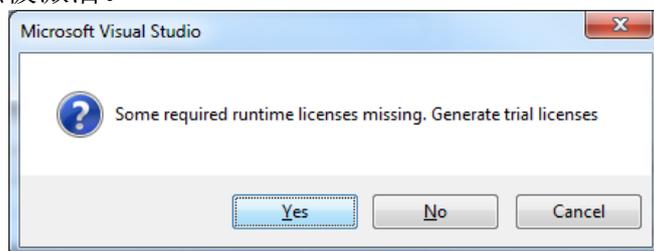


一、TwinCAT3 的授权激活

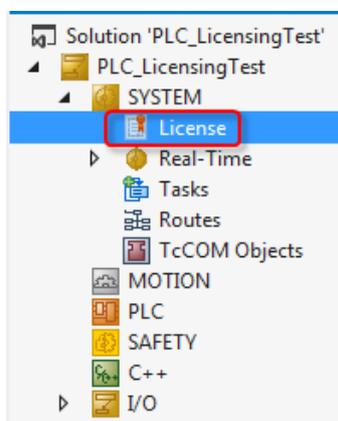
1. 试用版授权激活

在 TwinCAT3 中可以很方便激活试用版 7 天授权。在不连接网络的情况下，可以根据实际需求重复激活使用。

为此 TwinCAT3 开发环境可以自动检测项目中所需要的授权，并且在运行项目的时候进行提示，比如当项目在本地或者目标控制器中被激活的时候，会提示那些试用版授权应该被激活。



- (1) 在 TwinCAT3 开发环境中也可以手动激活 7 天试用授权，具体步骤如下：
点击 system 下的 license



- (2) 在菜单中有 4 个选项

Order Information (Runtime)	Manage Licenses	Project Licenses	Online Licenses
System Id:	<input type="text" value="D8F5217D-C0FF-76FE-3F07-11C217249ECE"/>		
HW Platform:	<input type="text" value="other (90)"/>	<input type="button" value="Activate 7 Days Trial License..."/>	
Beckhoff License:	<input type="text"/>	Customer Id:	<input type="text"/>
Customer Comment:	<input type="text"/>		
<input type="button" value="Generate License Request File..."/>		<input type="button" value="Activate License Response File..."/>	
Order No	License	Instances	
TC1000	TC3 ADS	cpu license	

Order Information (Runtime): 试用版和正版激活选项

Manager Licenses: 可以手动勾选所需要的 licenses

Project Licenses: 当前项目所用到的 licenses

Online Licenses: 激活过的 licenses 或者曾经激活过的 licenses

(3) 首先选择 manager licenses, 在 Add License 中勾选所需要的 License

Order Information (Runtime)	Manage Licenses	Project Licenses	Online Licenses
Order No	License	Add License	
TC1000	TC3 ADS	<input checked="" type="checkbox"/>	cpu license
TC1100	TC3 IO	<input type="checkbox"/>	cpu license
TC1200	TC3 PLC	<input type="checkbox"/>	cpu license
TC1210	TC3 PLC / C++	<input type="checkbox"/>	cpu license
TC1220	TC3 PLC / C++ / MatSim	<input type="checkbox"/>	cpu license
TC1250	TC3 PLC / NC PTP 10	<input type="checkbox"/>	cpu license
TC1260	TC3 PLC / NC PTP 10 / NC I	<input type="checkbox"/>	cpu license
TC1270	TC3 PLC / NC PTP 10 / NC I / CNC	<input type="checkbox"/>	cpu license
TC1300	TC3 C++	<input type="checkbox"/>	cpu license
TC1320	TC3 C++ / MatSim	<input type="checkbox"/>	cpu license
TE1300	TC3 Scope View Professional	<input type="checkbox"/>	cpu license
TE1400	TC3 Target For Matlab Simulink	<input type="checkbox"/>	cpu license
TE1410	TC3 Interface For Matlab Simulink	<input type="checkbox"/>	cpu license
TE1500	TC3 Valve-Diagram-Editor	<input type="checkbox"/>	cpu license

