



EMEX Test

The complete emergency lighting
central system testing solution



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Emergency lighting regulations state that periodic, mandatory tests must be carried out to verify the correct operation of any emergency lighting system.

Increasingly, changes in safety legislation, risk assessment, and the requirements of public liability insurance are placing responsibility for the testing of emergency lighting systems firmly with the owner or occupier of the building. Additionally, legislation states that records of this testing must be kept.

Automated testing solution

Manual testing (and record keeping) of emergency lighting systems can prove to be expensive, time consuming and disruptive (even dangerous) exacerbated by access problems caused by physical and commercial reasons.

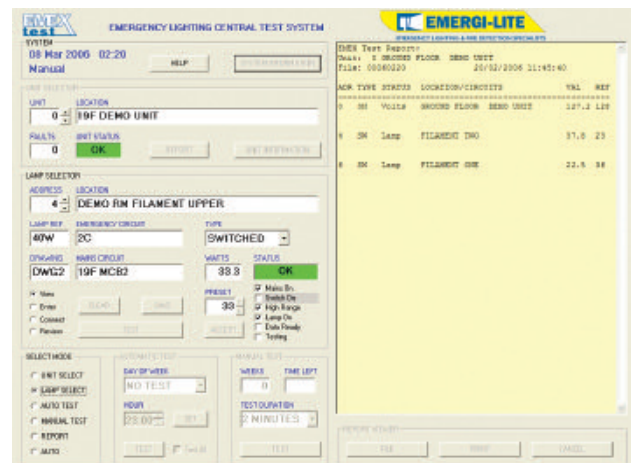
The EMEX Test Central Testing System ensures peace of mind by automating the normal, periodic testing of emergency lighting lamps and control gear.

EMEX Test is simple to operate being controlled by a standard desktop PC or a dedicated touch screen control panel and is feature packed:

- Multiple static inverter Central Power Supply Systems (CPS) can be networked to a single control PC
- Remote access via a Local Area Network (LAN) or internet connection is straightforward
- Building Management System communication can be easily incorporated

Scheduled testing

System tests are scheduled for periods of minimum disruption using EMEX Test.



Live luminaire data is compared against pre-programmed threshold data to identify any discrepancies. These are then duly highlighted in the test report which is generated and stored automatically.

The user has full control to access test reports locally or remotely at any time. Service personnel can then arrange a convenient time to access any faulty luminaires – ready prepared with any necessary spares in order to further reduce the amount of time required to effect a repair.

In addition, EMEX Test can conduct discharge tests and monitor and record the status of the CPS and end battery voltage. Since discharge tests cannot be performed until visual condition checks have been undertaken by an engineer on site, these annual tests are initiated manually.



“When considering central power emergency lighting, EMEX Test allows the consultant and end user to retain complete freedom of design. Specifying EMEX Test offers the most flexible and economic solution to providing addressable emergency lighting”



EMEX Test is the most flexible emergency lighting testing system available today. With the ability to support virtually any type of slave 230V luminaire, including LED, EMEX Test affords freedom of choice for consultants, designers and end-users alike.

Two approaches, one solution

EMEX Test can utilise two different solutions to interface your emergency luminaires, whatever the scenario. Both systems utilise the same software and are fully compatible with each other on the same system:

MXC

MXC is ideal for use where a large number of high frequency, non-dimmable luminaires are situated in a relatively small area and where room for cable runs is restricted and the aesthetics are a primary concern.

The MXC substation solution employs compact LTC integral luminaire interfaces to support up to 40 luminaires from a single substation. It allows mixed operation modes of the emergency luminaires on the same circuit without data cable. Multiple local switched and unswitched circuit monitoring is marshalled by the substation, or direct into the luminaires. Substations are connected together and back to the control PC by data cable connection.

Ideal for high-rise buildings, MXC provides savings in cable, containment and installation costs.



