

Input/Output Multiplexing System

CMX

CMX can be used wherever you need to monitor and manage devices that interface with the external world by digital signals. It has been designed to be used specifically in centralized security systems. CMX detects and transmits to the supervising units any input status change and it activates individual outputs according to the commands sent by the supervising units. The communication line to and from the supervising unit is fully monitored.

CMXs can be useful to interface technological signals or to interface alien control panels. Typical applications include:

- ON/OFF alarm criteria acquisition
- technological plants management (to turn on and off devices or to activate subsystems)
- security devices interfacing: CMX lets you monitor alarm signals coming from security devices without a PC interface
- generic ON/OFF signals monitoring
- synoptic panel management
- horns, flashing light or any other alarm actuating devices activation

The CMX system

The CMX system is flexible, modular and powerful and you can configure it to best fit your plants' needs. The I/O devices, called CMX, are available in three models with different I/O capabilities (24 inputs and no outputs, 16 inputs and 8 outputs, 24 outputs and no inputs). You can arrange these CMXs in a variety of configurations, ranging from single CMX up to 16 CMXs connected to single line up to 1200 meters long. The CMX communicates with the Gateway (GW-00 or GW-01) using an interface converter, called IC-2. The IC-2 occupies one Gateway line but to it you can connect up to 16 CMX, of different models.

The IC-2 can be powered by the same power supply of the CMX nearest to it or by an independent power supply of the CMX nearest to it or by an independent power supply. Of course, more than one IC-2 can be connected to a Gateway. You can expand the I/O capabilities of your system exactly up to where you need them.

The CMX are connected on the communication line that comes out of the IC-2 in a multidrop configuration. Should one of them fail, the others continue to work without troubles. The CMX units can be distributed all over a site, or they can be collected into a single cabinet. The mounting devices optionally provided let you choose the best solution for your plant.

The CMX units can be powered using any power supply that complies with specifications, but to simplify your job a compact and reliable UPS (Uninterruptible Power Supply) unit, called CMX-PS is provided. The CMX-PS can power up to four CMX.

If you need to drive power loads using the CMX, you can connect the standard open collector outputs to any relay that compliant with technical specifications - however the simplest way is to use the CMX-RB relay board: just plug the connector into the CMX and you have 8 relays outputs able to drive 1.25 A loads at 48 volts.

Options

Power supply unit CMX-PS

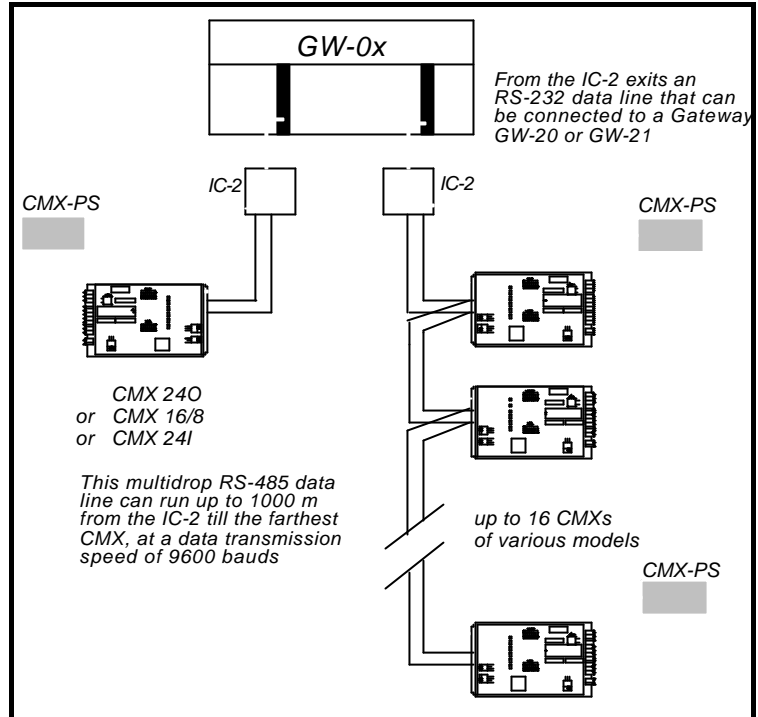
The CMX-PS is a compact, modular and reliable uninterruptible power supply with batteries included. The CMX-PS switches automatically to battery supply when the main goes off if the front panel switch was set ON.

Add-on board for CMX relays output CMX-RB

The CMX-RB adds to CMX models 16/8 and 24O the capability to drive up to eight relays contacts for each CMX-RB connected.

Up to three CMX-RB can be connected to a CMX-24O and one CMX-RB can be connected to a CMX-16/8.

The CMX-RB board is mounted on a plastic support that allows the easy mounting of the unit on a DIN rail.



Features

- CMX is composed by two Europe-format boards connected in a piggy back configuration. The boards are galvanically isolated from the field as well as from the power supply through a DC-DC converter.
- CMX can be arranged in a multidrop configuration (up to 16 CMXs in a single line, up to 1200 m long) using a RS485 2-wires connection. An interface converter (IC-2) converts the RS485 into RS232 interface and lets you connect the CMXs to a Gateway GW-00 or GW-01.
- 24 or 16 digital inputs, individually displayed by a LED. The input signals may be either implemented by normally open or normally closed dry contacts. Open collector signals can also be accepted, provided that they are referred to a common power supply return. Each input is optoisolated.
- 8 or 24 digital outputs, individually displayed by a LED. The output signals are open-collector outputs; they can drive a current up to 50 mA, that can be used to operate a relay (for higher power loads) or some other load. The CMX relays board (CMX-RB) is an optional device that can be mounted on a DIN rail and that supplies 8 relay outputs. Up to 3 CMX-RB can be connected to a single CMX, depending on the model.