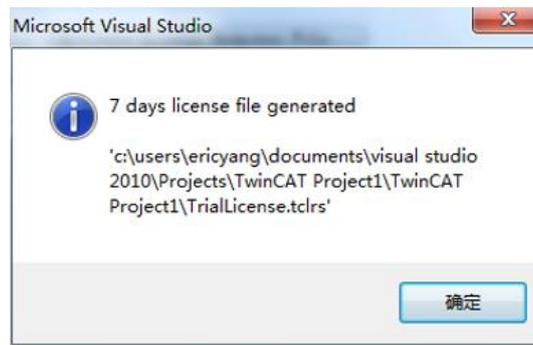
Ignore Project Licenses

(4) 之后回到 order information 选型, 点击 Activate 7 Days Trial License, 随后会弹出验证码方框, 输入 5 位验证码, 大小写有区分

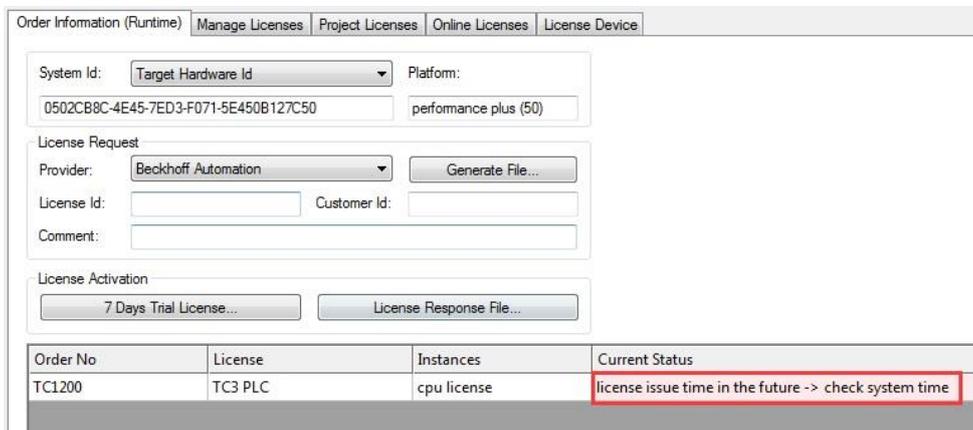
Order Information (Runtime)	Manage Licenses	Project Licenses	Online Licenses	License Device
System Id:	<input type="text" value="Target Hardware Id"/>	Platform:	<input type="text" value="economy plus (30)"/>	
<input type="text" value="991499C3-2D0C-AC1B-E071-9EC02F58D537"/>				
License Request				
Provider:	<input type="text" value="Beckhoff Automation"/>	<input type="button" value="Generate File..."/>		
License Id:	<input type="text"/>	Customer Id:	<input type="text"/>	
Comment:	<input type="text"/>			
License Activation				
<input type="button" value="7 Days Trial License..."/>		<input type="button" value="License Response File..."/>		



(5) 输入正确后点击 OK 会弹出窗口告知 7 天的试用版 license 已经生成，这样我们就可以有 7 天的授权可以用，如果过期了再次用同样的方法激活就可以了



Q: 在对目标控制器操作 7 天试用版激活的时候，发现目标控制器始终无法切换到 run-mode，并且在 license 选项卡中发现所做 7 天授权当前状态如下：license issue time in the future?



