

EXPANDER CHASSIS, 16X24, 200-12300-02

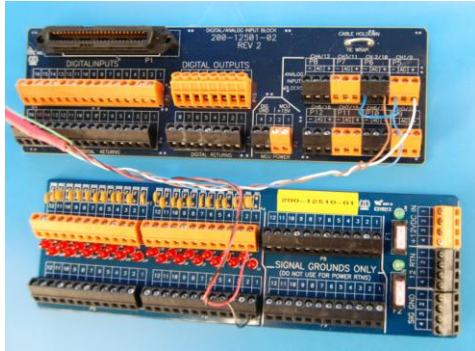
Virtually all installations use an expander chassis to house the interface connection blocks to the control system. The standard version provides a +12VDC, 5 Amp power supply, fan, power inlet and filter, and panel. Add the Ethernet modem, IO blocks, and any additional relay, switch, digital or analog expander units and your set to go. This, plus the basic MCU 500, completes the system.

MCU's are essentially low voltage machines. Both the MCU's and all sensor/amplifier modules operate on 12 to 24VDC. 12VDC is the MCU standard. As such, they comply with UL910 requirements as low voltage equipments. IO signals, including switching signals, operate within this range. Hence, to control a large, say 20HP motor, requires that the control signal from the MCU be routed to an external panel with a contactor or motor starter in it, which is then controlled and monitored by the low voltage signals from the MCU. From controlling small pumps, feeders, heaters, etc., to very large three phase systems, the same scheme is used, and very effectively. The Expander chassis provides the low voltage IO interface for sensing and controlling external devices and equipments.

The expander chassis are large NEMA rated enclosures that provide protection from the elements (splash, wash down, rain, etc.) and provide a convenient means for interconnection with the MCU. This model is a 16 by 24 inch unit, approximately 7 inches deep, with a clear Plexiglas front cover.

The basic chassis contains a 12 volt DC, 5 Amp power supply which is used to provide power to the sensors, line amplifiers and other equipment. It also contains a fan, Power inlet module with line filter, two DIN rails for mounting other modules and hardware, and a wood panel for mounting the IO connector blocks. The panel opens on hinges which makes it easy to wire. Cable hangers are supplied internally, along with a ground block. There are two, 2" diameter I/O cable inlets to the chassis: the one on the right is for connecting to the MCU, the one on the left are for signal cables going to the external instruments.





There are two IO modules normally used in the configuration: the Signals connector block, part 200-12501 (top), and the DC distribution block, part 200-12510.

The Signals block accommodates 8 analog channels, 16 digital input points (a single digital input bit is called a “point”), and 8 Digital output points. Since a fully loaded MCU500 chassis has 10 Analog Inputs, 32 digital Inputs and 16 digital outputs built in, it requires two of

these blocks.

In the first picture above, the top and bottom blocks are the Signal connector blocks, and the center block is the DC distribution block.

There are two DIN rails installed as standard equipment. These will accommodate a wide variety of DIN compatible equipment.

A single MCU500 can support up to 64 Analog Input channels (12 bit resolution), 64 Analog outputs (12 bit resolution), 64 Switch outputs, 64 digital input points and 64 digital output points. Of this mix, a fully loaded MCU chassis can support 16 Analog Inputs, 32 digital inputs and 16 digital outputs. The rest of the IO are addressed by adding what are known as expander modules.

EXPANDER MODULE OPTIONS:

Standard module options for the expander chassis include the following:

- 200-12710 16 point analog input expander module. Adds 16 additional channels for analog data, up to a max of 64 channels. These are 12 bit A/D converters (resolution to one part in 4096).
- 200-12715 adds 8 additional Analog input channels and 8 Analog output channels. These are 12 bit A/D converters.
- 200-12720 Adds 16 additional Analog output channels, 12 bit.
- 200-12620 16 point relay driver module. Source or sink up to 500mA, +12VDC. Used for controlling relays, including 40A hockey puck 240VAC relays, single and three

phase contactors and controllers, etc. These may be configured as Switch outputs or as digital outputs. These are most often used for motor controls, etc.

- 200-12615 Relay output module, with 8 form C and 8 form A outputs. 5 Amp, 120/220VAC/DC. These may be configured as Switch outputs, or as digital outputs. The MCU can accommodate up to 64 digital output points
- 200-12730 Analog input panel. This panel accommodates up to 64 channels (8 input blocks), where each block has up to 8 input channels, with signal conditioning. Sensors wire to pluggable IO connectors, two channels per connector. Each connector provides +12VDC, protected, for signal excitation. Requires one Analog IO card in the MCU per panel.

SPECIFICATIONS: 200-12300-02, 16x24 Expander Chassis

ELECTRICAL:

Input Voltage:	90-230 VAC, 60Hz
Input current:	<1A, approximately 30W, maximum.
Input Filtering:	In-line input filter, with transient voltage protection provided by MOVs.
Cooling:	12VDC internal fan.

PHYSICAL:

Size:	16 inch wide, 24 inch tall, 10 inches deep. Main chassis, 7 inches deep. Clearance between panel and top approximately 4 inches. * Front cover is sealed, and transparent.
Inlets:	Two LB boxes (2") provided one on either side for cable entries
Mounting rails:	Two internal DIN rails standard. These will accommodate both the Ethernet modems and up to 4 additional Expander modules (analog, digital, switch, relay driver, etc.)

* configured at COS for the particular application.

ENVIRONMENTAL:

Operating Temperature:	-10 Deg C to +60 Deg C, Recommend do NOT use in direct sunlight. Storage Temperature: -30 Deg C to +80 C
Humidity:	0-100%, with panel closed. May be used in splash zones, without additional protection.