

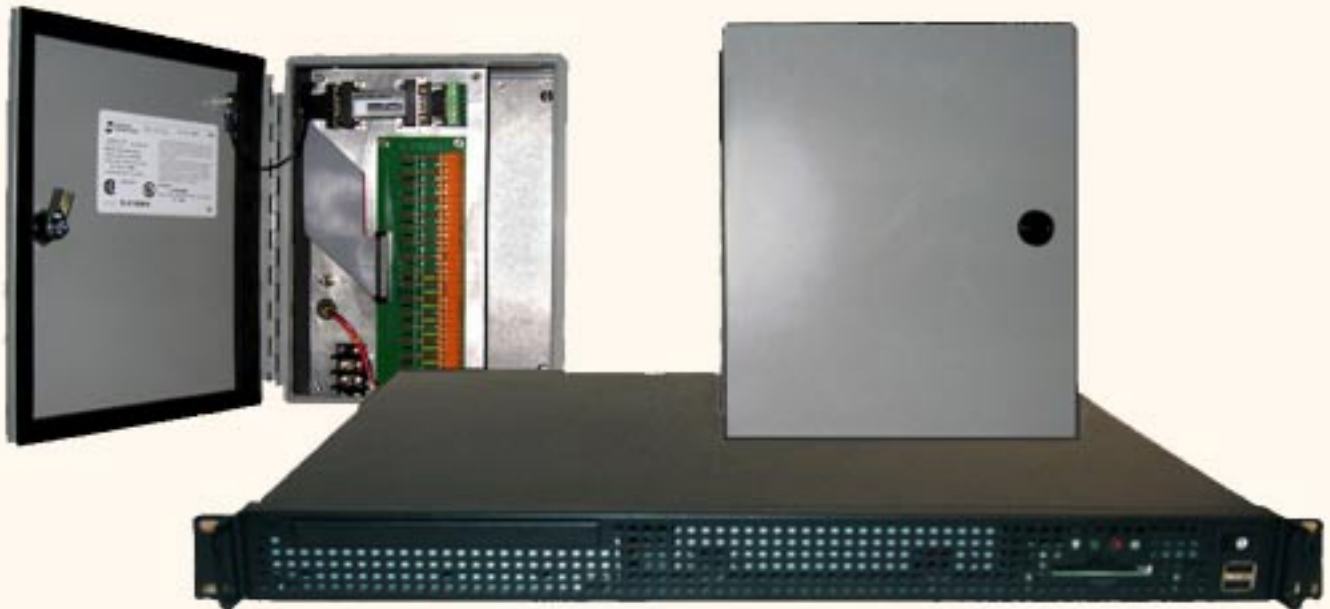


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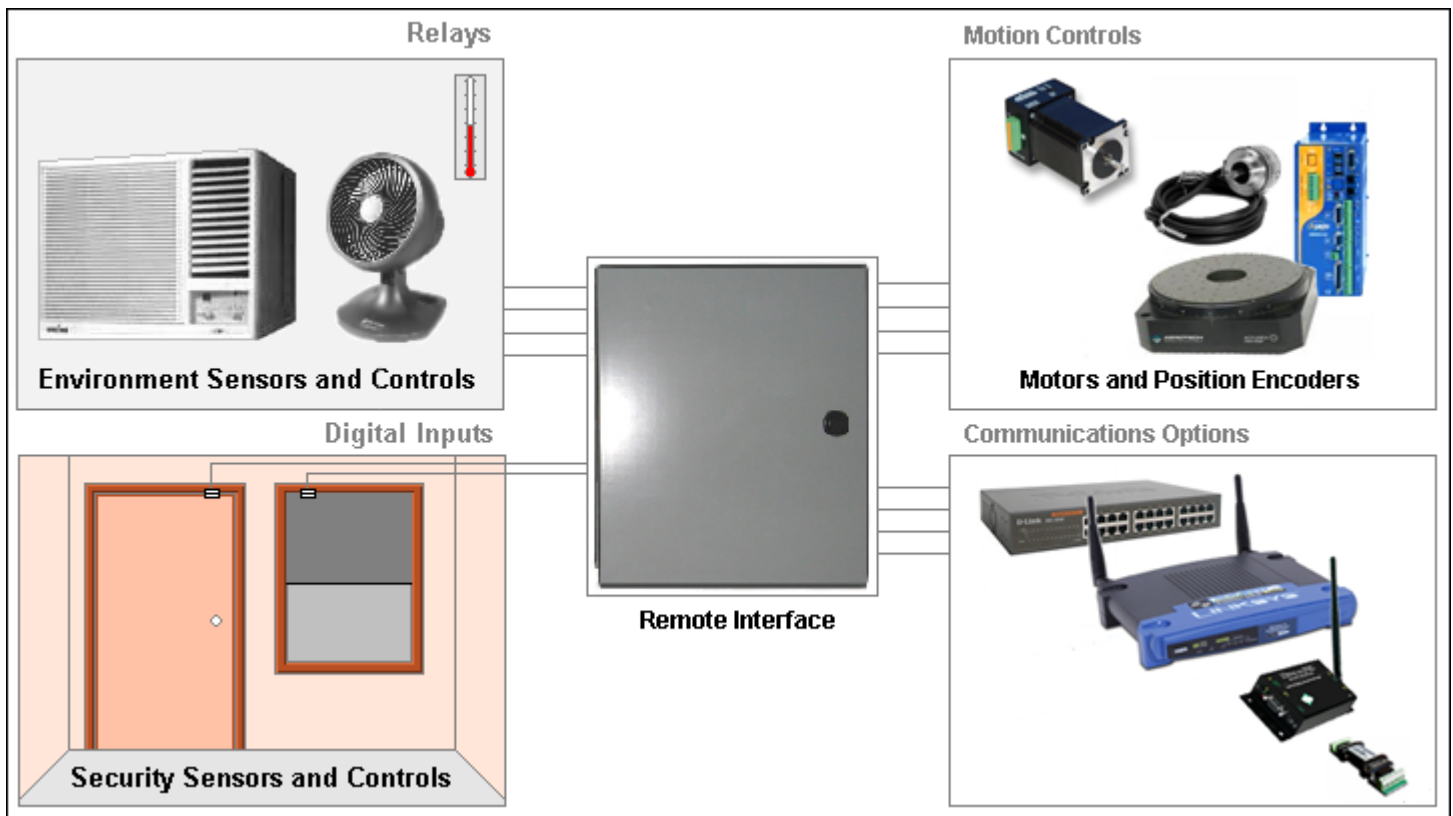
Do you need ...

