

BECKHOFF New Automation Technology

Information notice pursuant to Art. 3 Para. 2 EU Data Act | EN

I/O



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1 Notes on the documentation

This information notice serves to fulfill the pre-contractual information requirements pursuant to Art. 3 para. 2 of Regulation (EU) 2023/2854 (EU Data Act). It is intended for buyers, renters, or lessees of the connected products described below and is intended to provide a transparent and comprehensible overview of the product data generated and their handling.

Disclaimer

The documentation has been compiled with care. The products described are, however, constantly under development.

We reserve the right to revise and change the documentation at any time and without notice.

Claims to modify products that have already been supplied may not be made on the basis of the data, diagrams, and descriptions in this documentation.

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<https://www.beckhoff.com/trademarks>.

Documentation issue status

Version	Changes
1.0	• First release

2 Information about the connected product

2.1 Manufacturer

Beckhoff Automation GmbH & Co. KG, Hülshorstweg 20, 33415 Verl, Germany

2.2 Product(s)

This information notice applies to the following products of Beckhoff Automation GmbH & Co. KG:

- EtherCAT Terminals (<https://www.beckhoff.com/ethercat-terminal>)
- EtherCAT Box (<https://www.beckhoff.com/ethercat-box>)
- EtherCAT plug-in modules (<https://www.beckhoff.com/ethercat-plug-in-modules>)
- Bus Terminals (<https://www.beckhoff.com/busterminal>)
- Fieldbus Box and IO-Link box (<https://www.beckhoff.com/feldbusbox>)
- Infrastructure components (<https://www.beckhoff.com/infrastructure-components>)
- EtherCAT development products (<https://www.beckhoff.com/ethercat-development-products>)
- Measuring transformers (<https://www.beckhoff.com/current-transformers>)
- Power supplies (<https://www.beckhoff.com/power-supplies>)

The above-mentioned I/O products are designed to collect local data such as measured values and send them via various digital interfaces accessible on the application side to one or more higher-level devices ("controller") for further processing.

3 Type, format and estimated volume of product data

3.1 Type of data

Category	Description	Examples
Master data	Fixed, product-related identification data that does not change during use.	Manufacturer, order number, serial number, firmware version
Life cycle data	Updated usage data documenting the state or use of the device over its entire service life.	Operating hours counter, overload counter, start/stop cycles
Operating data	Runtime data generated during active operation. These are further divided into:	
└ Process data	Real-time data that is used directly for control, regulation or measurement purposes. They reflect the current operating state and can be transmitted cyclically.	Setpoint, actual torque, speed, status bit, input signal, output signal, authentication data
└ Service data	Diagnostic data, status messages or parameters that are used for commissioning, maintenance or error analysis but are not directly involved in the control cycle.	Error code, temperature, communication state, firmware parameters, authentication data

Dumps contain data from one or more of the above categories.

3.2 Data format

Process data

Binary data with a fixed structure, e.g. integer or floating point values in 16 to 32-bit formats (e.g. INT16, UINT32, REAL32).

Service data

Parameterization and diagnostic data, also binary coded, often as individual variables or structured datasets. This data typically contains numerical measured values, status IDs or text fields in coded form (e.g. ASCII or UTF-8).

Life cycle and master data

Static or updated stored values that describe the life cycle and identity of the device. Numerical formats (e.g. counter readings, version numbers) are stored in binary or integer representation, textual content (e.g. manufacturer name, product name, serial number) as ASCII or UTF-8 strings.

3.3 Estimated volume of the data

Process data

The volume of generated data significantly depends on the sampling rate set, the number of activated data and the operating time.

Product example A: 8 digital inputs with 1 bit per input channel:

Application intensity	Sampling rate	Process data (raw data)	Data volume
low	10 Hz	10 * 1 byte/s	86.4 kB/d
medium	100 Hz	100 * 1 byte/s	864 kB/d
high	1 kHz	1,000 * 1 byte/s	8.64 MB/d
very high*	10 kHz	10,000 * 1 byte/s	86.4 MB/d

Product example B: 4 analog inputs, each in 32-bit float format (4 bytes):

Application intensity	Sampling rate	Process data (raw data)	Data volume
low	10 Hz	10 * 4*4 bytes/s	13.8 MB/d
medium	100 Hz	100 * 4*4 bytes/s	138 MB/d
high	1 kHz	1,000 * 4*4 bytes/s	1.38 GB/d
very high*	10 kHz	10,000 * 4*4 bytes/s	13.8 GB/d

* A very high application intensity is typical for I/O products from Beckhoff, especially for EtherCAT Terminals.

Service data can only be retrieved acyclically; depending on the individual datum, the volume ranges from a few bytes to several MB.

Life cycle and master data can only be retrieved acyclically; depending on the individual datum, the data volume amounts to several bytes.

4 Capability of generating data continuously and in real-time

The products are capable of generating process data continuously and in real-time.

For these products, “continuously” means that the process data are generated at regular intervals, usually several times per second and, in rare cases, at intervals of a few seconds.

For these products, “real-time” means that the process data are always (in every case) generated within a defined time span. This time span typically ranges from a few microseconds (μs) to several seconds.

5 Storage of data

The connected product generates data that can be stored on other devices or a remote server.

5.1 On the device

All process data and parts of the service data are stored on the products themselves, both in a volatile and permanent form.

“Volatile” means that the data only exist/are readable for as long as the product is supplied with power. In the event of a power failure, the data will be irretrievably lost. “Permanent” means that data are permanently stored in the product and can continue to be read unchanged even after a power failure.

5.2 On a remote server

The products themselves are not capable of storing data on a remote server.

Data are only stored on remote servers if the connected product is linked to a service designed for this purpose and data transmission to this service is enabled. The storage period also depends on the service used.

6 Access, retrieval and erasure of data

Data can be accessed, retrieved and erased using a suitable computer, e.g. an industrial PC, together with software that supports the data transmission protocol used.

6.1 Access and retrieval

Data can be accessed and retrieved using the TwinCAT software and the EtherCAT data transmission protocol, for example.

6.2 Erasure

Depending on the type of data, the data can be erased by the user using the protocol-specific means and in accordance with the respective product documentation as follows:

Process data

As the storage is volatile, erasure is not necessary.

Service data

Erasure is possible. This can also be done by resetting or overwriting the data memory.

Life cycle and master data

Erasure is not possible.

Trademark statements

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