IO extension Card

EC-IO501-00

Programmable extension card

EC-PC501-00

Bluetooth communication card

EC-TX501

CANopen communication card

EX-TX504

PROFIBUS-DP Communication card

EC-TX503

Multi-function incremental PG card

EC-PG505-12

UVW incremental PG card

EC-PG503-05

Resolver PG card

EC-PG504-00

Goodrive350 IP54

Product Introduction

GD350 IP54 series inverters are the latest brunches of the GD350 series. They provide the same control methods and extended functions as GD350 inverters. Some models can be configured with optional built-in DC reactors as required by customers. The full-sheet metal structure is adopted, supporting wall-mounting and flange installation. LCD keypads are the standard configuration. They are especially applicable in scenarios with harsh dust and water vapor conditions, such as those with HVAC, fans and pumps, stone, and wood.

Features

1.Ingress protection rating of IP54, applicable to working environments with harsh dust and water vapor conditions(Same as 3S in NAME)
2. Supporting both heavy and light loads, integrated G and P types
3. Reserving interfaces for implementing the real-time clock function
4. Supporting optional built-in DC reactors (30–110 kW)
5. Built-in brake resistors (4–37 kW)

Guide for model selection

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Field	Sign	Description	Contents
Abbreviation of product series	①	Abbreviation of product series	GD350: Goodrive350 high-performance multi-function inverter
Rated power	②	Power range + Load type	022: 22kW G—Constant torque load P—Special for fans and pumps
Voltage level	③	Voltage level	4: AC 3PH 380V(-15%)—440V(+10%)
IP level	④	IP level	5: IP54

Product specification

Function description		Specification
Technical control performance	Control mode	SVPWM control, SVC, VC
	Motor type	Asynchronous motor, permanent-magnet synchronous motor
	Speed regulation ratio	Asynchronous motor 1: 200 (SVC); Synchronous motor 1:20 (SVC) , 1:1000 (VC)
	Speed control precision	±0.2% (SVC), ±0.02% (VC)
	Speed fluctuation	± 0.3% (SVC)
	Torque response	<20ms SVC) , <10ms (VC)
	Torque control precision	10% (SVC) , 5% (VC)
	Starting torque	Asynchronous motor: 0.25Hz/150% (SVC) Synchronous motor: 2.5 Hz/150% (SVC) 0Hz/200% (VC)
	Overload capacity	150% of rated current: 1min;180% of rated current: 10s;200% of rated current: 1s
Running control performance	Frequency setup mode	Digital, analog, pulse frequency, multi-step speed running, simple PLC, PID, MODBUS communication, PROFIBUS communication, etc.; Realize switch-over between the set combination and the set channel
	Automatic voltage Regulation function	Keep the output voltage constant when grid voltage changes
	Fault protection function	Fault protection function Provide over 30 kinds of fault protection functions: overcurrent, overvoltage, undervoltage, over-temperature, phase loss and overload, etc
	Speed tracking restart function	Realize impact-free starting of the motor in rotating Note: This function is available for 4kW and above models
Peripheral interface	Terminal analog input resolution	No more than 20mV
	Terminal digital input resolution	No more than 2ms
	Analog input	2 inputs, AI1: 0–10V/0–20mA; AI2: -10–10V
	Analog output	1 output, AO1: 0–10V /0–20mA
	Digital input	Four regular inputs; max. frequency: 1kHz; internal impedance: 3.3kΩ Two high-speed inputs; max. frequency: 50kHz; supports quadrature encoder input; with speed measurement function
	Digital output	One high-speed pulse output; max. frequency: 50kHz One Y terminal open collector output
	Relay output	Two programmable relay outputs RO1A NO, RO1B NC, RO1C common port RO2A NO, RO2B NC, RO2C common port Contact capacity: 3A/AC250V, 1A/DC30V
	Extension interface	Three extension interfaces: SLOT1, SLOT2, SLOT3 Expandable PG card, programmable extension card, communication card, I/O card, etc
Others	Installation mode	Support wall-mounting and flange-mounting
	Temperature of running environment	-10–50°C, derating is required if the ambient temperature exceeds 40°C
	Protection level	IP54(3S in NAME)
	Pollution level	Level 3
	Cooling mode	Air cooling
	Brake unit	Built-in brake unit for 380V 4kW—37kW
	DC reactor	Built-in options in 30kW-110kW
	EMC filter	380V models fulfill the requirements of IEC61800-3 C3 Optional external filter should meet the requirements of IEC61800-3 C2

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Goodrive350 Series

High-performance Multi-function Inverter

Your trusted industry automation solution provider

Goodrive350

Product Introduction

GD350 is a brand new high-performance inverter. It is highly extensible and flexible with PG card, PLC card, communication card and IO card, meeting the demands of various industries. It's oriented for mid-high-end OEM equipment markets, mainly covering the applications of printing , packaging, winding, etc.

