TwinCAT 3 Machine Learning Creator – Service Description

Beckhoff offers a web-based software-as-a-service engineering environment under the name “TwinCAT Machine Learning Creator” as subscription (the “**Service**”).

The use of the Service is subject to a License Agreement and Terms of Use made available upon order of the Service and publicly available under http//:www.beckhoff.com/TE3850.

The Service might be regulated by Export Laws as defined in Beckhoff’s export control and sanctions compliance terms and conditions updated from time to time, which can be found at https://www.beckhoff.com/en-en/general-terms-and-conditions/.

The Service is an engineering environment for AI models hosted by cloud providers in Germany and / or in Europe. The geographical hosting location may change from time to time and is subject to Beckhoff’s sole discretion. In case of a geographical re-location of the Service, Beckhoff will update this Service Description accordingly.

The use of the Service can be divided into **four steps:**

- **Step 1:** The User uploads AI Input to the Service (e.g. images of products with attached annotations). The criteria for annotation are defined by the User. This AI Input is used by the User to create a database for the subsequent AI training.

  The AI Input (e.g. images of products) is manually checked by the User for suitability for use of the Service (e.g. good condition or damaged).

- **Step 2**: When training AI models by using the Service, the aim is to enable the AI model and thus the AI Output to generalize behaviour (generalization) so that it can also react correctly to new, previously unknown data. To accomplish this, the User starts the AI training process provided for this purpose.

- **Step 3:** The User shall evaluate the result of the AI training process using test data and assess its usability for their application.

- **Step 4:** The User can download the result as a software-based trained AI model as AI Output.

The User can use the trained AI model as part of the control of an application (e.g., by loading the AI Model into the PLC software or enabling access via an interface (“API”); this depends on the technical possibilities of the respective application, e.g. the User's machine.

System Requirements: A standard web browser.

Service Levels

1. Availability

Due to technical circumstances (including server-side data backup), uninterrupted availability of the Service cannot be guaranteed.

The Service is considered unavailable if essential functions of the Service or the Service as a whole cannot be accessed. The internet node of the data centre from which the Service is provided is decisive for the measurement.

The following are not considered downtime of the Service: scheduled maintenance work as well as periods of unavailability that are beyond Beckhoff's reasonable control (e.g. natural disasters, war, terrorist acts, government measures, a widespread failure of public network infrastructure, etc.).

Availability: Monthly availability will be at least 99.8%.

2. Maintenance

Scheduled maintenance is generally announced 5 (five) calendar days in advance.

Maintenance activities may be conducted during the following reserved service hours (Berlin time zone, CET, summer/winter time):

- **Monday to Saturday**: between 5:00 p.m. and 6:00 a.m.
- **Sunday**: between 10:00 a.m. and 8:00 p.m., with a maximum duration of up to 10 (ten) hours.

3. Support

Local support:

To provide the best possible service for Customers all over the world, Beckhoff offers technical support for the entire spectrum of Beckhoff products in more than 75 countries. Beckhoff pays special attention to making sure that Customers receive this support in their local language to ensure the best possible transfer of knowledge (see also: https://www.beckhoff.com/en-en/support/global-availability/).

HQ support:

Phone: +49 5246 963-157

Email: support@beckhoff.com

Support only during Beckhoff’s local business hours.

Subscription Models and Resource Packs

1. Subscription Models and Terms

1.1. Summary of the Subscription Models

The following Subscription Models apply to the TwinCAT Machine Learning Creator:

Name of the base license	Initial Subscription Term	Compute Hours per Subscription Period	License Restriction	
			User/ Assignment	AI Output
TE3850-0000 TwinCAT 3 Machine Learning Creator	--	--		Download for integration test. Predefined AI Outputs only.
TE3851-1000 TwinCAT 3 Machine Learning Creator Computer Vision	12 Month	1000	1/4	Compatible TwinCAT Functions
TE3851-2000 TwinCAT 3 Machine Learning Creator Computer Vision	1 Month	80	1/0	Compatible TwinCAT Functions
TE3851-1001 TwinCAT 3 Machine Learning Creator Computer Vision	12 Months	1000	1/4	Download as open and standardized ONNX files; integration and use across all ONNX-compatible frameworks

1.2. Details regarding the Subscription Models

1.2.1 TE3850-0000 TwinCAT Machine Learning Creator

Base license for the TwinCAT Machine Learning Creator web application authorizes platform access and provides availability of example AI projects, documentation, and user resources.

