ENG

VDI100

GENERAL PURPOSE FULL VECTOR INVERTER

Code 82261G

GEFRAN

BEYOND TECHNOLOGY

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Over fifty years of experience, an organisation highly focused on the customer's needs and constant technological innovation make Gefran a benchmark in the design and production of sensors and components for industrial process automation and control.

Expertise, flexibility and process quality are the factors that distinguish Gefran in the production of integrated tools and systems for specific applications in various industrial fields, with consolidated know-how in the plastics, mobile hydraulics, heating and lift sectors.

Technology, innovation and versatility represent the catalogue's added value in addition to the ability to create specific application solutions in association with the world's leading machine manufacturers.

APPLICATIONS

CONVEYOR AND TRASPORTATION MACHINERY

PAPER MAKING MACHINE

MACHINE TOOL/METAL PROCESSING MACHINERY

WOOD WORKING MACHINERY

HVAC AND PUMP SYSTEMS

PAPER/TEXTILE MACHINE

GRAVITATIONAL HANDLING EQUIPMENT

PLASTICS / RUBBER PROCESSING MACHINE

WIRE / CABLE MAKING MACHINE

In addition to foreseeing the market's application needs, Gefran forms partnerships with its customers to find **the best way to optimise and boost the performance of various applications**.
Gefran products communicate with one another to provide integrated solutions, and can dialogue with devices by other companies thanks to compatibility with numerous fieldbuses.

Modbus PROFIBUS CANopen DeviceNet

DESCRIPTION

The GEFRAN range of VDI100 inverters is specifically designed to give the utmost flexibility of application to modern automation systems and ensure ease of use, while guaranteeing advanced control capabilities for both asynchronous and permanent magnet SPM and IPM motors.

VDI100 inverter features an intuitive and user friendly interface to enable immediate motor start-up and system functions to implement control architectures for the most advanced application solutions, all with maximum energy efficiency.

The VDI100 series offer a perfect automation system integration with "universal" standard configuration, optional cards and accessories. All these elements offer real advantages in terms of product and system optimization and cost saving.

> Wide motor control capability
> Advanced auto-tuning
> High level sensor vector mode
> Fast computing ability
> Conformity to global standards.

POWER RANGE

	Power												
kW (Hp)	0.75 (1.0)	1.5 (2.0)	2.2 (3.0)	3.7 (5.0)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)
400 Vac, 3ph	Size 1			Size 2		Size 3			Size 4		Size 5		
400 Vac -F, 3ph	Size 1			Size 2		Size 3		Size 4			Size 5		

DRIVE TYPE DESIGNATION

VDI100 -X XXX -K X X -X -Y

EMI Filter:	F = included; [Empty] = not included
Rated voltage:	4 = 400 Vac (380...480 Vac), 3ph
Software:	X = standard
Braking unit:	B = included; X = not included
Keypad:	K = Integrated (LED keypad with 5-digits 7-segment display)
Drive power, in kW	
Mechanical drive sizes	
VDI100 drive series	

WEIGHTS AND DIMENSIONS

Mechanical size - Protection degree	Dimensions: Width x Height x Depth		Weight	
	mm	inches	kg	lbs
1 - IP20/NEMA 1	130 x 215 (306*) x 150	5.12 x 8.46 (12.04*) x 5.9	2.2 (3.5*)	4.8 (7.7*)
2 - IP20/NEMA 1	140 x 279 (400*) x 177	5.51 x 10.98 (15.75*) x 6.97	3.8 (5.5*)	8.4 (12.1*)
3 - IP20/NEMA 1	210 x 300 (416.5*) x 215	8.26 x 11.81 (16.4*) x 8.46	6.2 (8*)	13.7 (17.6*)
4 - IP20/NEMA 1	265 x 360 (500*) x 225	10.43 x 14.17 (19.68*) x 8.56	10 (12.5*)	22 (27.5*)
5 - IP20/NEMA 1	286.5 x 525 (679*) x 252	10.57 x 9.92 (26.73*) x 29.92	30 (32.5*)	66.1 (71.6*)

