



# GP10

1/2 - 800 HP, 460 Volts, 3-phase, 50/60 Hz  
1/4 - 125 HP, 240 Volts, 3-phase, 50/60 Hz  
NEMA-4, NEMA-12, NEMA-1  
and open chassis features

## General Purpose Open Loop Vector AC Drive

The GP10 is Safronics latest generation of Flux Vector AC Drive. The GP10's proven power section has been improved by incorporating the latest IGBT technology. This new technology allows for a unique "Soft-Switching" output. The benefits of this breakthrough offer reduced RFI/EMI and a 50% reduction in dv/dt voltage spikes. The GP10 has also expanded its horsepower ratings in both 230 VAC (1/4-125 HP) and 460 VAC (1/2-800HP) for even greater flexibility.

The GP10 is designed as a general-purpose inverter with both a normal duty rating for fan/pump applications and a heavy duty rating with 150% overload capacity. Built-in features such as speed search, disable reverse operation, automatic restart and soft switching technology make the GP10

an ideal fan/pump drive.

On-line motor tuning, open loop vector performance, and a host of communications options allow the GP10 to perform in demanding industrial applications. The GP10 is supported by our Saflink programming software, and our 24/7 technical support group. Rapidpak configured drive packages are also available.

### DESIGN

- Dual rating
  - Normal duty rated (110% OL / 1 Minute)
  - Heavy duty rated (150% OL / 1 Minute)
- Two control methods:
  - Open loop (sensorless) vector
  - Volts/Hertz
- Motor auto-tuning for optimum performance
  - Full dynamic tuning (spinning motor)
  - Static tuning (loaded motor, not spinning)
  - Online tuning (continuous while running)
- Keypad: Graphic backlit LCD combined with digital LED, copy function, 5 line x 13 characters
- Uniform programming parameters with VG10, PC10 and VM10
- Soft Switching Technology eliminates output filters
- RS485 ModBus serial communications standard; Lon Works, Device Net, Metasys N2, Profibus-DP, Interbus-S and Ethernet optional
- Built-in dynamic braking
  - 15HP and below VT
  - 10HP and below CT
- $\pm$  0-10 VDC or 4-20mA reference inputs
- Overtorque detection
- Dual motor parameter table
- Numerous option boards and accessories
- Saflink programming & maintenance software compatible

### ENCLOSURE

- NEMA-4 enclosure 1/2 HP through 15 HP
- NEMA-12 enclosure 15 HP through 30 HP
- NEMA-1 enclosure 1/2 through 800 HP
- Open chassis 40 HP through 800 HP
- "Side-by-Side" mounting with zero clearance to optimize panel space (1/2 HP through 30 HP)

### ADJUSTMENTS

- Multi-use digital input and output terminals
- Adjustable momentary power loss ride-through
- Standard PID algorithm for process control
- Dynamic Torque Vector Control with torque limit control
- MOP digital reference command
- Zero speed command
- Multiple accel and decel settings
- Independent forward and reverse jog functions
- Programmable pattern operation (up to six stages, multiple cycle settings)
- Adjustable carrier frequency with silent pattern setting to reduce audible motor sound
- Auto and manual torque boost

### PERFORMANCE

- Operating temperature -10°C to +50°C (14°F to 122°F)
- Maximum altitude without derating 3,300 ft.
- Output frequency accuracy (Stability):
  - Analog setting: +0.02% or less of max freq
  - Digital setting: +0.01% or less of max freq
- Overload rating up to 150% of rated current for 60 seconds

