

FR600 Series

Medium Voltage Inverter



FRECON



ABOUT US

FRECON Electric (Shenzhen) Co., Ltd. is a national key high-tech enterprise, a dual-soft enterprise in Shenzhen, and a professional company in the fields of industrial automation, high efficiency and energy saving, and green new energy which was founded in 2013. We have more than 16 years of experience in the development and application of frequency converters, servo drives, energy-saving control cabinets, solar inverter systems etc.





FR600 Series Summary



FR600

FR600 Series can be customized designed for industry solutions in Metallurgy, Crane, Petrol, Chemical and Mining industries. Specifically France, Germany, Finland, South Africa and other countries developed industrial grid voltage for medium voltage drives.

Product Power

- Three-phase 550V 0.75~400kW
- Three-phase 690V 5.5~630kW

Features

Large margin derating design

- 32 bit Cortex-M3 ARM core host CPU, clocked at 144 MHz
- Infineon IGBT module 1700V voltage level

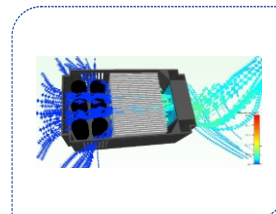


- 1000V voltage electrolytic capacitors (500V grade)
1200V voltage electrolytic capacitors (660V grade)
- 1800V voltage rectifier module (500V grade)
1200V voltage rectifier module (660V grade)



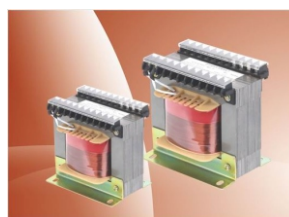
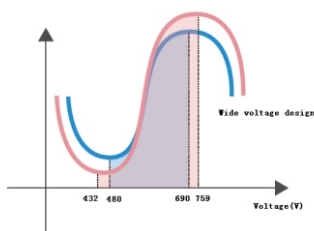
Superior environmental adaptability

- Standard products using three anti-paint treatment
- Duct isolation technology, resistant to moisture, dust, sealed design, easy to deal with harsh industrial environments



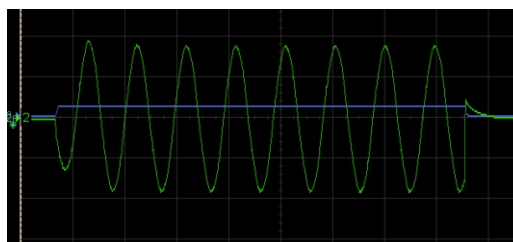
Superior Immunity design

- Wide operating voltage range, low voltage by over-modulation technology to ensure load capacity
- On the grid surge (lightning strike), power grid noise, electrostatic immunity, to harsh industrial standards
- Control power and bus separation; Control power transformer isolated isolation separate power supply, control power standard design of the filter circuit



Excellent performance

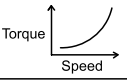
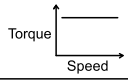
- High starting torque
- 180% Rated torque / 0.5Hz (SVC 1)
- 180% Rated torque / 0.25Hz (SVC 2)
- Reduce the sensitivity from SVC control to motor parameter, to improve the site adaptability



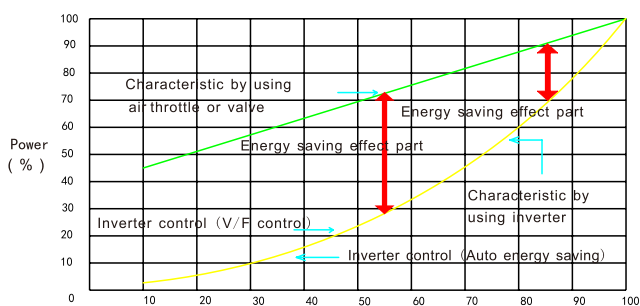
Features

Abundant function

Integrated model with G&P in one

Load torque characteristic		Variable torque characteristic (P model)	Constant torque characteristic (G model)
Load characteristic			
		Fan, pump load type	Conveyor belt, trolley and other constant torque load type
		Load torque change is proportional to speed (Non need overload capacity)	Fixed Load torque (Overload capacity required)
Inverter characteristic	Overload capacity	120% rated current: 60S	150% rated current: 60S
	Maximum output power	600Hz	600Hz

- Equipped functions most suitable for fan and pump, equipped PID control function
- To implement temperature, pressure, flow control without extra controllers



