

NEXTDRIVE™

Intelligent Industrial AC Drives

NEMA1 Enclosure



SECO AC/DC Drives NEXTDRIVE™ line of drives offer premium AC drive performance with a lower initial investment. These general purpose drives offer all the features of larger, more costly drives in a small, high-torque package. The NEXTDRIVE line offers everything necessary to ensure accurate, reliable performance in a wide range of industrial applications.

Powerful, Reliable Performance

The NEXTDRIVE drives are capable of delivering 200% of full load torque for up to 3 seconds and 150% of full load for a full minute. This robust power means the capability to start heavy loads.

The NEXTDRIVE offers a wide range of speed control (up to 100:1 turn-down ratio) for precise control in a broad variety of applications. With standard power dip ride-through, the NEXTDRIVE can even operate reliably during brown-outs for maximum productivity.

Smaller Size for Greater Flexibility

The NEXTDRIVE provides end users and machine builders an effective drive solution for limited space applications. Its smaller size enables machine designers to efficiently use cabinet and control panel space to minimize machinery footprint area. The NEXTDRIVE also offers end users a flexible AC drive solution that fits a wide variety of pre-existing industrial equipment.

Microprocessor Control for Consistency and Connectivity

The NEXTDRIVE uses two microprocessors to monitor and control drive output. Microprocessor control ensures consistent performance throughout the entire operating speed range.

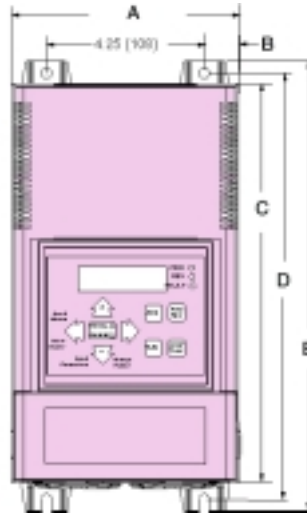
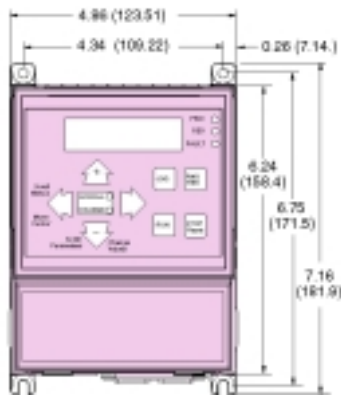
The NEXTDRIVE's microprocessor controller can also communicate with your automation system via an on board RS-485 communications port for an integrated enterprise-wide control strategy.



Features:

- ◆ *Microprocessor-based intelligent drive module with isolated serial communications interface to keypad and I/O for improved reliability and reduced size.*
- ◆ *Sensorless Flux Vector Control provides a wide speed range and virtually tripless operation*
- ◆ *Dual microprocessor-based control for higher performance and more features*
- ◆ *Menu-driven programming for easy setup with full or brief menu selections*
- ◆ *Adjustments of drive functions using digital parameters, calibrated in engineering units for quick and easy start-up*
- ◆ *Up to 5 user selectable status menu scroll parameters for quick continuous viewing*
- ◆ *User default parameter selection enables storage of application-specific parameters for easy retrieval*
- ◆ *Full monitoring of all drive operating parameters and status with fault monitoring and fault history log of last three faults.*
- ◆ *Auto tuning based on motor parameters with load connected and no shaft rotation*
- ◆ *Advanced IGBT substrate temperature sensing for maximum thermal protection*
- ◆ *Process loop control with separate PI adjustments for flexible configuration*
- ◆ *Energy optimization mode, reducing power consumption*
- ◆ *Power loss ride through capability for dependable performance*
- ◆ *Designed and built in the USA*

Dimensions:



1, 2, 3 and 5 HP

Mounting locations are 0.212" (5.39 mm) centered 4.34" (109.22 mm) apart. Overall depth is 5.90" (149.836 mm).

7.5 - 20 HP

Mounting locations are 0.28" (7.137 mm) centered 4.25" (108 mm) apart.

Dimensional information for estimating purposes only. Contact Superior Electric for certified dimension drawings.

