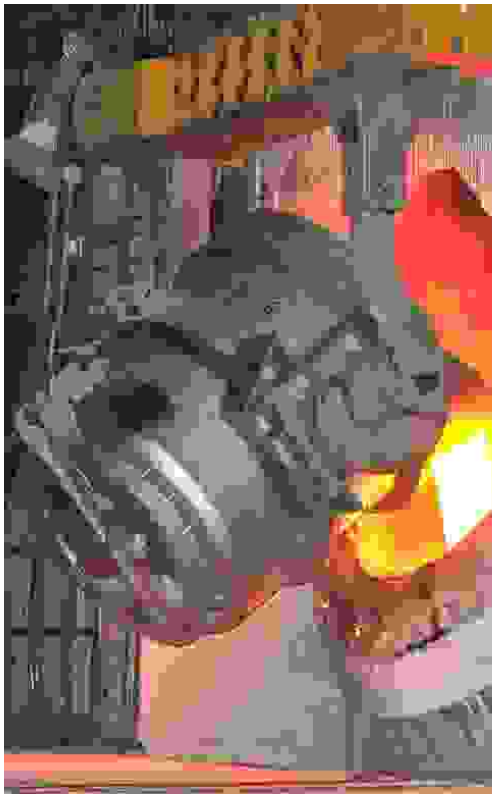
Goodrive800 series

Engineering VFD



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Goodrive800 series engineering VFD

Goodrive800 series products are developed for sophisticated application market which needs high overload capacity, high reliability and continuous operations. Its rated current is especially designed for various heavy-load applications such as metallurgy, port machinery, lifting, shore power, petroleum, petrochemical, municipal, chemical, electric power, building materials, mining, ship-building, paper-making, dynamometer machine, EPS and other industries and devices.

Goodrive800 series products model

GD 800 - 2 6 - 0400 - 4 - MRL

① ② ③ ④ ⑤ ⑥ ⑦

Content	Sign	Instruction	Example
Product series	①	Product series	GD-Goodrive series VFDs
Product name	②	Series name	300: Universal VFDs 800: Engineering VFDs
	③	Product type	1:Two quadrant variable frequency drive 2:Four quadrant variable frequency drive 5:Convertering 6:Diode rectifier 7:Silicon controlled rectification 8:IGBT synchronous rectification 9:IGBT PWM rectification 0:LCL PWM rectification filter
	④	Structure type	1:Unit products 2:Standard drive products 6:Cabinet products(IP20) 8:Cabinet products(IP54)
Power code	⑤	Power code	Refer to the electrcian parameters
Voltage degree	⑥	Voltage degree	4: 380V (-15%) ~440V (+10%) 6: 520V (-15%) ~690V (+10%)
Lot No.	⑦	Lot No.	MLR: The cabinet order is switch cabinet→ filter and rectifier cabinet→ inverter cabinet; MRL: The cabinet order is inverter cabinet ←filter and rectifier cabinet←switch cabinet; MSC: Single cabinet(the default can be ignored)

Note: the solutions of silicon controlled rectification mode and IGBT synchronous rectification mode can be ordered.

Model list of Goodrive800 series products

Product model	Unit name	Product model	Cabinet name
GD800-11	VFD unit	GD800-16	Cabinet VFD
GD800-51	converter unit	GD800-56	Cabinet converter
GD800-61	Diode rectification unit	GD800-66	Cabinet diode rectifier
GD800-71	Silicon controlled rectification unit	GD800-76	Cabinet silicon controlled rectifier
GD800-81	IGBT synchronous rectification unit	GD800-86	Cabinet IGBT synchronous rectifier
GD800-01	LCL PWM filter unit	GD800-96	Cabinet IGBT PWM rectifier
		GD800-26	Cabinet four quadrant VFD

Main features

Features	Advantages	Remark
Compacted and complete		
Modularized design	Easy for cabinet combination, maintenance and space releasing	Power units have four dimension of A5i, A6i, A7i and A8i
Control units and power units apply optical communication	electrical isolation, strong EMC performance and reliability, long-distance communication and convenient distributed installation of control units and main drive circuit	Master-slave control and parallel operation are facilitated through optical fiber communication of control units
LCL PWM filter unit	Effectively reduce the harmonics	
User interface		
Friendly interface	Easy for commissioning and operation	Commissioning, maintenance and monitoring through the keyboard and upper PC
Various I/O interface	Standard I/O can satisfy most users' demand	
Various communication	Connected with a variety of field bus	Standard 485 communication, optional CAN, Profibus, DeviceNet, Ethernet protocol communication
Product design		
Wide range of power degree	380V:4kW-9.6MW 660V:22kW-12MW	
Safe protections	STO, SS1, SLS and SBC protection	
Fuse protection	Fault isolation	Multiple cabinets products of positive and negative bus configuration fuse Multiple cabinets products of positive and negative bus configuration fuse Multiple cabinets products need to install fuses at the positive and negative bus
Motor temperature detection	Real-time monitoring of the motor temperature, to protect the safe operation of the motor, and optimize the control performance of the motor	Optional temperature detecting card
The control power supply support double circuit power supply	External power supply or bus power supply is available to control units and power units	
Safety and EMC	Pass the CE certification test of TUV SUD	Except for Goodrive800–11 660V 22~132kW

Technical specifications

Product model		Goodrive800-26 series	Goodrive800-11series	Goodrive800-51series
Functions		Specifications		
Power input	Rated input voltage(V)	AC 3PH 380V(-15%)～440V(+10%) AC 3PH 520V(-15%)～690V(+10%)		380V□ DC350V～800V 660V□ DC570V～1200V
	Rated input frequency (Hz)	50Hz/60Hz, range 47~63Hz		—
	Rated input efficiency (%)	>95%	>97%	>98%
	Rated input power factor (%)	>98%	—	—
	Rated input current harmonic (%)	<5%	—	—
Power output	Rated output voltage(V)	0~1.15*input voltage	0~input voltage	0~0.7V_{DC}
	Rated output frequency(Hz)	0~400Hz		
Operation control	Control mode	V/F, close loop vector and open loop vector		
	Carrier frequency	1-8kHz		
	Speed range	Close loop vector:1:1000 Open loop vector:1:100		
	Speed control accuracy	Close-loop vector: ± 0.1% of the Max. speed Open-loop vector: ± 0.5% of the Max. speed		
	Current limit	Max. value: 200% of the rated current		
	The parallel uneven flow degrees of the power unit	≤5%of the unit rated current	—	—
	The parallel uneven flow degrees of the system	≤5% of the system rated current	—	—
	Bus voltage detection accuracy	±1% of the overvoltage point		
	Output current detection accuracy	±3% of the rated current		
	The terminal analog input resolution	≤20mV		
	The terminal digital input resolution	≤2ms		
Protections	Overload protection	150% of rated current:60s, 180% of rated current:10s, 200% of rated current:1s		
	Overvoltage protection	380V:DC bus 800V overvoltage 660V:DC bus 1200V overvoltage		
	Undervoltage protection	380V:DC bus 350V undervoltage 660V:DC bus 570V undervoltage		
	Fault protection	More than 30 fault protections and 20 unit fault protections	About 20 unit fault protections	
	Safety protection	STO, SS1, SSL and SBC protection	—	—
Others	Audio noise	<90dB	<90dB	<75dB
	Installation mode	Floor installation	Cabinet installation	
	Environment temperature	-10℃~50℃,derate if exceed 40℃		
	Protection degree	>IP20 (standard cabinet products)	IP00 (standard unit products)	
	Safety and EMC performance	Meet CE requirement(not all series are satisfied)		
	Cooling mode	Forced air cooling		

Single-drive

Goodrive800-11 VFD unit

380V: 4kW-400kW
660V: 22kW-500kW

Goodrive800-11 series products are two quadrant VFD unit products

Main features of standard hardware

- Compact modularized design, easy for parallel operation
- Optical communication in drive and control, support distributed installation , convenient for system integration
- Up-coin in and down-coin out(A7 and A8)
- Long lifetime of fans and capacitors
- Rail-mounted structure for easy maintenance(A8)
- Base installation(A7 and A8)
- Protection degree IP00

Power degree and external dimension

Model of GD800-11	Heavy overload application			Light overload application			Structure	Air Volume (m³/h)	External dimension (W×H×D)
	PLh (kW)	Iih (A)	Ioh (A)	PL (kW)	Ii (A)	Io (A)			
U_N = 380 V									
GD800-11-0004-4	4	13.5	9.5	5.5	19.5	14	A1	45	146*263*181
GD800-11-05R5-4	5.5	19.5	14	7.5	25	18.5			
GD800-11-07R5-4	7.5	25	18.5	11	32	25	A2	100	170*331.5*216
GD800-11-0011-4	11	32	25	15	40	32			
GD800-11-0015-4	15	40	32	18.5	47	38	A3	180	230*342*216
GD800-11-0018-4	18.5	47	38	22	56	45			
GD800-11-0022-4	22	56	45	30	70	60	A4	180	255*407*245
GD800-11-0030-4	30	70	60	37	80	75			
GD800-11-0037-4	37	80	75	45	94	92	A5	240	270*555*325
GD800-11-0045-4	45	94	92	55	128	115			
GD800-11-0055-4	55	128	115	75	160	150			
GD800-11-0075-4	75	160	150	90	190	180	A6	450	325*680*365
GD800-11-0090-4	90	190	180	110	225	215			
GD800-11-0110-4	110	225	215	132	265	260			
GD800-11-0132-4	132	265	260	160	310	305	A7	600	290*1216.5*500
GD800-11-0160-4	160	310	305	185	360	355			
GD800-11-0200-4	200	385	380	220	430	425			
GD800-11-0250-4	250	485	480	280	545	530	A8	1650	292*1550*584
GD800-11-0315-4	315	610	600	350	625	650			
GD800-11-0400-4	400	715	720	450	810	830			