* with filter

GENERAL CHARACTERISTICS

Control Characteristics	Motor type	Asynchronous and Synchronous Motor (Surface Permanent Magnet Motor, Interior Permanent Magnet Motor)
	Control Modes (1)	V/f, V/f+Encoder, SLV (vector control open loop), SV (vector control closed loop), PMSLV (vector control open loop for Permanent Magnet Motor, PMSV (vector control closed loop for Permanent Magnet Motor)
	Speed control accuracy	±1% (SLV, overload 200% and control range 1 : 30 (60....2Hz ; 50...1.6Hz)), ±1% (SLV, overload 150% and control range 1 : 50 (60....1.2Hz ; 50...1Hz)), ±1.5% (V/f open-loop, overload 150% and control range 1 : 40 / 60....1.5Hz ; 50...1.25Hz), ±0.1% (SV)
	Output Frequency range	0.1Hz~599Hz
	Output Frequency Resolution	0.01Hz
	Overload Tolerance (1)	• **Heavy Duty Mode** (HD.): 150% rated current for 60sec, 200% rated current for 2 sec. (Factory default) • **Normal Duty Mode** (ND.): 120% rated current for 60sec
	Frequency Setting Signal	0 to +10V, -10V to +10V, 4 to 20mA or pulse train input
	Acceleration / Deceleration Time	0.0 ~ 6000.0 sec (separate acceleration and deceleration time set)
	Voltage / Frequency Characteristics	15 fixed + one customized V/f pattern
	Braking Unit	Built-in braking transistor on 0.75-30kW HD
	Display	LED keypad with 5-digits 7-segment display (LCD keypad option)
	Main Control Functions	Auto-tuning, Zero Servo, Torque Control, Position Control, Droop, Soft-PWM, Over-Voltage Protection, Dynamic Braking, Speed Search, Frequency Traversing, Momentary Power Loss Restart, PID Control, Automatic Torque Compensation, Slip Compensation, RS-485 Communication, Close Loop Control with encoder, Simple PLC Function, 2 Analog Output, Run Permissive inputs, Application Presets
	Other Functions	Records of Power ON and Operation Time, 4 Fault History Records and Latest Fault State Record, Energy-Saving Function, Phase Loss Protection, DC Braking, Mechanical Brake Control, Dwell, S Curve Acceleration and Deceleration, Pulse input / output, Display of Engineering Unit, NPN / PNP Selection
Protection Functions	Stall Prevention	During Acceleration, Deceleration and continuous run
	Over Current (OC) and Output Short-Circuit (SC) Protection	When the current exceeds 200% of the inverter rated current
	Inverter Overload Protection (OL2)	Inverter stops when the output is higher than below conditions. • **Heavy Duty Mode** (HD.): 150% rated current for 60sec, 200% rated current for 2 sec. (Factory default), Carrier frequency is from 2kHz to 8kHz • **Normal Duty Mode** (ND.): 120% rated current for 60sec, Carrier frequency is 2kHz
	Motor Overload Protection (OL1)	Electrical overload protection curve
	Over Voltage Protection (OV)	OV threshold = 820Vdc
	Under Voltage (UV)	UV threshold = 380Vdc
	Momentary Power Loss Restart	When Power loss exceeds 15ms. This function can be set up to 2 sec
	Overheat Protection (OH)	Thermistor sensor on heatsink
	Ground Fault Protection (GF)	Protection by current detection circuit
	Charge Indicator	When main circuit DC voltage ≥ 50V, the CHARGE LED is on
	Output Phase Loss Protection (OPL)	If the OPL function acts, the motor stops rotation automatically
Environment Specification	Protection degree	IP20 / NEMA 1, with standard removable anti dust cover
	Operating Temperature	-10~+50°C (without anti dust cover) -10~+40°C (with anti dust cover) Up to +60°C with derating.
	Storage Temperature	-20 ~ +70°C
	Humidity	95% RH or less (no condensation)
	Altitude	Altitude of 1000 meters or lower
	Vibration	1.0G, in compliance with IEC 60068-2-6
	Pollution Degree	Meet IEC 60721-3-3 Class 3C2
Communication Function		Built-in: RS-485 with Modbus RTU / ASCII (standard RJ45 connection) Optional: Profibus/CANopen/DeviceNet/TCP-IP
EMI filter		Add-on module on –F version 0.75-45kW HD In compliance with EN61800-3 standard
Certification	CE RoHS	Complies with the EC Directive concerning low voltage equipment (Directives LVD 2014/35/EC, EMC 2014/30/EC) In compliance with EN61800-3 (CE & RE) and EN61800-5-1 (LVD) Conformity to RoHS directive
	c UL us	UL508C
Encoder expansion card (optional)		Asynchronous Motor: Digital incremental Line driver and Open collector, Resolver PM motor: Digital incremental Line driver, Resolver, SinCos

(1) The V/f, V/f+Encoder, and SLV control modes can be used with ND Overload. See the instruction manual for further information.

GENERAL CHARACTERISTICS

SMART FUNCTIONS INTEGRATED

VDI100 integrates intelligent functions to simplify system integration, reduce costs and improve comfort in industrial environment.

> Intelligent over voltage suppression
> Advanced motor auto-tune
> Ultra low motor noise with Soft-PWM
> Application presets.

I/O CONFIGURATION

The VDI100 inverter features a standard I/O card specially developed to give maximum flexibility for the user.

> Digital input: 8, NPN/PNP
> Digital output: 2 (size 1) / 1 (all other sizes)
> Analog input: 2, AI1: -10~10V / 0~10V, AI2: 0~10V / 4~20mA
> Analog output: 2, AO1:0~10V, AO2:0~10V/4~20mA
> Relay output: 1 (size 1) / 2 (all other sizes)
> Others: PTC input (AI2), Pulse input (32kHz), Pulse output (32kHz).

ROBUST DESIGN

Coated PCB offers protection for harsh environments.

All models have fan cooled external heatsinks which eliminate ingress of dust.

SERIAL COMMUNICATION

Modbus

The VDI100 integrates a standard RS485 serial line with Modbus RTU/ASCII protocol, for peer-to-peer or multidrop connections.

DUAL CORE PROCESSORS

High Performance & Reliability.

- **32Bit MCU**
Mass computing capability for advanced current vector control technology.
Minimizes the internal loop time for higher control response.

- **ASIC** (from size 2)
Prevents inrush current damage to IGBT module.
Enhances the reliability and life expectancy of motor drive.

"UNIVERSAL" IN MOTOR TECHNOLOGIES

Simple parameter settings for easy switching between asynchronous and permanent magnet motors.

High performance current vector control for a wide range of motors types.

Asynchronous Motor

> Competitive
> Mechanical Robustness

Surface Permanent Magnet Motors (SPM)

> High Efficiency
> High power density
> Low Cogging Torque

Interior Permanent Magnet Motors (IPM)

> Highly Efficiency
> Compact Size
> With Reluctance Torque

FAN CONTROL AND EASY MAINTENANCE

Fan control achieves low noise levels and long-lasting fan.

Easy access to fun allows simple and quick maintenance and replacement.

INTEGRATED KEYPAD

The integrated programming keypad with 5 Digit 7 Segment LED display provide fast programming and immediate start-up.

OPTIONAL LCD PROGRAMMING KEYPAD

The optional LCD programming keypad with clear and wide parameter display in multiple languages, makes the VDI100 extremely intuitive and easy to use.

The keypad can also be used remotely and as a copy unit to copy parameter settings from one drive to an other.