Features

1.Supports SVC and VC(Closed loop) control for both asynchronous and synchronous motors.
2.Enables high precision of speed, position, torque control and fast speed response.
3.Supports optional Field bus communication cards, including Profibus-DP, CANopen, and Ethernet, etc.
4.Supports optional PG cards for encoders like incremental encoder, rotary transformer encorder and so on.
5.Accepts plug-in of three expansion cards simultaneously (only two cards< 7.5kW(10HP)).
6.Integrates safety function-STO(Safe Torque OFF, SIL2).
7.Unique I/F control and online transition with other control modes are very suitable for the situation where the asynchronous motor has low speed with high torque and the speed accuracy is not high.
8.Provides intuitive LCD keyboard with maximum 16 lines text display as well as graphical display, Wizard Mode to set parameters much easier.
9.Supports optional Bluetooth card to achieve convenience and security, and supports WiFi card to realize wireless communication.

Product specification

Function description		Specification
Power input	Input voltage (V)	AC 3PH 380V (-15%)~440V (+10%) rated voltage: 380V AC 3PH 520V (-15%)~690V (+10%) rated voltage: 660V
	Input current (A)	Refer to Rated value
	Input frequency (Hz)	50Hz or 60Hz, allowable range: 47~63Hz
Power output	Output voltage (V)	0~input voltage
	Output current (A)	Refer to Rated value
	Output power (kW)	Refer to Rated value
	Output frequency (Hz)	0~400Hz
Technical control performance	Control mode	SVPWM control, SVC, VC
	Motor type	Asynchronous motor, permanent-magnet synchronous motor
	Speed regulation ratio	Asynchronous motor 1: 200 (SVC); Synchronous motor 1 20 (SVC) , 1:1000 (VC)
	Speed control precision	±0.2% (SVC), ±0.02% (VC)
	Speed fluctuation	± 0.3% (SVC)
	Torque response	<20ms SVC) , <10ms (VC)
	Torque control precision	10% (SVC) , 5% (VC)
	Starting torque	Asynchronous motor: 0.25Hz/150% (SVC) Synchronous motor: 2.5 Hz/150% (SVC) 0Hz/200% (VC)
	Overload capacity	150% of rated current: 1min; 180% of rated current: 10s; 200% of rated current: 1s;
Running control performance	Frequency setup mode	Digital, analog, pulse frequency, multi-step speed Provide over 30 kinds of fault protection functions: overcurrent, overvoltage, undervoltage, over-temperature, phase loss and overload, etc
	Automatic voltage regulation function	Keep the output voltage constant when grid voltage changes.
	Fault protection function	Fault protection function Provide over 30 kinds of fault protection functions: overcurrent, overvoltage, undervoltage, over-temperature, phase loss and overload, etc
	Speed tracking restart function	Realize impact-free starting of the motor in rotating Note: This function is available for 4kW and above models
Peripheral	Terminal analog input	No more than 20mV
interface	resolution	
	Terminal digital input resolution	No more than 2ms
	Analog input	2 inputs, AI1: 0~10V/0~20mA; AI2: -10~10V
	Analog output	1 output, AO1: 0~10V /0~20mA
	Digital input	Four regular inputs; max. frequency: 1kHz; internal impedance: 3.3k Two high-speed inputs; max. frequency: 50kHz; supports quadrature encoder input; with speed measurement function
	Digital output	One high-speed pulse output; max. frequency: 50kHz One Y terminal open collector output
	Relay output	Two programmable relay outputs RO1A NO, RO1B NC, RO1C common port RO2A NO, RO2B NC, RO2C common port Contact capacity: 3A/AC250V, 1A/DC30V
	Extension interface	Three extension interfaces: SLOT1, SLOT2, SLOT3 Expandable PG card, programmable extension card, communication card, I/O card, etc
Others	Installation mode	Support wall-mounting, floor-mounting and flange-mounting
	Temperature of running environment	-10~50°C, derating is required if the ambient temperature exceeds 40°C
	Protection level	IP20
	Pollution level	Level 2
	Cooling mode	Air cooling
	Brake unit	Built-in brake unit for 380V 37kW and below models; Optional built-in brake unit for 380V 45kW~110kW(inclusive) models; Optional external brake unit for 660V models;
	EMC filter	380V models fulfill the requirements of IEC61800-3 C3 Optional external filter should meet the requirements of IEC61800-3 C2

Guide for model selection

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Fig 3.6 Type designation key

Field	Sign	Description	Contents
Abbreviation of product series	①	Abbreviation of product series	GD350: Goodrive350 high-performance multi-function inverter
Rated power	②	Power range + Load type	5R5–5.5kW G—Constant torque load
Voltage level	③	Voltage level	4: AC 3PH 380V (-15%)~440V (+10%) Rated voltage: 380V 6: AC 3PH 520V (-15%)~690V (+10%) Rated voltage: 660V

