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 fl exibility 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**

SC and TC Series Product Feature Directory

FEATURE DESCRIPTION	SCL / SCM	SCF / SCD	TCF
GENERAL DESIGN FEATURES			
RATINGS & SPECIFICATIONS			
INPUT VOLTAGE / HP RANGE 120 Vac	0.33 - 1.5 Hp (0.25 - 1.1 kW)**	N/A	N/A
208/240 Vac	0.33 - 15 Hp (0.25 - 11 kW)	0.25 - 20 Hp (0.18 - 15 kW)	0.5 - 10 Hp (0.37 - 7.5 kW)
400/480 Vac	0.5 - 15 Hp (0.37 - 11 kW)**	0.5 - 30 Hp (0.37 - 22 kW)	0.5 - 10 Hp (0.37 - 7.5 kW)
480/590 Vac	N/A	1 - 25 Hp (0.75 - 18.5 kW)	0.5 - 10 Hp (0.37 - 7.5 kW)
OUTPUT FREQUENCY	0 - 240 Hz	0-240 Hz (SCF: 1000 Hz option)	0 - 240 Hz
OVERLOAD CAPACITY (1 MINUTE)	150%	150%	150%
TORQUE RATING	CONSTANT	CONSTANT	CONSTANT
DRIVE TYPE	V/Hz	V/Hz	VECTOR (sensorless)
AMBIENT TEMPERATURE	0 to 40 C	0 to 50 C	0 to 50 C
ENCLOSURE TYPES			
IP20 (CHASSIS)	STANDARD	STANDARD	STANDARD
THRU-HOLE MOUNTING	OPTION	OPTION	OPTION
PERFORMANCE FEATURES			
PI SETPOINT CONTROL	N/A	SCF: OPTION / SCD: N/A	N/A
SLIP COMPENSATION	STANDARD	STANDARD	STANDARD
REVERSE ROTATION	STANDARD	STANDARD	STANDARD
DYNAMIC BRAKING	OPTION	OPTION	OPTION
2nd ADJUSTABLE ACCEL/DECEL	STANDARD	STANDARD	STANDARD
2nd STOP COMMAND (eg. FAST STOP)	STANDARD	STANDARD	STANDARD
RE-START INTO SPINNING MOTOR	STANDARD	STANDARD	STANDARD
EMI/RFI FILTER	SCL: STANDARD / SCM: OPTION	OPTION (FOOTPRINT)	OPTION (FOOTPRINT)
INPUT/OUTPUT INTERFACE FEATURES			
SPEED REFERENCE INPUTS			
KEYPAD	STANDARD	STANDARD	STANDARD
POTENTIOMETER	STANDARD	STANDARD	STANDARD
4-20 mA	STANDARD	STANDARD	STANDARD
0-10 VDC	STANDARD	STANDARD	STANDARD
MOTOR OPERATED POT (MOP)	STANDARD	STANDARD	STANDARD
PRESET SPEEDS	7	7	7
ANALOG OUTPUTS			
0-10 VDC: SPEED or LOAD	N/A	STANDARD	STANDARD
2-10 VDC: SPEED or LOAD*	N/A	STANDARD	STANDARD
DIGITAL OUTPUTS			
PROGRAMMABLE STATUS INDICATIONS (eg. RUN, FAULT, AT SPEED, etc)	STANDARD	STANDARD	STANDARD
FORM C RELAY OUTPUTS	1 (Form A)	N/A	N/A
OPEN-COLLECTOR OUTPUTS	1	2	2
12 VDC POWER SUPPLY FOR AUX. RELAY	STANDARD	STANDARD	STANDARD
KEYPAD & DISPLAY FUNCTIONS			
DISPLAY TYPE	3 DIGIT LED	3 DIGIT LED	3 DIGIT LED
FREQUENCY (SPEED) DISPLAY	STANDARD	STANDARD	STANDARD
MOTOR LOAD DISPLAY	STANDARD	STANDARD	STANDARD
MOTOR VOLTAGE DISPLAY	STANDARD	STANDARD	STANDARD
DC BUS VOLTAGE DISPLAY	STANDARD	STANDARD	STANDARD
SERIAL COMMUNICATIONS			
RS-232	N/A	N/A	N/A
RS-485	N/A	STANDARD	STANDARD
MODBUS PROTOCOL	N/A	SCF: STANDARD / SCD: N/A	STANDARD
METASYS PROTOCOL	N/A	N/A	N/A
DEVICENET PROTOCOL	N/A	SCF: N/A / SCD: STANDARD	N/A
REMOTE KEYPAD (NEMA 4X)	OPTION	SCF: OPTION / SCD: N/A	OPTION
EPM PROGRAMMER COMPATIBLE	STANDARD	STANDARD	STANDARD