A: 主要原因是目标控制器的系统时间和本地 PC 不一致导致，解决方式只需要把目标控制器系统时间手动修改成和本地 PC 一致即可。

2. IPC/EPC 中的完整版授权激活

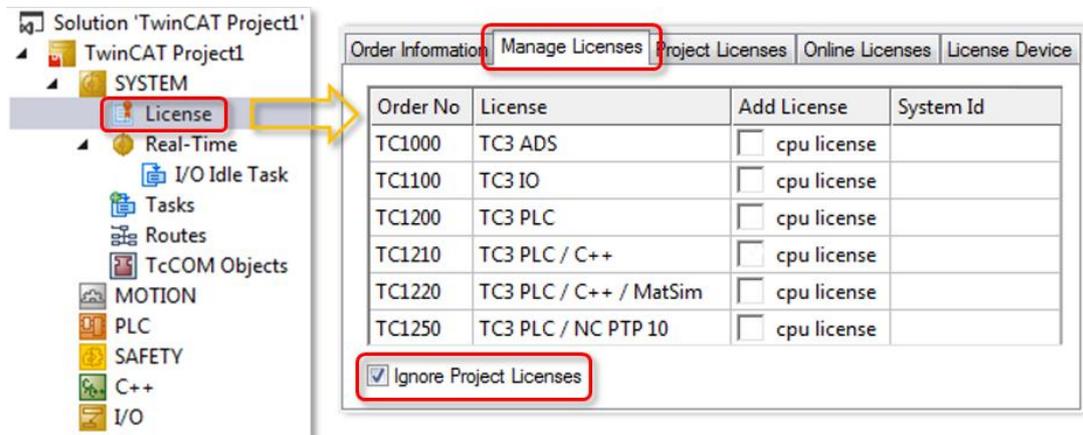
通常 TC3 授权和硬件一起购买是不需要我们自己完成授权工作的，只有当授权单独购买，或者后续补丁授权，就需要自己完成这些步骤。

(1) 首先选择 manager licenses，在 Add License 中勾选所需要的 License

Order No	License	Add License
TC1000	TC3 ADS	<input checked="" type="checkbox"/> cpu license
TC1100	TC3 IO	<input type="checkbox"/> cpu license
TC1200	TC3 PLC	<input type="checkbox"/> cpu license
TC1210	TC3 PLC / C++	<input type="checkbox"/> cpu license
TC1220	TC3 PLC / C++ / MatSim	<input type="checkbox"/> cpu license
TC1250	TC3 PLC / NC PTP 10	<input type="checkbox"/> cpu license
TC1260	TC3 PLC / NC PTP 10 / NC I	<input type="checkbox"/> cpu license
TC1270	TC3 PLC / NC PTP 10 / NC I / CNC	<input type="checkbox"/> cpu license
TC1300	TC3 C++	<input type="checkbox"/> cpu license
TC1320	TC3 C++ / MatSim	<input type="checkbox"/> cpu license
TE1300	TC3 Scope View Professional	<input type="checkbox"/> cpu license
TE1400	TC3 Target For Matlab Simulink	<input type="checkbox"/> cpu license
TE1410	TC3 Interface For Matlab Simulink	<input type="checkbox"/> cpu license
TE1500	TC3 Valve-Diagram-Editor	<input type="checkbox"/> cpu license

Ignore Project Licenses

(2) 如果希望自由选择某些 license 不受当前项目应用所影响，可以通过勾选左下角的 Ignore Project Licenses，这样有助于后期补丁某些授权从而完成激活



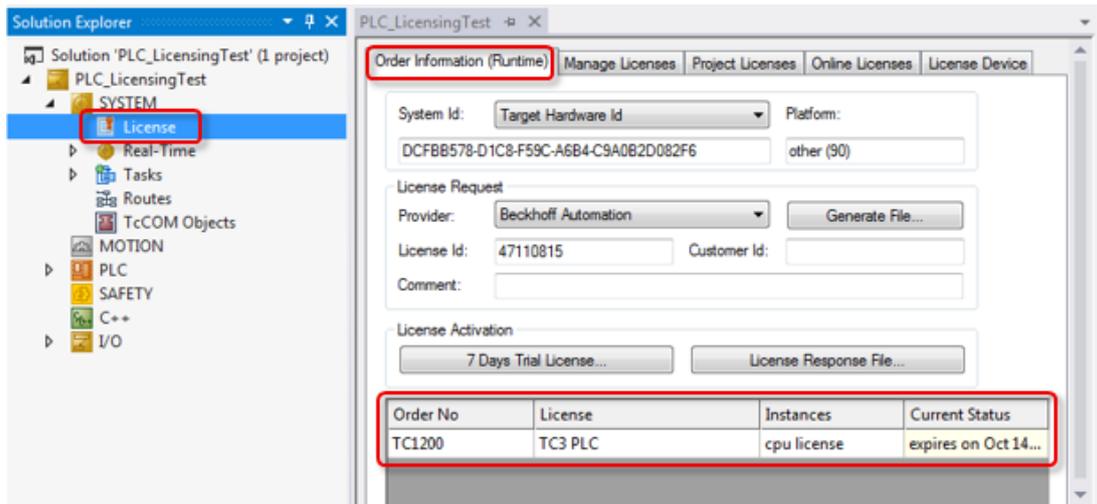
(3) 随后回到 Order Information:

System Id: 无需填写，只需要确认授权所激活的 PC 或者目标控制器，如果是目标控制器需要连接目标控制器，这里就会显示目标控制器的 System Id，否则就是本地 PC

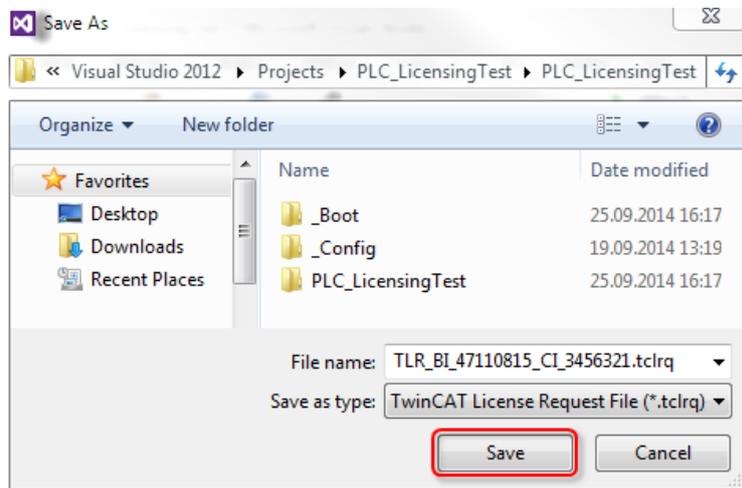
Platform: 无需填写，只需要确认订单

License Id: 输入购买 License 时候的订单号，如果不知道可以咨询倍福销

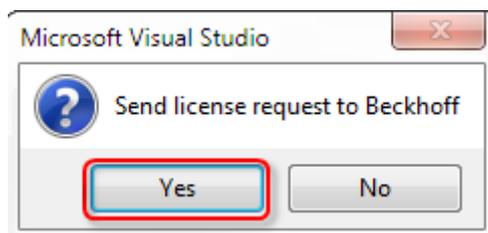
Customer Id: 可以任意输入一些数字或者字母（也可以空着不填），通常会填公司名称或者用户名