Dimensions in (mm)						
Model	A	B	C	D	E	Depth
7.5 & 10 HP	6.15 (156.204)	0.85 (21.5)	10.67 (273)	11.5 (292)	12.17 (309)	6.48 (164.5)
15 & 20 HP	6.22 (158.13)	1.01 (25.7)	13.03 (329.5)	13.88 (352.4)	14.60 (371)	8.67 (219.96)

NEXTDRIVE Series 230 VAC 3 Phase Input 230 VAC Motor						
Drive Power Rating HP (kW)	AC Line Input Current Amps	AC Motor Output Current Amps	Input Power Factor	NEMA 1 Enclosure Model Number	Dynamic Braking Assembly	3% Impedance Line Reactor (NEMA 1)
1 (0.75)	4	3.6	0.95*	SC4201-01000	DBA270-56	PTR5013-203
2 (1.5)	7.5	5.8	0.95*	SC4202-01000	DBA270-56	PTR5013-402
3 (2.2)	10.6	9.6	0.95*	SC4203-01000	DBA270-56	PTR5013-403
5 (3.7)	16.7	15.2	0.95*	SC4205-01000	DBA400-24	PTR5013-404
7.5 (5.5)	24	22	0.88	SC4207-01000	DBA800-17	PTR5013-405
10 (7.5)	31	28	0.87	SC4210-01000	DBA800-17	PTR5013-406

NEXTDRIVE Series 460 VAC 3 Phase Input 460 VAC Motor						
Drive Power Rating HP (kW)	AC Line Input Current Amps	AC Motor Output Current Amps	Input Power Factor	NEMA 1 Enclosure Model Number	Dynamic Braking Assembly	3% Impedance Line Reactor (NEMA 1)
1 (0.75)	4	3.6	0.95*	SC4401-01000	DBA275-230	PTR5013-200
2 (1.5)	7.5	5.8	0.95*	SC4402-01000	DBA275-230	PTR5013-202
3 (2.2)	10.6	9.6	0.95*	SC4403-01000	DBA275-140	PTR5013-203
5 (3.7)	16.7	15.2	0.95*	SC4405-01000	DBA400-110	PTR5013-204
7.5 (5.5)	24	22	0.88	SC4407-01000	DBA650-72	PTR5013-205
10 (7.5)	31	28	0.87	SC4410-01000	DBA650-40	PTR5013-206
15 (11.2)	25	21	0.88	SC4415-01000	DBA1250-34	PTR5013-207
20 (14.0)	32	27	0.87	SC4420-01000	DBA1250-34	PTR5013-208

* Indicates Displacement Power Factor Note: Dynamic Braking Assemblies and Line Reactors have NEMA-1 Enclosures.

AC Drive and Motor Combination

Foot Mounted and C-Face NEMA Frame Inverter/Vector Duty Motors

The motors listed here are suitable for inverter or vector duty over a 100:1 or greater constant torque speed range when used with the appropriate drive. Standard Features: • TENV design on normal NEMA frame size • Full rated torque 25 RPM to base speed (depending on AC drive selected) • Constant HP to 120 Hz Except as noted • Pre-machined for optional encoder and /or brake • High torque to inertia ratio • UL recognized and CSA certified.

HP	Mfg. Code	Frame Size	Base Speed/ Top Speed	Enclosure	Inverter Duty AC Motor
1	M Black Max	56C	1750/3500	TENV	Model Number MVM01
2	M Black Max	145TC	1750/3500	TENV	Model Number MVM02
3	M Black Max	182TC	1755/3570	TENV	Model Number MVM03
5	M Black Max	184TC	1762-3524	TENV	Model Number MVM05
7.5	M Black Max	213TC	1765/3630	TENV	Model Number MVM07
10	M Black Max	215TC	1774/3548	TENV	Model Number MVM10
15	M Black Max	254TC	1770/3450	TENV	Model Number MVM15
20	M Black Max	256TC	1775/3560	TENV	Model Number MVM20

Specifications:

Service Conditions

AC Line Input Voltage
 Three Phase 200-240 VAC ± 10%
 1-10 HP
 Single Phase 200-240 VAC ± 10%,
 1-2 HP
 Three Phase 380-480 VAC ± 10%,
 1-15 HP
 Single Phase 380-480 VAC ± 10%,
 1-2 HP
 AC Line Input Frequency 47-66 Hz
 Ambient Temperature
 Enclosed Models 0°C to 40°C
 Storage Temperature ... -20°C to 70°C
 Humidity 10-95% non-condensing
 Altitude 3,300 ft. without derating,
 2% derating for every
 1,000 ft. above 3,300 ft.

Operating Conditions

Output Voltage 0 to input voltage
 Output Frequency 0.6 - 400 Hz
 Overload Capacity ... 150% for 1 minute,
 200% for 3 seconds

Performance

Constant Torque
 Speed Range 100:1 of motor rated
 base speed
 Speed Regulation 0.5% of motor's
 rated base speed, with
 95% load change
 Starting Torque Adjustable 0 to 200%
 of motor's rated
 full load torque

Dynamic

Braking Internal dynamic braking
 electronics, optional
 external dynamic braking
 resistor kit required

Motor

Requirements AC Induction Motor,
 NEMA design B
 2, 4, 6, 8, 10 poles
 200-230 VAC, 380-460 VAC

Serial Port

Communications RS485, Isolated,
 Half duplex



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