



## EM405-8 Ethernet M-Module Carrier/LXI Bridge

The EM405-8 easily bridges up to eight (8) standard M-Modules to a LXI system or typical Ethernet (LAN) network. The carrier allows the numerous functions available in the M-Module mezzanine format to be remotely located near the unit-under-test, easing many system integration issues. Over 100 M-modules are available from numerous manufacturers, including C&H. This wide range of instruments makes the EM405-8 the ideal platform for small test system integration.

### Overview:

The EM405-8 Ethernet M-Module carrier provides complete Ethernet connectivity to up to eight industry standard ANSI/VITA 12-1996 single-wide M-modules or a combination of double and triple wide modules. The carrier provides full access to the M-module I/O space via the standard TCP/IP networking protocol.

LXI compliance provides a standard method of device discovery, easy configuration through an intuitive web interface, and a standard IVI driver for communication with the EM405-8 controller.

An IVI driver provides control of the EM405-8 bridge functions. A simple command structure eases software integration and allows reset, identification, and control of installed M-modules. Flexible block access commands speed sequential data access.

The EM405-8 is housed in a rugged steel/aluminum IEC 60297 standard 19" rack mount 1U high enclosure. It accepts AC power from 85 to 265VAC (47-63Hz) through standard IEC 320-C13 power cords or it can be alternatively powered by an external +48VDC supply.

The unit has forced air cooling and the unit's internal temperature can be monitored to ensure safe operating levels. Three front panel indicators provide the status of power, the LAN connection, and the system software.

### Additional Information

User Manuals for this carrier and other C&H modules can be found on our website at [www.chtech.com](http://www.chtech.com).

### Mechanical:

Size: 19.0"W x 12.2"D x 1.72"H  
Weight: 9 lbs

### LXI Compliance

Complies with LXI Standard Rev. 1.2 for a Class C (Bridge) instrument.

### M Module Compliance

Complies with ANSI/VITA Std. 12-1996 for single or double-wide M-module carriers.

Data Transfers: D16  
Addressing: A08  
Triggers (-0001/3 only) TRIGA/B

### Environmental Specs:

Operating: 0°C to 60°C\*  
Storage: -40°C to 75°C

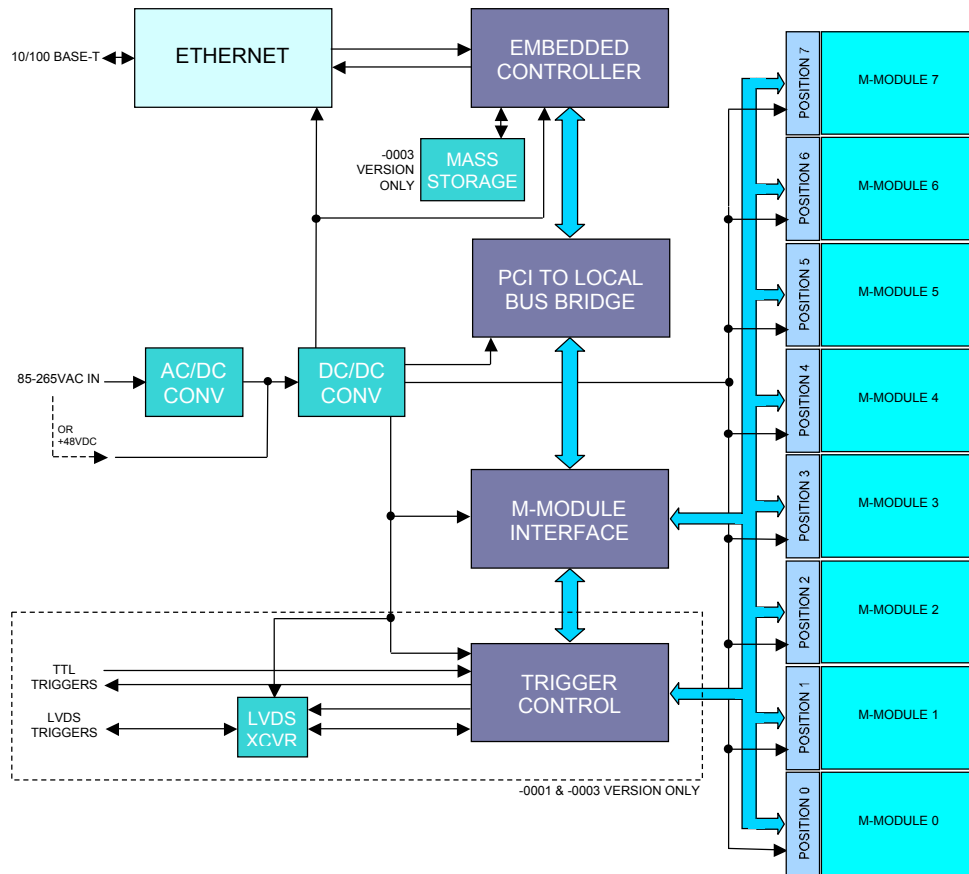
\* See User Manual for operational limitations

### Applications

- Small Test Systems
- Data Acquisition & Analysis
- Control Processing

### Ordering Information

Part Number: 11029380-xxxx  
-0001 with triggers  
-0002 without triggers  
-0003 with triggers & 16GB Drive



## Specifications:

### Networking:

- Easy configuration through a LXI compliant web-based interface
- Manual LAN reset switch allows initialization to known factory default settings
- TCP/IP, UDP, IPv4 network protocols supported
- Static IP, DHCP, Auto-IP addressing supported
- Ethernet 10Base-T or 100Base-TX (Auto-Sensing)
- RJ-45 Connector and front panel status indicator
- Ping server
- Duplicate IP address detection
- VXI-11 discovery and communication
- LXI instrument identify function
- Web-based temperature and M-module status

### Triggers\* (-0001 & -0003 only):

- External TTL level input/output triggers
- Eight external LVDS input/output triggers
- Any M-module trigger can be directed to any external trigger out or internal M-module input trigger
- Any external trigger can be directed to any M-module input trigger
- Triggers can have multiple outputs
- Both M-module Trigger A and B supported
- LVDS have double stacked micro-D connectors that allow easy daisy chaining

\* The triggers have been tested for LXI compliance, but have not undergone full conformance testing. Use should be limited to non-LXI applications.

### Software Command Protocol:

- IVI Driver for controller
- Temperature status and fan control
- M-module access through VISA or TCP/IP

### Mass Storage (-0003 only):

- Internal 16GB USB Flash Drive
- Provides internal storage of acquired data

### External Power:

- AC Input 85-265VAC, 47-63Hz (standard IEC 320-C13 power cords)
- Alternatively powered by an external +48VDC (5-pin circular DIN connector)
- 100W required for internal logic and eight (8) M-modules at maximum ANSI standard power
- User may provide less power depending on M-modules installed (20W minimum)
- ON/OFF switch with manual reset overload protection

### M-Module Power:

- Power-off resettable breakers provided for each M-module position
- Each individual position allows higher M-module power consumption than allowed by the ANSI/VITA Std. 12-1996 specifications (2.5A for +5V and 1.25A each for ±12V)
- Total M-module power consumption is limited to 8A for the +5V supply and 1.6A each for the ±12V supplies.