
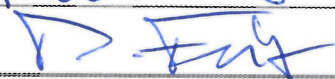


# Responsibility for On-Site work for the ELPRO Environmental Monitoring Systems

## 1. Release

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## 2. Version History

Version	Date	Author	Description
1.0	30.Aug.2017	Dominik Scherrer	First edition
2.0	17.Sep.2018	Dominik Scherrer	Addition chapter 6.2 Qualification

# 3. Content

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## 4. Objective

The intent of this document is to clarify the executed On-Site work for the ELPRO Environmental Monitoring Systems by the company ELPRO. Thereby we delimitate what work is not performed by ELPRO. Furthermore is the responsibility of the customer described.

## 5. Definition

DQ:	Design Qualification
EEx:	explosion zone
GMP:	Good Manufacturing Practice
I/O:	Input/Output
IQ:	Installation Qualification
RJ45:	Registered Jack (standard socket) for electrical contact
OQ:	Operation Qualification
QRA:	Quality Risk Assessment
QP:	Qualification Plan
PQ:	Performance Qualification

# 6. Responsibilities

## 6.1 Installation and Calibration

### ELPRO / ELPRO Partner

- Positioning and connect of ELPRO delivered electrical enclosure
- Installation of ELPRO I/O modules (communication and measurement) and their accessories (e.g. SMS modem, telephone dialing unit, alarm flash)
- Installation of sensor cables in cable trays or conduit.
- Installation of sensor cables in drop ceilings
- Mounting of transmitter (Temp., Humidity, Diff. pressure, Gas)
- Installation of sensors in refrigerators or cooling rooms
- System calibration of sensors
- Installation and configuration of the ELPRO software applications (elproMONITOR, elproUSER, elproEVENT) on customer server

### Customer

- Definition of the position from electrical enclosure, I/O modules, transmitter and sensors
- Requirements of considered spatial and technical conditions as well the used cutting outs.
- Definition of the calibration points.
- LAN connections RJ45 at the installation location of the ELPRO I/O modules
- Mains voltage 115V (US) and 230 V (EU) for all required installations
- Provision of on-site equipment if required (platform lift / scissor lift)
- Provision of required personal protective equipment such as clean room gowns
- Definition of the sensor positions - if necessary through qualification or mapping by ELPRO GxP Service
- Provision of configuration in particular IP addresses for communication modules
- If required, a standalone analog phone line for telephone notification (if required by customer)
- Provision of servers as defined in requirements
- Server procurement and setup of web-, database- and application-server
- Server back-up/archiving
- Disaster recovery plan
- Maintenance plan for database

## 6.2 Qualification

### ELPRO / ELPRO Partner

- Performance of room, transport and equipment qualification (DQ, IQ, OQ, PQ)
- Performance of system qualification (DQ, IQ, OQ)
- Performance of temperature and humidity mappings
- Moderation of risk assessment
- Provide qualification plans (DQP, IQP, OQP, PQP)
- Complete and review checklists (DQR, IQR, OQR, QR)
- Provide qualification reports
- Tracking of problems and deviations
- Providing all data and documents that are required to perform the qualification

### Customer

- Review and release of qualification plans and reports.
- Provide personnel if required to assist in operating the software to complete the checklist.
- Review of deviation and implementation of corrective actions with ELPRO qualification/validation engineer

## 7. Delimitation

### ELPRO do not perform the following tasks:

- Cutting out openings in walls, floors or ceilings
- Re-establishing fire-protection installations/measures
- Sealing of clean rooms
- Installation work in specially defined EEx rooms
- Electrical or LAN installations on the mains power supply (ELPRO is not approved)
- Installations of wire trays and conduit (US only)
- Installation of sensor cables in difficult to access floor channels, climbing areas, etc.
- Opening and reclosing of suspended double ceilings (aside from normal moving of ceiling tiles for wire installation)
- Maintenance of customer server including move of server - database backup and restore (ELPRO will install the ELPRO software application)

ELPRO recommends using suppliers who are familiar with the local installation regulations for the aforementioned tasks. For IT infrastructure ELPRO collaborates with MTF, iWay, BNC

## 8. Disruptive Factors

- Caution: power lines may cause interference of sensor signal and lead to incorrect measurements / indications! e.g. Strong start-up currents of lifts or other heavy electrical consumers.
- In these cases, the sensor cable must be routed accordingly
- There are various interference factors which are permanently or punctually influencing the radio connection
- Important is to realize that radio-systems are by definition used in a dynamic environment. This means that the various interference factors are not static but changing constantly over time.

## 9. Associated Documents

[1] [General Terms and Conditions](#)

[2] [Unlimited-elproMONITOR System Requirements](#)