FIELDBUS

The VDI100 can be easily integrated into machine architectures through optional Profibus, CANopen, Devicenet and TCP-IP communication modules.

Model	Description
EXP-PDP-BDI/VDI	Profibus DP interface module
EXP-TCPIP-BDI/VDI	Ethernet TCP/IP interface module
EXP-DN-BDI/VDI	DeviceNet interface module
EXP-CAN-BDI/VDI	CanBus interface module

RJ45 TO USB CONNECTING CABLE

For the connection between inverter and PC using Gf_eXpress and PC Tools configurator (length 1.8 m).

COPY UNIT

> Copying parameters settings from one AC drive to another.

> Standard RJ45 interface cable (2 m. included).

ENCODER FEEDBACK EXPANSION CARDS

> EXP-OC-VDI100

Digital incremental open collector encoder card.

- For Asynchronous motor
- Support Open Collector type and pulse signal

Terminals	Description
Vcc	Power Supply for encoder: 12V/5V±5%, 200mA
GND, /A, /B, /Z	Power Source and Input Signal Common
A, B, Z	Encoder Signal Input Terminal (Open Collector Type)
AO, BO, ZO, /AO, /BO, /ZO	Pulse monitor output: Open Collector Type, 24V, 30mA Output Signal Common
E	Shielding connection

> EXP-LD-VDI100

Digital incremental Line driver encoder card.

- For Asynchronous motor
- Support Line Driver type and complementary type pulse signal

Terminals	Description
Vcc	Power Supply for encoder: 12V/5V±5%, 200mA
GND	Power Source and Input Signal Common
A, /A, B, /B, Z, /Z	Encoder Signal Input Terminal (Line Driver Type), RS-422 Level Output
AO, /AO, BO, /BO, ZO, /ZO	Pulse monitor output: Line Driver Type, RS-422 Level Input
E	Shielding connection

> EXP-LD-PM-VDI100

Digital incremental Line driver encoder card with Hall sensor.

- For Permanent Magnet motor
- Support Line Driver type and complementary type pulse signal

Terminals	Description
Vcc	Power Supply for encoder: 5V±5%, 200mA
GND	Power Source and Input Signal Common
A, /A, B, /B, Z, /Z, U, /U, V, /V, W, /W	Encoder Signal Input Terminal (Line Driver Type), RS-422 Level Input
AO, /AO, BO, /BO, ZO, /ZO	Pulse monitor output: Line Driver Type, RS-422 Level Output
E	Shielding connection

> EXP-RS-PM-VDI100 (*)

Resolver card for SPM / IPM Permanent Magnet motor and Asynchronous.

Terminals	Description
R1, R2, S1, S2, S3, S4	R1-R2: Sinusoidal excitation signal. 7Vrms, 10kHz. Transformation ratio: 0.5±5% S1-S3: analog input of Sine signal. S2- S4: analog input of Cosine signal.
AO, /AO,BO, /BO, ZO, /ZO	A and B phase output terminal; Z phase monitoring output terminal. Line Driver output type: RS-422 Level output
E	Shielding connection

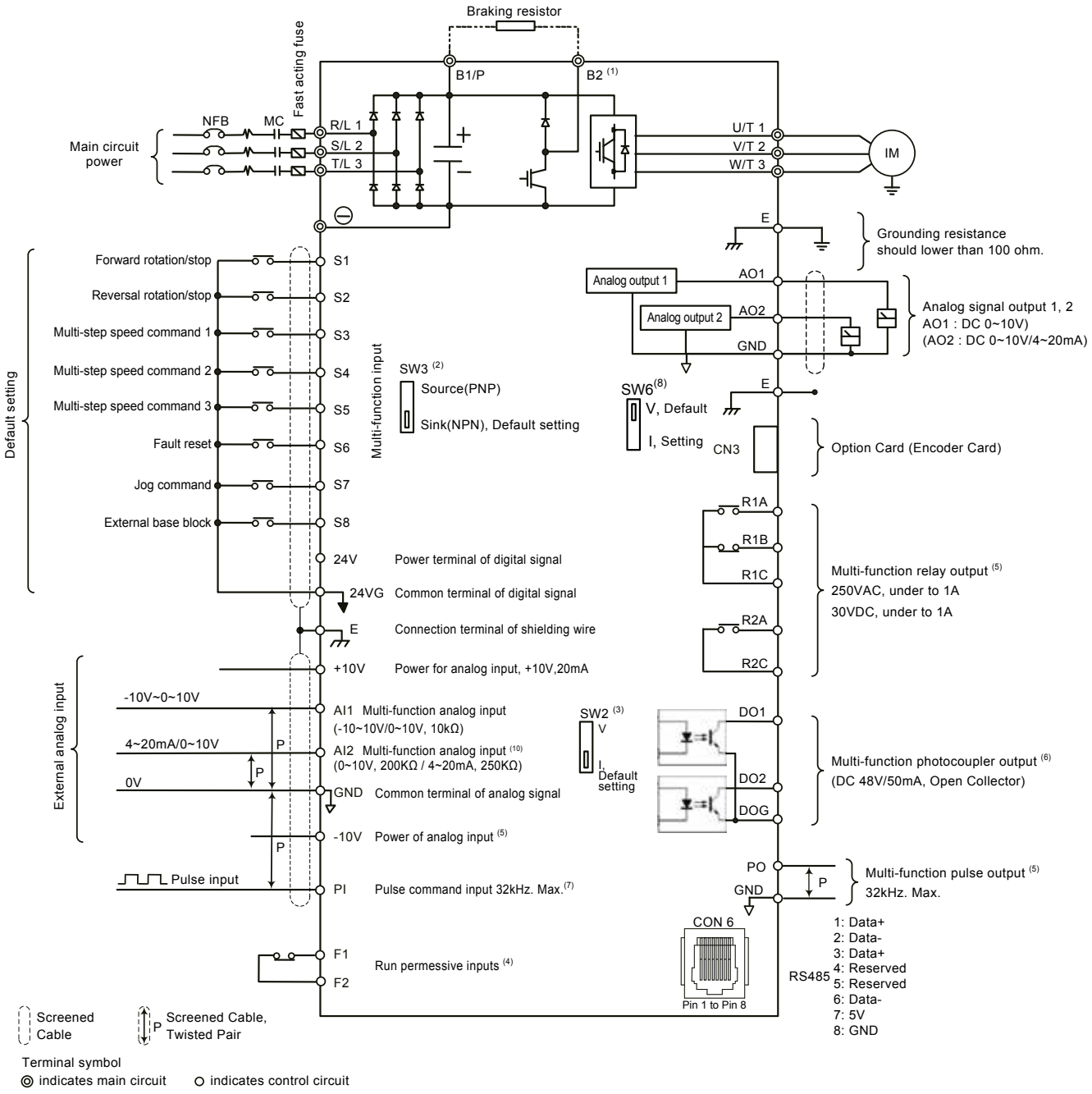
(*) this card is not applicable on size 1 models: VDI100-1007...1022-KBX-.-4

