



DRIVE YOUR PROCESS!

With TECO'S family of full-featured Intelligent VFDs



Key features

- 1/4 - 40 HP
- 120, 240, 480, and 590 volt models
- Easy to use/program/monitor
- Password protection
- IPM technology
- High performance/compact size PWM
- Nema 1, 12, 4, and 4X enclosures available
- Comprehensive diagnostics (8 memory)
- RS485 (RS232 optional) serial communication
- 16-character 1-line backlit LCD display
- 8 button keypad
- 18/24 month warranty

Teco's Speecon M series gives you all the advantages of compact size, simple operation, and stringent QC. You get high performance and long life – at a price you can afford.

Speecon drives combine easy programming and a plain English display with the latest power transistor technology – the IPM. Intelligent Power Modules integrate high speed IGBTs with control and protection circuitry into one package. IPMs reduce the size of the drive and increase operating efficiency of both drive and motor.

The 7210M series, like all Speecon drives, is subjected to intensive inspection and testing. To ensure premium quality, all drives are tested at full load and rated temperature.

The Speecon 7210M Series employs the latest Intel® 196 motor control processor with internal wave shape generation for optimal motor flux to provide high output torque and low heating for extended life of motor and drive. Advanced I/O capability and the use of trip-avoidance software strategies result in continuous trip-free operation and the ultimate protection for your motor and drive.

The 7210M has a very small footprint, and it's a complete package – ready to be mounted in your industrial environment, close to the motor. This eliminates the cost of adding a low-pass output filter between the motor and the drive. Nema 1, 12, 4 and 4X enclosures are available from stock.

Simple to Program

Speecon 7210M Drives are easy to program. Other digital drives display in codes or symbols while the 7210M Series displays in plain English. No language barrier. No translation of codes. The 7210M Series is very simple but very intelligent.

Both the parameter being programmed and its value are displayed simultaneously. The versatile keypad allows bi-directional scrolling for quick access to any parameters.

Simple to Operate and Monitor

Teco's Speecon digital drives are extremely easy to operate. The 16-character display gives complete drive status by display of:

- Drive Status – Stop, Run, Fault, Current Limit, Acc/Decel, Speed, DC Brake On, Decel Freeze
- Commanded Speed in Hz, RPM, % Hz, /sec, /min, /hr
- Load as percentage
- Direction – Forward, Reverse
- Local/Remote/Serial
- Auto/Manual
- Speed Reference Type – keypad, potentiometer, 0-10 VDC, 4 to 20 mA, preset speeds, digital MOP
- Fault history – last 8 faults

PASSWORD 0000

Program Mode

FAULT: OVERLOAD

Diagnostic Mode

RUN > 60.00 HZ

Monitor Mode



Made in America

Features/Benefits

Full Protection Ground Fault, Phase-to-phase, Over Voltage, Under Voltage, Over Temperature and Motor Over Current.

8-Button Keypad Scroll for direct input of values for quick, easy set up. Remote mounting up to 10 feet.

16-character Backlit Display Gives simultaneous indication of status, speed or load, direction and speed reference type. Reads out in English or optional Spanish.

Built in Indicator Speed/frequency, load/amp, and elapsed time. Speed indicator can be set to read hertz, RPM, % Hz, /sec, /min, /hr.

Programmable Automatic Restart For restart after power outage or trip condition.

Two Selectable Critical Frequency Avoidance Ranges With adjustable band width. (0-10 Hz).

Speed Follower Inputs Speed potentiometer, 4-20 mA or 20 - 4 mA, 0 - 10 VDC or 10 - 0 VDC.

Keyboard Controls Start/Stop, Speed, Manual/Automatic and Forward/Reverse.

Two Analog (0 to 10 VDC) Outputs Speed and Load

Serial Communications RS485 (RS232 Optional).

Rugged Enclosure All steel, industrial grade, NEMA 1, 12, 4, and NEMA 4X (stainless steel).

Password Protection Standard.