(4) 随后点击 **Generate File**，系统会生成一个 license 的请求文件，保存到任意位置



(5) 随后弹出对话框询问是否要把此文件发送到 bechhoff

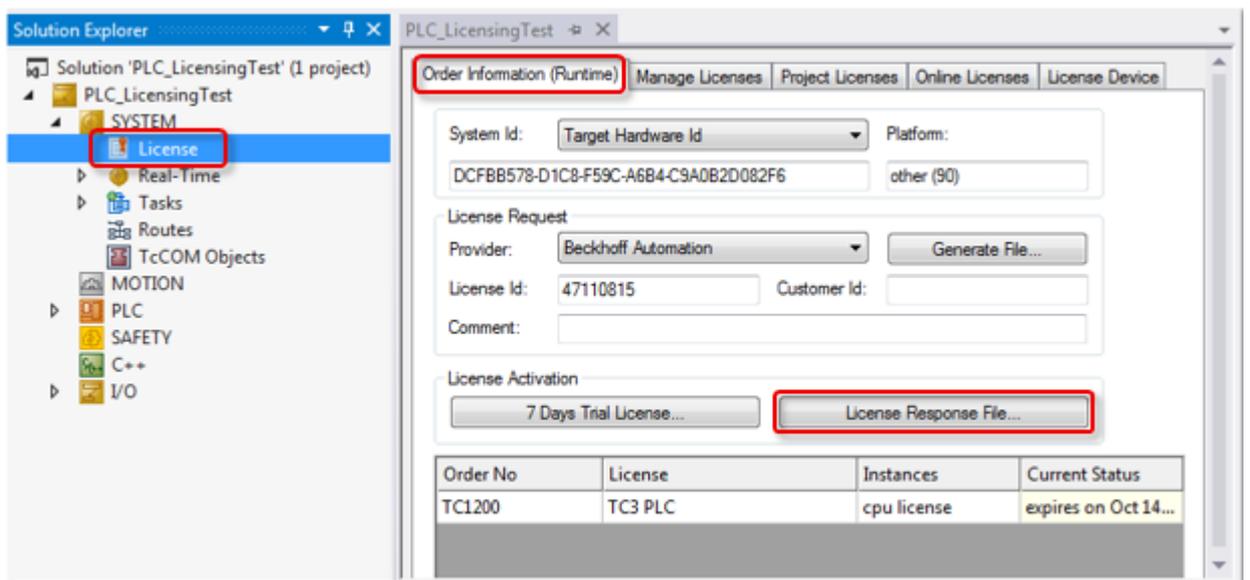


点击 “Yes”

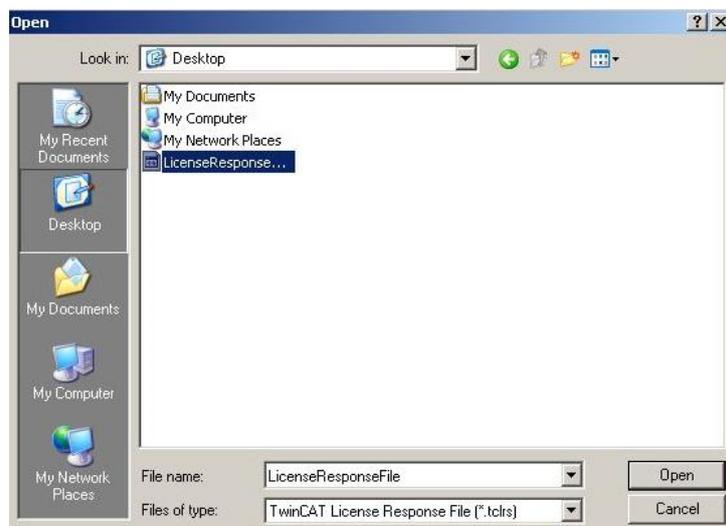
(6) 随后系统就会以邮件方式帮您发送到一个固定邮箱 tllicense@beckhoff.com，邮件内容包含了你所申请的 license 和申请文件，申请文件中包括了您的订单号信息，您的用户名信息，您所要激活的这台电脑的 HW 等，当然如果在当前电脑不方便发邮件，或者没有网络，也可以把此文件拷贝出来，在其他电脑中发送此文件到固定邮箱中



(7) 如果德国收到邮件后核实相关信息没有错误后，就会返回一个邮件给你，并返回一个激活文件给你，随后点击 **Activate License Response File** 把激活文件导入就注册正式版成功



(8) 导入返回的激活文件



(9) 提示以下对话框就说明注册成功，点击 **OK** 即可



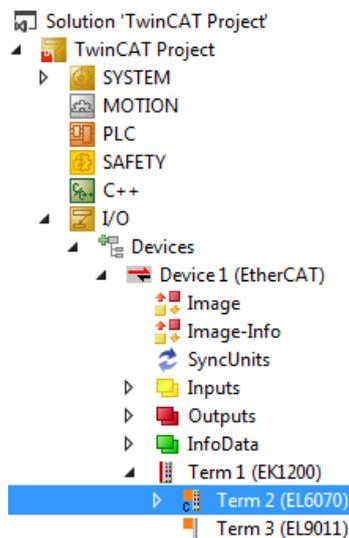
(10) 最后注意下这个 license 文件会自动复制到 C:\TwinCAT\3.1\Target\License 中，如果目标控制器是 CE 操作系统，此文件在 \Hard Disk\TwinCAT\3.1\Target\License 中，请备份以免激活文件丢失。