AC 3PH 380V(-15%)~440V(+10%) rated value

Product model	Output power (kW)	Input current (A)	Output current (A)	Carrier frequency (kHz)
GD350-1R5G-4	1.5	5.0	3.7	1-15(8)
GD350-2R2G-4	2.2	5.8	5	1-15(8)
GD350-004G-4	4	13.5	9.5	1-15(8)
GD350-5R5G-4	5.5	19.5	14	1-15(8)
GD350-7R5G-4	7.5	25	18.5	1-15(8)
GD350-011G-4	11	32	25	1-15(8)
GD350-015G-4	15	40	32	1-15(4)
GD350-018G-4	18.5	47	38	1-15(4)
GD350-022G-4	22	51	45	1-15(4)
GD350-030G-4	30	70	60	1-15(4)
GD350-037G-4	37	80	75	1-15(4)
GD350-045G-4	45	98	92	1-15(4)
GD350-055G-4	55	128	115	1-15(4)
GD350-075G-4	75	139	150	1-15(2)
GD350-090G-4	90	168	180	1-15(2)
GD350-110G-4	110	201	215	1-15(2)
GD350-132G-4	132	265	260	1-15(2)
GD350-160G-4	160	310	305	1-15(2)
GD350-185G-4	185	345	340	1-15(2)
GD350-200G-4	200	385	380	1-15(2)
GD350-220G-4	220	430	425	1-15(2)
GD350-250G-4	250	460	480	1-15(2)
GD350-280G-4	280	500	530	1-15(2)
GD350-315G-4	315	580	600	1-15(2)
GD350-350G-4	350	625	650	1-15(2)
GD350-400G-4	400	715	720	1-15(2)
GD350-500G-4	500	890	860	1-15(2)

AC 3PH 520V(-15%)~690V(+10%) rated value

Product model	Output power (kW)	Input current (A)	Output current (A)	Carrier frequency (kHz)
GD350-022G-6	22	35	27	1-15(4)
GD350-030G-6	30	40	34	1-15(4)
GD350-370G-6	37	47	42	1-15(4)
GD350-045G-6	45	52	54	1-15(4)
GD350-055G-6	55	65	62	1-15(4)
GD350-075G-6	75	85	86	1-15(2)
GD350-090G-6	90	95	95	1-15(2)
GD350-110G-6	110	118	131	1-15(2)
GD350-132G-6	132	145	147	1-15(2)
GD350-160G-6	160	165	163	1-15(2)
GD350-185G-6	185	190	198	1-15(2)
GD350-200G-6	200	210	216	1-15(2)
GD350-220G-6	220	230	240	1-15(2)
GD350-250G-6	250	255	274	1-15(2)
GD350-280G-6	280	286	300	1-15(2)
GD350-315G-6	315	334	328	1-15(2)
GD350-350G-6	350	360	380	1-15(2)
GD350-400G-6	400	411	426	1-15(2)
GD350-500G-6	500	518	540	1-15(2)
GD350-560G-6	560	578	600	1-15(2)
GD350-630G-6	630	655	680	1-15(2)

Extension cards selection

Type	Name	model	Specification
I/O card	IO extension card	EC-IO501-00	4 channels switch input- 1 channel switch output- 1 channel analog input- 1 channel analog output and 2 channels relay output.
PLC card	Programmable extension card	EC-PC501-00	6 channels switch input- 2 channels switch output and 2 channels relay output.
Communication card	Bluetooth communication card	EC-TX501-1 EC-TX501-2	PCB antenna type or external sucker antenna. Effective communication distance is 30m.
	CANopen communication card	EC-TX505	Supporting CAN 2.0 protocol and CANopen protocol.
	PROFIBUS-DP communication card	EC-TX503	Supporting PZB to control data exchange. Supporting PZW to access inverter parameters. Baud rate supports up to 12Mbps.
PG card	Multi-function incremental PG card	EC-PG505-12	Encoder interface: 5V/12V incremental encoder differential, push-pull, open collector open ABZ signal, up to 200kHz. Pulse given and frequency division: support pulse + direction given, up to 200kHz, support 5V differential signal 1-255 frequency division output.
	UVW incremental PG card	EC-PG503-05	Encoder interface: 5V incremental differential ABZ(UVW) encoder, maximum 400kHz. Pulse given and frequency division: support + directional differential input of pulse, up to 200kHz. Support 5V differential signal 1-255 frequency division output .
	Resolver PG card	EC-PG504-00	Rotary transformer encoder. support / directional differential input of pulse. support 5V differential signal 1-255 frequency division output, up to 200kHz