Model of GD800-11	Heavy overload application			Light overload application			Structure	Air Volume (m^3/h)	External dimension (W×H×D)
	PLh (kW)	Iih (A)	Ioh (A)	PL (kW)	Ii (A)	Io (A)			
U_N = 660 V									
GD800-11-0022-6	22	35	27	30	40	35	A5	240	270*555*325
GD800-11-0030-6	30	40	35	37	47	45			
GD800-11-0037-6	37	47	45	45	52	52			
GD800-11-0045-6	45	52	52	55	65	62			
GD800-11-0055-6	55	65	62	75	85	86	A6	450	325*680*365
GD800-11-0075-6	75	85	86	90	95	98			
GD800-11-0090-6	90	95	98	110	118	120			
GD800-11-0110-6	110	118	120	132	145	150			
GD800-11-0132-6	132	145	150	160	165	175			
GD800-11-0160-6	160	165	175	185	190	200	A7	600	290*1216.5*500
GD800-11-0200-6	200	210	220	220	230	240			
GD800-11-0250-6	250	255	270	280	286	300			
GD800-11-0315-6	315	334	350	350	360	380	A8	1650	292*1550*584
GD800-11-0400-6	400	411	430	450	411	480			
GD800-11-0500-6	500	518	540	550	570	585			

Note: 1.External dimension W*H*D =Width of the product *Height of the product * Depth of the product, and the unit is mm;
2.Goodrive800-11 series products do not have standard control units, but they have to work with the device.

External dimension	Weight(Kg)
A1	3.5
A2	7
A3	8.5
A4	13
A5	23
A6	55
A7	100
A8	180

Remark:

Typical capacity of heavy overload application (150% overload capacity)

P_{Lh} Typical value of available motor power

I_{ih} Continuous valid input current

I_{oh} Continuous valid output current

1-minute-operation at 150% overload capacity is allowed in every 5-minute-operation.

Typical capacity of light overload application (110% overload capacity)

P_L Typical value of available motor power

I_i Continuous valid input current

I_o Continuous valid output current

1-minute-operation at 110% overload capacity is allowed in every 5-minute-operation.

Single-drive

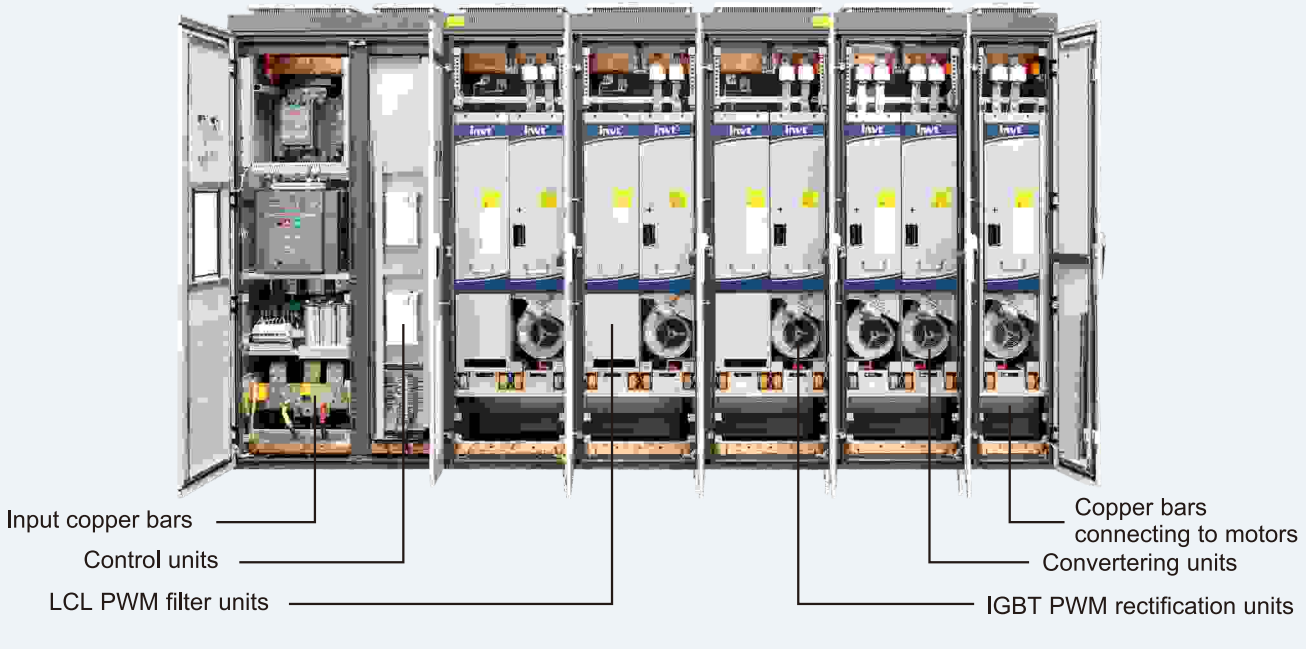
Goodrive800-26 cabinet four quadrant VFD

380V:75kW-1200kW
660V:75kW-1500kW

- With internal LCL filter unit, PWM IGBT rectification unit, converter unit and power distribution&control, the power factor is close to 1
- PWM IGBT rectification ensures stable bus voltage when the grid fluctuates
- Bi-directional power flow, green, no need to install braking devices
- Flexible combination for various requirements, Max. power range is 3.0MW

Main features of standard hardware

- Cabinet design, strong replaceability
- Long working time of fans and capacitors
- DC bus connection on the top, easy for parallel operation of standard cabinet products
- Fuses at the DC side can effectively isolate the device form fault units
- Optical communication, electrical isolation, strong anti-interference ability and high reliability for long-distance communication
- STO, SS1, SLS and SBC
- Comstomized cabinet products with the protection degree of IP54 can be ordered
- Protection degree IP20



Power degree and external dimension

GD800-26 Model	Heavy overload application			Light overload application			Structure	External dimension (W×H×D)
	PLh (kW)	Iih (A)	Ioh (A)	PL (kW)	Ii (A)	Io (A)		
UN = 380 V								
GD800-26-0075-4	75	130	150	90	155	180	A6i+A6i+ALCLcomponents	600*2140*650
GD800-26-0090-4	90	155	180	110	190	215		
GD800-26-0110-4	110	190	215	132	230	260		
GD800-26-0132-4	132	230	260	160	280	305	A7i+A7i+ALCLcomponents	800*2140*650
GD800-26-0160-4	160	280	305	185	320	350		
GD800-26-0200-4	200	345	380	220	385	425		
GD800-26-0250-4	250	435	480	280	485	530	A8i+A8i+ALCL8	1600*2140*650
GD800-26-0315-4	315	545	600	350	605	650		
GD800-26-0400-4	400	695	720	450	780	810		
GD800-26-0500-4	500	870	960	550	970	1060	2*A8i+2*A8i+2*ALCL8	2800*2140*650
GD800-26-0630-4	630	1090	1200	710	1210	1300		
GD800-26-0800-4	800	1390	1440	900	1560	1620		
GD800-26-1000-4	1000	1635	1800	1100	1815	1950	3*A8i+3*A8i+3*ALCL8	3800*2140*650
GD800-26-1200-4	1200	2085	2160	1350	2340	2430		
UN = 660 V								
GD800-26-0075-6	75	75	86	90	90	98	A6i+A6i+ALCLcomponents	600*2140*650
GD800-26-0090-6	90	90	98	110	110	120		
GD800-26-0110-6	110	110	120	132	132	150		
GD800-26-0132-6	132	132	150	160	160	175		
GD800-26-0160-6	160	160	175	185	185	200	A7i+A7i+ALCLcomponents	800*2140*650
GD800-26-0200-6	200	200	220	220	220	240		
GD800-26-0250-6	250	250	270	280	280	300		
GD800-26-0315-6	315	315	350	350	350	380	A8i+A8i+ALCL8	1600*2140*650
GD800-26-0400-6	400	400	430	450	450	480		
GD800-26-0500-6	500	500	540	550	550	585		
GD800-26-0630-6	630	630	700	710	700	760	2*A8i+2*A8i+2*ALCL8	2800*2140*650
GD800-26-0800-6	800	800	860	900	900	960		
GD800-26-1000-6	1000	1000	1080	1100	1100	1170		
GD800-26-1200-6	1200	1200	1290	1350	1350	1440	3*A8i+3*A8i+3*ALCL8	3800*2140*650
GD800-26-1500-6	1500	1500	1620	1650	1650	1755		

Note: 1. External dimension W*H*D =Width of the product *Height of the product * Depth of the product, and the unit is mm;
2.Information in the table above is the dimension of multi-cabinet products (A8i+A8i+ALCL structure), and the dimension of single-cabinet products is 1200*2140*650;
3.Products above GD800-26-1500-6 (GD800-26-1200-4) can apply parallel operation. For example,two GD800–26–1500–6 can be paralled to use as one GD800–26–3000–6.

