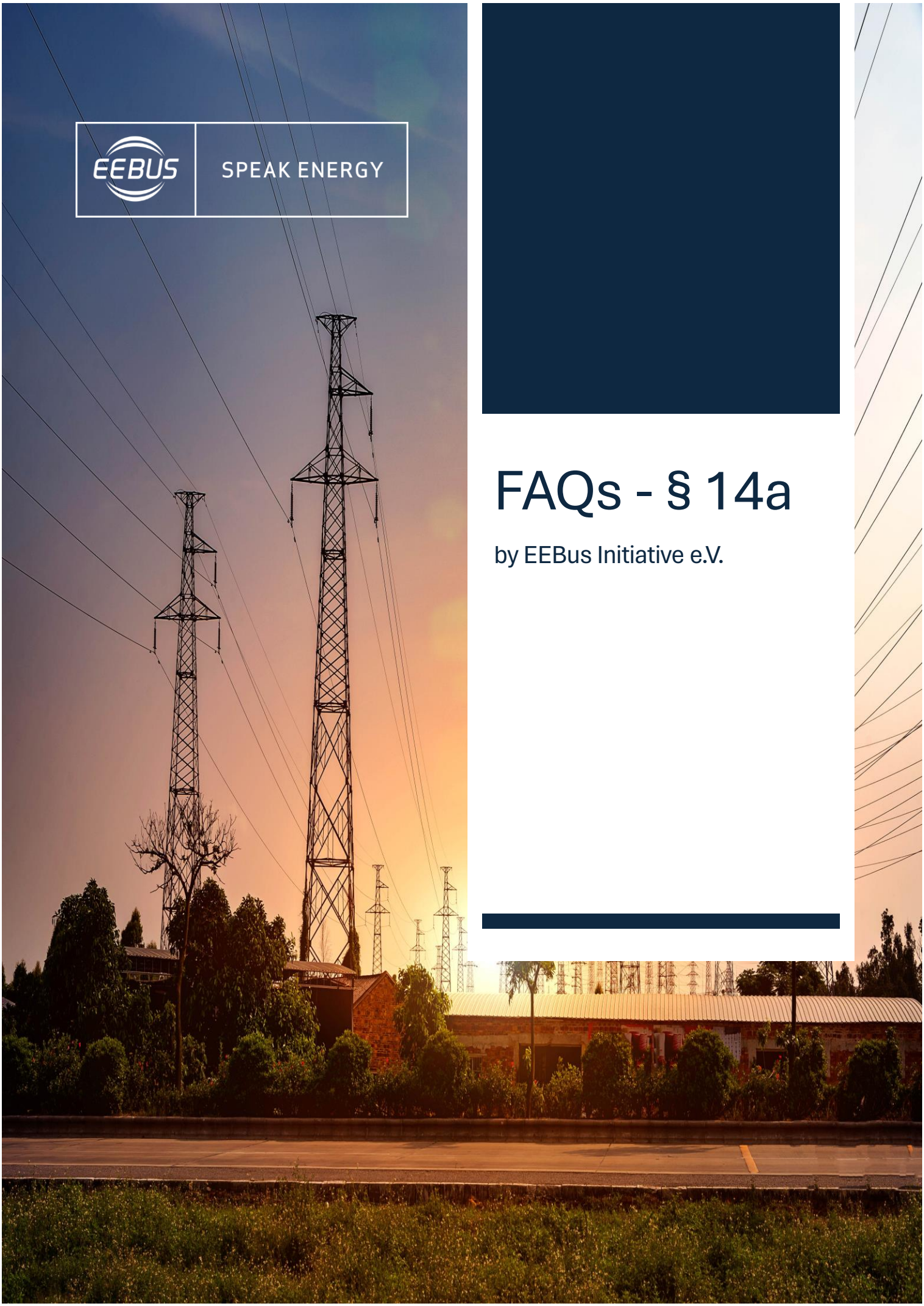


# FAQs - § 14a

by EEBus Initiative e.V.

