FALCON

QUICK GUIDE

FALCON

94G0336 - 21.11.2025

BROEN-LAB

Introduction

Even the most carefully crafted safety plans can benefit from improvements such as alarms, alerts, maintenance scheduling, and reporting features.

That's why BROEN-LAB created FALCON. FALCON is a comprehensive safety management system that transforms your emergency shower system, providing the security you need to prioritize employee safety and ensure continuous, effective safety measures.

FALCON is a cloud-based, monitoring system that automatically monitors your emergency showers and:

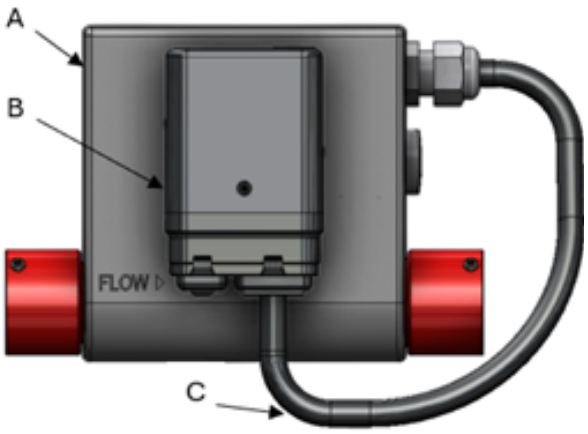
» Collects data from all your showers in real-time – even across multiple buildings and locations.
» Sends notifications to selected staff via phone and email if an emergency shower is activated and a colleague needs assistance.
» Integrates via webhook, allowing FALCON to connect with other BMS systems for additional functionality and automation.
» Sends maintenance staff notifications in case of deviations or other system errors.
» Enables the creation of teams with online access to maintenance planning tools, such as information on shower sequence, route recommendations, checklists, and quick service tips.
» Makes the collected data available to maintenance staff, allowing them to quickly and easily generate PDF reports.

Hardware

A complete FALCON system consists of only three hardware components:

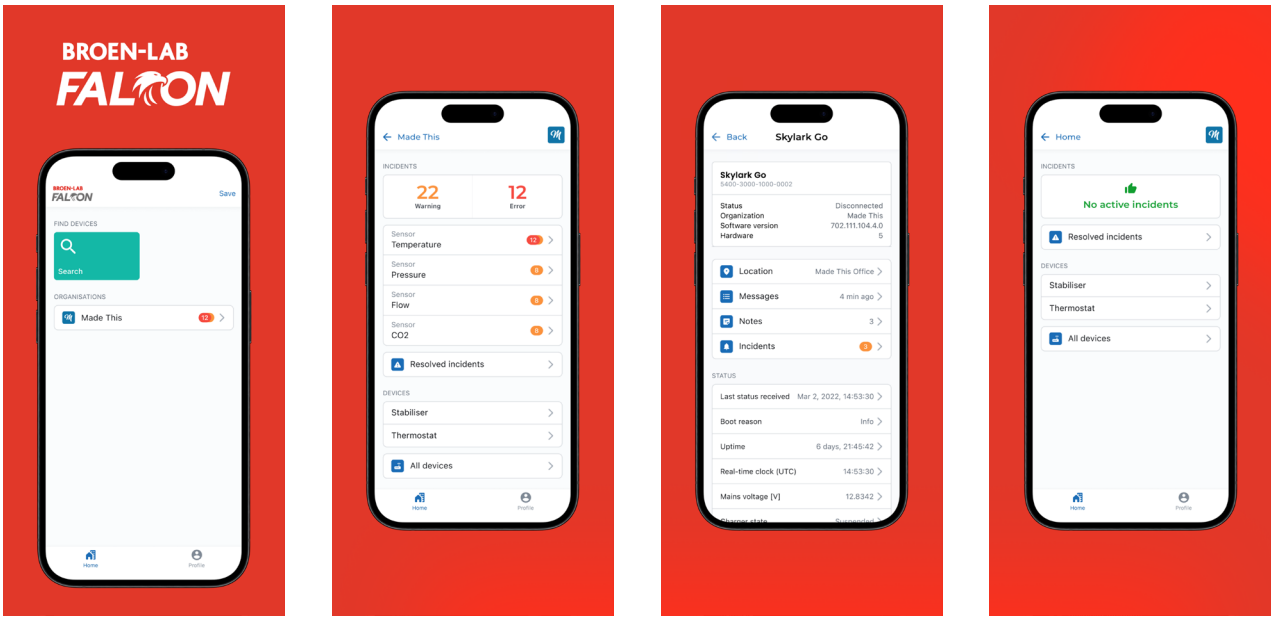
A) Sensor Module (S1)
B) Communication Module (C1)
C) Sensor Cable (K1)