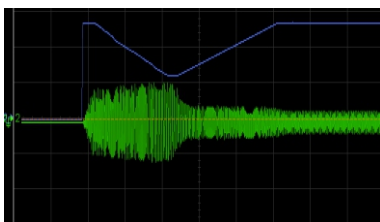
- Air flow or water flow Q(%) energy saving effect characteristic
- Different motor characteristic, different effect

Dormant & wakeup function

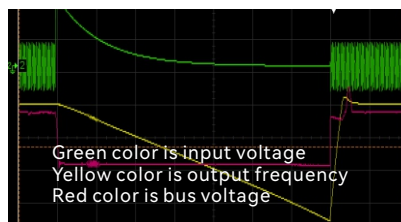
- Supports frequency dormant & wakeup and pressure dormant & wakeup, better adaptability for various sites

Speed tracing function

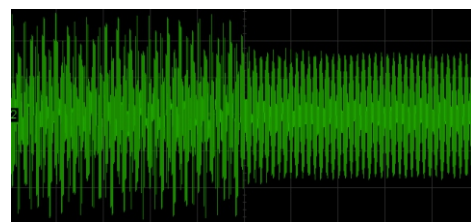
- Inverter starts motor smoothly according to motor's current running direction and speed



Speed tracing output frequency and current waveform



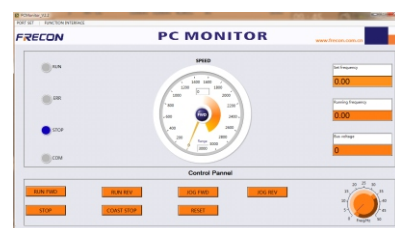
Green color is input voltage
Yellow color is output frequency
Red color is bus voltage



Oscillation suppression function

Convenient debugging

- Short-cut menu, common parameters setting rapidly to save customer's time to read manual
- Unique upload and download module which is convenient for parameter commissioning, restore factory parameters, backup user parameters
- Design special application macro according to industry demand



