

# DIN SPEC 91043:2021-09 (E)

## Remote monitoring for decentralized drinking water treatment plants; Text in English

---

Inhalt	Seite
Foreword .....	4
Introduction.....	5
1 Scope.....	6
2 Normative references .....	6
3 Terms and definitions.....	6
4 General.....	7
4.1 Plant description .....	7
4.1.1 General.....	7
4.1.2 Flowmeter (in) .....	7
4.1.3 Lead pump .....	7
4.1.4 Pre filtration .....	7
4.1.5 Disinfection .....	7
4.1.6 High pressure pump .....	8
4.1.7 Pressure sensor .....	8
4.1.8 Membrane filter .....	8
4.1.9 Flowmeter (out).....	8
4.1.10 Water quality sensor .....	8
4.1.11 Variable frequency converter of lead pump.....	8
4.1.12 Variable frequency converter of high pressure pump .....	8
4.1.13 Wastewater tank.....	8
4.1.14 Drinking water tank.....	8
4.2 Library blocks.....	8
4.2.1 General.....	8
4.2.2 Station related locking.....	8
4.2.3 Authorization levels .....	9
4.2.4 General faceplate functions for local operation .....	9
4.3 System architecture.....	10
5 Maintenance Analysis .....	10
5.1 General.....	10
5.2 On-Site maintenance .....	10
5.3 Parameters to be monitored, their extent and units .....	11
6 Data Transmission .....	11
7 IT Security.....	12
7.1 General.....	12
7.2 Concept according to IEC 62443 series .....	12
7.2.1 General.....	12
7.2.2 Plant Security.....	12
7.2.3 Network Security.....	12
7.2.4 System Integrity.....	13
7.3 Solution Engineering.....	13
7.3.1 General.....	13
7.3.2 Project Security Objectives & Business Impact .....	13
7.3.3 Security Threat & Risk Analysis.....	13
7.3.4 Security Requirements .....	13
7.3.5 Secure Architecture & Design.....	13

7.3.6	Secure Supplier and Component Selection .....	13
7.3.7	Secure Coding .....	13
7.3.8	Secure Configuration & Hardening.....	14
7.3.9	Security Testing.....	14
7.4	System Configuration/Hardware requirements.....	14
7.4.1	General .....	14
7.4.2	Minimum Standard for the internet connection .....	14
7.4.3	Virtual Private Network (IPsec) .....	14
7.5	Secure development process/secure lifecycle.....	15
	Bibliography.....	16

## Figures

Figure 1	— Typical plant design.....	7
Figure 2	— Example for a menu .....	9
Figure 3	— System architecture.....	10
Figure 4	— Defense in depth .....	12
Figure 5	— Solution Engineering.....	13
Figure 6	— Example of system configuration .....	14

## Tables

Table 1	— Authorization levels .....	9
Table 2	— Operation and the maintenance analysis of minimum parameters.....	11