> EXP-SC-PM-VDI100

SinCos encoder card for Permanent Magnet motor

Terminals	Description
E5V	Power supply for encoder 5V±5%, 200mA
GND	Power supply common
C+,C-	Input C pulse from the encoder, Vpp= 0.6~1.2V
D+, D-	Input D pulse from the encoder, Vpp= 0.6~1.2V
A+, A-	Input A pulse from the enc., Vpp= 0.6~1.2V, fmax=20KHz
B+, B-	Input B pulse from the enc. Vpp= 0.6~1.2V, fmax=20KHz
R+, R-	Input R pulse (encoder home pulse)
a+, a-	Output a ratio of the A pulse frequency
b+, b-	Output b ratio of the B pulse frequency
E. E	Shielding connection: wire and inverter terminal "E"

WIRING DIAGRAM



(1) The main circuit of 0.75~30kW (included) with built-in braking transistor provide terminal B2. The braking resistor can be connected directly between B1 and B2. Optional braking module is available for the other models.
(2) The multi-function digital input terminals S1~S8 can be set to Source (PNP) or Sink (NPN) mode by SW3 switch.
(3) Multi-function analog input 2 (AI2) can be set to the voltage command input (0~10/-10~10V) or the current command input (4~20mA) through SW2 switch.
(4) When integrated Run Permissive inputs is NOT used, connect a link across terminals F1 & F2 for the inverter output to function.
External safety circuits can be interfaced with inverter using terminals F1 and F2.
(5) Terminals -10V S(+), S(-), R2A-R2C and PO-GND are provided for 3.7kW ratings or above.
(6) Terminals DO2 is provided for 2.2kW ratings or below (size 1).
(7) When using open collector input, there is no need of resistance because of built-in pull-up resistance.
(8) AO2 default setting is 0~+10V.
(9) Multi-function analog input 2 (AI2) can be set as PTC Overheat Protection.

CHOOSING THE INVERTER: INPUT AND OUTPUT DATA

THREE PHASE - 400V CLASS

				1007	1015	1022	2037	2055	3075	3110	3150 4150-F	4185	4220	5300	5370	5450
Output Rating (2)	HD (3)	Rated Output Capacity	KVA	2.6	3.2	4.2	7	11.3	13.7	18.3	23.6	29.7	34.3	45.7	57.2	69.3
		Rated Output Current	A	3.4	4.2	5.5	9.2	14.8	18	24	31	39	45	60	75	91
		Maximum Applicable Motor (1)	HP	1	2	3	5	7.5	10	15	20	25	30	40	50	60
			kW	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45
	ND (4)	Rated Output Capacity	KVA	3.1	4.1	5.3	9.2	13.3	17.5	23.6	29.0	33.5	44.2	55.6	67.1	78.5
		Rated Output Current	A	4.1	5.4	6.9	12.1	17.5	23	31	38	44	58	73	88	103
		Maximum Applicable Motor (1)	HP	2	3	5	7.5	10	15	20	25	30	40	50	60	75
			kW	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55
	Maximum Output Voltage		V	Three-Phase, 380V to 480V												
	Maximum Output Frequency		Hz	0.1~599 (Based on parameter setting)												
Input Power	Rated Voltage, Frequency			Three-Phase, 380V to 480V, 50/60Hz												
	Allowable Voltage Fluctuation			-15% ~ +10%												
	Allowable Frequency Fluctuation			±5%												
	HD	Rated Input Current	A	3,7	5,3	6	9,6	15,5	18,7	25	33,7	42,4	48,9	65,2	81,5	98,9
	ND		A	4,5	5,9	7,5	11,6	18,2	24	32,3	41,3	47,8	58,7	78,3	95,7	112
Powerloss	Watt Loss		W	127,4	134,7	171,7	241,9	294,1	697,7	829,7	880,5	1109,4	1172,5	1666,5	1965,9	2562,8
	Heat Loss		kcal/hr	109,6	115,8	147,7	208	252,9	600	713,5	757,2	954,1	1008,4	1433,2	1690,7	2204
	Switching Frequency		kHz	8	8	8	8	8	8	8	8	8	8	5	5	5
Braking Transistor				Built-in											Option (External Braking Module)	

Power	HD mode carrier freq range	HD mode carrier freq default setting
0.75 ~ 22 kW	2~16 kHz	8 kHz
30 ~ 37 kW	2~12 kHz (5)	5 kHz
45 kW	2~10 kHz (5)	5 kHz

(1) Based on the standard 4-pole induction motor. The selected inverter must have a higher output current rating than the motor.