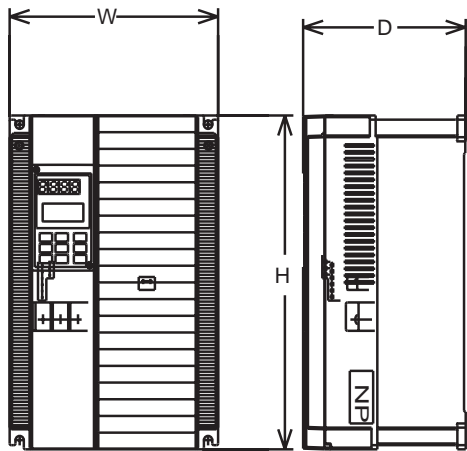
### APPROVALS

- UL and cUL listed, CE compliant



# GP10

## General Purpose Open Loop Vector AC Drive



NORMAL DUTY															
VOLT	HP	AMPS	PART NUMBER GP10-	DIMENSIONS (in inches)			WEIGHT (lbs)	VOLT	HP	AMPS	PART NUMBER GP10-	DIMENSIONS (in inches)			WEIGHT (lbs)
				W	H	D						W	H	D	
230 V	0.25	1.5	2F25-1	4.33	10.24	5.12	4.8	460 V	0.5	1.5	4F50-1	4.33	10.24	5.12	4.8
	0.5	3	2F50-1	4.33	10.24	5.12	4.8		1	2.5	4001-1	4.33	10.24	5.71	5.5
	1	5	2001-1	4.33	10.24	5.71	5.5		2	3.7	4002-1	5.91	10.24	5.71	8.4
	2	8	2002-1	5.91	10.24	5.71	8.4		3	5.5	4003-1	5.91	10.24	5.71	8.4
	3	11	2003-1	5.91	10.24	5.71	8.4		5	9	4005-1	5.91	10.24	5.71	8.4
	5	17	2005-1	5.91	10.24	5.71	8.4		7.5	12.5	4007-1	8.66	10.24	7.68	13.4
	7.5	22	2007-1	8.66	10.24	7.68	12.6		10	16.5	4010-1	8.66	10.24	7.68	13.4
	10	29	2010-1	8.66	10.24	7.68	12.6		15	23	4015-1	8.66	10.24	7.68	13.4
	15	42	2015-1	8.66	10.24	7.68	12.6		20	30	4020-1	9.84	15.75	7.68	22.0
	20	55	2020-1	9.84	15.75	7.68	22		25	37	4025-1	9.84	15.75	7.68	22.0
	25	67	2025-1	9.84	15.75	7.68	22		30	44	4030-1	9.84	15.75	7.68	23.1
	30	78	2030-1	9.84	15.75	7.68	23.1		40	60	4040-1	13.5	29.7	10.0	70
	40	115	2040-1	13.5	29.7	10.0	70		50	75	4050-1	13.5	29.7	10.0	70
	50	145	2050-1	13.5	29.7	10.0	70		60	91	4060-1	14.9	29.7	10.6	82
	60	180	2060-1	14.9	33.1	10.6	86		75	112	4075-1	14.9	34.6	10.6	95
75	215	2075-1	14.9	38	10.6	106	100	150	4100-1	14.9	34.6	10.6	97		
100	283	2100-1	14.9	38	10.6	110	125	176	4125-1	14.9	38	10.6	115		
125	346	2125-1	21	41.3	11.2	172	150	210	4150-1	21	38	12.4	174		
150	415	2150-1	26.9	50.4	14.2	282	200	253	4200-1	21	38	12.4	174		
							250	304	4250-1	21	53.1	14.2	245		
							300	377	4300-1	21	53.1	14.2	245		
							350	415	4350-1	26.9	55.1	14.2	337		
							400	485	4400-1	26.9	55.1	14.2	337		
							450	520	4450-1	26.9	55.1	14.2	337		
							500	585	4500-1	26.9	57.1	17.7	562		
							600	740	4600-1	26.9	57.1	17.7	562		
							700	840	4700-1	34.6	57.1	17.7	804		
							800	960	4800-1	34.6	57.1	17.7	804		

ITEM	RATINGS
Output Rating	3-Phase, 200-230 V, 50/60 Hz, 380-480 V, 50/60 Hz
Voltage Fluctuation	+10%, -15%
Frequency Fluctuation	±5%
Control Method	Sinusoidal PWM Control (V/F, Dynamic Torque Vector)
Frequency Control Range	Variable torque 0.1 to 120 Hz, Constant Torque 0.1- to 120 Hz
Accel/Decel Time	0.1 to 3600.0 seconds - Independent
Braking Torque	1/4 - 30 HP = 20%, 40 HP and higher = 15%
Overload	Normal Duty - 110% 1 Minute Heavy Duty - 150% 1 Minute
Carrier Frequency	0.75 - 15 kHz - 75 HP or less 0.75 - 10 KHz - 100 HP or more
Keypad	Backlit LCD / English Language, LED Monitor Display with Copy Function
Ambient Temperature	-10°C to 50°C (+14°F to 122°F)
Storage Temperature	-25°C to 65°C (-13°F to 149°F)
Starting Torque	200%, 30 Hp (ND) 25 HP (HD) and below, 180% 40 Hp (ND) 30 HP (HD) and above @ 1 Hz
Fuse Protection	Motor coasts to a stop at blown fuse
Ground Fault	Provided by electronic circuit
Power Charge	Charge LED stays on until voltage drops below 25 Vdc
Speed Control Accuracy	±0.2%

HEAVY DUTY															
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	20	59	2025-1	9.84	15.75	7.68	22		25	39	4030-1	9.84	15.75	7.68	23.1
	25	74	2030-1	9.84	15.75	10.0	23.1		30	45	4040-1	13.5	15.75	10.0	70
	30	87	2040-1	13.5	29.7	10.0	70		40	60	4050-1	13.5	29.7	10.0	70
	40	115	2050-1	13.5	29.7	10.6	70		50	75	4060-1	14.9	29.7	10.6	82
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