3. Dongle 的使用与授权的激活（TC3.1.4020 老版本）

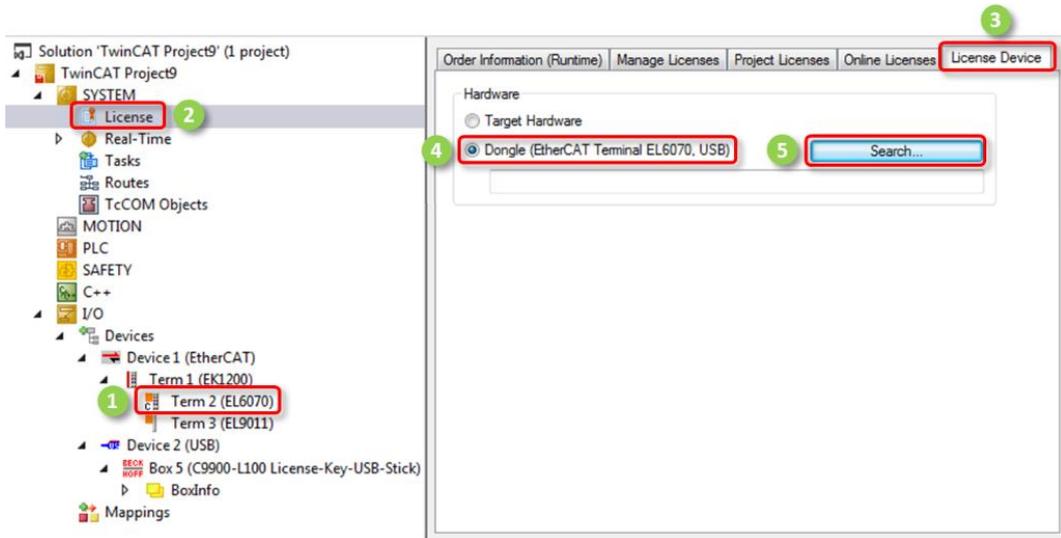
3.1 从 TC3.1.4018.26 开始支持 EL6070 这种模块式组件作为授权工具



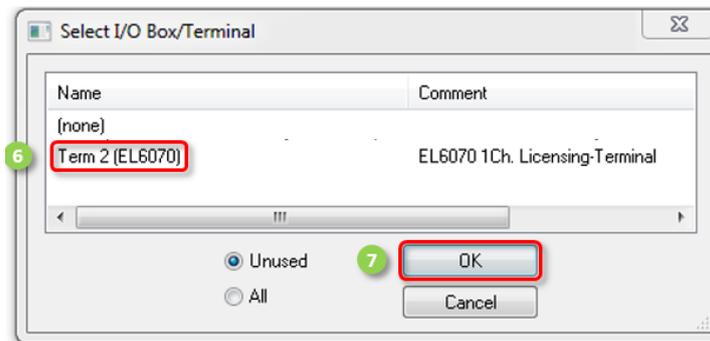
(1) 首先在 EtherCAT 总线中扫描到 EL6070



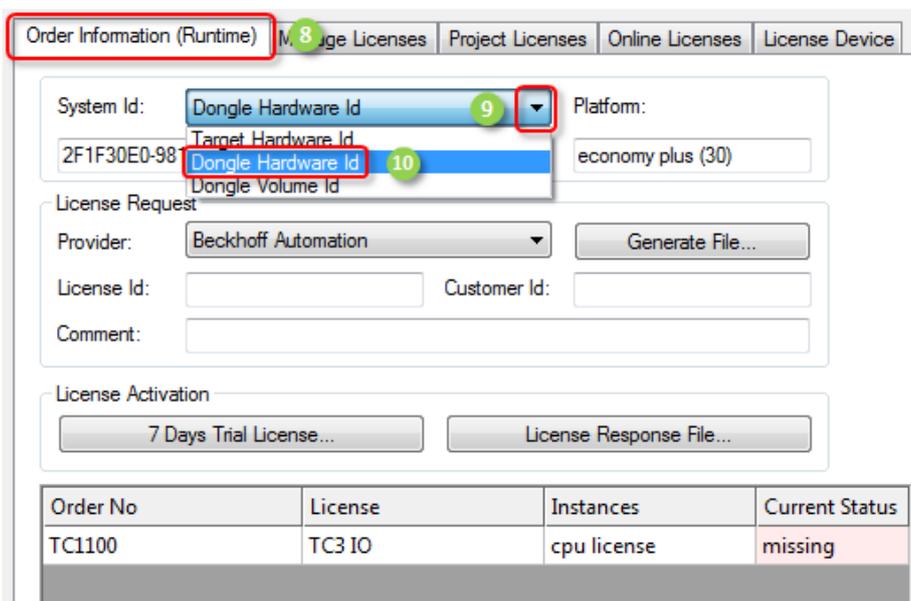
- (2) 在 SYSTEM→License 中选择 License Device
选择 Dongle 后，点击 Search



