage range: 220V/380V/415V/440V/480V/525V ±15%
- Adopts advanced modular design concept
- Dual-CPU control platform: 16 bit DSP is responsible for current vector arithmetic while 32 bit ARM is in charge of control function
- Static and rotation motor parameter autotune, ensure excellent vector control
- Achieve high accuracy close-loop speed control and torque control using PG card to receive pulse signal from encoder
- Torque control: Offer multi-mode torque setting
- External LCD panel can monitor three parameters at the same time. Chinese/English selectable. Parameter copy function make several drives commissioning more convenient

Typical Application

Printing machine, dying machine, paper machine, wind and unwind, high accuracy machine tool, cutting machine, steel rolling, metal, wire machine, drawbench, position control, zero speed servo control

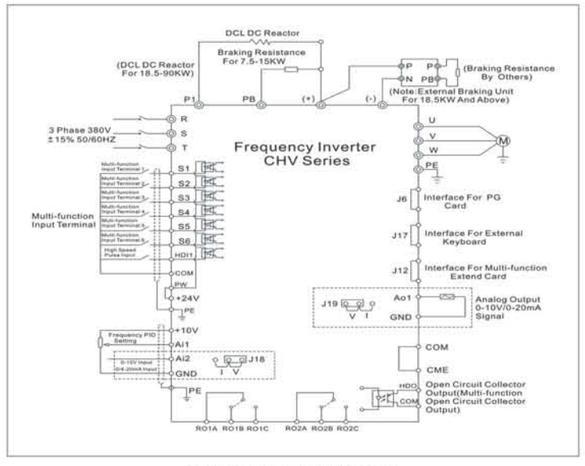
CHV150 SERIES HIGH SPEED INVERTER

Power range: 1.5~22kW

Frequency range: 0~3000Hz

Typical Applications:

High speed spinning machine, machine tools



Wiring Diagram

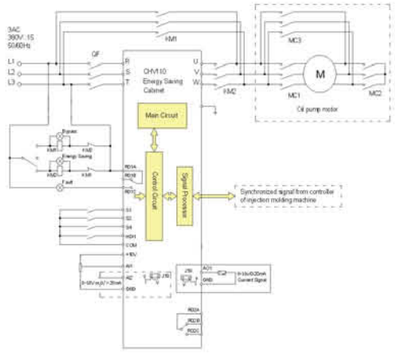
Option card

Option Card	Picture	Description
Series Communication Card		Offer RS232 and RS 485 dual physical communication interface, built-in MODBUS RTU and ASCII protocol
PG Card		Permit both push-and-pull input and open collector input, offer frequency division output, frequency division factor can be selected by dial switch, connect to the encoder by soft wire
I/O Extension Card		Offer more input/output terminals to enhance inverter external function, RS 485 port is available

CHV110 SERIES ENERGY SAVING CABINET

Features

- Power range:7.5~75kW
- Input voltage range: 220V/380V/415V ±15%
- Control Mode: Sensorless vector control, V/F control
- Frequency source: Compare pressure and flow signals output.
- Transform 0~1A signal from pressure and flow proportional valve to standard 0~10V signal and give feedback to inverter
- Large torque at low frequency
- No delay for production cycle time because of prompt response
- Strong enviormental adaptability: dust-proof, gas-proof, and corrosive-proof, prolonging service life of the equipment
- 18.5kW~75kW built-in DC reactor to improve power factor and eliminate harmonics
- Integrate bypass system to ensure system work properly and do not affect production
- Strong anti-jamming capability
- Energy saving rate is 5%~10% higher than V/F control
- Speed trace function: Start running motor smoothly
- Compact size, easy installation.



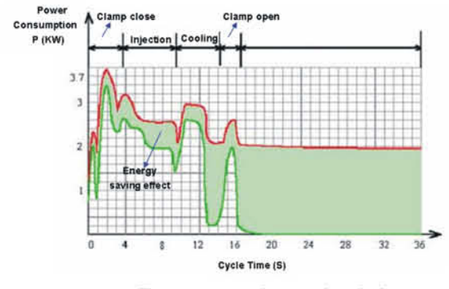
Wiring Diagram

Typical Application

Injection molding machine, air compressor

Injection Molding Card

Collect and process signal of pressure and flow of injection molding machine.