External dimension	Weight(Kg)
A6i+A6i+ALCLmodule	400
A7i+A7i+ALCLmodule	600
A8i+A8i+ALCL8	1100
2*A8i+2*A8i+2*ALCL8	1800
3*A8i+3*A8i+3*ALCL8	2500

Remark:

Typical capacity of heavy overload application (150% overload capacity)

P_{Lh} Typical value of available motor power
I_{ih} Continuous valid input current
I_{oh} Continuous valid output current
1-minute-operation at 150% overload capacity is allowed in every 5-minute-operation.

Typical capacity of light overload application(110% overload capacity)

P_L Typical value of available motor power
I_i Continuous valid input current
I_o Continuous valid output current
1-minute-operation at 110% overload capacity is allowed in every 5-minute-operation.

Multi-drive

Goodrive800-51 converter unit

380V:37kW-400kW
660V:75kW-500kW

The compact design of Goodrive800-51 series converter unit is easy for cabinet system operation.

Main features of standard hardware

- Compact modularized design, easy for parallel operation
- Optical communication in drive and control, support distributed installation for system integration
- Up-coin in and down-coin out(A7i and A8i)
- Long lifetime of fans and capacitors
- Rail-mounted structure for easy maintenance(A8i)
- Wall installation for A5i and A6i , base installation for A7i and A8i
- Protection degree IP00

Power degree and external dimension

Model	Heavy overload application			Light overload application			Structure	Air Volume (m^3/h)	External dimension (W×H×D)
	QIh (kAV)	PLh (kW)	Ioh (A)	QI (kAV)	PL (kW)	Io (A)			
U_N = 380 V									
GD800-51-0037-4	50	37	75	60	55	92	A5i	250	270*470*295
GD800-51-0045-4	60	45	92	75	75	115			
GD800-51-0055-4	75	55	115	98	90	150			
GD800-51-0075-4	98	75	150	120	110	180	A6i	400	325*580*300
GD800-51-0090-4	118	90	180	140	132	215			
GD800-51-0110-4	140	110	215	170	132	260			
GD800-51-0132-4	170	132	260	200	160	305	A7i	600	250*961.5*500
GD800-51-0160-4	200	160	305	230	185	350			
GD800-51-0200-4	250	200	380	280	220	425			
GD800-51-0250-4	315	250	480	350	280	530	A8i	1650	250*1275*584
GD800-51-0315-4	395	315	600	425	350	650			
GD800-51-0400-4	475	400	720	535	450	810			

Model	Heavy overload application			Light overload application			Structure	Air Volume (m^3/h)	External dimension (W×H×D)
	Q_{lh} (kAV)	P_{Lh} (kW)	I_{oh} (A)	Q_l (kAV)	P_L (kW)	I_o (A)			
U_N = 660 V									
GD800-51-0075-6	98	75	86	110	90	98	A6i	400	325*580*300
GD800-51-0090-6	110	90	98	140	110	120			
GD800-51-0110-6	135	110	120	170	132	150			
GD800-51-0132-6	170	132	150	200	160	175			
GD800-51-0160-6	200	160	175	230	185	200	A7i	600	250*961.5*500
GD800-51-0200-6	250	200	220	275	220	240			
GD800-51-0250-6	310	250	270	340	280	300			
GD800-51-0315-6	400	315	350	435	350	380	A8i	1650	250*1275*584
GD800-51-0400-6	490	400	430	550	450	480			
GD800-51-0500-6	615	500	540	670	550	585			

Note: External dimension W*H*D =Width of the product *Height of the product * Depth of the product, and the unit is mm

External dimension	Weight(Kg)
A5i	22
A6i	34
A7i	80
A8i	150

Remark:

Typical capacity of heavy overload application (150% overload capacity)

Q_{lh} Rated input capacity

P_{Lh}Typical value of available motor power

I_{oh} Continuous valid output current

1-minute-operation at 150% overload capacity is allowed in every 5-minute-operation.

Typical capacity of light overload application(110% overload capacity)

Q_l Rated input capacity

P_L Typical value of available motor power

I_o Continuous valid output current

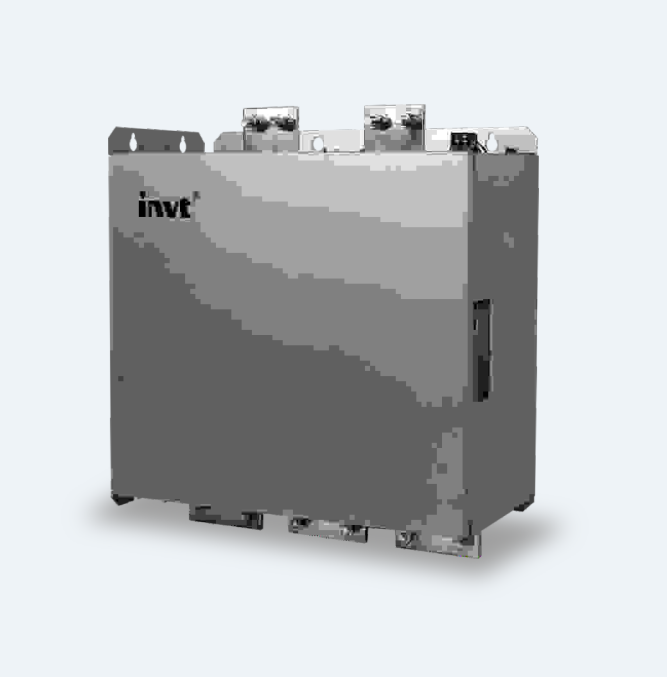
1-minute-operation at 110% overload capacity is allowed in every 5-minute-operation.

Multi-drive

Goodrive800-61diode rectification unit

380V: 400kW
660V:500kW

The compact design of Goodrive800-61 series diode rectification unit is easy for cabinet system operation. The diode rectification unit includes 6 and 12 pulse wave rectification connection.



Main features of standard hardware

- Compact modularized design
- Internal DC buffer and optional AC buffer
- Down-coin in and up-coin out
- Wall installation
- Protection degreeIP00

Power degree and external dimension

GD800-61Model	Heavy overload application		Light overload application		Air intake (m^3/h)	External dimension (W×H×D)	Weight (Kg)
	Q_{lh} (kVA)	I_{ih} (A)	Q_l (kVA)	I_i (A)			
U_N = 380 V							
GD800-61-0200-4	265	2*200	290	2*220	200	415*569*250	20
GD800-61-0400-4	500	2*380	565	2*430	400	515*569*250	30
U_N = 660 V							
GD800-61-0250-6	320	2*140	345	2*150	200	415*569*250	20
GD800-61-0500-6	630	2*275	690	2*300	400	515*569*250	30

Remark:

Typical capacity of heavy overload application (150% overload capacity)

Q_{lh} Rated input capacity

I_{ih} Continuous valid input current

1-minute-operation at 150% overload capacity is allowed in every 5-minute-operation.

Typical capacity of light overload application(110% overload capacity)

Q_l Rated input capacity

I_i Continuous valid input current

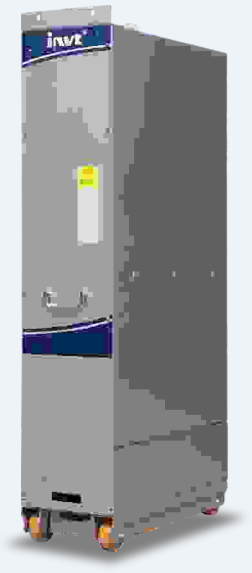
1-minute-operation at 110% overload capacity is allowed in every 5-minute-operation.

Multi-drive

Goodrive800-01 LCL PWM filter unit

380V:250kW-400kW
660V:315kW-500kW

Goodrive800-01 is embedded in four-quardant cabinet products for the front-stage filter of PWM rectifier.



Main features of standard hardware

- Compact modularized design
- Base installation
- Up-coin in and down-coin out
- Rail-mounted structure for easy maintenance
- Protection degree IP00

Power degree and external dimension

GD800-01 model	Qh (kAV)	Ih (A)	Structure	Air intake (m^3/h)	External dimension (W×H×D)
U_N = 380 V					
GD800-01-0250-4	326	495	ALCL8	680	250*1275*584
GD800-01-0315-4	400	605			
GD800-01-0400-4	515	780			
U_N = 660 V					
GD800-01-0315-6	480	350	ALCL8	680	250*1275*584
GD800-01-0400-6	515	450			
GD800-01-0500-6	630	550			

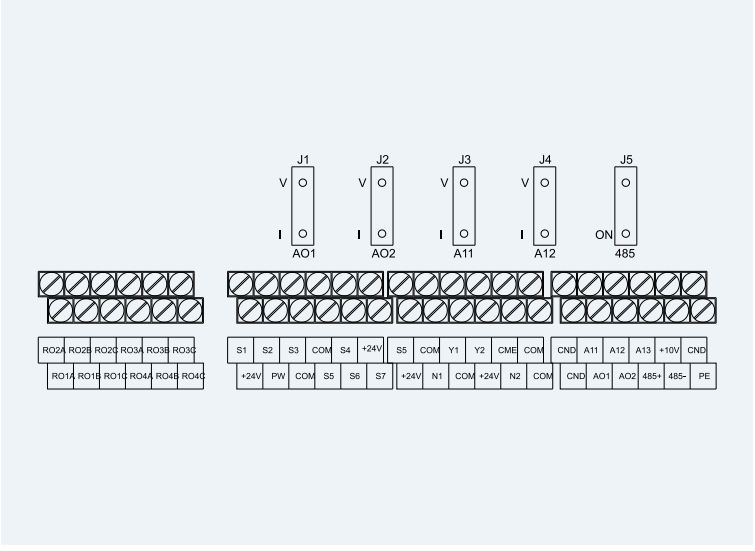
Note: External dimension W*H*D =Width of the product *Height of the product * Depth of the product, and the unit is mm

External dimension	Weight(Kg)
ALCL8	200

GD800 control units

The independent modularized design of Goodrive800 control units greatly improves its installation and commissioning efficiency. The relaying connections of wiring terminals can not only protect clients away from electric risk, but also facilitate the connection steps.