Key Properties

- Provides platform access
- Demo AI projects can be viewed but not changed
- Demo AI models can be downloaded solely for integration tests
- Provides access to documentation

Prerequisites for Users and Administrators

- valid MyBeckhoff-Account
- up to date web browser such as Google Chrome, Microsoft Edge or Firefox

1.2.2 TE3851-1000 TwinCAT Machine Learning Creator

Base license for the base web application TE3850 TwinCAT 3 Machine Learning Creator (yearly subscription). This license enables users to create own AI projects for image processing applications, such as image classification.

Key Properties

- yearly subscription
- auto-renewal of subscription unless cancelled in time
- includes 1000 Compute Hours per term
- includes 250 GB of user-data space for storing datasets
- license can be assigned to one single Authorized User at a time and may be assigned up to four times during the subscription period
- execution of downloadable AI models is restricted to compatible TwinCAT Functions

Prerequisites for Users and Administrators

- valid MyBeckhoff-Account
- up to date web browser such as Google Chrome, Microsoft Edge or Firefox

Dependencies and extensions

- includes TE3850-0000
- can be combined with TE3860-1000 and TE3860-2000 for additional Compute Hours

1.2.3 TE3851-2000 TwinCAT Machine Learning Creator

Base license for the base web application TE3850 TwinCAT 3 Machine Learning Creator (monthly subscription). This license enables users to create AI projects for image processing applications, such as image classification.

Key Properties

- monthly subscription

- auto-renewal of subscription unless cancelled in time
- includes 80 Compute Hours per term
- includes 250 GB of user-data space for storing datasets
- license can be assigned to one single Authorized User at a time and may be assigned only once during the subscription period
- execution of downloadable AI models is restricted to compatible TwinCAT Functions

Prerequisites for Users and Administrators

- valid MyBeckhoff-Account
- up to date web browser such as Google Chrome, Microsoft Edge or Firefox

Dependencies and extensions

- includes TE3850-0000
- can be combined with TE3860-1000 and TE3860-2000 for additional Compute Hours

1.2.4 TE3851-1001 TwinCAT Machine Learning Creator

Base license for the base web application TE3850 TwinCAT 3 Machine Learning Creator (yearly subscription). This license enables users to create AI projects for image processing applications, such as image classification. AI models can be downloaded as open and standardized ONNX files.

Key Properties

- yearly subscription
- auto-renewal of subscription unless cancelled in time
- includes 1000 Compute Hours per term
- includes 250 GB of user-data space for storing datasets
- license can be assigned to one single Authorized User at a time and may be assigned up to four times during the subscription period
- AI models can be downloaded as open and standardized ONNX files, allowing for seamless integration and use across all ONNX-compatible frameworks

Prerequisites for Users and Administrators

- valid MyBeckhoff-Account
- up to date web browser such as Google Chrome, Microsoft Edge or Firefox

Dependencies and extensions

- includes TE3850-0000
- can be combined with TE3860-1001 for additional Compute Hours

1.3. Subscription Model Terms

- The User may choose between different subscription models, which vary with regard to the Initial Subscription Term (one month or one year), the number of Compute Hours available per subscription period, the possibility and number to assign usage rights to Authorized Users, and the restrictions on the use of the AI Output.

- The number of assignments of usage rights to Authorized Users shall apply only to the respective subscription period, i.e. the last Authorized User of the ‘old period’ will not be counted as an assignment under the ‘new period’.
- Any Compute Hours not used within the respective subscription period shall expire.
- The User can order additional Compute Hours any time, subject to availability, at the then current price.