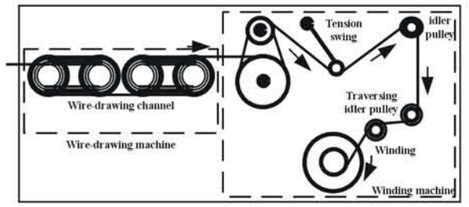
Energy saving principle

CHV130/170 SERIES SPECIAL INVERTER FOR WIRING DRAWING AND TENSION CONTROL

Features

CHV130 Series:

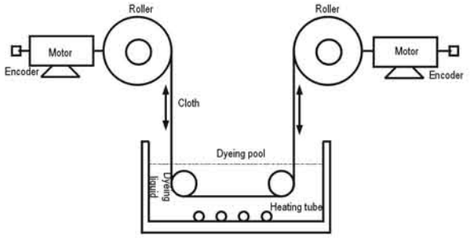
- Multi-speed synchronous, constant tension control
- Rolling control function
- Collocate special field characteristic module: Sequential anneal control for water tank wire-drawing machine,
- Benchmark counterchange during synchronous control of starting/stopping
- Winding/unwindind control



Wire-drawing machine diagram

Typical Application

Drawbench, wire drawing machine, metallurgy



Dyeing machine diagram

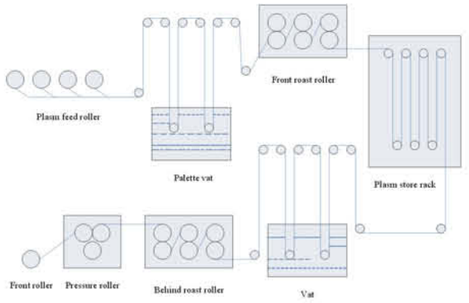
CHV170 Series:

- CLose loop tension control
- Open loop tension control
- Central winding/unwinding control
- Intelligent torque compensate control,
- Multidimensional taper control
- Zero speed tension control

Typical Application

Central winding/unwinding control,printing machine, dyeing machine, packaging machine, paper machine, chemical fiber etc..

Tension Control Card

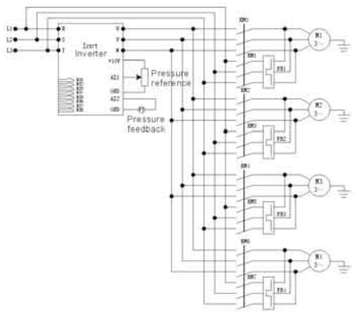


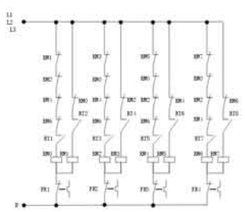
Dressing machine diagram

CHV160 SERIES SPECIAL INVERTER FOR MULTI-PUMPS WATER SUPPLY

Features

- Power range: 5.5~90kW
- Input voltage range: 220V/380V ±15%
- PID control function
- Protection: multi kinds of protection and malfunction display
- Configure general pump, dormancy pump, dirty water pump, carry 7 pumps at most.
- Built-in clock chip
- Support pressure setting in eight-segments time every day to adapt changing demand for water supply
- Dormant, periodic alternate control, small-flow stop automatically and energy-saving operation
- Liquid level detection and control of water inlet reservoir to prevent been polluted again
- Offer RS485 and RS232 communication, support standard Modbus RTU and ASCII protocol





Wiring diagram for four variable speed pumps

Typical Application

Water supply of fire protection,Central air-conditioning system,Cycle cooling water, industrial boiler,Oil transportation pump,Water and sewage treatment

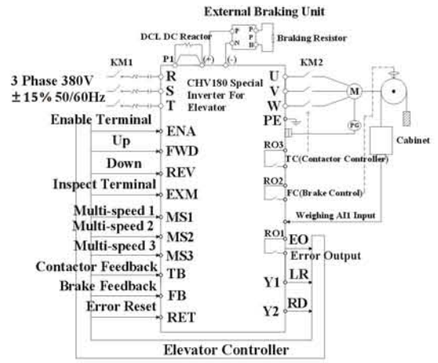
Water Supply Card

Realize functions such as constant pressure water supply, multi pumps circular switch, dormant control, timing control, prevent water hammer, water level control, RS232 port etc.