External diagram of Goodrive800 control units



Peripheral interface diagram of Goodrive800 control units

Model of Goodrive800 control units

GD ① 800 ② – ICU ③ – 0400 ④ – 4 ⑤

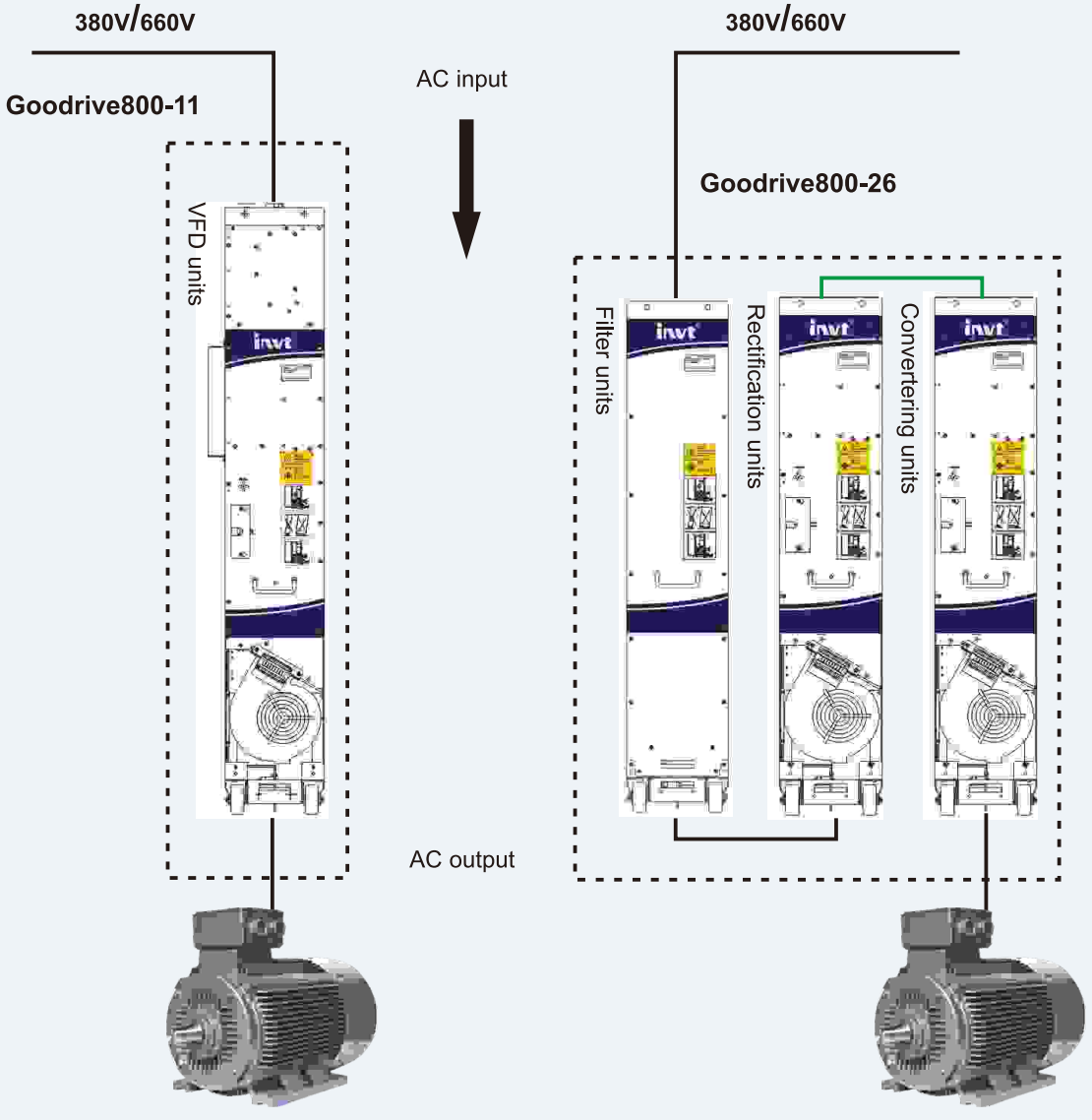
Key	Sign	Instruction	Example
Product series	①	Product series	GD-Goodrive series VFDs
Product name	②	Series name	300: Common VFDs 800: Engineering VFDs
	③	Control unit type	RCU: PWM rectifier control unit ICU: converter control unit
Power code	④	Power code	Refer to the electric parameters definition of each unit for the instruction of the power code
Voltage degree	⑤	Voltage degree	4: 380V (-15%) ~440V (+10%) 6: 520V (-15%) ~690V (+10%)

Standard terminals of Goodrive800 control units

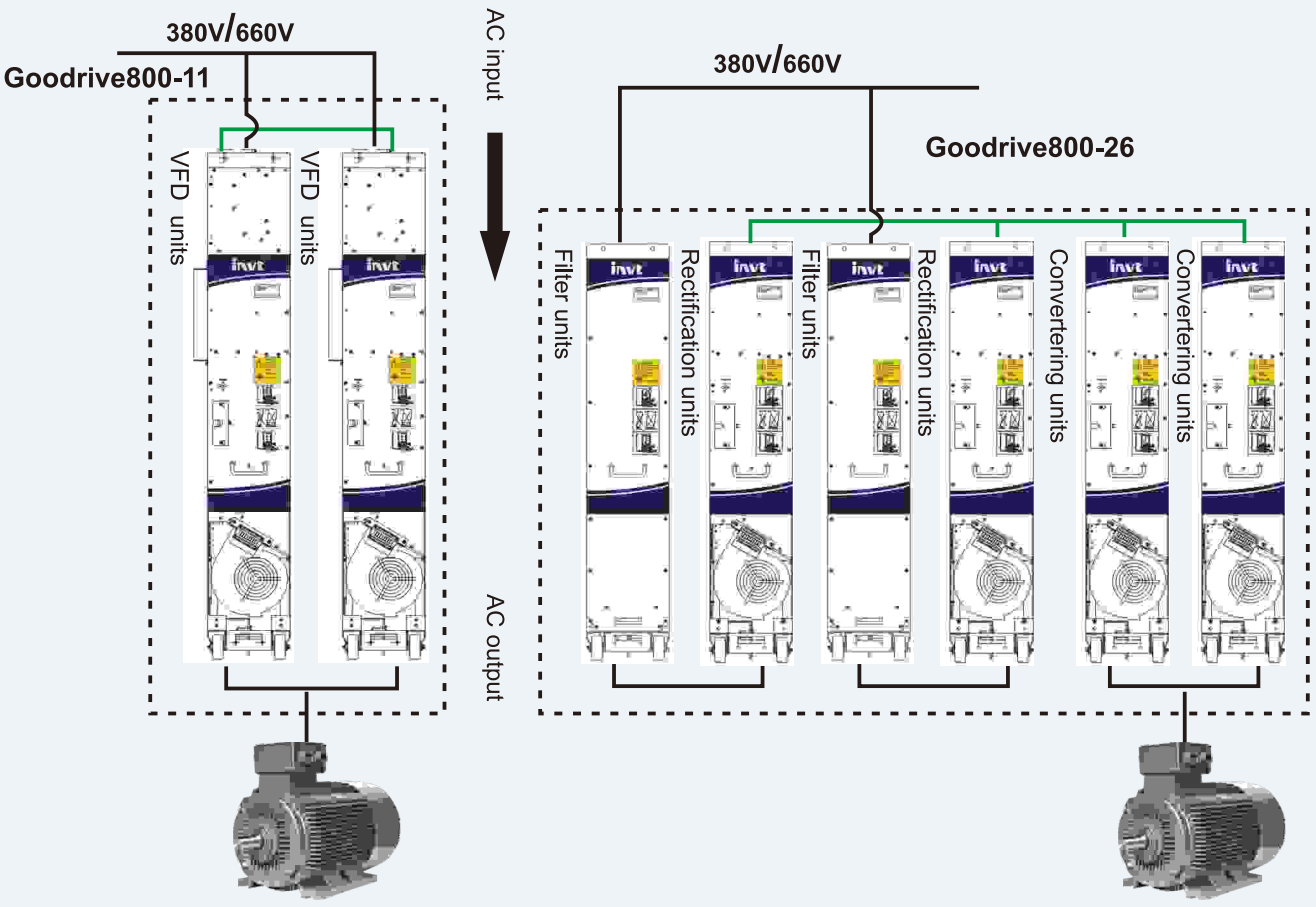
Type	Terminal sign	Terminal name	Terminal function
Power supply	+10V	10V power supply	Local 10V reference power supply
	+24V	24V power supply	User power supply，Max. output current 200mA
	PW	External power supply	External power supply Range: 12~24V
	GND	Ground	+10V reference zero potential
	COM	+24V common terminal	+24V common terminal
Analog input	AI1	Analog input 1	Input range: 0~10V or 0~20mA
	AI2	Analog input 2	
	AI3	Analog input 3	Input range: 0~10V
Analog output	AO1	Analog output 1	Output range: 0~10V or 0~20mA
	AO2	Analog output 2	Output range: -10~10V or -20~20mA
Digital input	S1	Digital input 1	1. Input impedance: 3.3kΩ 2. Voltage input range: 12~30V 3. Support NPN and PNP
	S2	Digital input 2	
	S3	Digital input 3	
	S4	Digital input 4	
	S5	Digital input 5	
	S6	Digital input 6	
	S7	Digital input 7	
	S8	High frequency pulse input	Besides the function of S1~S7, it can be as the high frequency pulse input channel Maximum input frequency: 50kHz
Digital output	Y1	Collector output	1.Switching capacity: 200mA/30V 2.Output frequency range: 0-1kHz
	Y2	High frequency pulse output	1. Switching capacity: 1A /30V 2. Output frequency range: 0~50kHz 3. It is the open collector output terminal
Safety function	H1	Safety input 1	Short-connected with COM terminal in factory. Remove the connection wires between H1 and COM, H2 and COM if safety input is used.
	H2	Safety input 2	
Relay output	RO1A	Relay 1 NO contact	Contact capacity: AC250V/3A□ DC30V/1A
	RO1B	Relay 1 NC contact	
	RO1C	Relay 1 common contact	
	RO2A	Relay 2 NO contact	
	RO2B	Relay 2 NC contact	
	RO2C	Relay 2 common contact	
	RO3A	Relay 3 NO contact	
	RO3B	Relay 3 NC contact	
	RO3C	Relay 3 common contact	
	RO4A	Relay 4 NO contact	
	RO4B	Relay 4 NC contact	Relay 4 is the output terminal of braking signal when STO is used
	RO4C	Relay 4 common contact	
Communication	485+	485 communication	485 communication terminal, apply MODBUS protocol
	485-		