(2) The default setting of VDI100 is HD (heavy duty mode). To switch VDI100 to ND (normal duty mode) set parameter (00-27) to 1. When switching to ND (normal duty mode), the frequency will change to 2kHz.

(3) The default setting of carrier frequency in HD mode is shown into the table on the right, if the setting value is higher than default setting, derating may be required.

(4) The default setting of carrier frequency in ND mode is 2kHz, if the setting value is higher than default setting, de-rating may be required.

(5) If control mode is set to SLV mode and maximum frequency is larger than 80Hz, the carrier frequency range is 2~8kHz.

DRIVE MODELS & CODES

THREE PHASE - 400V CLASS

- With built-in EMI filter
- BU built-in up to 30 kW
- IP20 / NEMA 1

Code	Model	Pn@ 400 Vac		Configuration
		HD	ND	
S6N110	VDI100-1007-KBX-4-F	0.75 kW	1.5 kW	Internal Braking Unit - With EMI filter
S6N111	VDI100-1015-KBX-4-F	1.5 kW	2.2 kW	Internal Braking Unit - With EMI filter
S6N112	VDI100-1022-KBX-4-F	2.2 kW	3.7 kW	Internal Braking Unit - With EMI filter
S6N113	VDI100-2037-KBX-4-F	3.7 kW	5.5 kW	Internal Braking Unit - With EMI filter
S6N114	VDI100-2055-KBX-4-F	5.5 kW	7.5 kW	Internal Braking Unit - With EMI filter
S6N115	VDI100-3075-KBX-4-F	7.5 kW	11 kW	Internal Braking Unit - With EMI filter
S6N116	VDI100-3110-KBX-4-F	11 kW	15 kW	Internal Braking Unit - With EMI filter
S6N117	VDI100-4150-KBX-4-F	15 kW	18.5 kW	Internal Braking Unit - With EMI filter
S6N118	VDI100-4185-KBX-4-F	18.5 kW	22 kW	Internal Braking Unit - With EMI filter
S6N119	VDI100-4220-KBX-4-F	22 kW	30 kW	Internal Braking Unit - With EMI filter
S6N120	VDI100-5300-KBX-4-F	30 kW	37 kW	Internal Braking Unit - With EMI filter
S6N121	VDI100-5370-KXX-4-F	37 kW	45 kW	With EMI filter
S6N122	VDI100-5450-KXX-4-F	45 kW	55 kW	With EMI filter

- Without EMI filter
- BU built-in up to 30 kW
- IP20 / NEMA 1

Code	Model	Pn@ 400 Vac		Configuration
		HD	ND	
S6N123	VDI100-1007-KBX-4	0.75 kW	1.5 kW	Internal Braking Unit – Without EMI filter
S6N124	VDI100-1015-KBX-4	1.5 kW	2.2 kW	Internal Braking Unit – Without EMI filter
S6N125	VDI100-1022-KBX-4	2.2 kW	3.7 kW	Internal Braking Unit – Without EMI filter
S6N126	VDI100-2037-KBX-4	3.7 kW	5.5 kW	Internal Braking Unit – Without EMI filter
S6N127	VDI100-2055-KBX-4	5.5 kW	7.5 kW	Internal Braking Unit – Without EMI filter
S6N128	VDI100-3075-KBX-4	7.5 kW	11 kW	Internal Braking Unit – Without EMI filter
S6N129	VDI100-3110-KBX-4	11 kW	15 kW	Internal Braking Unit – Without EMI filter
S6N130	VDI100-3150-KBX-4	15 kW	18.5 kW	Internal Braking Unit – Without EMI filter
S6N131	VDI100-4185-KBX-4	18.5 kW	22 kW	Internal Braking Unit – Without EMI filter
S6N132	VDI100-4220-KBX-4	22 kW	30 kW	Internal Braking Unit – Without EMI filter
S6N133	VDI100-5300-KBX-4	30 kW	37 kW	Internal Braking Unit – Without EMI filter
S6N134	VDI100-5370-KXX-4	37 kW	45 kW	Without EMI filter
S6N135	VDI100-5450-KXX-4	45 kW	55 kW	Without EMI filter

ACCESSORIES AND OPTIONS

INPUT CHOKE

Code	Model	Dimensions: WxHxd (mm)	Weight (kg)	For VDI100-....
Input choke - Overload HD (150%) - Class 400V 3ph				
S7AAE	**LR3y-1015**	120 x 125 x 65	1.8	1007
S7AAF	**LR3y-1022**	120 x 125 x 65	1.9	1015
S7AB3	**LR3y-1030**	120 x 125 x 65	1.9	1022
S7AAG	**LR3y-2040**	120 x 125 x 65	2	2037
S7AB6	**LR3y-2075**	150 x 155 x 79	4.9	2055
S7AB7	**LR3y-3110**	150 x 155 x 79	5	3075
S7AB8	**LR3y-3150**	150 x 169 x 85	5.5	3110
S7FF4	**LR3-022**	180 x 182 x 130	7.8	3150
S7FF4	**LR3-022**	180 x 182 x 130	7.8	4150
S7FF4	**LR3-022**	180 x 182 x 130	7.8	4185
S7FF3	**LR3-030**	180 x 160 x 185	8.2	4220
S7FF2	**LR3-037**	180 x 160 x 185	9.5	5300
S7FF1	**LR3-055**	180 x 180 x 185	12	5370
S7FF1	**LR3-055**	180 x 180 x 185	12	5450