CHV180 SERIES SPECIAL INVERTER FOR ELEVATOR

Features

- Power range: 4~30kW
- Input voltage range: 380V ±15%
- Running function: inspect running, emergency running, force decelerate running
- Holding braking, contactor control
- Starting torque compensation
- PG card: synchronous PG Card, Asynchronous PG Card
- Starting weight up function
- Energy saving function with RBU unit
- S curve accelerate/decelerate function
- More than 30 kinds of protection
- S curve to make elevator work smoothly
- AVR(Auto Voltage Regulation)



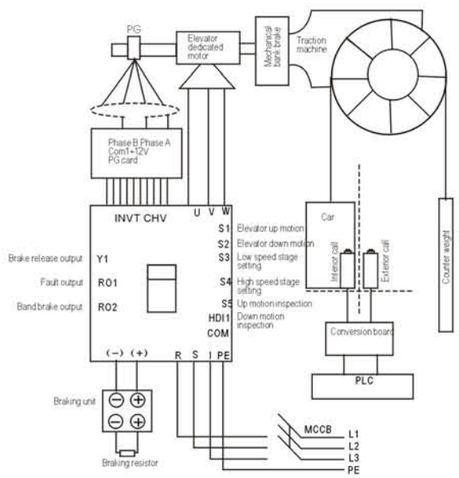
Elevator control wiring diagram

Typical Application

Elevator, crane

PG Card

- Permit both push-and-pull input and open collector input
- Offer frequency division output, frequency division factor can be selected by dial switch
- Connect to encoder by soft wire
- Select asynchronous or synchronous PG card according to encoder type



Elevator Control Layout

CHV SERIES MEDIUM VOLTAGE INVERTER

Features

- Power range:22~2800kW
- Input voltage range: 690V/1140V ±15%
- Adopt high voltage(3300V) IGBT as power module to improve reliability
- Soft start and soft stop for large power rating motor
- Use fiber optic to transmit PWM signal to eliminate interference
- High power factor, low harmonics
- Customized frame size to meet specific requirement
- Cooling method: Water-cooled or heat tube cooling
- Explosion-proof cabinet is optional
- Chassis/cubicle selectable

Typical Application

Belt transportation machine in mine, screed transportation machine, fan, water pump, oil pump

DBU BRAKING UNIT

Features

- High braking capability: Brake continuously for full load when braking rate is 50%; brake for five minutes for full load when braking rate is 100%
- Wide voltage range: Offer six braking threshold voltage
- Comprehensive protection function: prevent inverter from short circuit of braking resistor

RBU REGENERATIVE BRAKING UNIT

Features

- Adopt IGBT as regenerative module, ensure low harmonics to the mains. (THD is less than 4% compared with traditional rectifier unit)
- High braking capability: 200% overload
- Wide voltage range: 300~460V/530 ~790V, braking threshold voltage is adjustable