- (3) 弹出窗口选择 EL6070，点击 OK



- (4) 回到 Order Information，在 System Id 中下拉框选择 Dongle Hardware Id



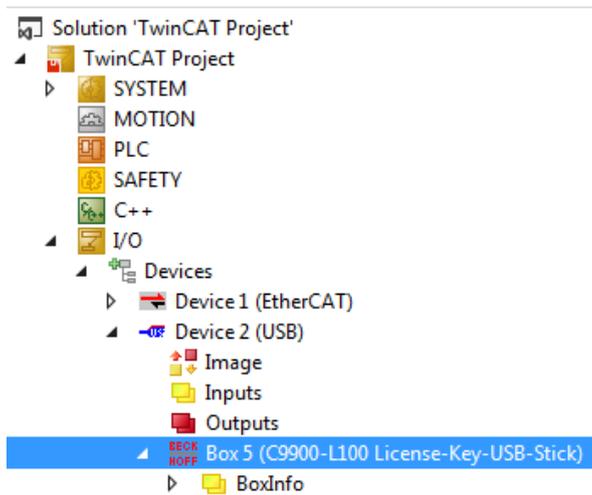
(5)最后输入 License Id, 点击 Generate File 生成授权申请文件发送给固定邮箱, 就可以得到授权响应文件

Order No	License	Instances	Current Status
TC1100	TC3 IO	cpu license	missing

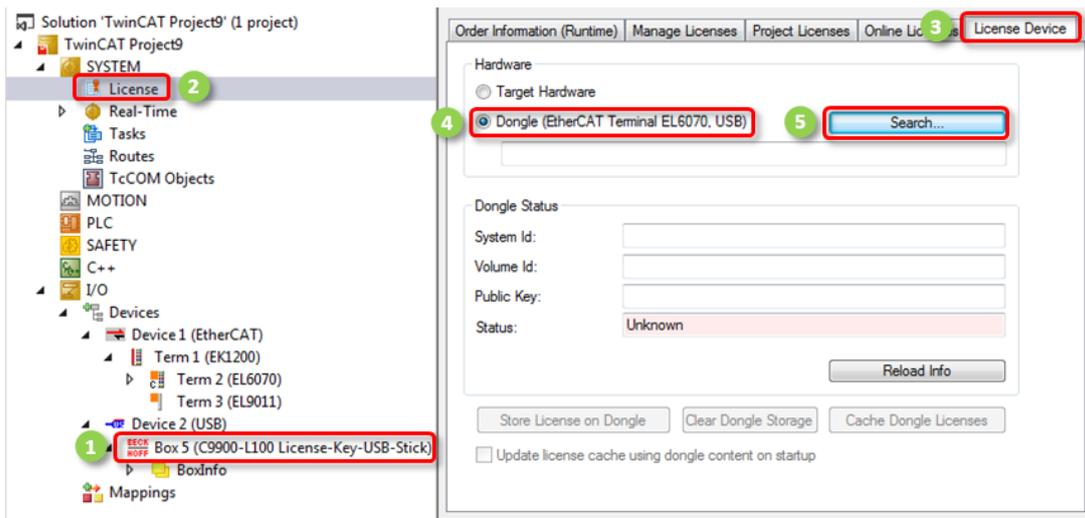
3.2 从 TC3.1.4018.26 开始支持 C9900-L100 这种 USB 类型组件作为授权工具



