



FCC MANUAL XQMK2

Dynamic Line

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Safety precautions



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED NEDAP SERVICE PERSONNEL.



Lightning flash with an arrowhead, enclosed in a triangle, alerts you to the presence of uninsulated voltage points inside the product which could cause a serious electrical shock.



An exclamation mark enclosed in a triangle alerts you to important operating and maintenance instructions in the documentation provided with the product.

WARNING! To avoid the risk of fire or electrical shock, never expose these products to water or operate in a high humidity environment.



EN 50419:2005

- This European Standard specifies a marking
- of electrical and electronic equipment in accordance with Article 11(2) of Directive 2002/96/EC (WEEE); This is in addition to the marking requirement in Article 10(3) of this Directive which requires producers to mark electrical and electronic equipment put on the market after 13 August 2005 with a 'crossed-out wheeled bin' symbol.
 - that applies to electrical and electronic equipment falling under Annex IA of Directive 2002/96/EC, provided the equipment concerned is not part of another type of equipment that does not fall within the scope of this Directive. Annex IB of Directive 2002/96/EC contains an indicative list of the products, which fall under the categories set out in Annex IA of this Directive;
 - that serves to clearly identify the producer of the equipment and that the equipment has been put on the market after 13 August 2005.

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Notice

The documentation is based in a Part numbers and Drawing number structure.

Part number can also be named as Artikel nummer or Article number

Drawing numbers can also be named as: Tekening

Drawing numbers are build up in a the drawing Number with a structure Txxx-yy-zz

Txxx-yy is the drawing number and extension number zz means:

10 is an overview drawing of the part and can contain wiring and circuit diagrams;

11 is the bill of material;

12 is the circuit diagram of the device.

Xxxx = 0000 – 9999

yyy = 000-999

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1 INTRODUCTION

N.V. Nederlandsche Apparatenfabriek "Nedap" further on called Nedap manufactures reliable and scalable EAS Systems.

With this XQ system your able to reduce the shoplifting costs the best in combination with Nedap's tag line.

The XQMK2 system produces an acoustic - and visual signal when it detects an operating tag by means of the antennas and will identify a visitor with the active tag on one of his carried items.

XQMK2 is developed for middle scaled configurations. It starts with 2 antennas for one entrance scalable up to 150 entrances. The system is buildup in four different types of components:

- Antennas with the following types: PG27, PG39, FL30 and FL45;
- Transmitter and Receiver units installed into the antenna's;
- Network controller unit named NCC;
- Power inserter.

With The Dynamic line XQMK2 you're able to build big EAS systems connectable to the EASi/Net or Cube system.

Some of the advantages are:

1. On the antenna there is an additional advertising space;
2. The antenna color can be chosen for a fitting look in the shop;
3. There is the opportunity to integrate the customer counting feature to measure the visitor stream;
4. Optional is the communication of the system to the outside world via GSM/GPRS, PSTN, LAN or WiFi.
5. The system is equipped with integrated metal detection functionality.

Further details can be found in the XQ MK2 Installation Manual

2 System overview

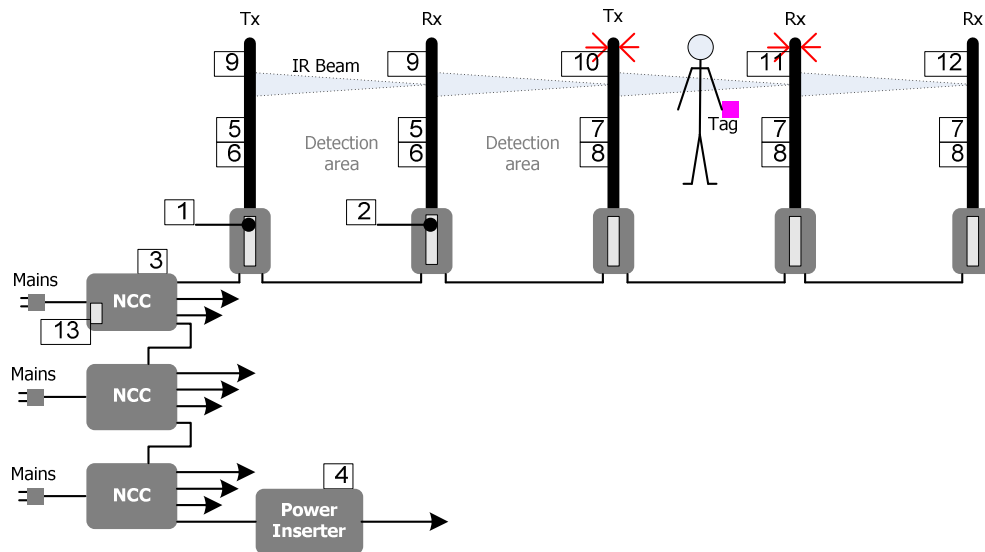


Figure 1 Functional system overview

The XQMK2 system consists of the following components:

1. XQMK2 Tx Unit
2. XQMK2 Rx Unit
3. NCC unit for communication
4. Power inserter
5. Antenna frame 27 cm Model: PG27
6. Antenna frame 39 cm Model: PG39
7. Antenna frame 30 cm Model: FL30
8. Antenna frame 45 cm Model: FL45
9. Customer Counting unit including Lighting
10. Customer counting unit Rx
11. Customer counting unit RxTx
12. Customer counting unit Tx
13. Optional communication units:
 - a. PSTN: MT5600SMI-92 by Multitech CE approved, Canada IC: 125 11142A and USA FCC complies with 47 CFR Part 68: AU7USA-46014-MD-E or any other CE, FCC and IC approved PSTN.
 - b. GSM/GPRS: MTSMC-G-F4 by Multitech CE approved, Canada IC: 125A-0027 and USA FCC ID: AU79U07A31817 or any other approved FCC or IC approved GSM
 - c. LAN: XPORT by Lantronix
 - d. WiFi: IEEE 802.11b WiPort 485 by Lantronix FCC ID: R68WIPORTG IC-ID:3867A-WIPORTG

The XQMK2 system is complete wired up and ready for use. You only have to follow up the next steps.

- Install the XQMK2 system according the: XQMK2 installation guide lines;
- Power up the XQMK2 system;
- Check the functionality;
- Call Nedap Customer Support for quick hands-on problem solution in case of unforeseen problems [see Technical Support];
- Distance between two antennas when using hard tags Ø50 mm and FL30 antennas is: 2.2 m;
- Distance between two antennas when using paper tags 4x4 and FL30 antennas is: 1.7 m;
- Distance between two antennas when using hard tags Ø50 mm and FL45 antennas is: 2.45 m;
- Distance between two antennas when using paper tags 4x4 and FL45 antennas is: 2.0 m;
- Distance between two antennas when using hard tags Ø50 mm and PG27 antennas is: 2.30m;
- Distance between two antennas when using paper tags 4x4 and PG27 antennas is: 1.80 m;

- Distance between two antennas when using hard tags Ø50 mm and PG39 antennas is: 2.60 m;
- Distance between two antennas when using paper tags 4x4 and PG39 antennas is: 2.20 m;
- Distance between an antenna and a wall, door, sliding door etc. must be at least 200 mm;
- Distance between an antenna and the nearest tagged item must be at least 2000 mm.

3 Wiring diagram

Schematically diagrams below shows an example of the connections between used modules. The picture shows the full configuration that can be built up.

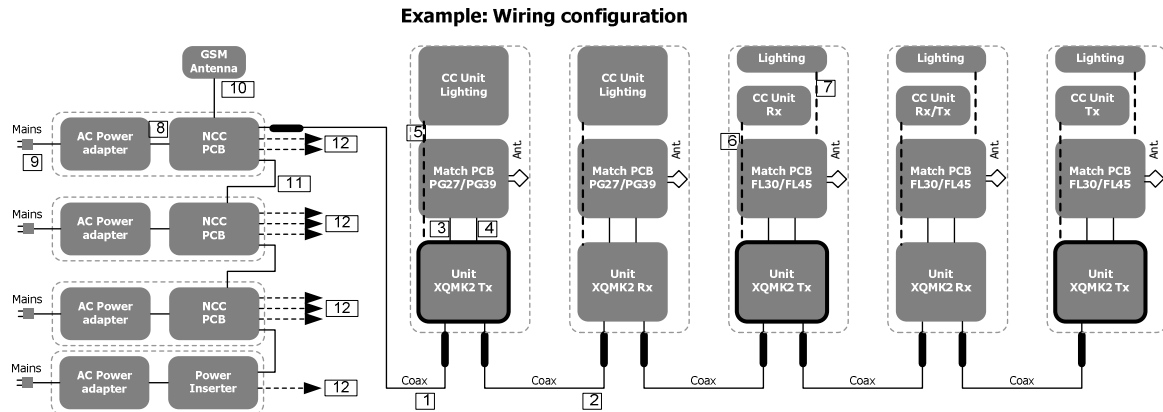


Figure 2 Example full configuration

The connections for a full configuration are:

1. Datacom cable for NCC to Unit XQMK2

Connects Data communication and power from NCC [9203508] to a Unit XQMK2 Tx [8018464] or Unit XQMK2 Rx [8018472].

NOTE: The distance between the NCC and the transmitter antenna shall 4 meters or more.

2. Datacom cable for NCC to Unit XQMK2

Connects the data and power between the XQMK2 Tx or Rx Units.