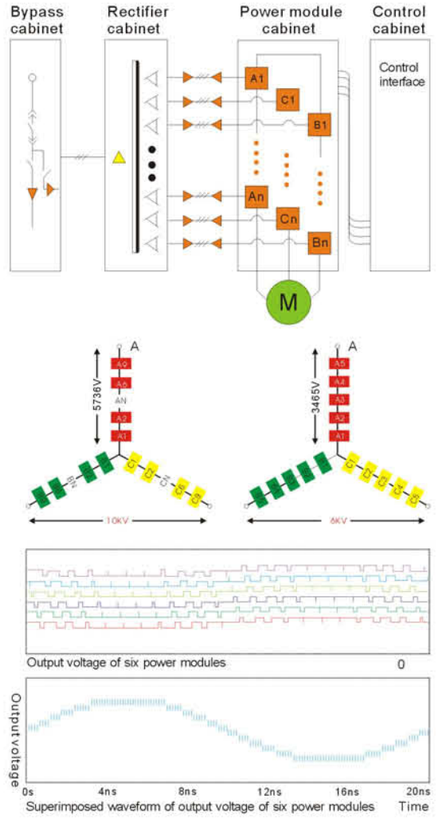
CHH SERIES HIGH VOLTAGE INVERTER

Features

- Power range: 315~2800kW
- Input voltage range: 3KV/6KV/10KV ±15%
- Control mode: Multi-level SVPWM modulation
- Input frequency: 50Hz
- Output frequency: 0~120Hz
- Efficiency: >98%
- Input power factor: >96%
- Total harmonic distortion (THD): <4%
- Starting torque: >50%
- Frequency resolution: 0.01Hz
- Electrical isolation: Transformer and fiber optics
- Communication: Modbus RTU
- Noise class: <75dB
- Control voltage: 220V AC
- Overload capacity: 120% rated current for 60 s
- Protection class: IP 20
- Cooling method: Forced cooling
- Operation interface: Touch screen
- Protection function: Overcurrent, overvoltage, overload, phase failure, overheat, communication, IGBT failure, etc.
- Installation place: In house
- Amibent temperature: -10~40 degree
- Relative humidity: 5%~95%

Typical Application

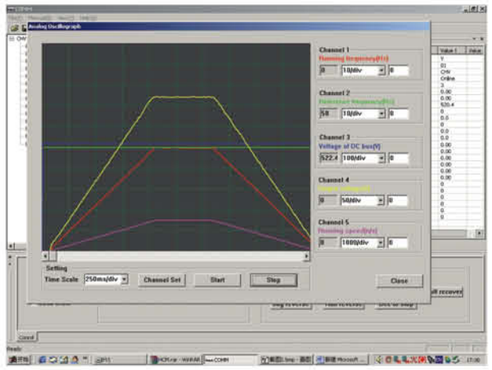
Power plant, Water supply, Cement, Iron & steel, Petrochemical, Oil & gas



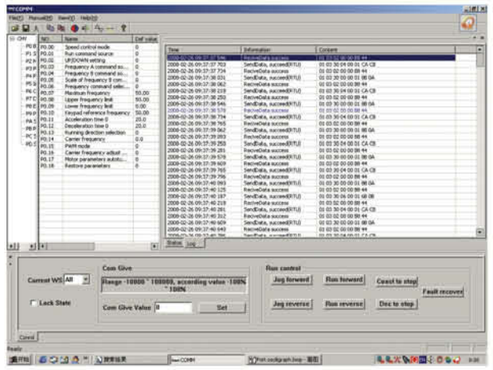
HCM SUPERVISORY CONTROL SOFTWARE

Features

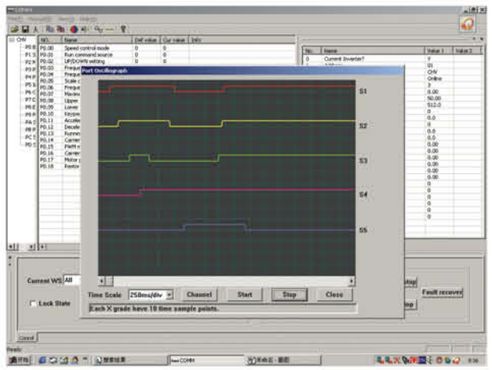
- One host computer control INVT multi-inverters or multi-type inverter
- Optimize communication module, promote communication efficiency
- Compatible, self-indentify INVT CH series inverter.
- Monitor any two inverters at one time
- Monitor speed adjustable, flexible monitor running inverter
- Alterable and inspect inverter parameter, use analog oscillograph monitor inverter analog parameter and ports status
- Flexible log function, trace and reserve information between host and inverter
- Flexible control function
- Open configuration