These modules are mounted/placed at each emergency shower unit. Each sensor module contains a flow switch, flow meter, pressure sensor, and temperature sensor. Data from the sensor module is transmitted via the battery-powered communication module to the FALCON data center in the cloud through an independent 4G LTE network.



User interface

The FALCON user interface is a web-based platform accessible via app or web browser. From the platform, all data collected from the system, as well as maintenance monitoring of devices, can be accessed. When an emergency shower is activated, designated users receive a notification, even if the app/user interface is not open.



You can find the browser-based platform here: https://falcon.broen-lab.com, and the mobile app on the App Store and Google Play.

Download app for IOS

Download app for Android

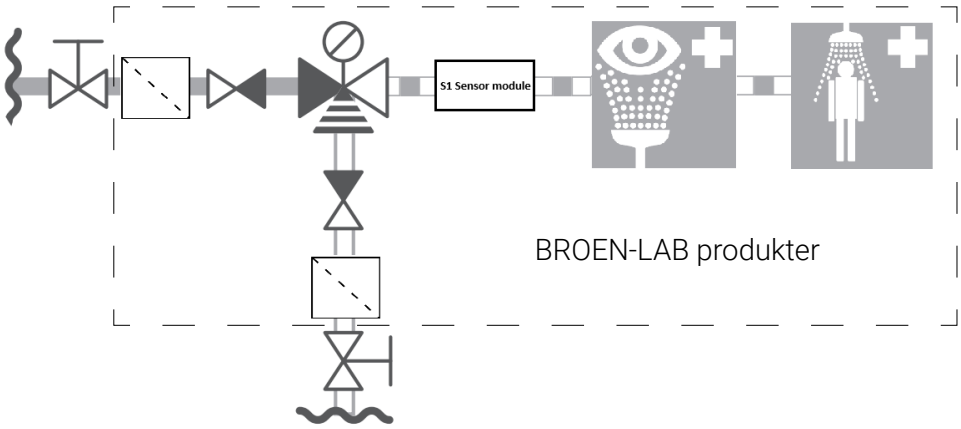
Hardware installation

All installations must be carried out by professionals and in accordance with applicable laws.

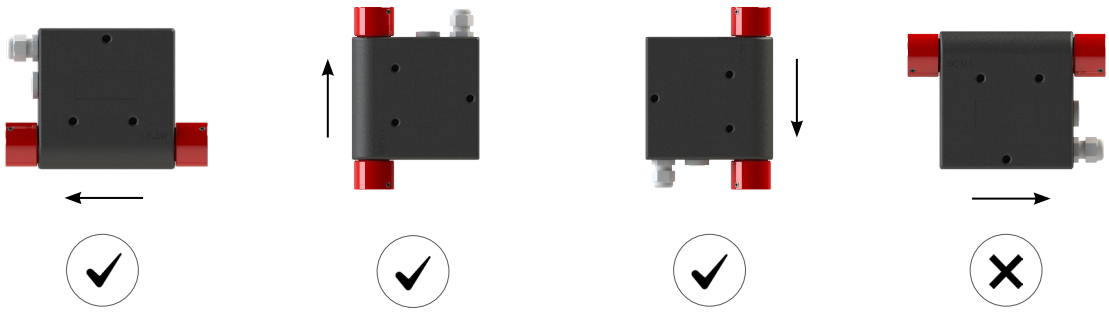
Sensor Module (S1)

The piping system must always be flushed for impurities before installing the sensor module. If impurities in the water supply are generally an issue, it is recommended to install filters before the sensor module or before any thermostat.