3. Tx or Rx coax cable

Connects the antenna input/output XQMK2 Tx [8018464] or Rx [8018472] to the EAS antenna loops PG27, PG39, FL30, FL45.

4. Rx or Tx cable for Metal detection

Connects the metal detection antenna input/output from XQMK2 Tx [8018464] or Rx [8018472] to the Metal detection antenna loop PG27, PG39, FL30, FL45.

5. Cable for Customer counting and lighting unit PG27/PG39

Connects the XQMK2 Tx [8018464] or Rx [8018472] to the Customer Counter and lighting unit [7833342].

6. Cable for Customer counting and lighting unit FL30/FL45

Connects the XQMK2 Tx [8018464] or Rx [8018472] to one of the Customer counter units [9923373, 9928529, 9936114, 9935207].

7. Cable for lighting module FL30/FL45

Connects the XQMK2 Tx [8018464] or Rx [8018472] to the lighting module.

8. DC cable from Power adapter to NCC electronics

Connects the Power-adapter [9651543] to the NCC main board [7824785] and carries 33V DC power.

9. Mains cable

Connects the Mains power to the Power-adapter [9651543].

10. Coax cable for GSM antenna

Connects the GSM module to the GSM external antenna to contact the GSM network.

11. Datacom cables to slave NCC's

Connects a NCC with the behavior "Master" to NCC devices with the behavior "Slave".

12. Datacom cables for system expansion

Connects more antenna strings up to 16 devices with the same function as Wire 1 and 2.

4 FCC Declarations

Compliance statements (part15.19)

This device complies with part 15 of the FCC Rules and to RSS210 of Industry Canada.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil se conforme aux normes RSS210 exemptés de license du Industry Canada.

L'opération est soumis aux deux conditions suivantes:

- (1) cet appareil ne doit causer aucune interférence, et
- (2) cet appareil doit accepter n'importe quelle interférence, y inclus interférence qui peut causer une opération non pas voulu de cet appareil.

Warning (part15.21)

Changes or modifications not expressly approved by party responsible for compliance could void the user's authority to operate the equipment.

This in particular is applicable for the antenna which can be delivered with the XQMKII System.

RF Exposure (OET Bulletin 65)

To comply with FCC RF exposure requirements for mobile transmitting devices, this transmitter should only be used or installed at locations where there is at least 20cm separation distance between the antenna and all persons.

Information to the User (Part 15.106(b))

Note: This equipment has been tested and found to comply with the limits for a class B digital devices, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequent energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does not cause harmful interference to radio or television reception, which can be determine by turning the equipment off and on , the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

5 Specifications QXMK2.

Environmental

Description	PG27	PG39	FL30	FL45
Antenna Height	1533mm	1670mm	1665mm	1665mm
Antenna Width	273mm	390mm	322mm	462mm
Antenna Base	104mm	104mm	100mm	100mm
Frame thickness	20mm	20mm	70mm	70mm
Weight	13Kg	20Kg	12Kg	15Kg
Material Construction	PMMA	PMMA	Aluminum	Aluminum
Material Covers	RVS Steel	RVS Steel	ABS HI-121, Calibre 201-15	
Protection Class	IP20			

Description				
	Min.	Typical	Max.	Condition
EAS Operating frequency	7.4 MHz		8.8 MHz	
Metal Detection Operating Frequency	120 kHz	125 kHz	130 kHz	
Operational temperature	0°C		40 °C	
Storage temperature	-10°C		+70°C	
Relative Humidity	20%		90%	non-condensing
Operating Distance	0.9m		2.4m	Between antenna, Tag dependant

Input Requirements and electrical specifications

Description	Min.	Typical	Max.	Condition
Input Voltage	90VAC		264VAC	Full Range; 50/60Hz
Input Current	-	-	2A	90VAC 50Hz
Line Frequency	47 Hz	50-60Hz	63Hz	-
Inrush Current @25°C			60A	230VAC Cold Start
Operation Voltage	29.1VDC	30VDC	30.9VDC	
Power	15W		20W	230VAC 50Hz

Regulations

Safety approvals of the Power Adapter:

- cULus according to UL/CSA 60950-1 and UL1310 NEC Class 2
- Japan PSE
- CE Europe according to EN60950-1

Telecom system approval

- Canada IC ID according to RSS210 IC ID: 1444A-XQMK2
- US according to FCC Part 15 FCC ID: CGDXQMK2
- CE according to EN 300 330

In compliance with Human exposure assessment according to:

- EN62369-1 and EN50364
- ICNIRP Guidelines
- IEEE C95.1
- RSS102
- ARIB STD-38

Electromagnetic compatibility

- EN 301 489
- IEC 61000-6-2
- IEC 61000-6-3
- CISPR 22 / EN55022