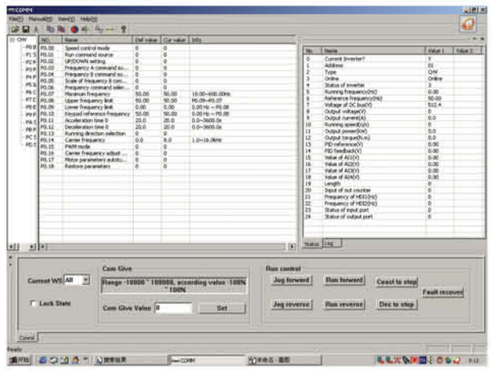
Analogue oscillograph



Main Interface With Log



Port oscillograph



Main Interface With Status

TECHNICAL DATA

Features			Description		
			CHV	CHE	CHF
POWER SUPPLY	Voltage	Single-phase	220V ± 15%		
		Three-phase	220V/380V/415V/440V/480V/525V ± 15%		
	Frequency		50/60Hz ± 5%(47~63Hz)		
	Power factor Cos ϕ		>0.92		
	Power range		1.5~315kW	0.4~315kW	0.75~945kW
CONTROL	Control method		16 bit DSP +32 bit ARM	16 bit DSP	16 bit DSP
	Control type		SPWM current vector control		SPWM modulation
	Contorl mode		Sensorless vector control (SVC) Vector cotnorl with PG(VC) V/F control	Sensorless vector control (SVC) V/F control	V/F control
	Carrier Frequency		1.0k~16.0kHz	0.5k~15kHz	0.5k~15kHz
	Frequency Range		0~400Hz		
	Speed Accuracy		± 0.5% of maximum speed (SVC); ± 0.02% of Maximun speed (VC)		
	Starting torque		150% Mn at 0.5Hz (SVC) 180% Mn at 0 Hz(VC)	150% Mn at 0.5Hz (SVC)	150% Mn at 1.5Hz
	Overload Capacity		150% rated current for 60s 180% rated current for 10s	*CT:150% rated current for 60s 180% rated current for 10s VT:120% rated current for 60s 150% rated current for 10s	CT:150% rated current for 60s 180% rated current for 10s VT:120% rated current for 60s 150% rated current for 10s
	Efficiency		>98% (nominal)		
ADVANCED CONTROL	V/F Curve		Linear, User-defined, Torque stepdown(1.3, 1.7, 2.0 order)	Linear,Torque stepdown(2.0 order)	Linear, User-defined, Torque stepdown(1.3, 1.7, 2.0 order)
	S Curve		Standard	N/A	N/A
	Speed trace		Realize smooth start of rotating motor with big inertia load		
	Length control		Length controlled by preset	N/A	N/A
	Traverse control		0~100% frequency traverse		
	Multi-speed		16	8	16
	Droop control		0~10Hz	N/A	0~10Hz
	Torque control		Standard	Standard	N/A
	LCD		Chinese/English selectable, download and upload parameter		N/A
PERFORMANCE	Speed control	V/F			Speed range1:100
					Resolution:0.01Hz (Digtal)
					Maximun frquency ×0.1% (analogue)
		Sensorless Vector control		Speed range1:100	
				Resolution:0.01Hz (Digtal)	
				Maximun frquency ×0.1% (analogue)	
		Vector control with PG	Speed range1:1000		
			Resolution:0.01Hz (Digtal)		
			Maximun frquency ×0.1% (analogue)		
INPUTS	Analog		2 channels (0~10V/0~20mA), 2 channels extendable	2 channels (0~10V/0~20mA)	2 channels (0~10V/0~20mA)
	Digital		6 channels(1 HDI), 4 channels extendable	4 channels	6 channels (1HDI)
OUTPUTS	Analog		1 channel(0/4 ~20mA or 0/2~10V) 1 channel extendable	1 channel(0/4 ~20mA or 0/2~10V)	1 channel(0/4 ~20mA or 0/2~10V)
	Digital		1 channel, 1 channel extendable	1 channel	1 channel
	Relay		2 channels, 1 channel estendable	1 channel	2 channels (≤2.2kW only 1)
COMMUNICATION	Serial Interface		RS232 or RS485	RS485	RS485
	"Field BUS" Networks		Profibus DP, Modbus RTU		
SAFETY	Protection		0~1000m without derating, 1000~4000m with derating		
ENVIRONMENT	Temperature		Operation: -10° C~+40° C, Transportation & Storage: -30° C~+60° C		
	Humidity		≤ 95%, no condensation allowed		
	Altitude		IGBT phase fault, Overcurrent, Overvoltage, Undervoltage, Overload, Overheat, External fault, etc		
	Cooling Method		Dry clean air		
CERTIFICATE	CE(EUROPE)		CE		

