

Drives Product Guide Latin Tech Inc.



Panel Mount Drives

AC Tech's SC Series & TC Series drives are among the smallest and most functional sub-micro drives in the world. Designed for the global marketplace in IP20 enclosures, they are intended for panel mounting within a suitable enclosure. A "through-hole" mounting option allows for extending an anodized heatsink to the exterior of the enclosure.

The SCL and SCM Series For most general purpose applications, the SCL Series (up to 3 Hp/2.2 kW) and SCM Series (up to 15 Hp/11 kW) offer 11 control terminals, including a programmable Form A relay for status indication. The SCL includes a built-in filter to meet the European CE standards.

The SCF Series Offers a wide power ranges (up to 30 Hp/22 kW) and input voltage capability (208 VAC 1ø to 590 VAC 3ø). It's 18 control terminals provide many advanced functions including RS485 serial communications over Modbus RTU.

The SCD Series A full-featured drive similar in functionality to the SCF Series with DeviceNET built in! One of the many benefits of this drive is that it retains its LED display when using the DeviceNet interface.

The TCF Series Includes Sensorless Vector control algorithms that produce 100% Torque down to 1Hz output frequency to the motor. With all of the control flexibility of the SCF, the TCF provides

Enclosed Drives

MC Series micro-drives are compact, low cost drives available in steel enclosures rated from NEMA 1 to stainless NEMA 4X (IP21 to IP65). Featuring "plain English" displays and programming, the MC Series is the drive that speaks your language.

The MC1000 and MC3000 Series drives are rated for constant torque applications. The MC1000 can be used for bi-directional applications, while the MC3000 is ready for applications that require set-point control using the built-in PID feature.

The MCH Series is a variable torque drive for HVAC applications and is available with options such as bypass, line reactor, and input disconnect or circuit breaker. The MCH also includes PID Setpoint Control as a standard feature.



Agency Approvals: UL, cUL
 Electrical/Environmental Specs:
 • Input Voltage Tolerance: +10/-15%
 • Input Frequency Tolerance: 48 to 62 Hz
 • Storage Temperature: -20 to 70 C
 • Humidity (non-condensing): 95%
 • Altitude (without derating): 1000m (3300 feet)
 • Efficiency: 97% or better
 • Power Factor (displacement): 0.96
 Interface Features
 • Front Mounted Keypad/Display

Parameters/Functions
 • Independent Accel/Decel
 • Coast or Ramp to Stop
 • Automatic Restart
 • V/Hz Adjustment
 • DC Braking with Adjustable Voltage and Time
 • Critical Frequency Lockout
 • Current (Torque) Limit
 • Carrier Frequency Adjustment
 • Voltage Boost
 • Jog
 • Preset Speeds
 • Min and Max Frequency limits

Protection Features:
 • Input Phase Insensitive
 • Over and Under voltage
 • Line Surge/Transient
 • Output Short Circuit
 • Output Ground Fault
 • Over temperature
 • Motor Overload
 • External Fault input
 • Password for Parameters
 • Fault History/Diagnostics

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FEATURE DESCRIPTION	SCL / SCM	SCF / SCD	TCF
RATINGS & SPECIFICATIONS INPUT VOLTAGE / HP RANGE 120 Vac 208/240 Vac 400/480 Vac 480/590 Vac OUTPUT FREQUENCY OVERLOAD CAPACITY (1 MINUTE) TORQUE RATING CONSTANT CONSTANT CONSTANT DRIVE TYPE V/Hz V/Hz AMBIENT TEMPERATURE ENCLOSURE TYPES IP20 (CHASSIS) THRU-HOLE MOUNTING	0.33 - 1.5 Hp (0.25 - 1.1 kW)** 0.33 - 15 Hp (0.25 - 11 kW) 0.5 - 15 Hp (0.37 - 11 kW)** N/A 0 - 240 Hz 150% CONSTANT V/Hz 0 to 40 C STANDARD OPTION	N/A 0.25 - 20 Hp (0.18 - 15 kW) 0.5 - 30 Hp (0.37 - 22 kW) 1 - 25 Hp (0.75 - 18.5 kW) 0-240 Hz (SCF: 1000 Hz option) 150% CONSTANT V/Hz 0 to 50 C STANDARD OPTION	N/A 0.5 - 10 Hp (0.37 - 7.5 kW) 0.5 - 10 Hp (0.37 - 7.5 kW) 0.5 - 10 Hp (0.37 - 7.5 kW) 0 - 240 Hz 150% CONSTANT VECTOR (sensorless) 0 to 50 C STANDARD OPTION