to monitor your outdoor equipment?
to monitor contact closures, environment and intrusion sensors?
to operate relays, valves and to control motors?

Use MACS Remote Interface
the reliable and cost effective solution to your needs



- Monitors digital inputs from your equipment and environment sensors
- Operates relays that control your equipment and environment
- Controls stepper and servo motors and reads position encoders
- Provides remote access to other equipment over serial lines and USB ports
- Allows units to be daisy-chained on a single up to 4000 ft long RS485 line
- Supports RF modems, wireless LAN and Ethernet connections
- Comes in a watertight NEMA enclosure
- Operates within the temperature range from -20 to +70 C



The Problem

As a service provider, you probably have equipment located outdoors, in manholes or unmanned remote sites. You may have a variety of equipment that requires remote monitoring and control. You may also have a number of sensors to monitor site security and environment.

To provide reliable service to your customers, you need to know the exact operational status of all of your equipment at all times. You also need to monitor the environment and the security of your sites.

In the event of equipment failure, power outage, or intrusion into your site, you need reliable and immediate notification.

The Solution

MACS Remote Interface offers a fully integrated and reliable, yet cost-effective solution to your alarm monitoring and equipment control needs. It monitors digital inputs, controls output relays, and allows you to monitor sensors and to control various automation devices.

Using optional internal components and external inverters and shaft position encoders, you can even operate heavy industrial machinery and electrical motors, or remotely adjust the position of your remote site antennas.

You can communicate with MACS Remote Interface using a variety of methods, from telephone lines to Ethernet and wireless networks.

The MACS Remote Interface is designed for outdoor operation. It is usually mounted in a NEMA watertight enclosure. Its operating temperature range depends on optional components. The minimum temperature range is -20 to +70 C, but it can be extended to -40 to +85 C.

The MACS Remote Interface hardware consists of a PC104 format single board computer and a variety of interface cards. The size of the unit depends on the number of interface modules installed in the PC104 stack.