2. Resource Packs and Terms

2.1. Summary of the Resource Packs:

The following Resource Packs can be ordered for the TwinCAT Machine Learning Creator:

Name	Expiration period	Compute Hours	Base license compatibility
TE3860-1000 TwinCAT 3 Machine Learning Creator Resource Pack	12 Month	200	TE3851-1000, TE3851-2000
TE3860-2000 TwinCAT 3 Machine Learning Creator Resource Pack	1 Month	80	TE3851-1000, TE3851-2000
TE3860-1001 TwinCAT 3 Machine Learning Creator Resource Pack	12 Month	200	TE3851-1001

2.2. Details regarding the Resource Packs

2.2.1 TE3860-1000 TwinCAT 3 Machine Learning Creator Resource Pack

A resouce package for the base web application TE3851 TwinCAT 3 Machine Learning Creator. If additional Compute Hours are required - for example, to train more AI models - this extension allows for flexible allocation of additional Compute Hours.

Key Properties

- One-time purchase. Expires after 12 months.
- Unused hours expire at the end of the term
- Adds 200 Compute Hours
- License is assigned to a specific TE3851 license instance requiring compute resources. Once assigned, it remains an attached extension to this instance for the entire subscription period and cannot be reassigned.

Prerequisites for Users and Administrators

- valid MyBeckhoff-Account
- up to date web browser such as Google Chrome, Microsoft Edge or Firefox

- a valid license of TE3851-1000 or TE3851-2000 (not applicable for Administrator)

2.2.2 TE3860-2000 TwinCAT 3 Machine Learning Creator Resource Pack

A resource package for the base web application TE3851 TwinCAT 3 Machine Learning Creator. If additional Compute Hours are required - for example, to train more AI models - this extension allows for flexible allocation of additional compute resources.

Key Properties

- One-time purchase. Expires after 1 month.
- Unused hours expire at the end of the term
- Adds 80 Compute Hours
- License is assigned to a specific TE3851 license instance requiring compute resources. Once assigned, it remains an attached extension to this instance for the entire subscription period and cannot be reassigned.

Prerequisites for Users and Administrators

- valid MyBeckhoff-Account
- up to date web browser such as Google Chrome, Microsoft Edge or Firefox
- a valid license of TE3851-1000 or TE3851-2000 (not applicable for Administrator)

2.2.3 TE3860-1001 TwinCAT 3 Machine Learning Creator Resource Pack

A resource package for the base web application TE3851 TwinCAT 3 Machine Learning Creator. If additional Compute Hours are required - for example, to train more AI models - this extension allows for flexible allocation of additional compute resources.

Key Properties

- One-time purchase. Expires after 12 months.
- Unused Compute Hours expire at the end of the term
- Adds 200 Compute Hours
- License is assigned to a specific TE3851 license instance requiring compute resources. Once assigned, it remains an attached extension to this instance for the entire subscription period and cannot be reassigned.

Prerequisites for Users and Administrators

- valid MyBeckhoff-Account
- up to date web browser such as Google Chrome, Microsoft Edge or Firefox
- a valid license of TE3851-1001 (not applicable for Administrator)

2.3. Resource Pack Terms:

- The Resource Packs are tied to the respective specific base license within the subscription model and may not be used independently or transferred to any other license. Any unused packs shall expire at the end of the respective subscription period.

- Compute hours with the earliest expiration date in accordance with the respective applicable contractual terms will be used first.
- Any Compute Hours not used within the respective subscription period shall expire.

3. Training Session Terms

- Training processes may start with a delay depending on available capacity.
- An Authorized User can start a maximum of 8 training processes in parallel. Additional trainings will be placed in a queue and will begin as soon as capacity becomes available. The number of training processes that can run in parallel may also be lower, depending on the available capacity.
- The User's remaining Compute Hours within their subscription period are displayed in the User’s Account. Before each training session, the User will also be shown a value for the Compute Hours required for the order. The value shown is an estimate and may differ from the actual value. The actual value is accounted.