

# MCH Series Drives



**AC Tech**

member of the **Lenze** Group

Drive for Global Excellence

# THE MCH SERIES: VARIABLE FREQUENCY DRIVES FOR HVAC PROFESSIONALS

## Designed for HVAC Systems

The MCH Series variable frequency drive is designed specifically for the control of variable torque HVAC loads:

- Fan and Blower applications
- Centrifugal Pumps
- Cooling Towers

Whether you specify, install or operate HVAC systems, you can rely on the drive built specifically for HVAC professionals.

## Specify with Confidence

AC Tech has tens of thousands of HVAC installations throughout the world. When the MCH is specified, it delivers proven technology, performance and reliability.

### HVAC specific product range:

- 1 to 250 Horsepower
- 200V, 240V, 400V, 480V and 590V input supplies
- Compact NEMA 1 and NEMA 12 enclosures

### HVAC specific functions:

- Set-point (PID) control of temperature, pressure & flow
- V/Hz profile for centrifugal loads
- Compliant to IEEE 519 standard
- Serial communications for building automation
- 66 programmable parameters for complete flexibility

### HVAC specific solutions:

AC Tech offers "contractor ready" solutions for the most common drive configurations used in HVAC applications.

Factory installed options include:

- 3 phase AC line reactor
- Line disconnect or circuit breaker
- Three contactor drive bypass (manual or automatic)
- Drive fuses and bypass motor fuses
- 24 volt DC power supply for customer use
- Up to three programmable status relays (form-C)

## Install with Confidence

Management of labor and material costs is essential in every HVAC installation. The MCH addresses both through aggressive pricing and "contractor ready" packaging.

- Standardized designs shorten lead times
- Oversized terminals simplify control wiring
- Generous space for wire runs
- Top and bottom conduit knockouts for easy entry
- Hinged doors provide easy access to all connections
- Plain English programming for smooth start-up

## Operate with Confidence

The installation of an MCH series drive typically pays for itself within a few months! The MCH is built to impeccable quality standards aimed at 100% customer satisfaction.

### Robust designs:

- Rugged steel enclosures
- State-of-the-art circuit designs

### Efficient operation:

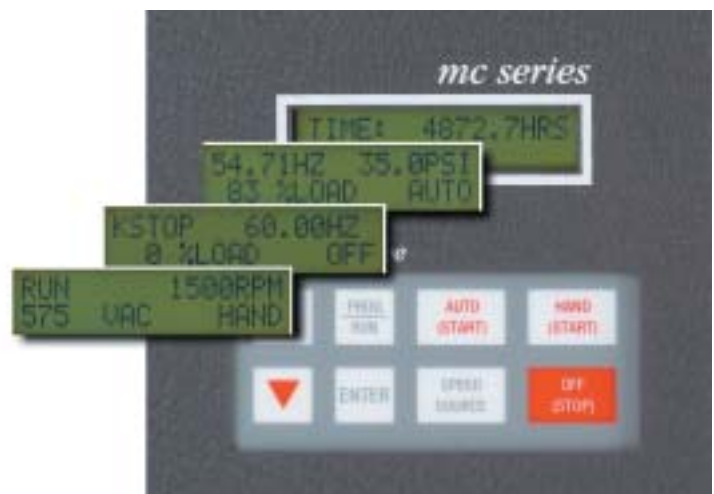
- Improved system performance
- Cool motor operation extends motor life

### Building Management Integration

- Modbus RTU (standard)
- Metasys N2 (option)
- BACnet (option)
- Siemens P1 (option)
- LonWorks (option)

### Intuitive operator interface:

- 32 character plain English display
- Easily viewed operating windows





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Learn more about how the MCH Drive can improve your HVAC Installation. Call your AC Tech Representative and find out how the MCH variable frequency drive is designed to bring confidence to your installation.

# Standard Features

**Line voltage calibration**  
automatically optimizes current and voltage protection.

**Anti-stall: frequency fold back**  
current limit to 120% for one minute.

**Motor thermal overload:**  
Inverse I<sup>2</sup>t motor thermal protection.

**Four preset speeds**

**Critical frequency avoidance**

- Adjustable ranges
- Adjustable bandwidth

**Independent Accel and Decel**

**DC injection braking**

- Timed or continuous
- Adjustable voltage level

**Low frequency voltage boost**  
for high starting torque

**Adjustable carrier frequency**  
for quiet and efficient motor operation (2.5 to 14 kHz)

**Easy to read display**

- 32 character backlit LCD
- 2 line display
- Intuitive HOA keypad.

**Hand speed reference select:**  
Keypad, 0-10 VDC, 4-20 mA, preset speeds or MOP

**Auto speed reference select:**  
0-10 VDC, 4-20 mA, preset speeds or MOP

**Hand and Auto mode**  
enable or disable

**Password protection:**  
enable/disable and setting (0000-9999)

**Conduit knockouts**

- Sized per NEC standards
- Top or bottom entry

**Two scalable analog outputs**

- Proportional to speed and load
- 0-10 VDC or 2-10 VDC Signals
- 2-10 VDC is convertible to 4-20 mA

**Analog output calibration**

**Serial communication**

- Modbus RTU
- Metasys N2 (option)
- BACnet (option)
- Siemens P1 (option)
- LonWorks (option)

**Programmable fault terminal**

- External trip activation
- Inverse trip activation
- Manual reset

**Fault history:**

View log of eight previous trips with status at the time of trip.

**Flying restart:**

Speed synchronized automatic restart after fault

**Coast or ramp to stop**

**Loss of follower signal action:**  
fault or go to preset speed

**PID set-point control**

- Remote enable/disable
- Direct or reverse acting
- Transducer calibration
- High/Low level alarm

**Available display units:**

Hz, RPM, %, /SEC, /MIN, /HR  
PSI, CFM, GPM, FPM, IN, FT

**TechLink software**

for off-line or on-line programming and setup. Available free from the AC Tech web site:  
[www.actechdrives.com](http://www.actechdrives.com)

## AC Tech: Meeting Customer needs through Innovation

Since its inception, AC Technology Corporation has had one mission—design and manufacture AC variable speed drives that will provide the greatest value to its customers.

AC Tech's growth far outpaces the industry average, a strong affirmation of its commitment to excellence and customer service. A privately-held corporation where all employees, from senior management to the assembly line teams, from Research and Development to Shipping and Receiving, take pride in every installed drive. AC Tech's commitment to quality, innovation and value is a personal one.

AC Tech has pioneered developments such as 575-Volt models, NEMA 4 and 4X enclosed inverters, plain English programming and drive designs using intelligent power modules (IPM's).

AC Tech takes total ownership of the design and manufacture of the drives that carry its name. The MCH Series drives are manufactured using state-of-the-art surface mount technology. Multiple product quality inspections and tests assure that the drive you receive will work out of the box and for years to come. What this means to you is consistent, high quality product at a surprisingly low cost.

## Other AC Tech Products:

**MC Series:** Available as a constant torque drive in a wide variety of voltage ratings. Enclosures include NEMA 4 and NEMA 4X in Stainless Steel.

**SC Series:** IP20-enclosed family of drives that provide flexibility from basic to full features and serial communications including Modbus® and DeviceNet™.

**TC Series:** Sensorless Vector drives in compact IP20 enclosures that provide full torque down to 1Hz.



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