Solutions

Single-drive solutions

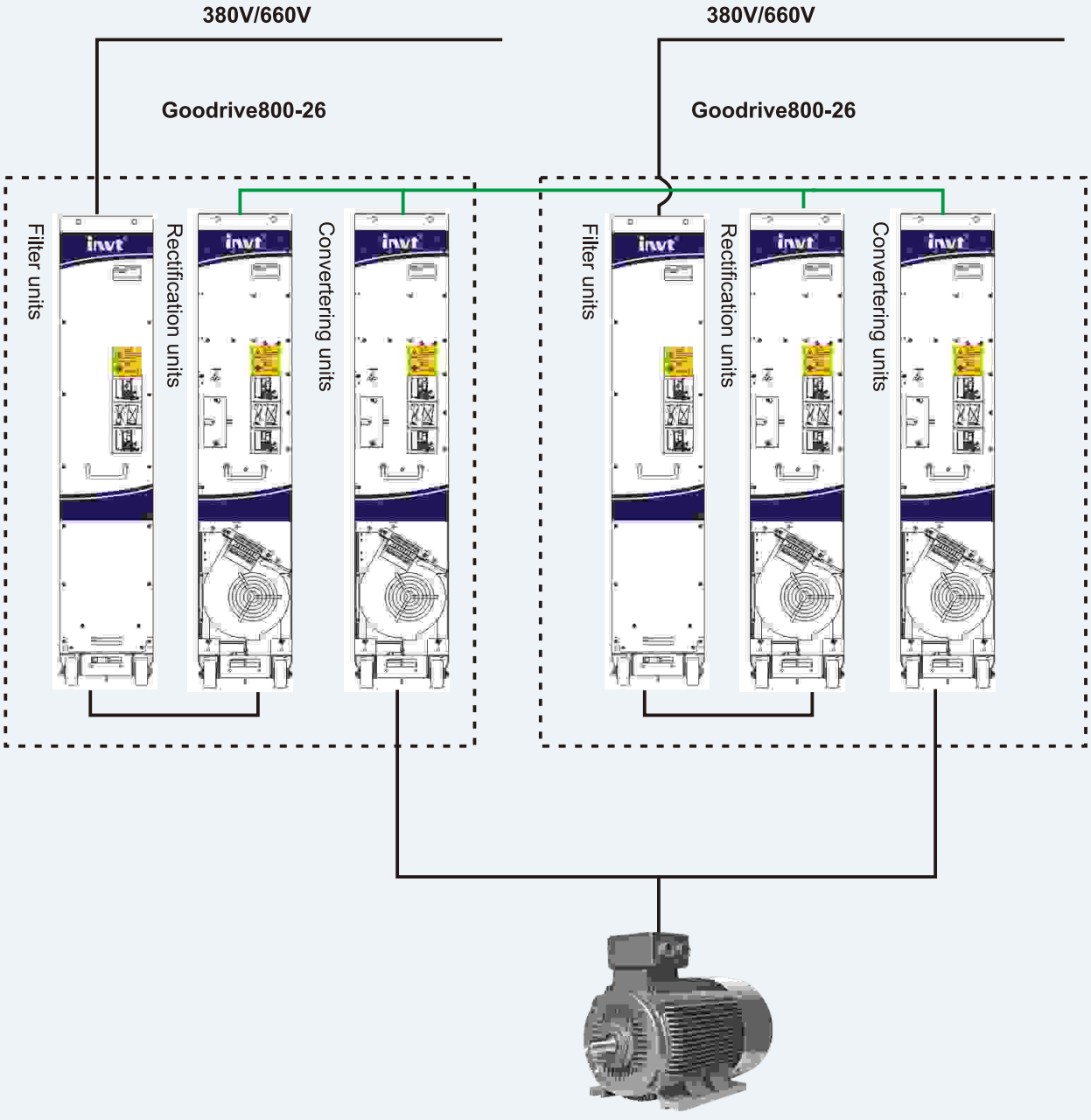


General drive of two quadrant VFDs and system integration are available in Goodrive800-11 solutions. And in Goodrive800-26 solutions, same Goodrive800-51 converter unit can be used to configurate PWM IGBT rectification units, as well as converter units. The solution can eliminate harmonics and realize energy regeneration feedback.



GD800 control unit can control up to 6 inverter units.

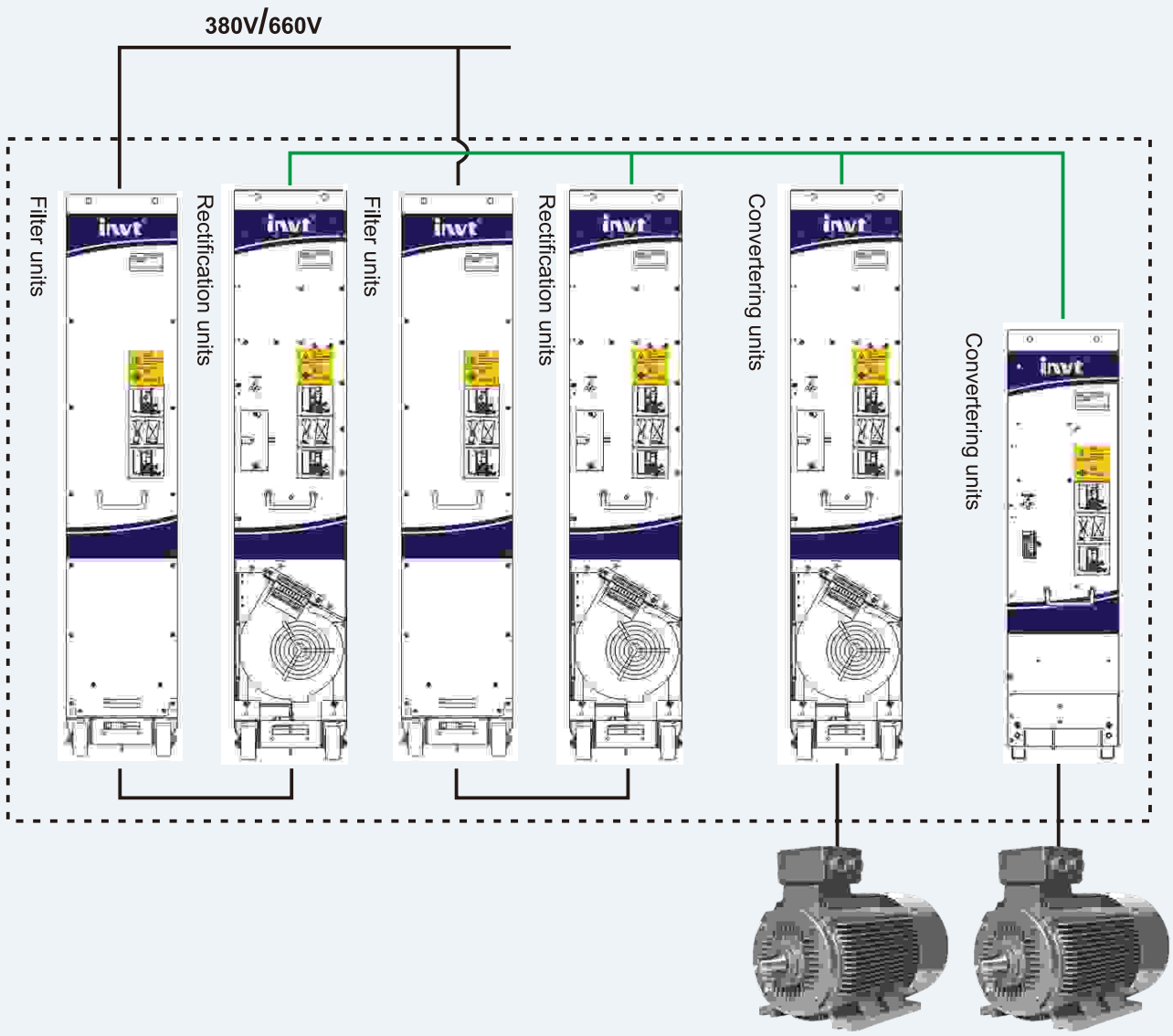
The parallel operation of multiple Goodrive800-11 or Goodrive800-51 products can output bigger power and current. Its modularized design and specific wiring mode facilitate system operation and daily maintenance.



