

Powerlink Protocol V2 – Inspection against CRA requirements

This statement is to confirm that TÜV Rheinland Industrie Service GmbH – A-FS&CS has carried out the inspection on the POWERLINK Protocol V2 (version 1.5.2) of B&R Industrial Automation GmbH against the requirements of the Regulation (EU) 2024/2847 (hereinafter referred to as Cyber Resilience Act or CRA) of the European Union.

The POWERLINK protocol is an industrial network communication fieldbus protocol to support real-time communication within industrial machine environments. Due to the interoperability of the open POWERLINK-specification the implementation of new cyber security capabilities for CRA is limited.

At the time of the analysis the harmonized standards for CRA have not been published. Therefore, the cybersecurity requirements outlined in the internationally recognized standards IEC 62443-4-1 and IEC 62443-4-2 were utilized to cover the majority of CRA's essential requirements. The intended use and the expected security-related environment are specified in the document **B&R CRA Guide for POWERLINK (Version 1.0)**.

To evaluate the threats and risks of the POWERLINK protocol, an exemplary POWERLINK network consisting of diverse B&R components and a PLC acting as a gateway is introduced and used for the evaluation of the essential requirements. If, due to compatibility and interoperability of the open POWERLINK standard, some essential requirements are technically not possible to be implemented, measures within the expected system environment are considered as documented within **B&R CRA Guide for POWERLINK**. The above-described approach is based on recital 55 of the Cyber Resilience Act, which was considered by B&R Industrial Automation GmbH to ensure interoperability and compatibility of the POWERLINK specification.

The following sections of Regulation (EU) 2024/2847 have been inspected:

- ANNEX I Part I** Cybersecurity requirements relating to the properties of products with digital elements
- ANNEX I Part II** Vulnerability handling requirements
- ANNEX II** Information and Instructions to the user
- ANNEX VII** Content of the technical documentation

ANNEX I Part I

The essential requirements detailed under ANNEX I, Part I (2), have been analyzed based on a cybersecurity risk assessment ANNEX I, Part I (1). The results of the evaluation can be extracted from the **B&R CRA Guide for POWERLINK** of B&R Industrial Automation GmbH. The threat analysis identified potential security-related threats following the STRIDEⁱ approach. The identified potential threats have been evaluated by a risk analysis. Mitigating measures have been identified, implemented or transferred to be covered by the system environment. Subsequently, they were assessed in order to determine the residual risk.

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ANNEX I Part II

B&R Industrial Automation GmbH follows approved processes of their Secure Development Lifecycle according to IEC 62443-4-1, Maturity Level 3. The Practices 6 “Defect Management” and Practice 7 “Secure Update Management” cover the receipt, review, addressing security-related issues and the release of security related updates while publishing security advisories on their website.

Additional information related to Cyber Resilience Act specific constraints are detailed with reference to the requirements of ANNEX I Part II in the **B&R CRA Guide for POWERLINK**.

ANNEX II

The requirements regarding the information and instructions to the user are evaluated against the **B&R CRA Guide for POWERLINK** and linked documentation and information published on the websites of B&R Industrial Automation GmbH which shall be considered by the Users, Integrators, Service Providers and Machine Manufacturers.

ANNEX VII

The technical documentation of the POWERLINK protocol has been evaluated against requirements defined in ANNEX VII of CRA. As no harmonized standards are yet available, IEC 62443-4-1 and IEC 62443-4-2 have been utilized for this evaluation.

Result

The technical capabilities and environmental countermeasures defined by CRA POWERLINK Guide of B&R Industrial Automation GmbH are sufficient to demonstrate the conformance of the POWERLINK V2 Protocol (Version under inspection: 1.5.2) with ANNEX I Part I, ANNEX I Part II, ANNEX II, and ANNEX VII of Regulation (EU) 2024/2847 (Cyber Resilience Act), taking into account recital 55.

The published **B&R CRA Guide for POWERLINK (Version 1.0)** of B&R Industrial Automation GmbH shall be considered and adhered to by User, Integrators, Service Providers and System Manufacturers when intending to operate an industrial fieldbus network with POWERLINK Protocol V2 by considering the described intended and reasonably foreseeable use and misuse within the described security context of the system and by performing an application specific risk assessment.

Best regards from Cologne
BA Automation – Functional Safety and Cyber Security
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Dipl.-Ing. Sergei Biberdorf, 2026-03-20

ⁱ STRIDE – Abbreviation for a Threat Modelling Methodology