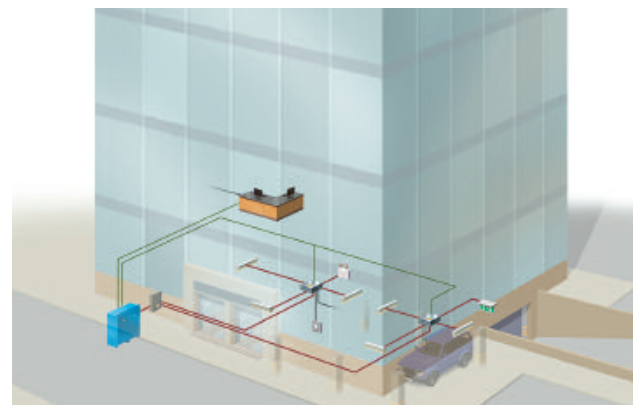
Features and benefits

- Maintained, non-maintained and switched luminaires on a single circuit
- Cable saving as a result of combined power and data lines
- High capacity substations
- Flexible local circuit monitoring options
- Fully compatible with MXD4

MXD4

MXD4 substation modules control luminaires in groups of four with no modification to the mains luminaires whatsoever. Data cable provides communication to the CPS. A data cable connection exists between the CPS and the PC.

MXD4 is ideal for use where a smaller number of luminaires are to be situated in an environment where aesthetic cabling is not an issue, for example warehousing or car parks.



Features and benefits

- Supports virtually any type of luminaire – no modification required
- High switching power capability
- Simple to install
- Compatible with digital and analogue dimming systems
- Fully compatible with MXC

How to apply EMEX Test MXC and MXD4 Emergency Lighting Testing Systems, example case: High-rise building

A typical high-rise installation will employ a variety of luminaire types in different areas. It will have varying switching arrangements and cabling restrictions according to the usage of each area and the fabric of the building.

When considering their mains lighting, the consultant and end user can retain complete freedom of design, assured in the knowledge that specifying EMEX Test will offer the most flexible and economic solution to provide addressable emergency lighting.

Underground car parks

In underground car parks and service areas the designer will prefer basic batten fittings or filament lamps. In this instance, where surface cabling is acceptable, MXD4 substations are ideal. There is no modification to the slave 230V 50Hz luminaires whatsoever. This makes the installation very straightforward as the substations are identical no matter the wattage or operation of the luminaires (substations can even be “first fixed” before the luminaires arrive!), and has the great benefit that in the event of any damage or vandalism the slave 230V 50Hz luminaires can be replaced without interfering with the addressable emergency system.

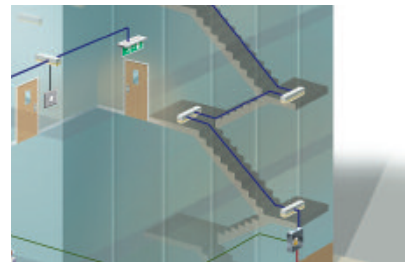


Open plan areas

For lower floors with typically open plan areas where suspended ceilings are employed and switching arrangements are uncomplicated, MXD4 substations also offer benefits. In addition, the client would be free to refurbish at a later date, changing luminaires types at will, with only reprogramming of the EMEX Test software required to suit.

Stairwells

In stairwells, the MXC substation solution with LTC equipped luminaires offers great benefits in cable saving and installation costs. The MXC substation(s) can be mounted in risers at the foot of each stairwell, removing the need for data cable or remote boxes in the stairwell itself. The maintained exit signs, switched luminaires, and even any non-maintained external units can all share a single supply cable. Monitoring feeds can all come to a single point at the substation, simplifying the cabling within the stairwell. Conversely, if it is inconvenient or impossible to wire a switched or monitoring feed back to the substation, it can be wired directly into the relevant luminaire.



Upper floors

Upper floors with a larger number of rooms per area (for example offices or hotel rooms), will also use MXC in order to take advantage of the large number of switched feeds that can be monitored by each substation. Coupled with the option to wire monitoring feeds directly into the luminaires, this will offer great savings in cable and simplify the installation, whilst retaining flexibility of programming should the mode of operation of the luminaire change. For the installer, the ability to spur and tee the luminaire supply cable means that cable routes are dictated only by convenience and the layout of the building.

