



analysis and provides multiple service and commissioning tools and apps for end-users.

The second possibility uses the heat pump controller by Bitzer which features USB, Modbus and RS-485 connectivity and a customer hosted cloud. The Smart Connect App for Android and iOS features a user interface to control and monitor the heat pump. Furthermore, it is possible to use a customer branded GUI via the Smart Connect Cloud which features alarm handling, trend logging and monitoring.



Figure 2: The Bitzer IQ Module

## Contact information

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## FACTS ABOUT THE IoT CASE

**IoT category:** optimize HP operation, predictive maintenance, performance benchmark, installation error analysis

**Heating capacity:** any

**Heat source:** any

**Analysis method:** depending on service, e.g. simulations, big data analysis, market models, control engineering, fault detections, energy balance calculations

**Modelling requirements:** No specific requirements regarding modelling.

**Data required:** Depending on use case. Enables access to compressor data.

**Data interface:** LAN, WLAN, 4G, Bluetooth, IQ-BUS, USB, RS485

**Transmission protocol for data:** Modbus, MQTT

**Quality-of-Service:** real time, depending on use case and connectivity option. Limited only by Modbus/IQ-BUS capabilities.

**Technology Readiness Level:** TRL 9

**Link to webpage:**

<https://www.bitzer.de/gb/en/bdn.jsp>