Goodrive800-26 products can send synchronous wave signal through optical communication of salve control units. Various independent systems can carry out parallel operation to release more space in the solution

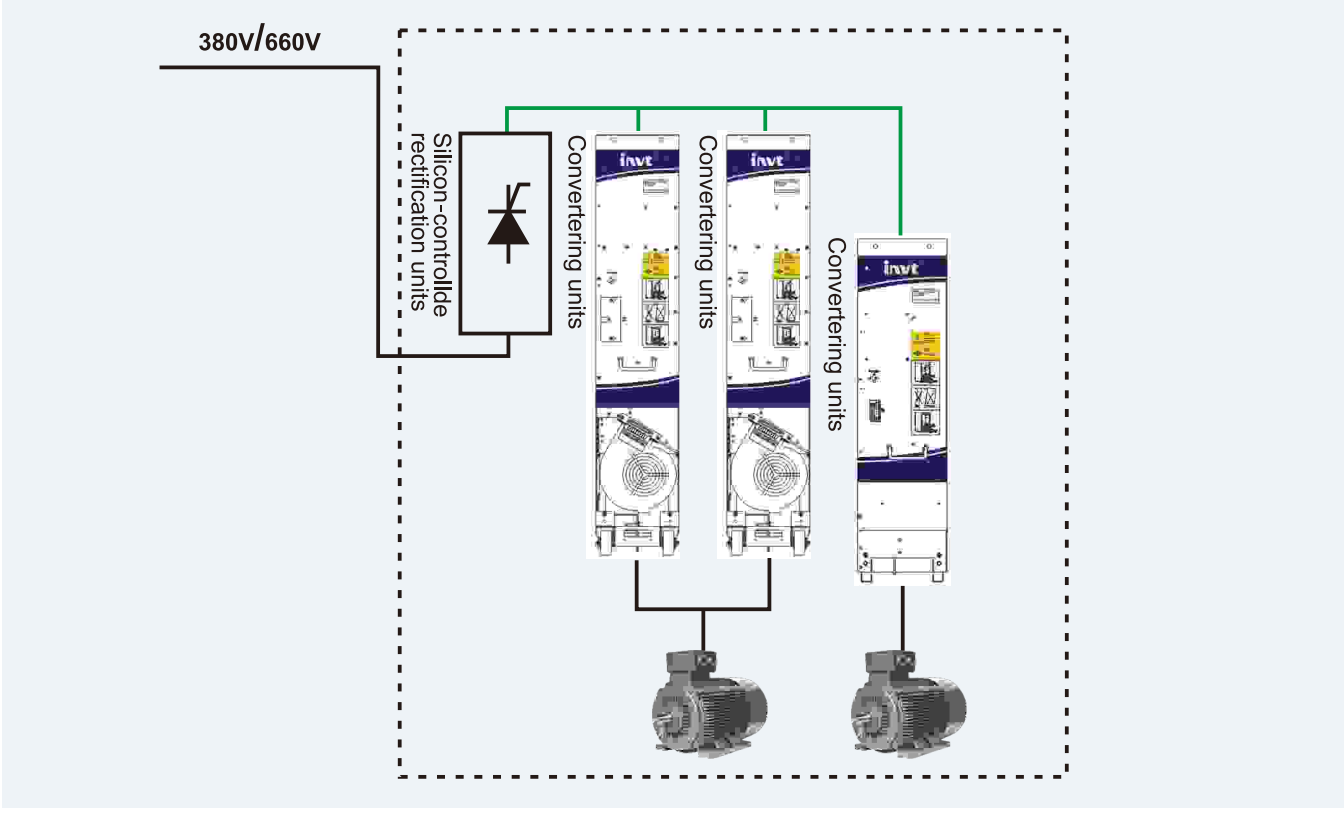
Multi-drive solutions

Goodrive800-51 converter units can connect with DC bus power system directly to transfer energy between power units. DC power is from IGBT PWM rectifier, silicon control rectifier or diode rectifier. Various converter units and motors compose a set of drive system to work on same bus, providing more multi-drive solutions to users.

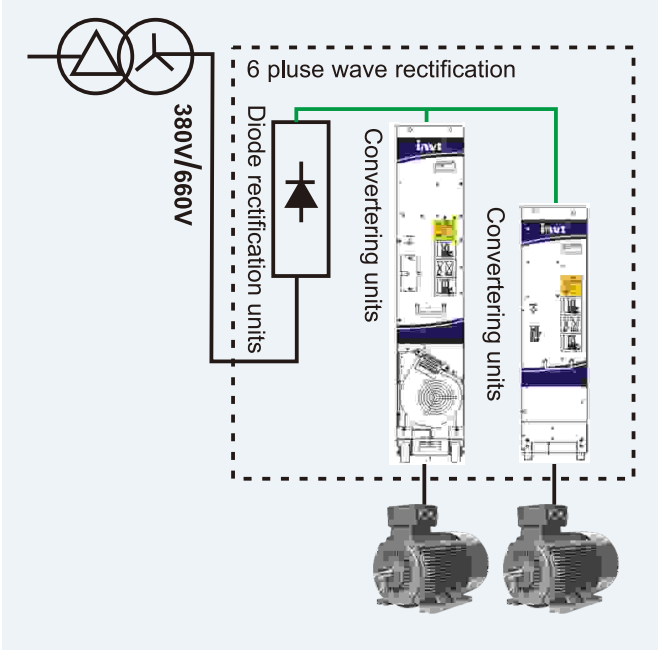


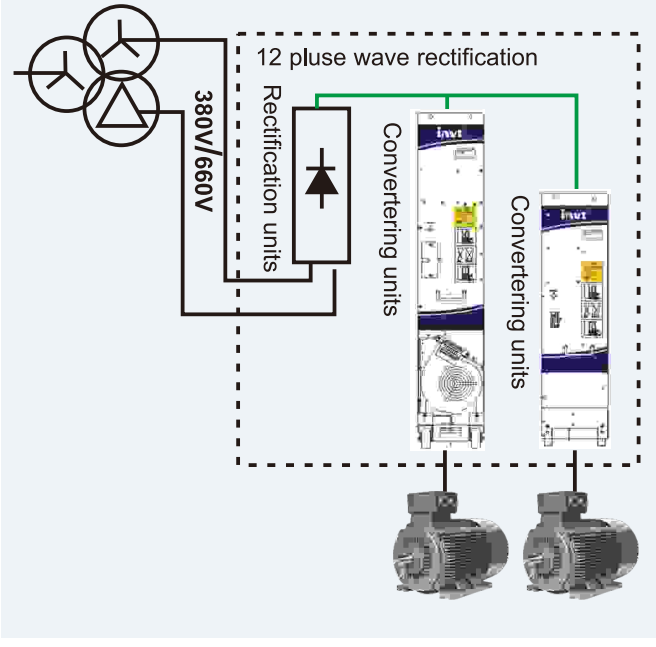
One rectifier control unit can control up to 6 IGBT PWM rectification units. Each drive system needs independent GD800 control unit.

The solutions which are four-quardant multi-drive of energy feedback rectification on same bus are available through IGBT PWM rectification.