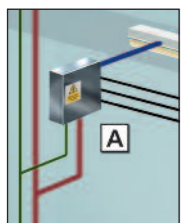


EMEX Test can accommodate this scenario – and more – whether the system is one large Central Power Supply System (CPS) feeding the whole building, one smaller CPS per floor, or any combination thereof.

Turn over to see our ‘How to apply’ illustration of EMEX Test MXC & MXD4

How to apply EMEX Test MXC and MXD4 Emergency Lighting Testing Systems

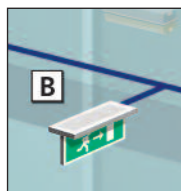
MXC substation



Each MXC substation can control up to 40 luminaires. Power and datalines feed the substation which in turn monitors & controls the luminaires via a single combined power/data line. Each substation can monitor up to 8 local switched and/or unswitched circuits.

Luminaires operate in maintained, switched maintained, or non-maintained modes on the same circuit, according to the system programming.

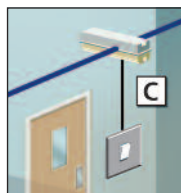
MXC compatible luminaires



The MXC testing system requires luminaires (bulkheads, exit signs) to be MXC compatible. A comprehensive range of luminaires can be found starting on page 23. In addition, virtually any

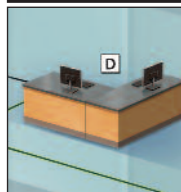
standard mains luminaires can be converted for use with the MXC system using an integral or remote LTC interface module. Luminaires must contain a high frequency ballast (please check with Emergi-Lite). Luminaires are not compatible with dimming systems and switch start control gear, please use MXD4 for these applications.

Switching



One switched and/or one unswitched local feed can be wired directly into the MXC System LTC module, in addition to the monitoring/switching provided via the MXC substation.

EMEX Test control station

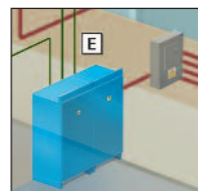


EMEX Test software is installed on a standard desktop PC to initiate scheduled tests and collate test report data. Test reports can be accessed remotely over a Local Area Network (LAN), or via the internet. EMEX Test can

optionally export test reports in BACNET or LONWORKS format to a Building Management System.

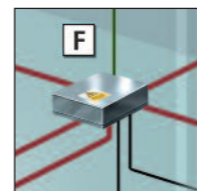
A network node enables the engineer to access test reports and control the system using a laptop PC from any point on the data cable.

EMEX Power



EMEX Power Central Power Supply System provides AC power to emergency luminaires via standard AC distribution boards. EMEX Test can support both MXC and MXD4 systems simultaneously. Multiple EMEX Power CPS units can be used to power larger applications, monitored from a single EMEX Test control point.