| # | Question | Answer |
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| 1 | When does § 14a come into force? | From 01.01.2024, all devices affected by §14a must be controllable, regardless of whether the DSO actually controls them. If it turns out later that the DSO cannot control the device, the operator/end customer must retrofit at their own expense. Therefore, it is important to install the correct interfaces from now on. With EEBUS, control is possible, which is mentioned as example by both the BNetzA and the BSI. |
| 2 | Does § 14a specifically refer only to the consumption control or also to production limits? | § 14a EnWG only refers to consumption limits. To fulfil § 9 EEG the use case Limitation of Power Production (LPP) is necessary. Therefore, the FNN specification requires Limitation of Power Consumption (LPC) and LPP for the control box. EMSs that combine PV systems with self-consumption optimisation need both. |
| 3 | How often will the DSO send control commands? What is the required response time? | The DSO has to send a limit promptly after an imminent grid congestion based on a determination of the state of the grid network. This will only happen in emergencies and not every day.<br>The controllable device should apply the limit promtly: charging stations in seconds, heat pumps in minutes. |
| 4 | Which EEBUS use cases are relevant to fulfil § 14a? | The Limitation of Power Consumption (LPC) use case is relevant for energy-consuming devices. However, there is another law § 9 EEG. For this law Limitation of Power Production (LPP) is relevant for energy producing devices. |
| 5 | Are there any specific requirements for controllable devices? | Yes, please refer to the description of the BNetzA regulation on § 14a and TR-03109-5 of the BSI. The requirements mainly concern functional and IT security requirements for the control interface and documentation obligations. Both are fulfilled by the use of EEBUS. |
| 6 | Does the Grid Connection Point Hub (SMGW + control unit) support any other communication other than EEBUS to send the limits to EMS/end devices? | EEBUS fulfils the requirements of the German Federal Network Agency (BNetzA) and the German Federal Office for Information Security (BSI) and is currently the only interface which is explicitly mentioned in both regulations. However, this does not mean that other interfaces (e.g., KNX) cannot also fulfil the requirements. As of today, we are only aware of installations with EEBUS interface. |
| 7 | If a certified EMS is used, does the controllable device need to produce a § 14a | There is not yet a certification process for § 14a compliance at the controllable device level. However, if the necessary EEBUS use case If |

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| | compliance certificate/declaration? | Limitation of Power Consumption (LPC) is fully and correctly implemented, the technical requirements of § 14a are automatically met. Furthermore, we also recommend the implementation of Monitoring of Power Consumption (MPC), see the recently published white paper on EEBUS solutions.<br>In the case of an Energy Management System (EMS) using EEBUS towards the grid, the operator or the manufacturer of the EMS is responsible for the correct implementation of the control command in the controlled devices behind the EMS. In the case of EEBUS devices, this is implicitly always guaranteed, whereas all other implementations of control commands must be checked on a case-by-case basis. This applies in particular to the documentation obligation outlined in § 14a, which is also implicitly covered by EEBUS devices. |
| 8 | What is the difference between a SMGW and a control box? | The main difference between an SMGW and a control box is their functionality and purpose. The SMGW is designed to manage the cyber-secure communication between smart meters, devices on the premises and utility companies for all energy-economical-related data. A control unit is a technical device that transmits control signals from the DSO are transmitted to the controllable devices. It incorporates a firewall in accordance with the legal requirements of the BSI TR 03109-5 and separates the utility IT network from the customer network. An FNN control box may serve as a control device, and can also exist in other physical manifestations, e.g. as an integrated solution in an SMGW. |
| 9 | Will there always be a control unit on site? Or can the EMS be connected directly to the SMGW? | Theoretically, the EMS can be connected directly to the SMGW, but then it becomes a component that must go through the BSI certification process, resulting in higher higher security requirements for the EMS. This will not be necessary if the EMS is connected to the control box. Therefore, we assume that a control unit will be installed at the grid connection in the first instance. A control unit can be an FNN control box, an additional module to the SMGW or a control functionality integrated in the SMGW in the future. |
| 10 | Do all control units support EEBUS? | We have tested several control units with EEBUS interface in our Living Lab Cologne. These control |