Electronic DC Injection Braking

One Form C Contact Auxiliary Relay and Two Open Collector Outputs Each programmable for No Function, Run, Fault, Inverse Fault, Fault Lockout, At Speed, Above Set Speed, Current Limit, Auto/Manual.

Comprehensive Diagnostics Log of up to eight previous protection shutdowns in non-volatile memory. In addition to the description of the cause, the drive operating status at shutdown is given.

Slip Compensation (adj. to 5%) For minimal speed changes during load fluctuation. Automatic or manual boost for increased starting and accelerating torque.

Three Preset Speeds Programmed from keypad and activated by contact closure.

Boost Fixed and Accel For high starting torque or to accelerate high inertia loads.

Warranty 18/24 months

Specifications

Storage Temperature:	-20° to 70°C	
Ambient Operating Temperature:	Chassis	0 to 55°C
	Type 1 (IP31)	0 to 50°C
	Type 4 (IP65)	0 to 40°C
	Type 12 (IP54)	0 to 40°C
Ambient Humidity:	Less than 95% (non-condensing)	
Maximum Altitude:	3300 ft.(1000 meters) above sea level	
Input Line Voltages:	240/120 VAC	240/200 VAC
	480/400-VAC	590 VAC
Input Voltage Tolerance:	+10%, -15%	
Input Frequency Tolerance:	48 to 62 Hz	
Output Waveform:	PWM sine coded and wave shaped	
Output Frequency:	0 to 120 Hz (to 400 Hz optional)	
Carrier Frequency:	2.5 kHz to 14 kHz	
Frequency Stability:	±.00006% / °C	
Service Factor:	1.0	
Overload Current Capacity:	150% of rated output for one minute	
Speed Reference Follower:	0 - 10 VDC, 4 - 20 mA, or inverted	
Control Voltage:	15 VDC	
2 Analog Outputs:	0 - 10 VDC, 2 - 10 VDC proportional to speed; and to load	
3 Digital Outputs:	1-form C relay	2 amps @ 28 VDC
	2-open collectors	40 mA @ 30 VDC
4 Digital Inputs:	Multi-function programming	

Whether you're looking for the right drive at a price you can afford, or you're searching for the right motor and drive package that offers the best value and performance from the electrical line in - to the mechanical shaft out -

Count on Teco.

Teco delivers one of the broadest line-ups of quality AC motors and drives in the field, right along with one of the best applications, programming, start-up and problem-solving support groups in the industry.