PERFORMANCE FEATURES

PI SETPOINT CONTROL SLIP COMPENSATION REVERSE ROTATION DYNAMIC BRAKING 2nd ADJUSTABLE ACCEL/DECCEL 2nd STOP COMMAND (eg. FAST STOP) RE-START INTO SPINNING MOTOR EMI/RFI FILTER	N/A STANDARD STANDARD OPTION STANDARD STANDARD STANDARD SCL: STANDARD / SCM: OPTION	SCF: OPTION / SCD: N/A STANDARD STANDARD OPTION STANDARD STANDARD STANDARD OPTION (FOOTPRINT)	N/A STANDARD STANDARD OPTION STANDARD STANDARD STANDARD OPTION (FOOTPRINT)
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INPUT/OUTPUT INTERFACE FEATURES

SPEED REFERENCE INPUTS KEYPAD POTENTIOMETER 4-20 mA 0-10 VDC MOTOR OPERATED POT (MOP) PRESET SPEEDS 7 7 7 ANALOG OUTPUTS 0-10 VDC: SPEED or LOAD 2-10 VDC: SPEED or LOAD DIGITAL OUTPUTS PROGRAMMABLE STATUS INDICATIONS (eg. RUN, FAULT, AT SPEED, etc) FORM C RELAY OUTPUTS 1 (Form A) N/A N/A OPEN-COLLECTOR OUTPUTS 1 2 2 12 VDC POWER SUPPLY FOR AUX. RELAY KEYPAD & DISPLAY FUNCTIONS DISPLAY TYPE 3 DIGIT LED 3 DIGIT LED 3 DIGIT LED FREQUENCY (SPEED) DISPLAY MOTOR LOAD DISPLAY MOTOR VOLTAGE DISPLAY DC BUS VOLTAGE DISPLAY SERIAL COMMUNICATIONS RS-232 RS-485 MODBUS PROTOCOL N/A SCF: METASYS PROTOCOL DEVICENET PROTOCOL REMOTE KEYPAD (NEMA 4X) EPM PROGRAMMER COMPATIBLE	STANDARD STANDARD STANDARD STANDARD STANDARD 7 N/A N/A STANDARD STANDARD 1 (Form A) 1 STANDARD 3 DIGIT LED STANDARD STANDARD STANDARD STANDARD N/A N/A N/A N/A Option STANDARD	STANDARD STANDARD STANDARD STANDARD STANDARD 7 STANDARD STANDARD STANDARD N/A 2 STANDARD 3 DIGIT LED STANDARD STANDARD STANDARD STANDARD N/A N/A STANDARD SCF: STANDARD / SCD: N/A N/A SCF: N/A / SCD: STANDARD SCF: OPTION / SCD: N/A STANDAR	STANDARD STANDARD STANDARD STANDARD STANDARD 7 STANDARD STANDARD N/A 2 STANDARD 3 DIGIT LED STANDARD STANDARD STANDARD STANDARD N/A STANDARD STANDARD N/A N/A Option STANDARD
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* 2-10 VDC signals can be converted to 4-20 mA by adding series resistance such that the total circuit resistance is 500 ohms. Items in **RED** indicate key product differences. ** SCM Series Only

