

# DC Drives



## Rugged dependability and exceptional value

Control Techniques offers three DC drive solutions that enable customers to deploy productive, easy-to-use motor control solutions:

### Fincor Series

The Fincor Series is our most flexible line of analog drives, from the ultra compact Series 2120 chassis drive to the highly capable Series 2230 in NEMA 4/12 enclosure. Both regenerative and non-regenerative drives are available in numerous configurations such as chassis, book case, and NEMA 4/12. Fincor drives can be easily tailored to your specific application needs. The drives can be equipped with or without operator controls, contactor-less control, armature contactor reversing & dynamic braking, and more.

### Focus Series

For reliable and simple speed or torque control, the Focus Series of single-phase analog DC drives offer tremendous value. These small-footprint drives are available as chassis models or with NEMA-rated enclosures. The Focus 3 drive can be ordered as either a non-regenerative or regenerative drive, and can be run in closed-loop mode with tachometer feedback. Both the Focus 1 and Focus 3 have a wide variety of options and accessories to meet the demands of your fractional-to-five-horsepower application, such as 'M' contactor kit, 'dynamic braking kit', 10-turn potentiometer, etc.



### Mentor II / Quantum III

Mentor II is a reliable, flexible and powerful digital DC drive that is available both in non-regenerative and regenerative configurations. It accepts a wide range of supply voltage from 208 to 480 VAC. Mentor II drives rated at 525/660 VAC ratings may be special ordered.

Its high-performance characteristics, fast coprocessors, dual encoder inputs, application and communications modules, and high-speed drive-to-drive communications capability place it in many applications requiring powerful motor control and coordination.

- Printing Presses
- Heavy Moveable Structures
- Lumber and Paper Milling
- Paper Converting
- Dual-turret winding
- Plastic and Rubber Extrusion
- Cranes, Hoists, and Cabling
- Iron, Steel and Glassworks
- Tilt Vessels, Coilers, Spoolers
- Metal Fabrication and Wire drawing

Quantum III is a modified Mentor II offered in the same footprint by adding a DC loop contactor, high-speed input fuses and 115VAC control logic, provision to accept AC/DC tachometer feedback and DC output fuse on all regenerative models. It saves engineering time and panel space that makes it ideal for North American customers.

The Mentor II /Quantum III DC drives are also available as packaged control solutions and in system configurations. For details see **Packaged Drives & Engineered Systems**.

## DC Drives *Product Matrix*

<b>Drive Family</b>	<b>Fincor Series</b> <i>p. 242</i> 																		
<b>Control Technology</b>	Fincor 2100: Analog, Non-Regen	Fincor 2230 MKII: Analog, Non-Regen Fincor 2330 MKII: Analog, Non-Regen Fincor 2610 MKII: Analog, Non-Regen	Fincor 2240: Analog, Non-Regen Fincor 2600: Analog, Non-Regen																
<b>Power</b>	1/12 to 3 hp	1/12 to 3 hp	1/12 to 5 hp																
<b>AC Voltage</b> 50/60Hz ± 10%	115V-230V 1Ø	115V-230V 1Ø	115V-230V 1Ø																
<b>Motor Feedback</b>	Voltage Feedback (CEMF) DC Tachometer (2122,2123)	Voltage Feedback (CEMF) and DC Tachometer	Voltage Feedback (CEMF), AC or DC Tachometer, Digital Pulse Generator																
<b>Input/Output</b>	Digital In: 1 Analog In: 1	<table border="0"> <tr> <td></td> <td style="text-align: center;">2230</td> <td style="text-align: center;">2330</td> <td style="text-align: center;">2610</td> </tr> <tr> <td>Digital In:</td> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Analog In:</td> <td style="text-align: center;">4</td> <td style="text-align: center;">2</td> <td style="text-align: center;">4</td> </tr> <tr> <td>Analog Out:</td> <td style="text-align: center;">4</td> <td style="text-align: center;">0</td> <td style="text-align: center;">4</td> </tr> </table>		2230	2330	2610	Digital In:	2	1	2	Analog In:	4	2	4	Analog Out:	4	0	4	Digital In: 2 Analog In: 1 Analog Out: 0
	2230	2330	2610																
Digital In:	2	1	2																
Analog In:	4	2	4																
Analog Out:	4	0	4																
<b>Input/Output options</b>	External Signal Follower	N/A	Isolated Input, External Signal Follower, Aux Contacts, Torque Monitor																
<b>Communication</b>	N/A	N/A	N/A																
<b>Configuration &amp; Programming</b>	N/A	N/A	N/A																
<b>Application Co-processor</b>	N/A	N/A	N/A																
<b>Application Software</b>	N/A	N/A	N/A																
<b>Power Accessories</b>	chassis: fuse block, barrier terminal board	Amature Contactor w/DB	2 Pole Circuit Breaker Amature Contactor w/DB																
<b>Approvals</b>	UL, CUL.	UL, CUL.	UL, CUL.																