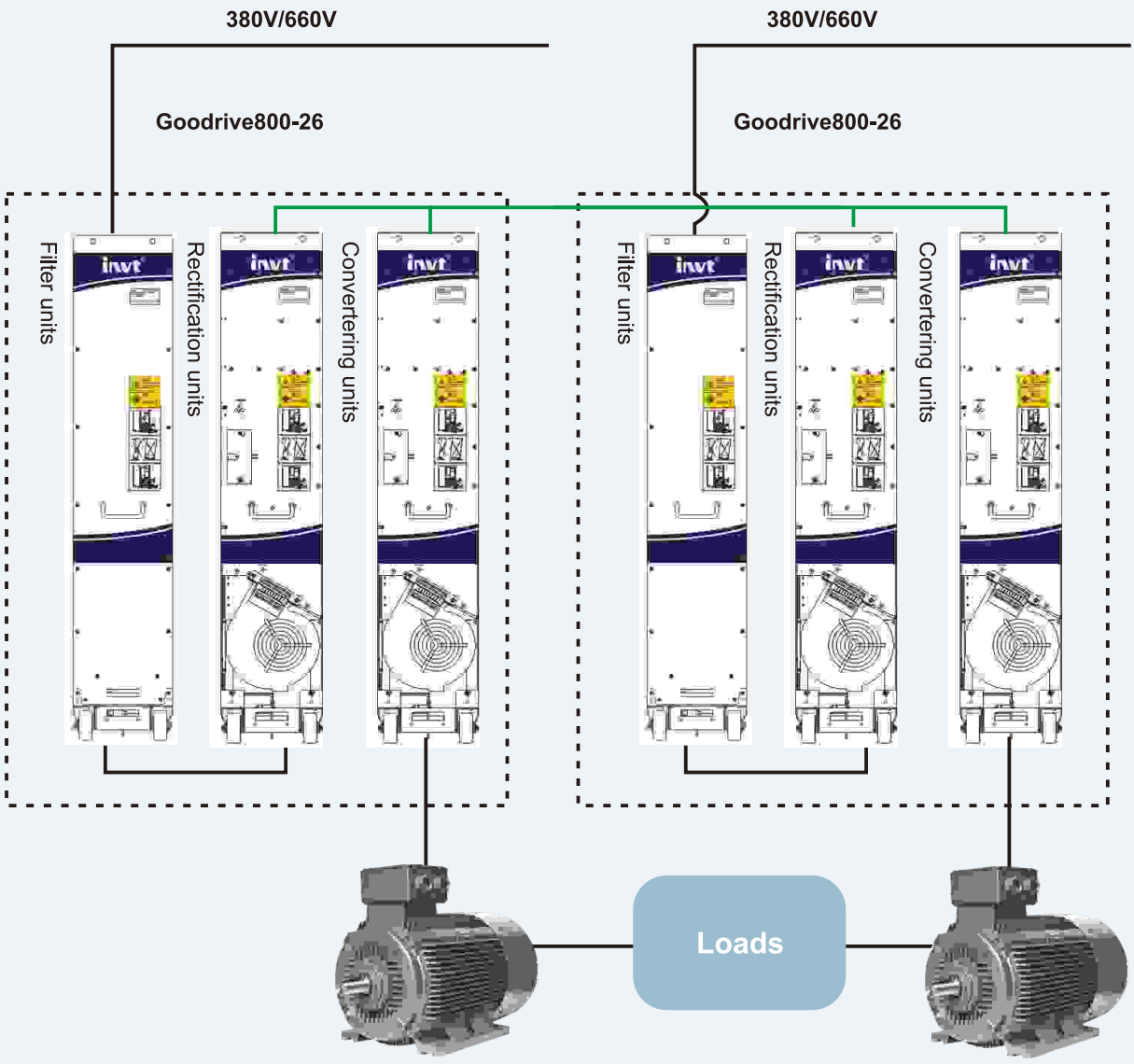
The solutions which are two-quardant multi-drive of big power rectification on same bus are available through silicon controlled rectification.





The solutions which are two-quardant multi-drive on same bus are available through diode rectification. Diode rectification unit supports 6 and 12 pulse wave input , but 12 pulse wave input need the user configurate various pulse wave transformer.

Solutions of power balance

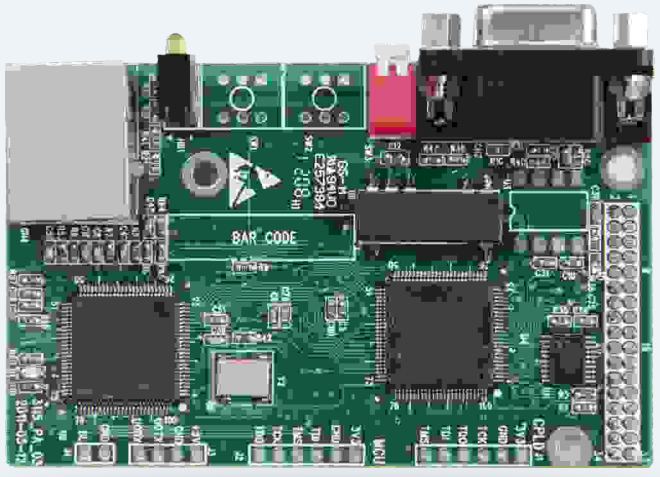


Two-Goodrive800-26 drive can apply optical communication or other standard communication protocols through control unit salve. Two motors can work synchronously to control power balance.

Optional parts

Communication cards

Besides standard 485 communication, Goodrive800 system can be extended to apply various communication protocols to meet different engineering requirements.



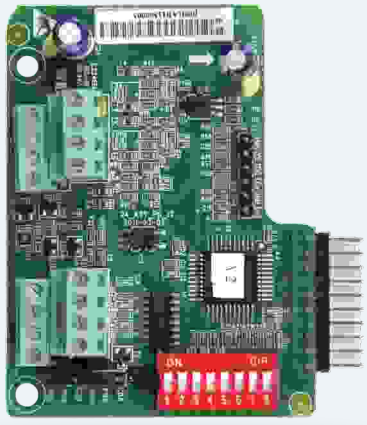
Functions

- **Control function**
  Send control command (start, stop and fault reset and so on) to the VFD; send speed or torque reference signal to the VFD.
- **Monitoring function**
  Read state and actual value from the VFD, such as torque, speed and current signal from the VFD, provide quick data transmission to the user.
- **Parameters modification**
  For parameters modification of the user
- **Diagnostic function**
  Find out faults through state words and state values to reduce the production downtime

Instruction of communication cards

Model	Description	Protocol	Baud rate
EC-TX103	Profibus+Ethernet communication cards	DP	9.6kbit/s—12Mbit/s
		Ethernet	10Mbit/s / 100Mbit/s
EC-TX105	CANopen+Ethernet communication cards	CANopen	20kbit/s-1000kbit/s
		Ethernet	10Mbit/s/100Mbit/s

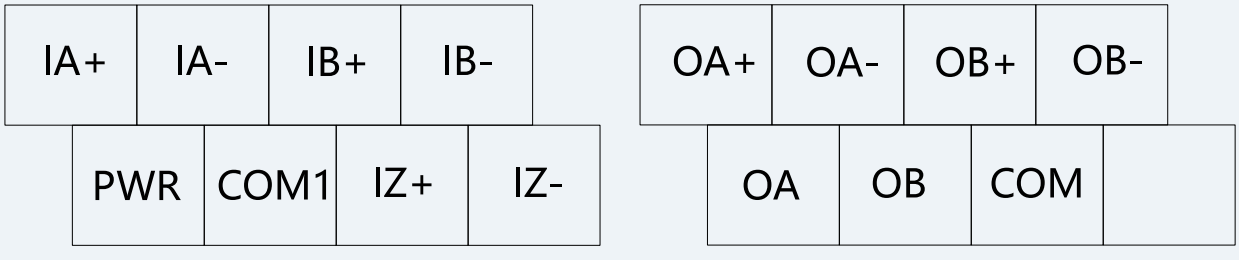
PG cards——PG cards of incremental encoders



Techinical specifications

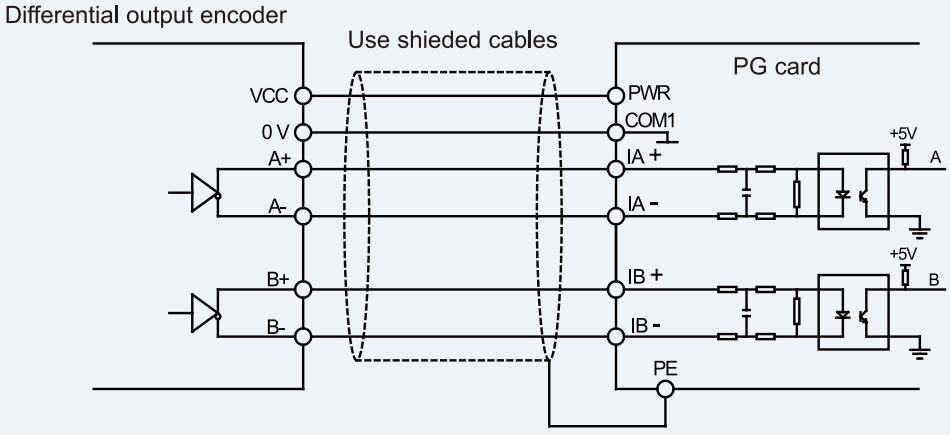
Name	PG cards of incremental encoders	
Model	EC-PG101-12	EC-PG101-24
Output power supply	Support 11.75V~16V output Factory setting : 12V±5% Max. Output current: 350mA	24V±5% output Max. Output current : 300mA
Input signal	Support the differential, open-collector ,push-pull encoder A, B, Z signal input, the response speed of 0 ~ 100kHz	
Output signal	Output frequency: 0~80kHz Output: Differential output, push-pull output, open collector output, frequency division output Range: 1~256 Output impedance :70Ω	