Code	Model	Dimensions: WxHxd (mm)	Weight (kg)	For VDI100-....
Input choke - Overload ND (120%) - Class 400V 3ph				
S7AB3	**LR3y-1030**	120 x 125 x 65	1.9	1007
S7AAG	**LR3y-2040**	120 x 125 x 65	3	1015
S7AB6	**LR3y-2075**	150 x 155 x 79	4.9	1022
S7AB7	**LR3y-3110**	150 x 155 x 79	5	2037
S7AB8	**LR3y-3150**	150 x 169 x 85	5.5	2055
S7FF4	**LR3-022**	180 x 182 x 130	7.8	3075
S7FF3	**LR3-030**	180 x 160 x 185	8.2	3110
S7FF3	**LR3-030**	180 x 160 x 185	8.2	3150
S7FF3	**LR3-030**	180 x 160 x 185	8.2	4150
S7FF2	**LR3-037**	180 x 160 x 185	9.5	4185
S7FF1	**LR3-055**	180 x 180 x 185	12	4220
S7FF1	**LR3-055**	180 x 180 x 185	12	5300
S7D19	**LR3-090**	300 x 205 x 265	30	5370
S7D19	**LR3-090**	300 x 205 x 265	30	5450

Mains choke listed in this table can only be used for the inverter input side. Do not connect Mains choke to the inverter output side.

OUTPUT CHOKE

Code	Model	Finv_max [Hz]	Fswitch [kHz]	Dimensions WxHxd (mm)	Weight (kg)	For VDI100-....
Output Choke - Class 400V 3ph						
S7FG1	**LU3-001**	400	20	120 x 128 x 71	2.7	1007
S7FG1	**LU3-001**	400	20	120 x 128 x 71	2.7	1015
S7FG1	**LU3-001**	400	20	120 x 128 x 71	2.7	1022
S7FG3	**LU3-005**	400	20	180 x 170 x 110	5.2	2037
S7FG4	**LU3-011**	400	20	180 x 180 x 130	8	2055
S7FG4	**LU3-011**	400	20	180 x 180 x 130	8	3075
S7FH2	**LU3-015**	400	20	180 x 160 x 170	7.5	3110
S7FH3	**LU3-022**	300	20	180 x 160 x 170	8	3150
S7FH3	**LU3-022**	300	20	180 x 160 x 170	8	4150-F
S7FH3	**LU3-022**	300	20	180 x 160 x 170	8	4185
S7FH4	**LU3-030**	300	15	180 x 160 x 180	9.5	4220
S7FH5	**LU3-037**	300	15	180 x 160 x 180	9.7	5300
S7FH5	**LU3-037**	300	15	180 x 160 x 180	9.7	5370
S7FH6	**LU3-055**	300	15	240 x 210 x 180	14	5450

ACCESSORIES AND OPTIONS

BRAKING RESISTORS AND BRAKING UNIT

VDI100-....	Braking unit		Braking resistor					Braking torque (Peak / Continues) 10%ED	Minimum Resistance (1)	
	Model (Code)	Q.ty	Code	Type	Protection degree	Q.ty	Dimensions - Weight W x H x d (mm) - (kg)		(Ω)	(W)
Class 400V 3ph										
1007	-	-	S8SA26	**RFH 220 750R**	IP44	1	220 x 27 x 36 - (0.33)	126%	120	600
1015	-	-	S8T0CR	**RF 300 DT 400R**	IP44	1	260 x 106 x 47 - (1.4)	119%	120	600
1022	-	-	S8T0CP	**RF 220 T 250R**	IP44	1	300 x 36 x 27 - (0.5)	126%	100	680
2037	-	-	S6F64	**RFH 600 160R**	IP44	1	320 x 27 x 36 - (0.6)	126%	60	1200
2055	-	-	S8SA31	**RFMTX 400 130R**	IP44	1	580 x 140 x 110 - (4.2)	102%	43	1600
3075	-	-	S8T0CM	**RFPD 900 DT 100R**	IP44	1	260 x 106 x 70 (2.2)	99%	43	1600
3110	-	-	S8SA30	**BRT 1K6 52R**	IP20	1	580 x 140 x 110 - (4.2)	126%	43	1600
3150	-	-	S8SA29	**BRT 1K5 40R**	IP20	1	440 x 140 x 110 - (3)	119%	22	3000
4150	-	-	S8SA29	**BRT 1K5 40R**	IP20	1	440 x 140 x 110 - (3)	119%	22	3000
4185	-	-	S8SA36	**BRT 4K8 32R**	IP20	1	570 x 180 x 330 - (11)	119%	14	4800
4220	-	-	S8SA35	**BRT 4K8 27R2**	IP20	1	570 x 180 x 330 - (11)	117%	14	4800
5300	-	-	S8SA34	**BRT 6K 20R**	IP20	1	570 x 180 x 330 - (11)	119%	11	6000
5370	**BU-4-VDI100** (S6N143)	2	S8SA36	**BRT 4K8 32R**	IP20	2	570 x 180 x 330 - (11)	119%	19,2	3600
5450	**BU-4-VDI100** (S6N143)	2	S8SA35	**BRT 4K8 27R2**	IP20	2	570 x 180 x 330 - (11)	117%	19,2	3600

Inverters ratings 0.75 ~ 30kW have a built-in braking transistor. For applications requiring a greater braking torque an external braking resistor can be connected to terminals B1 / P and B2; for inverter ratings above 30 kW an external braking unit (connected to (+) / (-) of the inverter) and a braking resistor (connected to two ends of the detection module BR+ / BR-) is required.

(1): Minimum resistance is the acceptable minimum value of the braking resistor for a single braking unit.