Drive Family	Focus 1 and Focus 3 p. 268	Mentor II p. 277	Quantum III p. 284																											
<b>Control Technology</b>	Focus 1: Analog, Non-Regen, SCR Focus 3: Analog, Non-Regen, SCR, and Regen	Digital, Non-Regen, Regen, SCR	Digital, Non-Regen, Regen, SCR																											
<b>Power</b>	Focus 1: 0.25 hp to 2 hp Focus 3: 0.25 hp to 5 hp	5 hp to 1000 hp	5 hp to 1000 hp																											
<b>AC Voltage 50/60Hz ± 10%</b>	115V-230V 1Ø	208-660V 3Ø	208-240V 3Ø 380-480V 3Ø																											
<b>Motor Feedback</b>	Focus 1: Voltage Feedback (CEMF) Focus 3: Voltage Feedback (CEMF) and DC Tachometer	Voltage Feedback (CEMF) DC Tachometer Encoder	Voltage Feedback (CEMF) AC or DC Tachometer Encoder																											
<b>Input/Output</b>	<table border="1"> <thead> <tr> <th></th> <th>Focus 1 Input</th> <th>Focus 3 Input</th> </tr> </thead> <tbody> <tr> <td>Digital</td> <td>1</td> <td>3</td> </tr> <tr> <td>Analog</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		Focus 1 Input	Focus 3 Input	Digital	1	3	Analog	1	2	<table border="1"> <thead> <tr> <th></th> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>Digital</td> <td>12</td> <td>7</td> </tr> <tr> <td>Analog</td> <td>5</td> <td>4</td> </tr> </tbody> </table>		Input	Output	Digital	12	7	Analog	5	4	<table border="1"> <thead> <tr> <th></th> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>Digital</td> <td>9</td> <td>5</td> </tr> <tr> <td>Analog</td> <td>5</td> <td>4</td> </tr> </tbody> </table>		Input	Output	Digital	9	5	Analog	5	4
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<b>Input/Output options</b>	N/A	Remote I/O I/O Box	Remote I/O I/O Box																											
<b>Communication</b>	N/A	RS485/232 Communication Cards for MODBUS RTU, DeviceNet, PROFIBUS DP, INTERBUS-S, CTNet with MD29AN	RS485/232 Communication Cards for MODBUS RTU, DeviceNet, PROFIBUS DP, INTERBUS-S, CTNet with MD29AN																											
<b>Configuration &amp; Programming</b>	N/A	MentorSoft	MentorSoft																											
<b>Application Co-processor</b>	N/A	MD29 32bit-coprocessor MD29AN s/a with CTNet	MD29 32bit-coprocessor MD29AN s/a with CTNet																											
<b>Application Software</b>	N/A	SyPT Pro IEC61131-3 ladder and function block programming or DPL (Drive Programming Language)	SyPT Pro IEC61131-3 ladder and function block programming or DPL (Drive Programming Language)																											
<b>Power Accessories</b>	N/A	Optional Field Regulator	Includes line fuses, motor contactor, and 120V control logic board as standard. Optional Field Regulator																											
<b>Approvals</b>	UL, CUL.	UL, CUL. CE, C-Tick, ISO14001, ISO9001:2000	UL, CUL. CE, C-Tick, ISO14001, ISO9001:2000																											