Mounting solutions

Four alternative mounting solutions are foreseen:

- Open frame; suited for mounting in an existing cabinet. Two terminal strip on the same side of the mounting bracket allow easy connection of signal wires. Product name of the mounting bracket is CMX-MB. Suggested distance between two adjacent brackets is 120 mm.
- Single box; a plastic box will accommodate one CMX. This solution is suited both for cabinet mounting and for wall mounting. Product name of the box is CMX-SB.
- Rack; a rack will accommodate up to 4 CMXs. This solution is suited both for cabinet mounting and for wall mounting. The box can be tilted around its back to allow easy access to terminal strips for wire connection. Product name of the rack is CMX-RM.
- 19" Rack mounting; the CMX can be mounted also in an existing 19" rack. A backplane board is supplied to allow an easy wire connection. Product name is CMX-BP.

What to order

To properly order the CMX components, answer the following questions:

Which type of I/O do you need ?

- No outputs, up to 24 inputs
- Up to 8 outputs, up to 16 inputs
- No inputs, up to 24 outputs

- CMX-24I
- CMX-16/8
- CMX-24O

What kind of mounting do you require ?

- into an existing cabinet
- into a box, fit for a single CMX
- into a box, for up to 4 CMXs
- in a 19" rack

- CMX-MB
- CMX-SB
- CMX-RM
- CMX-BP

Do you require relay outputs ?

- up to 8 outputs (for CMX-16/8 or CMX-24O)
- up to 16 outputs (for CMX-24O)
- up to 24 outputs (for CMX-24O)

- 1 CMX-RB
- 2 CMX-RB
- 3 CMX-RB

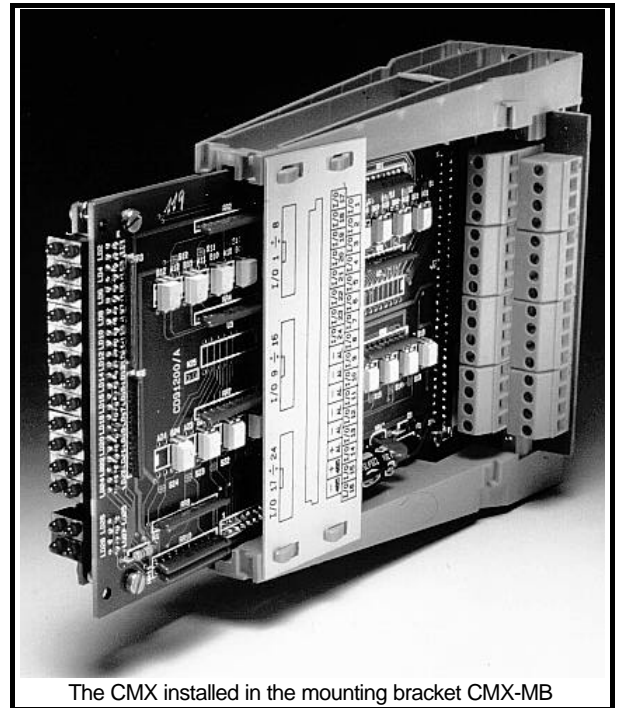
Do you require a reliable power supply ?

- YES CMX-PS

Always

IC-2

The minimum acceptable order is composed by a IC-2 and one of the three models (CMX-24I, CMX-16/8, CMX-24O) plus mounting.



The CMX installed in the mounting bracket CMX-MB

CMX Technical specifications

I/O capability	CMX-24I	24 digital inputs
	CMX-16/8	16 digital inputs 8 digital outputs
Digital inputs	CMX-24O	24 digital outputs
	Digital inputs	normally open or normally closed dry contacts or open collector signals.
Digital outputs		open collector max 50 mA. Automatic current limitation. Optional relais board; relais drive 48 V, 1.25 A max.
Power supply	Input voltage	10-30 V not grounded
	Current absorption	min (no I/O active) 100 mA max (all I/O active) 300 mA
Communications	Connection	3-wires RS232 from Gateway GW-00 or GW-01 to IC-2 (up to 15 meters). To one IC-2 up to 16 CMXs can be connected using a 2-wire RS485 line in multidrop configuration.
	Cable	shielded cable, with twisted pairs (minimum section 0.50 mm ²)
	Max distance	between the IC-2 and the last CMX: 1000 meters
Operating conditions	Temperature range	15 to 40 °C
	Humidity	10 to 90% non condensing
Weight	CMX board	240 g
	IC-2	150 g
	CMX-RB	250 g
	CMX-PS	1750 g
	CMX-MB Frame mounting	160 g
	CMX-SB-Single Box	850 g
	CMX-RM Rack mounting	2500 g
CMX-BP Backplane board	100 g	
Dimensions	CMX board	95 H x 170 W x 42 D mm
	IC-2	65 H x 120 W x 40 D mm
	CMX-RB	104 H x 108 W x 55 D mm
	CMX-PS	135 H x 64 W x 223 D mm
	CMX Frame mounting	70 H x 135 W x 230 D mm
	CMX Single box	135 H x 307 W x 225 D mm
	CMX Rack mounting	138 H x 307 x 225 D mm
Backplane board	128 H x 60 W x 40 D mm	