EMI FILTERS

Code	Model	Dimensions: WxHxd (mm)	Weight (kg)	For VDI100-....
Overload HD (150%) - Class 400V 3ph				
S7GHL	**EMI-FTF-480-7**	190 x 40 x 70	0.6	1007
S7GHL	**EMI-FTF-480-7**	190 x 40 x 70	0.6	1015
S7GHL	**EMI-FTF-480-7**	190 x 40 x 70	0.6	1022
S7GHO	**EMI-FTF-480-16**	250 x 45 x 70	0.8	2037
S7GHO	**EMI-FTF-480-16**	250 x 45 x 70	0.8	2055
S7GHO	**EMI-FTF-480-16**	250 x 45 x 70	0.8	3075
S7GHP	**EMI-FTF-480-30**	270 x 50 x 85	1	3110
S7GHP	**EMI-FTF-480-30**	270 x 50 x 85	1	3150
S7GHP	**EMI-FTF-480-30**	270 x 50 x 85	1	4150
S7GOA	**EMI-FTF-480-42**	310 x 50 x 85	1.3	4185
S7GOB	**EMI-FTF-480-55**	250 x 85 x 90	1.9	4220
S7GOC	**EMI-FTF-480-75**	270 x 80 x 135	2.6	5300
S7GOC	**EMI-FTF-480-75**	270 x 80 x 135	2.6	5370
S7GOD	**EMI-FTF-480-100**	270 x 90 x 150	3	5450

Code	Model	Dimensions: WxHxd (mm)	Weight (kg)	For VDI100-....
Overload ND (120%) - Class 400V 3ph				
S7GHL	**EMI-FTF-480-7**	190 x 40 x 70	0.6	1007
S7GHL	**EMI-FTF-480-7**	190 x 40 x 70	0.6	1015
S7GHO	**EMI-FTF-480-16**	250 x 45 x 70	0.8	1022
S7GHO	**EMI-FTF-480-16**	250 x 45 x 70	0.8	2037
S7GHP	**EMI-FTF-480-30**	270 x 50 x 85	1	2055
S7GHP	**EMI-FTF-480-30**	270 x 50 x 85	1	3075
S7GOA	**EMI-FTF-480-42**	310 x 50 x 85	1.3	3110
S7GOB	**EMI-FTF-480-55**	250 x 85 x 90	1.9	3150
S7GOB	**EMI-FTF-480-55**	250 x 85 x 90	1.9	4150
S7GOC	**EMI-FTF-480-75**	270 x 80 x 135	2.6	4185
S7GOC	**EMI-FTF-480-75**	270 x 80 x 135	2.6	4220
S7GOD	**EMI-FTF-480-100**	270 x 90 x 150	3	5300
S7GOE	**EMI-FTF-480-130**	270 x 90 x 150	3.6	5370
S7GOF	**EMI-FTF-480-180**	400 x 120 x 170	6.2	5450

Install an EMC filter on power supply side to eliminate noise transmitted between the power line and the inverter.
The inverter EMI filter above meets the EN 61800:2004/A1:2012 specification.
Inverter can be ordered with EMC filter (-F models).

A. VDI100-...-4-F series with EMC filter (-F models)
VDI100-...-4-F series inverters are equipped with an EMC filter able to guarantee the performance levels required by EN 61800:2004/A1:2012 standard:
- sizes 1007 to 3110: category C2 with a maximum of 10 meters of shielded motor cable,
- sizes 4150 to 5450: category C3 with a maximum of 10 meters of shielded motor cable.

B. External Input EMI Filter
VDI100-...-4 series inverters equipped with external filter above, are able to guarantee the performance levels required by EN 61800:2004/A1:2012 standard, with the same behaviour of above filter.

ACCESSORIES AND OPTIONS

OTHER OPTIONS

Code	Model	Description
Communication modules		
S6N218	EXP-PDP-BDI/VDI	Profibus DP interface module
S6N219	EXP-TCPIP-BDI/VDI	Ethernet TCP/IP interface module
S6N220	EXP-DN-BDI/VDI	DeviceNet interface module
S6N221	EXP-CAN-BDI/VDI	CanBus interface module
Encoder cards		
S6N222	EXP-LD-VDI100	Digital incremental Line driver encoder card
S6N223	EXP-OC-VDI100	Digital incremental open collector encoder card
S6N224	EXP-LD-PM-VDI100	Digital incremental line driver encoder card for Permanent Magnet motor (*)
S6N225	EXP-RS-PM-VDI100	Resolver card for Permanent Magnet motor and Asynchronous (*)
S6N226	EXP-SC-PM-VDI100	SinCos encoder card for Permanent Magnet motor (*)
		(*): installation on VDI100 sizes 2 and higher
Others		
S6N228	Memory KB-BDI/VDI	Copy unit
S6N229	Cable RJ45 to USB 1.8m	RJ45 to USB connecting cable (1.8 m. length)
S6N231	KB-LCD-VDI100	LCD keypad
S6N233	KB-BLI-VDI100	Blind cover
S6N234	KB cable 1m	Keypad extension cable 1 m
S6N235	KB cable 2m	Keypad extension cable 2 m
S6N236	KB cable 3m	Keypad extension cable 3 m
S6N237	KB cable 5m	Keypad extension cable 5 m
S6N242	Protective cover VDI100 Size 1	Protective cover for VDI100 Size 1
S6N243	Protective cover VDI100 Size 2	Protective cover for VDI100 Size 2
S6N244	Protective cover VDI100 Size 4	Protective cover for VDI100 Size 4

SOFTWARE

GF-eXpress PROGRAMMING SOFTWARE

Applications

> Configuring parameters of Gefran devices (Instruments, Drives, Sensors)
> Tuning control parameters with on-line tests and trends
> Managing parameter archive for multiple configuration.