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| | | units can control devices directly or via an EMS. Some manufacturers have solutions that only support control via relays, which are usually updatable and can support a digital interface. As of today, we only know of devices with EEBUS as a solution, but we do not exclude that other solutions (e.g. KNX) will be possible for more complex buildings. |
| 11 | How does the communication between grid operator and SMGW, smart meter or control box look like? | How the communication between the grid operator and the SMGW/control box works is decided by the metering point operator, who is responsible and installs the necessary technology. EEBUS fulfils the requirements of the BNetzA and BSI from the control box output (in future also from the SMGW output). |
| 12 | What interface is used as communication between the control box and the EMS/end device? | From the output of the control box (in the future also SMGW) EEBUS fulfills the requirements of BNetzA and BSI. In both regulations EEBUS is currently mentioned as the only example for a communication interface, which does not mean that other communication interfaces do not also fulfil the requirements. |
| 13 | How must EMS manufacturers comply with § 14a? Do different rules apply to an EMS according to § 14a? | The same requirements of § 14a that apply to controllable devices also apply to an EMS. Operators and device manufacturers must ensure and prove that control commands are successful. There is currently no regulation or certification process for the EMS itself. However, only if the control unit and EMS are merged into one device, the EMS must be certified under BSI-TR-03109-5 as well. This only covers IT security, not the logic and algorithms of the EMS itself. If an EMS is installed behind a control unit (e.g. control box) that uses EEBUS, no additional certification is required. EEBUS is currently the only interface which is explicitly mentioned in the regulations of BNetzA and BSI. However, this does not mean that other interfaces (e.g., KNX) cannot also fulfill the requirements. |
| 14 | How is the EEBUS interface defined? Is there an FNN guideline to refer to? | There are several specifications: The complete specification of the EEBUS interface can be downloaded from the homepage www.eebus.org. It is also published as accepted state of technology in the VDE: VDE 2829-6 series. These documents are currently congruent. For possible future updates and clarifications, please refer to the EEBUS homepage. The use of VDE-2829-6 in |

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| | | the context of grid control (§ 14a) is also described in the FNN specification. |
| 15 | Does § 14a also affect already installed devices? Will households have to change or retrofit installed devices? | § 14a obliges every household to install in the future controllable devices. The easiest way is to install only intelligent controllable devices. It is important when buying a new device. This does not apply to devices installed before 01.01.2024. |
| 16 | Can the Metering Point Operator or DSO prescribe EEBUS as the digital interface for existing systems that want to switch to a § 14a specification? Does this mean that the systems have to be retrofitted? | In line with the regulatory price requirements, metering point operators are installing standardised control technology throughout Germany. The BNetzA and BSI have set the course by naming EEBUS in their regulations, and market developments confirm this.<br><br>There will be control technology that supports multiple protocols, but this will have to be paid for separately by the customer. The same will happen with relay contacts in the long term.<br><br>If the DSO inspects in the next few years and the customer cannot be controlled with the interface supported by the DSO, the customer will have to retrofit at his own expense. |
| 17 | One device can be limited to consume 4.2kW.<br>If you have multiple HPs/HVAC devices, should they be counted as a single unit? Do devices <4.2kW count towards this total? Who is responsible for calculating the power limit? | Within a group of devices, the devices are added together. Therefore, even if there are five heat pumps installed in a building, each consuming less than 4.2kW, their consumption is added together. As a result, each device covered by § 14a must be controllable, even if it consumes less than 4.2kW.<br>The devices are registered at the DSO, so it is the DSO that has the necessary information to calculate the power limits. |
| 18 | How can a company check, if its device is § 14a compliant? | It is possible to test the device at the Living Lab Cologne. Visit the Living Lab Cologne website for more information on § 14a compatibility. |
| 19 | Is it already clear how § 14a will be implemented technically or will it be only defined in October 2024? | Only EEBUS is mentioned in the BNetzA paper as a technology that meets the requirements of § 14a. The use of EEBUS is therefore a safe way to fulfil the requirements. |
| 20 | The BNetzA has set a deadline of October 2024. Are the manufacturers of end devices (wallbox, inverter, heat pump) keeping up with the speed? | Our observation is that many companies have already implemented the use case Limitation of Power Consumption and are ready for § 14a. Some other companies are now looking for ways to do it. The discussion about § 14a is not new but has been going on for five years. The regulation that has been put into practice has been quite clear for a year. |