*CT: Constant torque application, VT: Variable torque application

SELECTION GUIDE

Input Voltage		Power Rating (kW) CT*	Power Rating (kW) VT*	Part Number	Rated Current (A) CT*	Rated Current (A) VT*	Braking Unit	Braking Resistor	Dimension H (mm) × W (mm) × D (mm)
220V/230V	Single Phase	0.4		CH- 0R4G-S2	2.3		Built-in		140 × 85 × 115
		0.75		CH- 0R7G-S2	4.5				140 × 85 × 115
		1.5		CH- 1R5G-S2	7		Built-in		180 × 120 × 140
		2.2		CH- 2R2G-S2	10				180 × 120 × 140
	Three Phases	0.75		CH- 0R7G-2	4.5		Built-in	1 × 275Ω/75W	180 × 120 × 140
		1.5		CH- 1R5G-2	7			1 × 275Ω/75W	180 × 120 × 140
		2.2		CH- 2R2G-2	10			1 × 138Ω/150W	180 × 120 × 140
		4		CH- 004G-2	16		Built-in	1 × 91Ω/220W	320 × 220 × 180
		5.5		CH- 5R5G-2	20			1 × 52Ω/400W	320 × 220 × 180
		7.5		CH- 7R5G-2	30			1 × 37.5Ω/750W	320 × 220 × 180
		11		CH- 011G-2	42		1 × DBU-055-2	1 × 19Ω/1100W	467 × 290 × 215
		15		CH- 015G-2	55			1 × 13.6Ω/1500W	467 × 290 × 215
		18.5		CH- 018G-2	70		1 × DBU-055-2	1 × 12Ω/1800W	577 × 375 × 270
		22		CH- 022G-2	80			1 × 9Ω/2200W	577 × 375 × 270
		30		CH- 030G-2	110			1 × 6.8Ω/3000W	577 × 375 × 270
		37		CH- 037G-2	130		2 × DBU -055-2	2 × 11Ω/2000W	755 × 460 × 330
		45		CH- 045G-2	160			2 × 9Ω/2400W	755 × 460 × 330
		55		CH- 055G-2	200			2 × 9Ω/2400W	755 × 460 × 330
380V/415V/440V/480V	Three Phase	0.75		CH- 0R7G-4	2.5		Built-in	1 × 900Ω/75W	180 × 120 × 140
		1.5		CH- 1R5G-4	3.7			1 × 460Ω/150W	180 × 120 × 140
		2.2		CH- 2R2G-4	5			1 × 315Ω/220W	180 × 120 × 140
		4	5.5	CH- 004G/5R5P-4	9	13	Built-in	1 × 175Ω/400W	250 × 160 × 175
		5.5	7.5	CH- 5R5G/7R5P-4	13	17		1 × 120Ω/550W	250 × 160 × 175
		7.5	11	CH- 7R5G/011P-4	17	25	Built-in	1 × 100Ω/750W	320 × 220 × 180
		11	15	CH- 011G/015P-4	25	32		1 × 70Ω/1100W	320 × 220 × 180
		15	18.5	CH- 015G/018P-4	32	37		1 × 47Ω/1500W	320 × 220 × 180
		18.5	22	CH- 018G/022P-4	37	45	1 × DBU-055-4	1 × 38Ω/2000W	467 × 290 × 215
		22	30	CH- 022G/030P-4	45	60		1 × 32Ω/2200W	467 × 290 × 215
		30	37	CH- 030G/037P-4	60	75		1 × 23Ω/3000W	467 × 290 × 215
		37	45	CH- 037G/045P-4	75	90	1 × DBU-055-4	1 × 19Ω/3700W	577 × 375 × 270
		45	55	CH- 045G/055P-4	90	110		1 × 16Ω/4500W	577 × 375 × 270
		55	75	CH- 055G/075P-4	110	150		1 × 13Ω/5500W	577 × 375 × 270
		75	90	CH- 075G/090P-4	150	176	2 × DBU-055-4	2 × 19Ω/3700W	755 × 460 × 330
		90	110	CH- 090G/110P-4	176	210		2 × 16Ω/4500W	755 × 460 × 330
		110	132	CH- 110G/132P-4	210	250		2 × 13Ω/5500W	755 × 460 × 330
		132	160	CH- 132G/160P-4	250	300	1 × DBU-160-4	1 × 5Ω/15000W	1275 × 490 × 391
		160	185	CH- 160G/185P-4	300	340		1 × 3.5Ω/20000W	1275 × 490 × 391
		185	200	CH- 185G/200P-4	340	380		1 × 3.5Ω/20000W	1275 × 490 × 391
		200	220	CH- 200G/220P-4	380	415	1 × DBU-220-4	1 × 3Ω/25000W	1358 × 750 × 402
		220	250	CH- 220G/250P-4	415	470		1 × 3Ω/25000W	1358 × 750 × 402
		250	280	CH- 250G/280P-4	470	520	1 × DBU-315-4	1 × 2.5Ω/30000W	1358 × 750 × 402
		280	315	CH- 280G/315P-4	520	600		1 × 2.5Ω/30000W	1358 × 750 × 402
		315	350	CH- 315G/350P-4	600	640		1 × 2Ω/35000W	1358 × 750 × 402
		350		CH- 350G-4	640				1822 × 1505 × 400
		400		CH- 400G-4	690				1822 × 1505 × 400
		500		CH- 500G-4	860				1822 × 1505 × 400
		560		CH- 560G-4	950				1822 × 1505 × 400
		630		CH- 630G-4	1100				1822 × 1505 × 400
660V/690V	Three Phase	22		CH- 022G-6	28				
		30		CH- 030G-6	35				
		37		CH- 037G-6	45				
		45		CH- 045G-6	52				
		55		CH- 055G-6	63				
		75		CH- 075G-6	86				
		90		CH- 090G-6	98				
		110		CH- 110G-6	121				
		132		CH- 132G-6	150		External		
		160		CH- 160G-6	175				
		185		CH- 185G-6	198				
		200		CH- 200G-6	218				
		220		CH- 220G-6	240				
		250		CH- 250G-6	270				
		300		CH- 300G-6	320				
		315		CH- 315G-6	350				
		350		CH- 350G-6	380				
		400		CH- 400G-6	430				
		500		CH- 500G-6	540				
		560		CH- 560G-6	600				
		630		CH- 630G-6	680				