Wiring port and terminals of PG cards

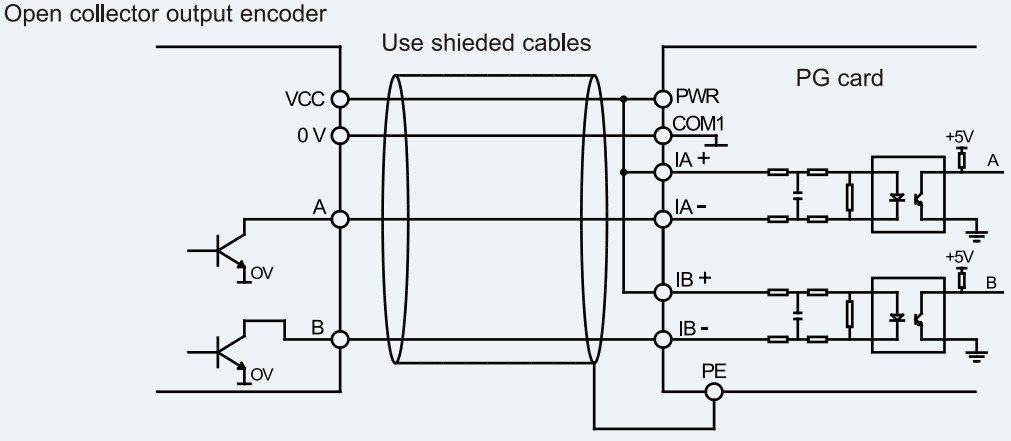


Wiring of input connections

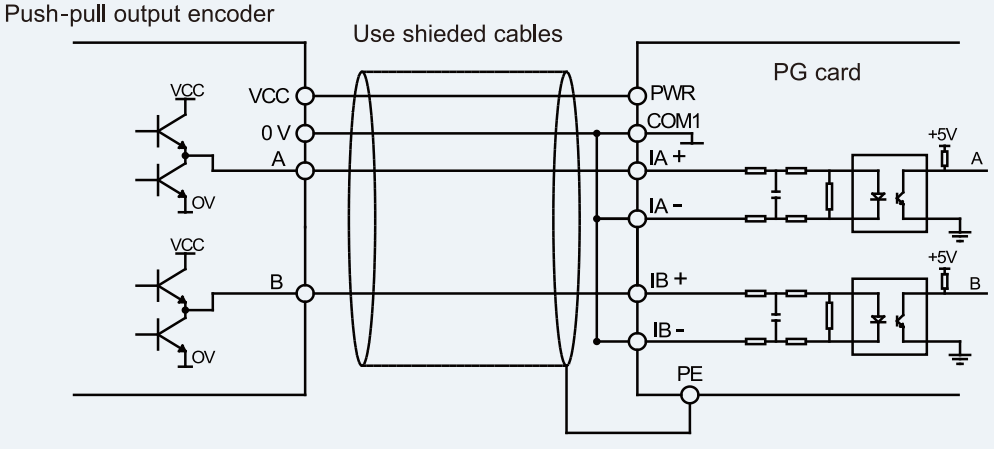
Wiring diagram of differential output encoder



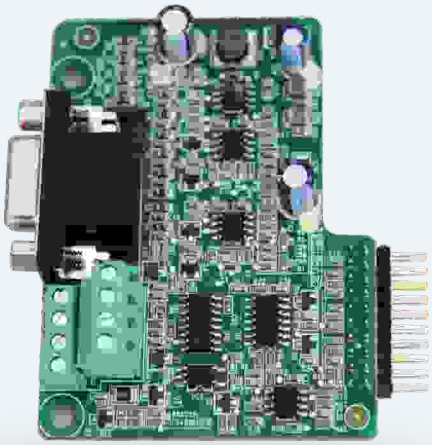
Wiring diagram of open collector output encoder



Wiring diagram of push-pull output encoder



PG cards——PG cards of sine-cosine and UVW encoders

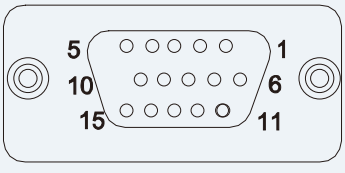


Techinical specifications

Name	PG cards of sine-cosine encoder	PG cards of UVW encoder
Model	EC-PG102-05	EC-PG103-05
Frequency division factor	1 (No DIP switch)	1~256 (With DIP switch)
Output power supply	Voltage range : 4.75~7V Factory setting : 5V±5% Max. Output current:350mA	
Output signal	Output: Two orthogonal frequency division differential output, open collector output Open collector output impedance: 70Ω	

Wiring port and terminals of PG cards

The wiring port and terminals of PG cards for sine-cosine and UVW encoders are the same



DB15

OA+	OA-	OB+	OB-
OA	OB	COM1	

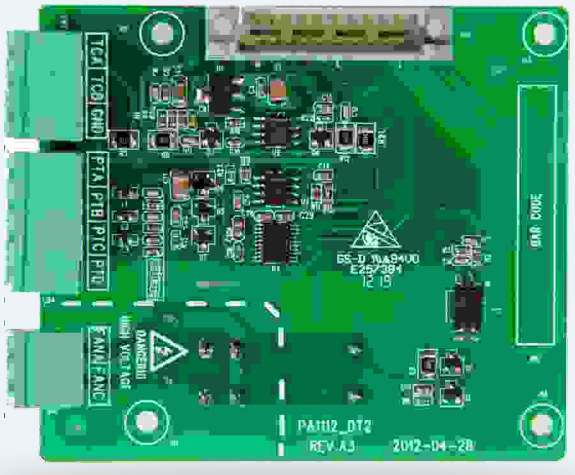
Frequency-division output interface

The order of the DB15 signal

VFD ports	SIN/COS	UVW
5	A+	A+
6	A-	A-
8	B+	B+
1	B-	B-
3	R+	Z+
4	R-	Z-
11	C+	U+
10	C-	U-
12	D+	V+
13	D-	V-
9	PWR	PWR
7	GND	GND
14	Null	W
15	Null	W-
2	Null	Null

Detection card of motor temperature

Used on control units of Goodrive800 VFDs, support PT100, NTC, PTC and other temperature detection and meet various site requirements to the maximum degree.



Terminals description

Sign	Instruction
TCA	Signal input port of NTC and PTC camber detection
TCB	
GND	Reference ground
PTA	Signal input port of PT100 temperature detection
PTB	
PTC	
PTD	
FANA	Control of external fans
FANC	

Application software

Application software

Based on vector and V/F control, standard application software of GD800 can control various AC drives at high precision.

Custom programming

The control parameters can be modified through control panel or upper PC.

Features

Strong functions are available through standard software:

- Accurate speed and torque control
- Vector control with/without PG
- Stable VF control
- Torque boost
- AVR
- Flexible power units and power extension
- Motor parameter identification
- Speed tracking
- Current and torque limit
- Automatic reset
- DC braking
- Flux braking
- Pre-excitation
- Various communication protocols
- Power off retention
- Process PID control
- Programmable I/O
- Motor temperature compensation
- Lifting
- Master-slave control

Protections

- Overcurrent
- DC overvoltage
- DC undervoltage
- Input phase loss
- Output phase loss
- Overtemperature of modules and fans
- Overload of VFDs and motors
- Underload of VFDs and motors
- Braking unit fault
- Current detection fault
- Communication fault
- Control power supply fault
- Motor temperature compensation abnormal
- PID feedback offline
- Speed deviation
- Encoder offline
- Encoder reverser
- Torque check fault
- Unbalance 3 phase current
- Slave fault

Monitoring software

INVT-Driver Control monitoring software system of Ethernet communication for upper PC

Features

- Support various and multiple VFDs, one upper PC can configurate and monitor multiple and various INVT VFDs
- Modify VFD parameters online
- Provided oscilloscope function can acquire real-time waveform data for convenient data analysis
- Online help of VFD parameters
- Save data in files for parameters setting
- Open configuration. The software is not only designed for one VFD model, after the sampling to all series VFDs, its difference is listed in the configuration table. Even if the function code is changed, there is no need to update the main program and the adaptability of the software is improved.

Service

Following services are provided for the cost reduction and reliability improving of Goodrive800 applications:

Maintenance

On-site maintenance service is provided to ensure longer working life and better operation performance of Goodrive800 products.

Site spare package

The package includes key spare parts and components of site drive, reducing the production stopping and improving the reliability of risk settlement. The number of items in the package can be selected according to actual work.

Opening

Employ INVT boot service can improve the commissioning and operation performance of the drive. All authorized INVT staffs have passed serious training in the field.

Training

After professional trainings which are provided to the service and operation electricians in INVT, the application performance can be improved through correct and safe techniques. The training lessons can be divided into different parts according to different targets and skills across the whole nation. Contact with local INVT offices for more information.

Innovation, Value, Teamwork

Service line:86-755-23535967 E-mail:overseas@invt.com.cn Website:www.invt.com

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New energy:	■ SVG	■ Solar Pump Controller	■ UPS	■ Online Energy Management System

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