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| 21 | Do you already have a concept for the implementation of module 3 of § 14a variable transmission fees? | Our Dynamic Pricing solution aims to offer variable tariffs and other incentives to consumers. The Time of Use Tariff use case enables the DSO or ESP to send incentive tables with energy prices or transmission fees to the EMS. The EMS then sends calculated incentive tables (including information from the PV inverter) to the end devices, which can adjust their consumption to operate at the most cost-effective level. |
| 22 | Can the EMS be in the cloud and control the end devices from the cloud? | Legal requirements in Germany only allow local transmission of power limitation via an SMGW. The relevant law is MSBG § 19: Only technical systems and components that meet the requirements of § 21 and 22 may be used to process energy-relevant metering and control operations. This makes the use of the SMGW infrastructure mandatory. The transfer of the power limitation to the cloud for the control of devices via cloud2cloud communication bypasses the IT security architecture of § 19 MSBG. In our view, this approach runs the risk of being prohibited by the regulator. Concrete statements from the BNetzA have not yet been published.<br><br>Cloud providers cannot actively distribute the singals to all installed devices in the most effective and efficient way. That is why a local EMS is the better choice as it has the advantage of optimising energy flows across all devices. |
| 23 | Is it possible to have an EMS just for the charging infrastructure and connect the heat pump directly to the control unit? | At the time of registration it must be clear whether each device is to be controlled directly or by EMS.<br><br>It is possible to control two devices directly, e.g. an installed device via relay control and a new device via a digital interface. Both devices will always be dimmed/switched off. We recommend to use an EMS as soon as two devices are connected. Only then the devices can be operated according to the needs and configurations of the consumer and the intelligence of the EMS can be used. An EMS is indispensable at the latest when a PV system is installed. For this reason, associations such as FNN, ZVEI and ZVEH, etc. recommend that only devices with a digital interface should be used for |

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| | | new installations and relais control should only be used for devices that are already installed. |
| 24 | Does EEBUS have a use case that can share the meter's readings and if so, what are the parameters and frequency of data sharing? | With the use case Monitoring of Grid Connection Point, the meter's reading can be communicated. It is not defined, how often the data must be transmitted. The transmission rate depends on the characteristics of the meter. The following empirical formula could help: If the measurement intervals need to be significantly less than one second, faster sub-meters are used. With an SMGW, measurement intervals of only about one second are possible. |
| 25 | Do heat pumps and air conditioners already have native support for EEBUS? | Yes, there are manufacturers that already support EEBUS. Use cases are available for heat pumps that produce heat or cooling. Air conditioners are not explicitly covered yet but will be supported as well in the near future. |
| 26 | Who is responsible for pairing between the SMGW and the EMS /controllable device?<br>Is it possible to automate the approval of the control box in the user interface of the controlled device? | The connection between the Smart Meter Gateway (more precisely: the control device connected to the SMGW) and the controllable device must be encrypted according to the legal requirements (TR-03109-5 by BSI). To do this, the DSO employee (more precisely: the designated metering point operator) must read the network key of the controllable device or provide the device operator with a corresponding portal where they can enter the network key himself. The network key is the Subject Key Identifier (SKI), which is derived from the TLS1.2 certificate. It can be read out via the SHIP text record in EEBUS or provided in another way (e.g., QR code). Due to the security concept the approval of the control unit must always be done by a person. |
| 27 | How does EEBUS help to drive the digitalisation of the energy transition and the necessary digital grid connection? | EEBUS has already developed the necessary use cases and standards for the realisation of § 14a. In addition, we have use cases in our portfolio that enable dynamic pricing (e.g., for lower grid fees) and we are working on further use cases for the use of flexibilities as a preventive measure. To share this information, we participate in standardisation committees, present at various national and international events, take part in funded projects, and are in frequent contact with stakeholders in the energy management market. |