CASE STUDY

JUMO GMBH & CO. KG, FULDA:

# MODERN SENSORS MEET ROBUST TRANSMISSION TECHNOLOGY

To measure and regulate the indoor climate in its new "Sensilo" plant Jumo is using Single Pair Ethernet technology from Datwyler IT Infra.

The Jumo Group, based in Fulda, is a leading provider of sensor and automation solutions as well as the market leader in temperature sensors for heat meters. The Group has five branches, 25 subsidiaries and over 50 agencies.

In May 2025, Jumo opened a state-of-the-art plant in the Fulda West technology park. With over 10,000 square metres of production and logistics space, the "Sensilo" produces mainly temperature and pressure sensors. Jumo uses a smart indoor climate monitoring system in this new building. And Datwyler IT Infra's Single Pair Ethernet technology is being used for the first time here.

## Healthy indoor climate

The precise and continual recording and regulation of temperature, relative humidity and carbon dioxide ($CO_2$) concentration is an important part of modern building automation. On the one hand, it's about ensuring a healthy indoor climate to promote people's wellbeing and their ability to concentrate. On the other, these measures will also protect the building structure.

Because today new buildings are designed to be practically air tight. Controlled ventilation is therefore essential in order to save energy and avoid damage due to damp and mould.

In the visitor and presentation area of the "Sensilo", the indoor climate is constantly monitored with intelligent multisensors. They record the three values mentioned and transmit them digitally via Single Pair Ethernet (SPE) to the building climate control and JUMO cloud where the data are visualised and recorded.

The subsequent digital processing enables a clean, low-interference measuring chain and a modern, web-based representation of the current air quality in the room.

There are a total of four of these measuring points. The multisensors used are the JUMO hydroTRANS S20, which has an integrated cloud gateway. Ethernet communication is through the Modbus TCP protocol.

SPE-based networking has proven to be an extremely easy, effective and thoroughly stable solution. Thin single-pair data cable from Datwyler bridge distances up to a maximum of 500 metres, are mechanically robust and have an excellent shielding effect. An SPE switch in the control cabinet supplies the sensors with power via Power over Data Line (PoDL). So additional power cables are not required.

## Fast, accurate installation

The solution was installed by Kerbl Gmbh & Co. KG. Norbert Krafczyk, electrical installer for energy and building technology at Kerbl, describes the work as "practically child's play".

First of all he connected the multisensors using a pre-assembled SPE-M12 cable (IP67) and connected the connecting cable to the SPE main line in a terminal box. That was fed into the control cabinet where it was pressed onto an SPE connector (IP20).

Then, on the top-hat rail, Krafczyk mounted an Industrial Ethernet switch with four SPE ports from Weidmüller. The device now provides Ethernet network coupling and supplies the four sensors with the necessary power. This IE switch can be configured via the DIP switches, easily and without any additional software.

After the electrical installation the responsible Jumo engineer was able to configure cloud access directly. No additional edge gateway was needed. The ventilation control system accessed the measured values directly by Modbus TCP via Ethernet and then started to control the supply of air on the basis of the required values defined.

## Positive result

Stephan Möller, Project Manager Facility Management at Jumo, draws a definite conclusion. "The combination of the JUMO hydroTRANS S20 and the SPE technology with PoDL enables fast, robust and extremely efficient installation of the measuring points."

The wholly digital architecture – from the sensor, through SPE to the JUMO cloud – shows how modern sensors, secure data communication and web-based visualisation mesh seamlessly together.

(May 2026)


© 2026 Datwyler IT Infra. All rights reserved. Photos: JUMO GmbH & Co. KG