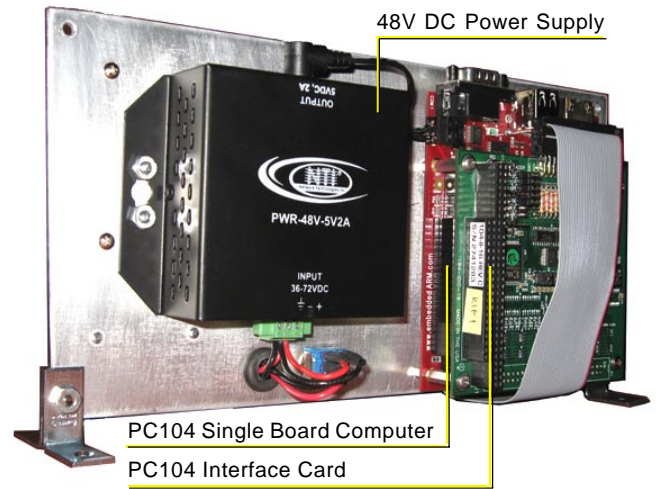
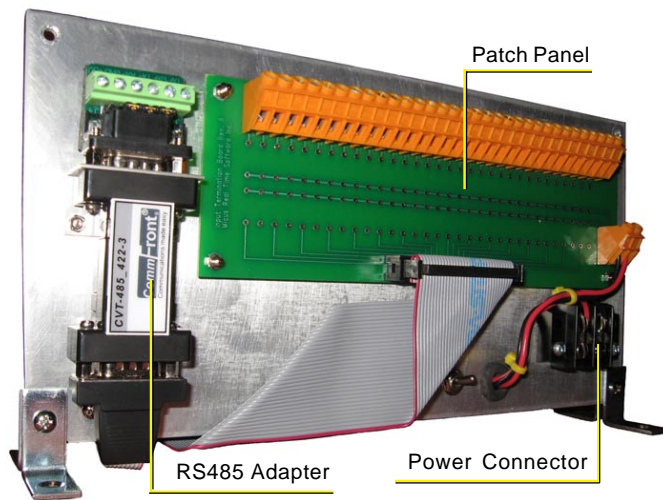
A patch panel mounted inside the enclosure allows you to connect variety of industry standard sensors and motion control devices. The panel also provides power for the active sensors.

The MACS Remote Interface offers several power options, such as 100 - 240 V AC, 12 - 24 V DC, and 48 V DC.

The product is fully compatible with our standard MACS software¹ and MACS Site Manager² product. In addition, an optional SNMP agent allows you to interface MACS Remote Interface with any SNMP manager of your choice.

¹) **Micus Alarm And Control System (MACS)** is a software package used to configure, control and monitor various pieces of equipment, and to collect and process alarms generated by the equipment. For more information on MACS software, please refer to the related marketing material, posted on our web site at www.micus.ca/downloads.

²) **MACS Site Manager** is a computer based system which runs MACS software on a robust rack mounted computer platform, under the industry standard Windows XP operating system. For more information on MACS Site Manager please refer to the related marketing material, posted on our web site at www.micus.ca/downloads.

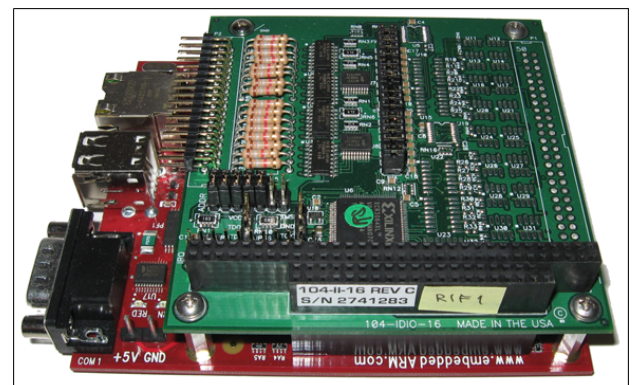


MACS Remote Assistant Standard Features

- 16 opto-isolated inputs monitor external dry contacts and environment sensors
- 16 output relays control external switches
- Operates on 12 to 48 V DC or 100 to 240 V AC
- Available in NEMA watertight enclosure or on a chassis suitable for installing in larger enclosures and cabinets
- Isolated RS485 adapters can be used to daisy-chain up to 30 units over a distance of 4000 ft (1,200 m)
- An additional RS232 port can be used to connect third party equipment to the unit
- Two USB ports are available for connecting external peripherals and other USB based devices
- Fast Ethernet 10/100 NIC port connects to the on-site site Ethernet segment
- An optional built-in SNMP agent sends SNMP traps and allows other SNMP managers to query the status and operate relays
- A range of options is available to communicate with the unit: a RS232 or RS485 serial line, a modem line, a radio modem, an Ethernet connection or a wireless LAN connection
- Fully compatible with Micus Alarm and Control System (MACS) software, with MACS Site Manager and with MACS Remote Assistant
- Any standard or custom built software components can be installed or added at later date
- The hardware is based on the industry standard PC104 card format. Additional PC104 interface cards can be easily added to the PC104 stack
- A conveniently located patch panel allows end-users to wire various external sensors, and to provide power for the sensors when required
- The software runs under the embedded Linux operating system, widely accepted in the industry as an extremely reliable and robust software platform

Optional Components

- Inputs and relays cable and cable gland on the enclosure
- PC104 wireless modem
- PC104 telephone modem
- USB wireless LAN adapter
- 8 opto-isolated inputs and 8 relays PC104 card
- 16 opto-isolated inputs PC104 card
- 16 relays PC104 card
- Multi-channel analog IO PC104 card
- Incremental position encoder PC104 card
- Motion sensors
- Proximity sensors
- Fluid level sensors
- 12V, 24V or 48V DC power supply
- 100V to 240V AC power supply



A typical PC104 stack with a single board computer (SBC) and an interface card. The SBC has built in serial ports, Ethernet adapter and USB ports.