* 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
GENERAL DESIGN FEATURES			
RATINGS & SPECIFICATIONS			
INPUT VOLTAGE / HP RANGE	0.25 - 1.5 Hp (0.18 - 1.1 Kw)	0.25 - 1.5 Hp (0.18 - 1.1 Kw)	N/A
200/240 Vac	0.5 - 30 Hp (0.37 - 22 kW)	0.5 - 30 Hp (0.37 - 22 kW)	1 - 60 Hp (0.75 - 45 kW)
400/480 Vac	1 - 60 Hp (0.75 - 45 kW)	1 - 60 Hp (0.75 - 45 kW)	1 - 250 Hp (0.75 - 185 kW)
480/590 Vac	1 - 60 Hp (0.75 - 45 kW)	1 - 60 Hp (0.75 - 45 kW)	1 - 150 Hp (0.75 - 110 kW)
OUTPUT FREQUENCY	0-120 Hz (1000 Hz option)	0-120 Hz	0-120 Hz
OVERLOAD CAPACITY (1 MINUTE)	150%	150%	120%
TORQUE RATING	CONSTANT	CONSTANT	VARIABLE
AMBIENT TEMPERATURE CHASSIS (IP00)	-10 to 55 C	-10 to 55 C	-10 to 45 C
NEMA 1 (IP21)	-10 to 50 C	-10 to 50 C	-10 to 40 C
NEMA 12/4/4X (IP54/65/65)	-10 to 40 C	-10 to 40 C	-10 to 40 C
ENCLOSURE TYPES			
CHASSIS (IP00)	OPTION	OPTION	OPTION
NEMA 1 (IP21)	STANDARD	STANDARD	STANDARD
NEMA 12/4/4X (IP54/65/65)	OPTION	OPTION	OPTION
BYPASS (3 CONTACTOR)	N/A	N/A	OPTION
PERFORMANCE FEATURES			
PID SETPOINT CONTROL	N/A	STANDARD	STANDARD
SLIP COMPENSATION	STANDARD	N/A	N/A
REVERSE ROTATION	STANDARD	STANDARD	STANDARD
DYNAMIC BRAKING	OPTION	OPTION	OPTION
RE-START INTO SPINNING MOTOR	N/A	STANDARD	STANDARD
INPUT/OUTPUT INTERFACE FEATURES			
SPEED REFERENCE INPUTS			
KEYPAD	STANDARD	STANDARD	STANDARD
4-20 mA	STANDARD	STANDARD	STANDARD
0-10 VDC	STANDARD	STANDARD	STANDARD
POTENTIOMETER	STANDARD	STANDARD	STANDARD
MOTOR OPERATED POT (MOP)	STANDARD	STANDARD	STANDARD
PRESET SPEEDS	4	4	4
ANALOG OUTPUTS			
0-10 VDC: SPEED or LOAD	STANDARD	STANDARD	STANDARD
2-10 VDC: SPEED or LOAD*	STANDARD	STANDARD	STANDARD
DIGITAL OUTPUTS			
PROGRAMMABLE STATUS INDICATIONS (eg. RUN, FAULT, AT SPEED, etc)	STANDARD	STANDARD	STANDARD
FORM C RELAY OUTPUTS	1	1	1
2nd FORM C RELAY	OPTION	OPTION	OPTION (standard with Bypass)
OPEN-COLLECTOR OUTPUTS	2	2	2 (none with Bypass)
KEYPAD & DISPLAY FUNCTIONS			
DISPLAY TYPE	16 CHAR. BACKLIT LCD	16 CHAR. BACKLIT LCD	32 CHAR. BACKLIT LCD
FREQUENCY (SPEED) DISPLAY	STANDARD	STANDARD	STANDARD
SPEED REFERENCE SOURCE DISPLAY	STANDARD	STANDARD	STANDARD
MOTOR LOAD DISPLAY	STANDARD	STANDARD	STANDARD
ROTATION DIRECTION DISPLAY	STANDARD	STANDARD	STANDARD
MOTOR VOLTAGE DISPLAY	STANDARD	STANDARD	STANDARD
ELAPSED TIME/RUN TIME METER	N/A	STANDARD	STANDARD
KILOWATT-HOUR METER	N/A	N/A	STANDARD
SERIAL COMMUNICATIONS			
RS-232	OPTION	OPTION	OPTION
RS-485	STANDARD	STANDARD	STANDARD
MODBUS PROTOCOL	STANDARD	STANDARD	STANDARD
METASYS PROTOCOL	N/A	OPTION	OPTION
SIEMENS P1 PROTOCOL	N/A	N/A	OPTION
LONWORKS PROTOCOL	N/A	N/A	OPTION
BACNET PROTOCOL	N/A	N/A	OPTION
REMOTE KEYPAD	OPTION	OPTION	OPTION

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