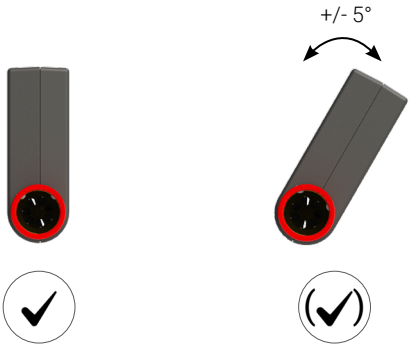
Recommended installation (the installation diagram is general and for guidance only):



Install the sensor module as shown in the image below. The arrows indicate the direction of water flow.



The sensor module should, as a general rule, be installed vertically, but can be tilted up to a maximum of +/- 5° on each side.



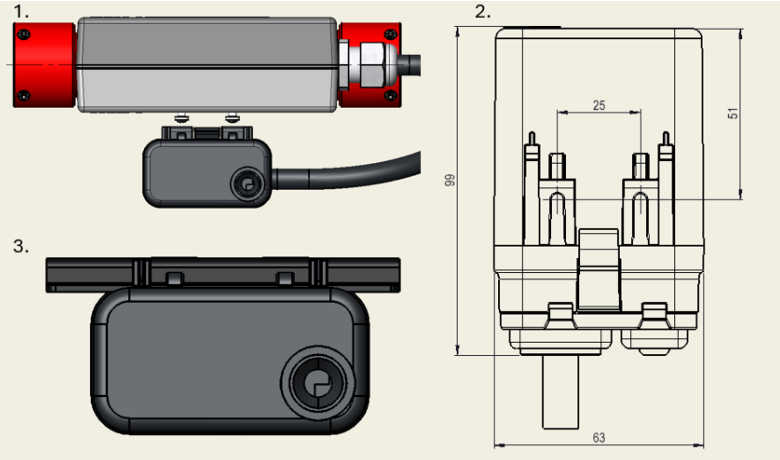
The sensor module must always be installed in a way that allows for inspection and replacement. This is ensured by choosing the correct location and the right combination of fittings for the installation. See 2750overview001 for a fittings overview.

It is recommended to install the S1 sensor module as close to the emergency shower product as possible, no more than 2 meters away from the product's location. For selected body showers, the sensor module can be mounted directly on the BROEN-LAB product. See the BROEN-LAB catalog for possible solutions.

Communication Module (C1)

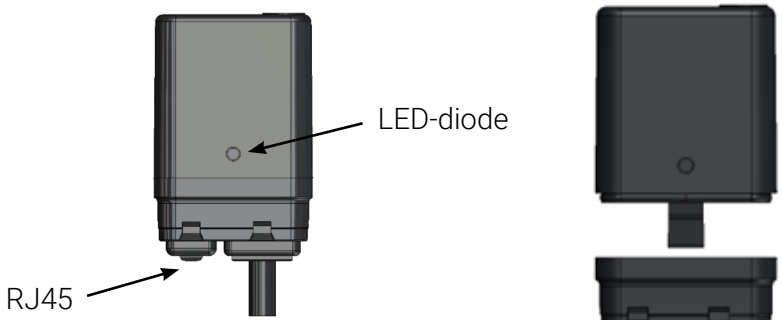
The C1 communication module should be placed so that the LED indicator on the front of the module is visible from the user area near the emergency shower. It is also recommended to position the C1 communication module so that it is easily accessible for battery replacement and other service tasks without the need for tools or a ladder.

The C1 communication module can be installed directly behind the S1 sensor module using the provided screws (1), mounted on the wall (2), or installed on a standard 35mm DIN rail (3):



Network

The C1 communication module communicates with the Falcon platform via a 4G LTE network. Always check that there is available network coverage at the installation location.