MC and MCH Series Product Feature Directory

FEATURE DESCRIPTION	MC1000	MC3000	MCH
RATINGS & SPECIFICATIONS INPUT VOLTAGE / HP RANGE 200/240 Vac 400/480 Vac 480/590 Vac OUTPUT FREQUENCY OVERLOAD CAPACITY (1 MINUTE) TORQUE RATING AMBIENT TEMPERATURE CHASSIS (IP00) NEMA 1 (IP21) NEMA 12/4/4X (IP54/65/65) ENCLOSURE TYPES CHASSIS (IP00) NEMA 1 (IP21) NEMA 12/4/4X (IP54/65/65) BYPASS (3 CONTACTOR)	0.25 - 1.5 Hp (0.18 - 1.1 Kw) 0.5 - 30 Hp (0.37 - 22 kW) 1 - 60 Hp (0.75 - 45 kW) 1 - 60 Hp (0.75 - 45 kW) 0-120 Hz (1000 Hz option) 150% CONSTANT -10 to 55 C -10 to 50 C -10 to 45 C OPTION STANDARD OPTION N/A	0.25 - 1.5 Hp (0.18 - 1.1 Kw) 0.5 - 30 Hp (0.37 - 22 kW) 1 - 60 Hp (0.75 - 45 kW) 1 - 60 Hp (0.75 - 45 kW) 0-120 Hz 150% CONSTANT 10 to 55 C -10 to 50 C -10 to 45 C OPTION STANDARD OPTION N/A	N/A 1 - 60 Hp (0.75 - 45 kW) 1 - 250 Hp (0.75 - 185 kW) 1 - 150 Hp (0.75 - 110 kW) 0-120 Hz 120% VARIABLE 10 to 55 C -10 to 50 C -10 to 45 C OPTION STANDARD OPTION OPTION

PERFORMANCE FEATURES

PID SETPOINT CONTROL SLIP COMPENSATION REVERSE ROTATION DYNAMIC BRAKING RE-START INTO SPINNING MOTOR	N/A STANDARD STANDARD OPTION N/A	STANDARD N/A STANDARD OPTION STANDARD	STANDARD N/A STANDARD OPTION STANDARD
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INPUT/OUTPUT INTERFACE FEATURES

SPEED REFERENCE INPUTS KEYPAD 4-20 mA 0-10 VDC POTENTIOMETER MOTOR OPERATED POT (MOP) PRESET SPEEDS ANALOG OUTPUTS 0-10 VDC: SPEED or LOAD 2-10 VDC: SPEED or LOAD* DIGITAL OUTPUTS PROGRAMMABLE STATUS INDICATIONS (eg. RUN, FAULT, AT SPEED, etc) FORM C RELAY OUTPUTS 2nd FORM C RELAY OPEN-COLLECTOR OUTPUTS KEYPAD & DISPLAY FUNCTIONS DISPLAY TYPE FREQUENCY (SPEED) DISPLAY SPEED REFERENCE SOURCE DISPLAY MOTOR LOAD DISPLAY ROTATION DIRECTION DISPLAY MOTOR VOLTAGE DISPLAY ELAPSED TIME/RUN TIME METER KILOWATT-HOUR METER SERIAL COMMUNICATIONS RS-232 RS-485 MODBUS PROTOCOL METASYS PROTOCOL SIEMENS P1 PROTOCOL LONWORKS PROTOCOL BACNET PROTOCOL REMOTE KEYPAD	STANDARD STANDARD STANDARD STANDARD STANDARD 4 STANDARD STANDARD STANDARD 1 OPTION 16 CHAR. BACKLIT LCD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD N/A N/A OPTION STANDARD STANDARD N/A N/A N/A N/A OPTION	STANDARD STANDARD STANDARD STANDARD STANDARD 4 STANDARD STANDARD STANDARD 1 OPTION 16 CHAR. BACKLIT LCD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD N/A N/A OPTION STANDARD STANDARD N/A N/A N/A N/A OPTION	STANDARD STANDARD STANDARD STANDARD STANDARD 4 STANDARD STANDARD STANDARD 1 OPTION 32 CHAR. BACKLIT LCD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD OPTION STANDARD STANDARD STANDARD OPTION OPTION OPTION OPTION
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