Features

> Guided product selection
> Multiple languages
> Creation and storage of recipes
> Oscilloscope
> Simplified settings
> Parameter printout
> Network autoscan

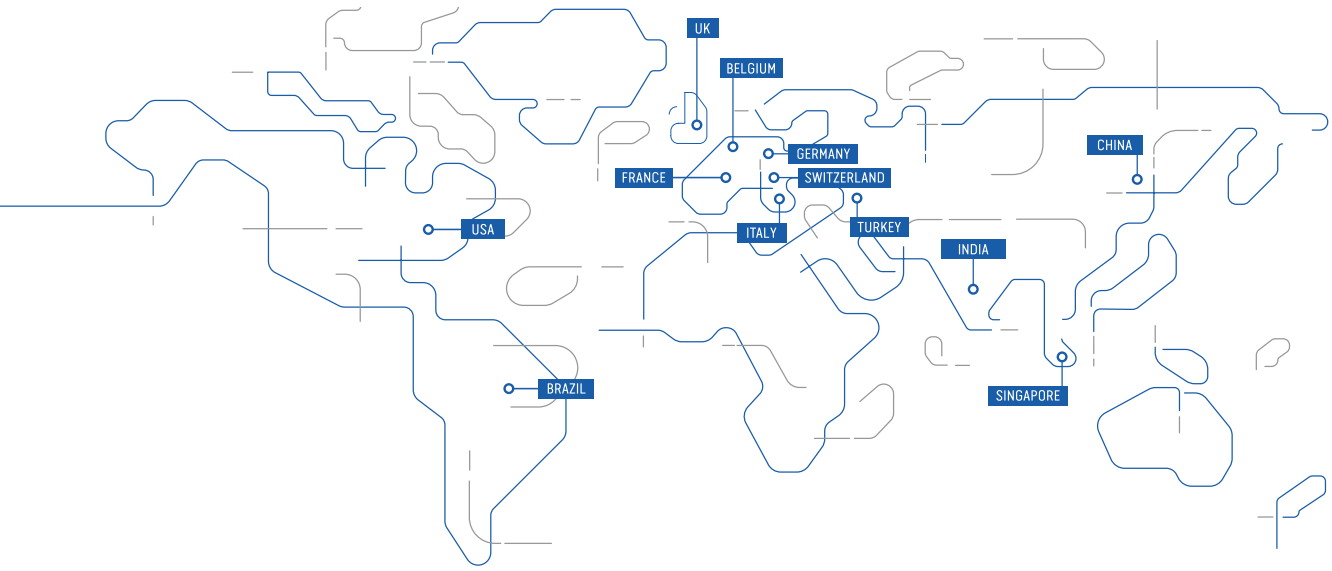
GF_eXpress software configures the parameters of the automation components, drives and sensors in the Gefran catalogue.

The graphic interface makes selecting and configuring parameters easy and intuitive. Devices are grouped according to product type and functions.

Products are searched by means of a context search and a display of product photos.

This provides a single device library for all Gefran products.

Complete configuration information for every device is given in XML format to facilitate expansion of the catalogue and parameters.



GEFRAN DEUTSCHLAND GmbH

Philipp-Reis-Straße 9a
D-63500
Seligenstadt
Ph. +49 (0) 61828090
Fax +49 (0) 6182809222
vertrieb@gefran.de

SIEI AREG - GERMANY

Gottlieb-Daimler Strasse 17/3
D-74385
Pleidelsheim
Ph. +49 (0) 7144 897360
Fax +49 (0) 7144 8973697
info@sieiareg.de

SENSORMATE AG

Steigweg 8,
CH-8355 Aadorf, Switzerland
Ph. +41(0)52-2421818
Fax +41(0)52-3661884
http://www.sensormate.ch

GEFRAN FRANCE SA

PARC TECHNOLAND
Bâtiment K - ZI Champ Dolin
3 Allée des Abruzzes
69800 Saint-Priest
Ph. +33 (0) 478770300
Fax +33 (0) 478770320
commercial@gefran.fr

GEFRAN BENELUX NV

ENA 23 Zone 3, nr. 3910
Lammerdries-Zuid 14A
B-2250 OLEN
Ph. +32 (0) 14248181
Fax +32 (0) 14248180
info@gefran.be

GEFRAN UK Ltd

Clarendon Court
Winwick Quay
Warrington
WA2 8QP
Ph. +44 (0) 8452 604555
Fax +44 (0) 8452 604556
sales@gefran.co.uk

GEFRAN MIDDLE EAST

Yeşilköy Mah. Atatürk Cad.
EGS Business Park
No:12 B1 Blok K:12 D:393
Bakırköy/İstanbul/TÜRKİYE
Ph. +90 212 465 91 21
Fax +90 212 465 91 22
info@gefran.com.tr

GEFRAN SIEI
Drives Technology Co., Ltd

No. 1285, Beihe Road, Jiading
District, Shanghai,
China 201807
Ph. +86 21 69169898
Fax +86 21 69169333
info@gefran.com.cn

GEFRAN SIEI - ASIA

31 Ubi Road 1
#02-07,
Aztech Building,
Singapore 408694
Ph. +65 6 8418300
Fax +65 6 7428300
info@gefran.com.sg

GEFRAN INDIA

Survey No. 191/A/1,
Chinchwad Station Road,
Chinchwad,
Pune-411033, Maharashtra
Ph. +91 20 6614 6500
Fax +91 20 6614 6501
gefran.india@gefran.in

GEFRAN Inc.

400 Willow Street
North Andover, MA
01845 USA
Toll Free 1-888-888-4474
Fax +1 (617) 340 2761
info.us@gefran.com

GEFRAN BRASIL
ELETROELETRÔNICA

Avenida Dr. Altino Arantes,
377 Vila Clementino
04042-032 SÃO PAULO - SP
Ph. +55 (0) 1155851133
Fax +55 (0) 1132974012
comercial@gefran.com.br

GEFRAN HEADQUARTER

Via Sebina, 74
25050 PROVAGLIO D'ISEO (BS) ITALY
Ph. +39 03098881
Fax +39 0309839063

GEFRAN DRIVES AND MOTION S.R.L.

Via Carducci, 24
21040 GERENZANO (VA) ITALY
Ph. +39 02967601
Fax +39 029682653
info.motion@gefran.com
Technical Assistance:
technohelp@gefran.com
Customer Service
salesmotion@gefran.com

FM 608910

www.gefran.com

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