RATINGS					DIMENSIONS					
HP	INPUT VOLTAGE	INPUT PHASES	MODEL	OUTPUT AMPS	CHASSIS OR NEMA 1			NEMA 4 OR NEMA 4X		
					H	W	D	H	W	D
0.25	240 (120)	1	M1-0002-11Y	1.4	7.50	4.70	3.33	7.88	6.12	3.63
0.5	240 (120)	1	M1-0005-11Y	2.2	7.50	6.12	3.63	7.88	7.86	3.75
	240	1	M2-0005-11Y	2.2	7.50	4.70	3.63	7.88	6.12	4.35
	240 (200)	3	M2-0005-31Y	2.2 (2.5)	7.50	4.70	3.63	7.88	6.12	4.35
1	240 (120)	1	M1-0010-11Y	4	7.50	6.12	4.22	7.88	7.86	4.90
	240	1	M2-0010-11Y	4	7.50	4.70	4.33	7.88	6.12	4.35
	240 (200)	3	M2-0010-31Y	4.0 (4.6)	7.50	4.70	4.33	7.88	6.12	4.35
	480 (400)	3	M4-0010-31Y	2.0 (2.3)	7.50	4.70	3.63	7.88	6.12	4.35
	590	3	M5-0010-31Y	1.6	7.50	4.70	3.63	7.88	6.12	4.35
1.5	240 (120)	1	M1-0015-11Y	5.2	7.50	6.12	4.22			
	240	1	M2-0015-11Y	5.2	7.50	6.12	4.22	7.88	7.86	4.90
	240 (200)	3	M2-0015-31Y	5.2 (6.0)	7.50	4.70	4.33	7.88	6.12	5.25
2	240	1	M2-0020-11Y	6.8	7.50	6.12	5.12	7.88	7.86	4.90
	240 (200)	3	M2-0020-31Y	6.8 (7.8)	7.50	6.12	5.12	7.88	7.86	4.90
	480 (400)	3	M4-0020-31Y	3.4 (3.9)	7.50	6.12	4.22	7.88	7.86	4.90
	590	3	M5-0020-31Y	2.7	7.50	6.12	4.22	7.88	7.86	4.90
3	240	1	M2-0030-11Y	9.6	7.50	6.12	5.12	7.88	7.86	5.90
	240 (200)	3	M2-0030-31Y	9.6 (11.0)	7.50	6.12	5.12	7.88	7.86	5.90
	480 (400)	3	M4-0030-31Y	4.8 (5.5)	7.50	6.12	5.12	7.88	7.86	4.90
	590	3	M5-0030-31Y	3.9	7.50	6.12	5.12	7.88	7.86	4.90
5	240 (200)	3	M2-0050-31Y	15.2 (17.5)	7.88	7.86	5.94	9.75	10.26	7.20
	480 (400)	3	M4-0050-31Y	7.6 (8.7)	7.50	6.12	5.12	7.88	7.86	5.90
	590	3	M5-0050-31Y	6.1	7.50	6.12	5.12	7.88	7.86	5.90
7.5	240 (200)	3	M2-0075-31Y	22 (25)	9.38	7.86	6.84	11.75	10.26	8.35
	480 (400)	3	M4-0075-31Y	11.0 (12.6)	9.38	7.86	6.25	9.75	10.26	7.20
	590	3	M5-0075-31Y	9	9.38	7.86	6.25	9.75	10.26	7.20
10	240 (200)	3	M2-0100-31Y	28 (32)	11.25	7.86	6.84	13.75	10.26	8.35
	480 (400)	3	M4-0100-31Y	14 (16)	9.38	7.86	6.84	11.75	10.26	8.35
	590	3	M5-0100-31Y	11	9.38	7.86	7.40	11.75	10.26	8.35
15	240 (200)	3	M2-0150-31Y	42 (48)	12.75	7.86	6.84	15.75	10.26	8.35
	480 (400)	3	M4-0150-31Y	21 (24)	11.25	7.86	6.84	13.75	10.26	8.35
	590	3	M5-0150-31Y	17	12.75	7.86	6.84	13.75	10.26	8.35
20	240 (200)	3	M2-0200-31Y	54 (62)	12.75	10.26	7.74	15.75*	10.26*	8.35*
	480 (400)	3	M4-0200-31Y	27 (31)	12.75	7.86	6.84	15.75	10.26	8.35
	590	3	M5-0200-31Y	22	12.75	7.86	7.40	15.75	10.26	8.35
25	480 (400)	3	M4-0250-31Y	34 (41)	12.75	10.26	7.74	15.75*	10.26*	8.35*
	590	3	M5-0250-31Y	27	12.75	10.26	7.74	15.75*	10.26*	8.35*
30	480 (400)	3	M4-0300-31Y	40 (48)	12.75	10.26	7.74	15.75*	10.26*	8.35*
	590	3	M5-0300-31Y	32	12.75	10.26	8.25	15.75*	10.26*	8.35*
40	480 (400)	3	M4-0400-31Y	52 (60)	15.75	10.26	8.35	15.75*	10.26*	8.35*
	590	3	M5-0400-31Y	41	15.75	10.26	8.35	15.75*	10.26*	8.35*

Specify for Y (enclosure):

0 = CHASSIS 1 = NEMA 1 2 = NEMA 12 4 = NEMA 4 5 = NEMA 4X

*NEMA 12 ENCLOSURE ONLY

The information contained in this brochure is general in nature. TECO reserves the right to make changes in specifications, add features, or discontinue any product, without notice or obligation.



TECO AMERICAN INC.