SELECTION GUIDE OF REACTOR AND FILTER

Power	DC reactor		Input reactor		Output reactor		Input filter	Output filter
	Model number	Specification	Model number	Specification	Model number	Specification	Model number	Model number
0.4KW/1AC 220V	DCL-0003-EIDH	3A/28mH					NF241B3/01	
0.75KW/1AC 220V	DCL-0003-EIDH	3A/28mH					NF241B6/01	
1.5KW/1AC 220V	DCL-0006-EIDH	6A/11mH					NF241B10/01	
2.2KW/1AC 220V	DCL-0006-EIDH	6A/11mH					NF241B20/01	
0.75KW/ 380V	DCL-0006-EIDH	3A/28mH	ACL-0003-EISC	2A/7mH	OCL-0003-EISC	2A/2mH	NFI-005	NFO-005
1.5KW/ 380V	DCL-0006-EIDH	6A/11mH	ACL-0005-EISC	5A/3.8mH	OCL-0005-EISC	5A/1.5mH	NFI-005	NFO-005
2.2KW/ 380V	DCL-0006-EIDH	6A/11mH	ACL-0007-EISC	7A/2.5mH	OCL-0007-EISC	7A/1mH	NFI-010	NFO-010
4KW/ 380V	DCL-0012-EIDH	12A/6.3mH	ACL-0010-EISC	10A/1.5mH	OCL-0010-EISC	10A/0.6mH	NFI-010	NFO-010
5.5KW/ 380V	DCL-0023-EIDH	23A/3.6mH	ACL-0015-EISC	15A/1.0mH	OCL-0015-EISC	15A/0.25mH	NFI-020	NFO-020
7.5KW/ 380V	DCL-0023-EIDH	23A/3.6mH	ACL-0020-EISC	20A/0.75mH	OCL-0020-EISC	20A/0.13mH	NFI-020	NFO-020
11KW/ 380V	DCL-0033-EIDH	33A/2mH	ACL-0030-EISC	30A/0.6mH	OCL-0030-EISC	30A/0.087mH	NFI-036	NFO-036
15KW/ 380V	DCL-0033-EIDH	33A/2mH	ACL-0040-EISC	40A/0.42mH	OCL-0040-EISC	40A/0.066mH	NFI-036	NFO-036
18.5KW/ 380V	DCL-0040-EIDH	40A/1.3mH	ACL-0050-EISC	50A/0.35mH	OCL-0050-EISC	50A/0.052mH	NFI-050	NFO-050
22KW/ 380V	DCL-0050-EIDH	50A/1.08mH	ACL-0060-EISC	60A/0.28mH	OCL-0060-EISC	60A/0.045mH	NFI-050	NFO-050
30KW/ 380V	DCL-0065-EIDH	65A/0.8mH	ACL-0080-EISH	80A/0.19mH	OCL-0080-EISH	80A/0.032mH	NFI-065	NFO-065
37KW/ 380V	DCL-0078-EIDH	78A/0.70mH	ACL-0090-EISH	90A/0.16mH	OCL-0090-EISH	90A/0.03mH	NFI-080	NFO-080
45KW/ 380V	DCL-0095-EIDH	95A/0.54mH	ACL-0100-EISH	120A/0.13mH	OCL-0100-EISH	120A/0.023mH	NFI-100	NFO-100