MXD4 substation



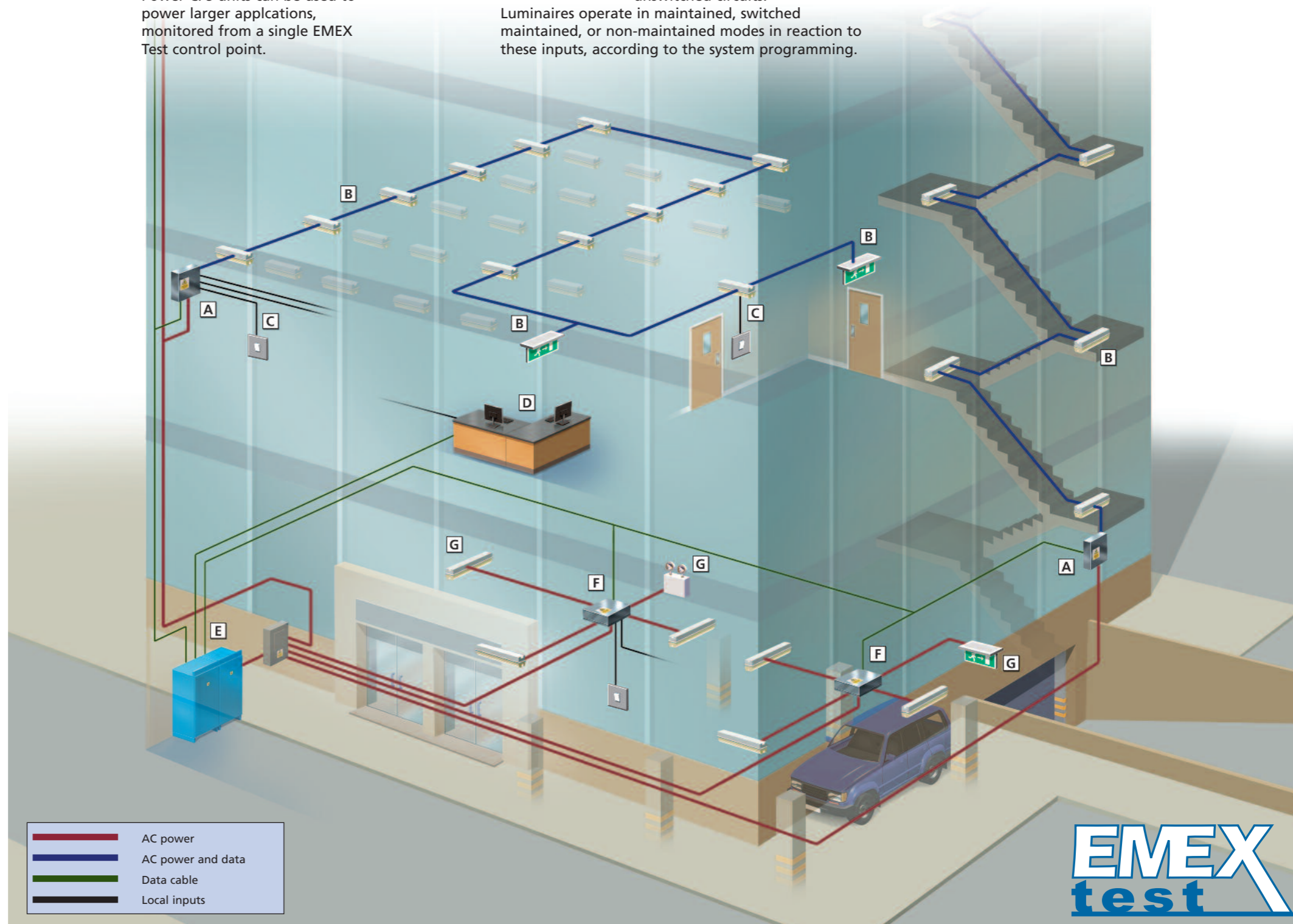
MXD4 controls up to 4 unmodified mains luminaires on an individual basis. Power and datalines feed the substation with individual power outputs to each luminaire. Each MXD4 can monitor up to 8 local switches and/or unswitched circuits.

Luminaires operate in maintained, switched maintained, or non-maintained modes in reaction to these inputs, according to the system programming.

MXD4 luminaires



MXD4 can support virtually any fluorescent, LED, filament, or halogen luminaire, without modification. Each MXD4 substation includes a single dimming control relay.



	AC power
	AC power and data
	Data cable
	Local inputs



EMEX Test software

The focal point of an EMEX Test monitoring network is a PC running the EMEX Test software package (Part no. ELD9500.912).

EMEX Test software is Windows™ based and will run on any standard desktop PC running Windows™ 2000 or later. It provides detailed address information of all connected Central Power Supply Systems and luminaires. Scheduled testing is configured quickly and easily – once set up it can be left to operate, without further input, in the background. Reports are created and collated automatically. These are date stamped and can be printed or distributed electronically.

EMEX Test modem and power supply unit
(Part no. ELD9500.911)



MXC substation (Part no. ELD9500.030)

The MXC substation controls up to 40 LTC equipped HF luminaires. It can also monitor 8 switched or unswitched inputs.