Technical Specification

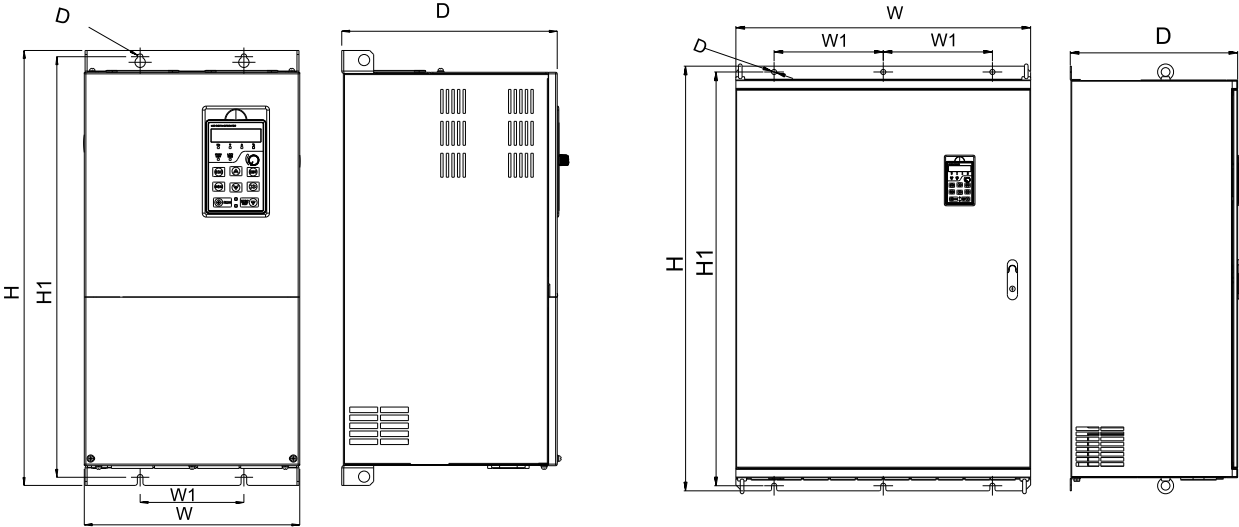
Main Power Voltage	Model	Motor Power (kW)	Power Apacity (kVA)	Input Current (A)	Output Current (A)	Dimension (W*H*D)(mm)
Three Phase 550VAC	FR600-5T-4.0-H	4	7.5	8	7.6	198*300*195
	FR600-5T-5.5-H	5.5	12	12	11	
	FR600-5T-7.5-H	7.5	15	16	14.5	
	FR600-5T-011-H	11	20	21	20	
	FR600-5T-015-H	15	28	30	28	
	FR600-5T-018-H	18	35	37	35	
	FR600-5T-022-H	22	40	42	40	270*545*270
	FR600-5T-030-H	30	52	55	52	355*620*290
	FR600-5T-037-H	37	64	68	65	
	FR600-5T-045-H	45	77	82	77	
	FR600-5T-055-H	55	97	103	98	
	FR600-5T-075-H	75	125	130	124	430*825*305
	FR600-5T-090-H	90	148	157	150	
	FR600-5T-110-H	110	178	189	180	
	FR600-5T-132-H	132	217	231	220	
	FR600-5T-160-H	160	257	273	260	660*1030*359
	FR600-5T-185-H	185	297	315	300	
	FR600-5T-200-H	200	326	346	330	
	FR600-5T-220-H	220	356	378	360	
	FR600-5T-250-H	250	410	435	414	
	FR600-5T-280-H	280	452	480	458	810*1167*460
	FR600-5T-315-H	315	505	535	510	
	FR600-5T-355-H	355	565	600	573	
	FR600-5T-400-H	400	632	670	676	
Three Phase 690VAC	FR600-6T-018-H	18.5	35	30	25	270*545*270
	FR600-6T-022-H	22	37	35	28	
	FR600-6T-030-H	30	43	40	35	
	FR600-6T-037-H	37	51	47	45	
	FR600-6T-045-H	45	65	52	52	357*620*290
	FR600-6T-055-H	55	80	67	65	
	FR600-6T-075-H	75	93	82	86	
	FR600-6T-090-H	90	123	96	98	
	FR600-6T-110-H	110	147	120	124	430*825*305
	FR600-6T-132-H	132	166	145	150	
	FR600-6T-160-H	160	229	175	180	
	FR600-6T-185-H	185	236	190	200	
	FR600-6T-200-H	200	258	210	220	660*1030*369
	FR600-6T-220-H	220	286	235	245	
	FR600-6T-250-H	250	316	255	270	
	FR600-6T-280-H	280	346	290	300	
	FR600-6T-315-H	345	367	335	350	
	FR600-6T-355-H	355	454	370	390	
	FR600-6T-400-H	400	488	415	430	
	FR600-6T-450-H	450	559	460	480	810*1167*460
	FR600-6T-500-H	500	645	520	540	
	FR600-6T-560-H	560	660	580	600	
	FR600-6T-630-H	630	812	655	680	
	FR600-6T-710-H	710	940	750	770	

Technical Parameters

Main Power	Input Voltage	5T:Three Phase 480~550VAC (-15%~+10%) 6T:Three Phase 575~690VAC (-15%~+10%)
	Input frequency(Hz)	50Hz/60Hz
Motor Connections	Output Voltage(V)	0VAC~Uin
	Output frequency(Hz)	0.00~600.00Hz
	Frequency resolution	0.01Hz
	Overload Capacity	150% 1 min, 180% 10s, 200% 2s
Control Characteristic	Control Method	V/F control, vector control 1 without PG, vector control 2 without PG, vector control with PG
	Carrier Frequency	0.7kHz~16kHz
	Acce time	0.1s~6000.0s
	Dece time	0.1s~6000.0s
	Torque boost	Automatic torque boost; manually torque boost 0.1%~30.0%
	DC brake	DC braking frequency: 0.00Hz~maximum frequency; braking time: 0.0s~10.0s; braking action current value: 0.0%~150.0%

Installation dimensions

F6-1~F6-6 Structural diagram



Specifications	Appearance and installation dimensions(mm)					
	W	W1	H	H	D	Installation hole
F6-1	270	130	545	527	270	7
F6-2	355	230	620	602	290	7
F6-3	430	320	825	798	305	12
F6-4	660	230	1030	1000	359	14
F6-5	810	300	1167	1137	460	14



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FRECON ELECTRIC (SHENZHEN) CO.,LTD

Add: F15, Building 3, Huidongsheng Industrial Park, 1028
Guangqiao Road, Guangming District, Shenzhen

Tel: 0755-88605930

E-Mail: overseas@frecon.com.cn

www.frecon-inverter.com



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