2 FOR YOUR PERSONAL SAFETY

2.1 Authorised personnel

To ensure that the I.S. 1 system functions correctly and safely, it may only be assembled, installed and operated by authorised personnel. Different qualifications are required for the different activities.

2.1.1 Fitting

Fitting requires:
- Practical technical basic training
- Knowledge of safety guidelines in the workplace

2.1.2 Installation

Installation requires:
- Practical electrotechnical basic training
- Knowledge of the current electrotechnical safety guidelines
- Knowledge of the installation methods for explosion protected electrical plants
- Knowledge of safety guidelines in the workplace

2.1.3 Commissioning

Commissioning requires:
- Knowledge of all electrical and functional parameters and properties of the I.S. 1 system
- Knowledge of the function and commissioning of bus systems
- Knowledge of the connected sensors and actuators
- Knowledge of the safety guidelines in the workplace, in particular behavior in hazardous locations

2.2 Intended use of the I.S. 1 system

The I.S. 1 system may only be operated for its intended purpose and with the specified system configuration. Any other use of or modifications to the I.S. 1 system invalidates any liability on the part of the company R. STAHL.

Special applications

Contact R. STAHL SCHALTGERÄTE GmbH before using the I.S. 1 system for any special applications.

Warning

DANGER OF EXPLOSION!

If the I.S. 1 system is modified this will endanger its explosion protection or intrinsic safety. In some circumstances, this can cause explosive sparking or non-permissible surface temperatures.

- Do not modify the I.S. 1 system construction or safety parameters.

2.2.1 Electromagnetic compatibility

The I.S. 1 system has been tested for electromagnetic compatibility in compliance with EN 61 326-1 and IEC 1000-4-2 .. 6 and -11, as well as NAMUR NE 21.

2.3 Safety instructions and protective measures

Application area

When the I.S. 1 system is used in hazardous locations:

- ➢ Read and comply fully with the safety instructions for explosion protection in Chapter *2.4*.
- ➢ Comply with the warning instructions in the handling introduction sections in these operating instructions.

Storage

- The storage temperature range for the I.S. 1 system is between –40 °C and +70 °C.
- The maximum permissible humidity without condensation is 95%.
- ➢ Keep the I.S. 1 system in the original packaging until assembly and protect from moisture and damage.

Warning	**DAMAGE TO THE I.S. 1 SYSTEM!** If the I.S. 1 system is incorrectly stored, it can be damaged. ➢ Store the I.S. 1 system only under the specified conditions.

2.4 Explosion protection

2.4.1 Overview of the I.S. 1 system in various application areas

Installation of the I.S. 1 field station in	I.S. 1 components	Installation of the components in
safe areas	BusRail and terminations CPU & Power Module for Zone 2, Type 9440/15 Input and Output Modules Types 94xx/12, 94xx/10	Cabinet or rack
Zone 2	BusRail and terminations CPU & Power Module for Zone 2, Type 9440/15 Input and Output Modules, Types 94xx/12	Enclosure, suitable for Zone 2
Zone 1	BusRail and terminations CPU & Power Module for Zone 1, Type 9440/12 Input and Output Modules Types 94xx/12	Enclosure EEx e

2.4.2 Tabular overview of measures to maintain explosion protection

Measure	Further information
Comply with nationally applicable requirements for explosion protection.	In the EU: Guideline 94/9/EEC (ATEX 100a), Guideline 95 / C 332 / 06 (118a), EN 60 079-14
The I.S. 1 system may only be operated in Zone 1 in specific system configurations. These include: • CPU & Power Module for Zone 1 • EEx e enclosure • Limited number of connectable I/O modules • Fieldbus isolating repeater for Ex i fieldbus	Safety instructions, see Chapter *5.1*
The modules of the I.S. 1 system may only be connected to the specified field devices. The Ex i values resulting from the connection must be checked. Dangers in the Ex-area may result from: • Usage of incorrect modules • Non-compliance of the Ex I values for field devices and I/O modules due to incorrect connection	Technical data for the system and technical data for the components, see Chapter *13.2.5* and Chapter *13.3*
Only operate intrinsically safe circuits with the specified maximum values for current and voltage. Interconnection of several circuits may endanger the intrinsic safety.	Safety instructions, see Chapter *5.1*and Chapter *7.1*
Safety measures for assembly/disassembly	Safety instructions, see Chapter *6.1* and for assembly of components, see Chapter *6.3.1*
Safety measures for connection	Safety instructions, see Chapter *5.1*and Chapter *7.1*
Safety measures for error rectification	Safety instructions, see Chapter *11.1*
Safety measures for expanding the I.S. 1 system	Safety instructions, see Chapter *12.1*

Tab. 2-1 Measures for maintaining explosion protection

2.5 Waste disposal

The components of the I.S. 1 system contain the following environmentally harmful materials:

Component	Environmentally harmful material(s)
Enclosure	Polyamide, polycarbonate
Electronic printed circuit boards	Diverse
Terminals	Polyamide

Tab. 2-2 Environmentally harmful materials in the components of the I.S. 1 system

Environmental guidelines

Dispose of the modules in compliance with national environmental guidelines.