- 40 x LTC units over 2 radials (20 per radial)
- Maximum 270V AC
- 2 x 1,150VA (5 amp nominal) maximum output power
- Power consumption 25.5VA
- 200 metres maximum distance (per output radial) to final luminaire
- 2-core screened 240V, (1.0mm² minimum) cable (fireproof recommended)
- 210mm x 253mm x 60mm
- Optional power & fault indicator
- Operating temperature 0 – 50°C
- Galvanised steel enclosure (colour options available as specials)
- Substation rated to IP20 as standard. Option of IP65 available to order

MXD4 4-way addressable substation (Part no. ELD9500.016)

The MXD4 addressable substation controls up to 4 unmodified mains luminaires. It can also monitor 8 switched and/or 8 unswitched inputs.

- 4 luminaires on individual circuits
- Maximum 270V AC, 1A per circuit
- Switching threshold of 230V -60% to -85%
- Address range of 4 to 3999 (blocks of 4)
- Analogue and digital compatible dimming capability using on-board dimming relay to break dimmer control line
- Power consumption 4VA
- 2-core screened 240V, (1.0mm² minimum) cable (fireproof recommended)
- 2,500 metres maximum distance from MXKP to MXD4 transmitter
- 254mm x 210mm x 60mm
- Operating temperature 0 – 50°C
- Galvanised steel enclosure (colour options available as specials)
- Substation rated to IP20 as standard. Option of IP65 available to order



MXT data repeaters

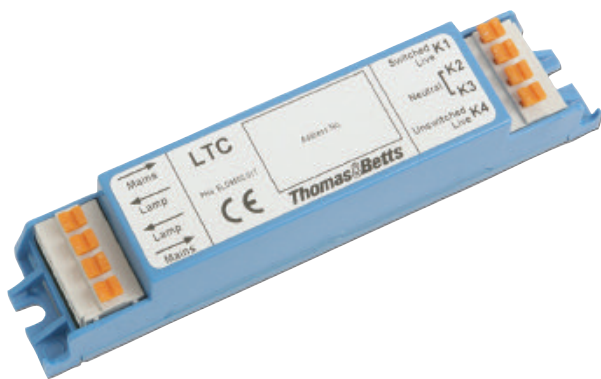
MXT100 (Part no. ELD9500.120)

MXT200 (Part no. ELD9500.121)

The MXT data repeater is used to increase the number of interfaces on an individual data line.

- Maximum 270V AC
- 2-core data inputs
- 2-core screened 240V, (1.0mm² minimum) cable (fireproof recommended)
- 300mm x 400mm x 120mm

Up to 100 substations may be fed from the internal transmitter within the CPS. Additional MXT data repeaters are available for situations where more than 100 substations are required. For example the MXT200 data repeater is capable for handling up to 200 substations.



LTC addressable interface (Part no. ELD9500.036)

The LTC addressable interface unit is required when connecting standard mains luminaires to the MXC substation system.

- Maximum 270V AC
- 75 watt maximum switching output power
- 2 control inputs configurable as local switched and unswitched monitoring
- Factory pre-addressed
- 116.5mm x 24.5mm x 22mm
- Complies with Radiated & Conducted Emissions Standard EN55015:2000

MXIN test input node

(Part no. ELD9500.039)

Provides an input point to allow roving access to the system using a laptop PC.

EMEX Test remote test input package

(Part no. ELD9500.038)

Includes roving software, portable modem and node connector.



MXKP station adapter kit (Part no. ELD9500.910)

The MXKP station adapter kit is required to integrate the EMEX Power static inverter with the EMEX Testing System. Ordered separately, the MXKP station adapter kit is factory fitted in the inverter cabinet.

- 4,000 luminaire address capability
- Maximum 255 MXKP units per control PC

- Output capacity of 100 x MXD4 and/or MXC units per MXKP
- 2-core data bus to MXD4 and MXC units and to/from MXKP units
- 2-core screened 240V, (1.0mm² minimum) data cable (Max. distance 2500 metres – additional repeaters available)