55KW/ 380V	DCL-0115-EIDH	115A/0.45mH	ACL-0150-EISH	150A/0.10mH	OCL-0150-EISH	150A/0.019mH	NFI-150	NFO-150
75KW/ 380V	DCL-0160-EIDH	160A/0.36mH	ACL-0200-EISH	200A/0.12mH	OCL-0200-EISH	200A/0.014mH	NFI-150	NFO-150
90KW/ 380V	DCL-0180-UIDH	180A/0.33mH	ACL-0250-EISH	250A/0.06mH	OCL-0250-EISH	250A/0.011mH	NFI-200	NFO-200
110KW/ 380V	DCL-0250-UIDH	250A/0.26mH	ACL-0250-EISH	250A/0.06mH	OCL-0250-EISH	250A/0.011mH	NFI-250	NFO-250
132KW/ 380V	DCL-0250-UIDH	250A/0.26mH	ACL-0290-EISH	290A/0.04mH	OCL-0290-EISH	290A/0.008mH	NFI-250	NFO-250
160KW/ 380V	DCL-0340-UIDH	340A/0.18mH	ACL-0330-EISH	330A/0.04mH	OCL-0330-EISH	330A/0.008mH	NFI-300	NFO-300
185KW/ 380V	DCL-0460-UIDH	460A/0.12mH	ACL-0400-EISH	400A/0.04mH	OCL-0400-EISH	400A/0.005mH	NFI-400	NFO-400
200KW/ 380V	DCL-0460-UIDH	460A/0.12mH	ACL-0490-EISH	490A/0.03mH	OCL-0490-EISH	490A/0.004mH	NFI-400	NFO-400
220KW/ 380V	DCL-0460-UIDH	460A/0.12mH	ACL-0490-EISH	490A/0.03mH	OCL-0490-EISH	490A/0.004mH	NFI-600	NFO-600
250KW/ 380V	DCL-0650-UIDH	650A/0.11mH	ACL-0530-EISH	530A	OCL-0530-EISH	530A	NFI-600	NFO-600
280KW/ 380V	DCL-0650-UIDH	650A/0.11mH	ACL-0600-EISH	600A	OCL-0600-EISH	600A	NFI-600	NFO-600
315KW/ 380V	DCL-0800-UIDH	800A/0.06mH	ACL-0660-EISH	660A/0.02mH	OCL-0660-EISH	660A/0.02mH	NFI-900	NFO-900
350KW/ 380V	DCL-1000-UIDH	1000A/0.06mH	ACL-0800-EISH	800A	OCL-0800-EISH	800A	NFI-900	NFO-900
400KW/ 380V	DCL-1000-UIDH	1000A/0.06mH	ACL-0800-EISH	800A	OCL-0800-EISH	800A	NFI-1200	NFO-1200
500KW/ 380V			ACL-1250-EISH	1250A	OCL-1250-EISH	1250A	NFI-1200	NFO-1200
560KW/ 380V			ACL-1250-EISH	1250A	OCL-1250-EISH	1250A	NFI-1200	NFO-1200
630KW/ 380V			ACL-1600-EISH	1600A	OCL-1600-EISH	1600A