Battery

The battery in the C1 communication module has a lifespan of 2.5 - 3 years, depending on usage. The battery is replaced by removing the sensor cable and clicking off the bottom of the module. Remove the circuit board and detach the battery connector. Install the new battery and reconnect the battery connector. Inspect the gasket along the edge. If it is in good condition, press the bottom back into place until a click is heard.

Note that poor network connectivity will affect battery life.

Tecnical data

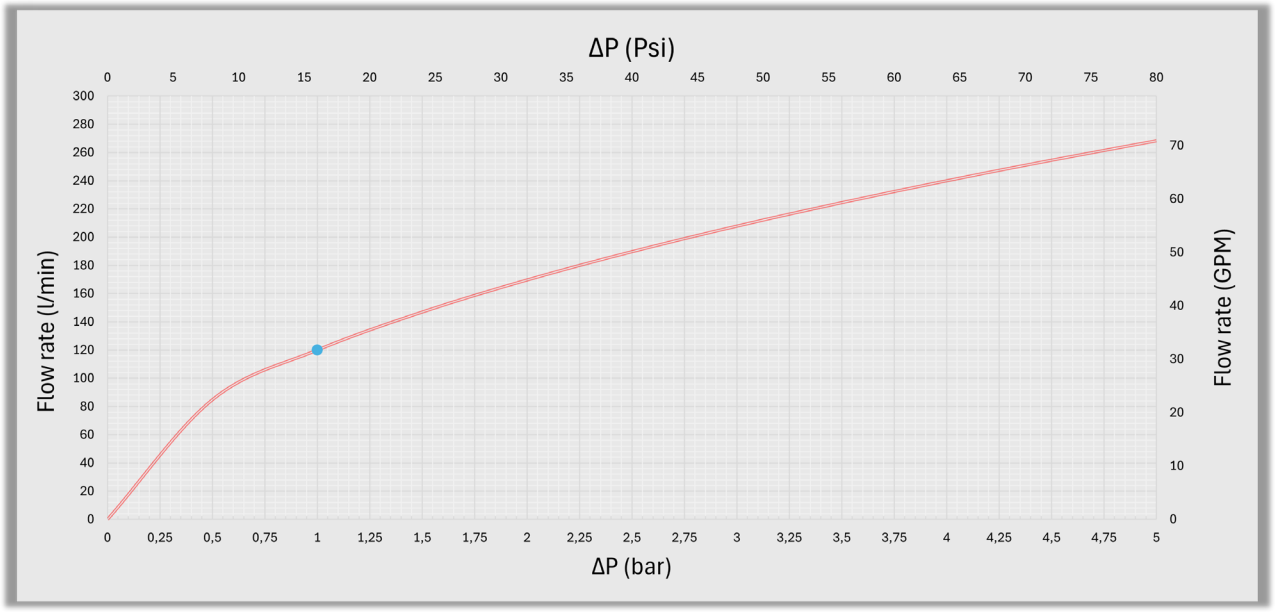
Item number	27500011000001	27500021000001	27500031000001
Inlet/outlet	1”/1” smart plug	3/4”/1” smart plug	1/2”/1” smart plug
Max. working pressure	PN10	PN10	PN10
Working pressure	90 l/min	90 l/min	90 l/min
Minimum flow	10 l/min	10 l/min	10 l/min
Temperature	0……90°C	0……90°C	0……90°C

Kv values (1 bar):

$$K_V\left(1\ bar,\ 1\text{” til }1\text{” smart plug}\right) = 7,2\frac{m^3}{h} = 120\frac{l}{min} = 2,0\frac{l}{s}$$

Example of water volume calculation (1 bar):

$$Kv\left(\frac{m^3}{h}\right) = \frac{qv\left[\frac{m^3}{h}\right]}{\sqrt{\Delta P\,(bar)}} qv\,(1\ bar) = Kv * \sqrt{\Delta P} = 7,2 * \sqrt{1} = 7,2\frac{m^3}{h}$$



For more information about BROEN-LAB Falcon, see:

- Falcon platform guide: 94G0333
- Installation guide: 94G0334