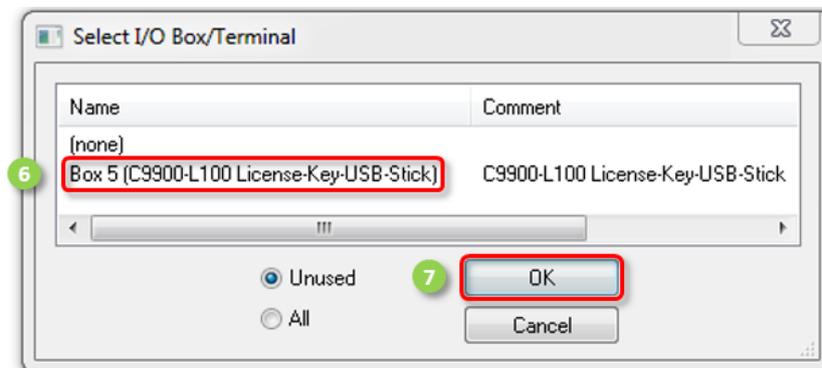
(1) 首先在 USB 接口中扫描 C9900-L100



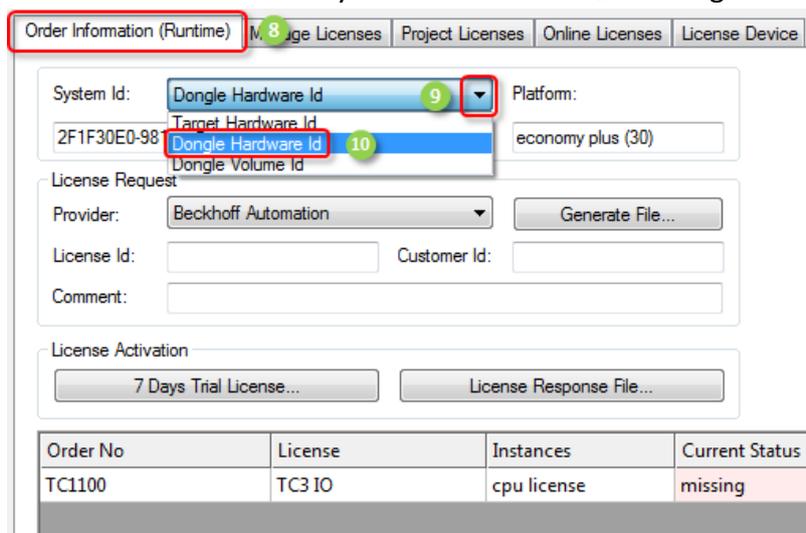
(2) 在 SYSTEM→License 中选择 License Device
选择 Dongle 后, 点击 Search



(3) 弹出窗口选择 C9900-L100，点击 OK



(4) 回到 Order Information，在 System Id 中下拉框选择 Dongle Hardware Id



(5) 最后输入 License Id, 点击 Generate File 生成授权申请文件发送给固定邮箱, 就可以得到授权响应文件

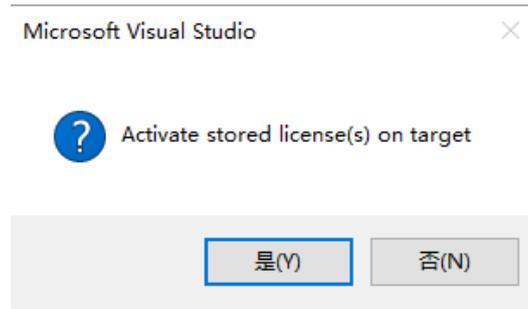
Order No	License	Instances	Current Status
TC1100	TC3 IO	cpu license	missing

3.3 EL6070 和 C9900-L100 如何使用

(1) 得到授权响应文件后，我们需要对 dongle 进行授权，返回到 License Device

因此只需要通过 **Download License To Device** 就可以把 license 下载到 EL6070 或 C9900-L100 中，使其真正变成移动式授权设备。

(2) 完成所有步骤后，每次在 IPC 中插入 C9900-L100 或者在 EPC 后加入 EL6070，并且成功扫描上来后，在 License Device 中都会自动弹出窗口激活 license 到目标系统中，点击“是”就会自动把 dongle 中所存储的 license 全部拷贝到目标文件夹下 C:\TwinCAT\3.1\Target\License 中，如果目标控制器是 CE 操作系统，此文件在 \Hard Disk\TwinCAT\3.1\Target\License 中

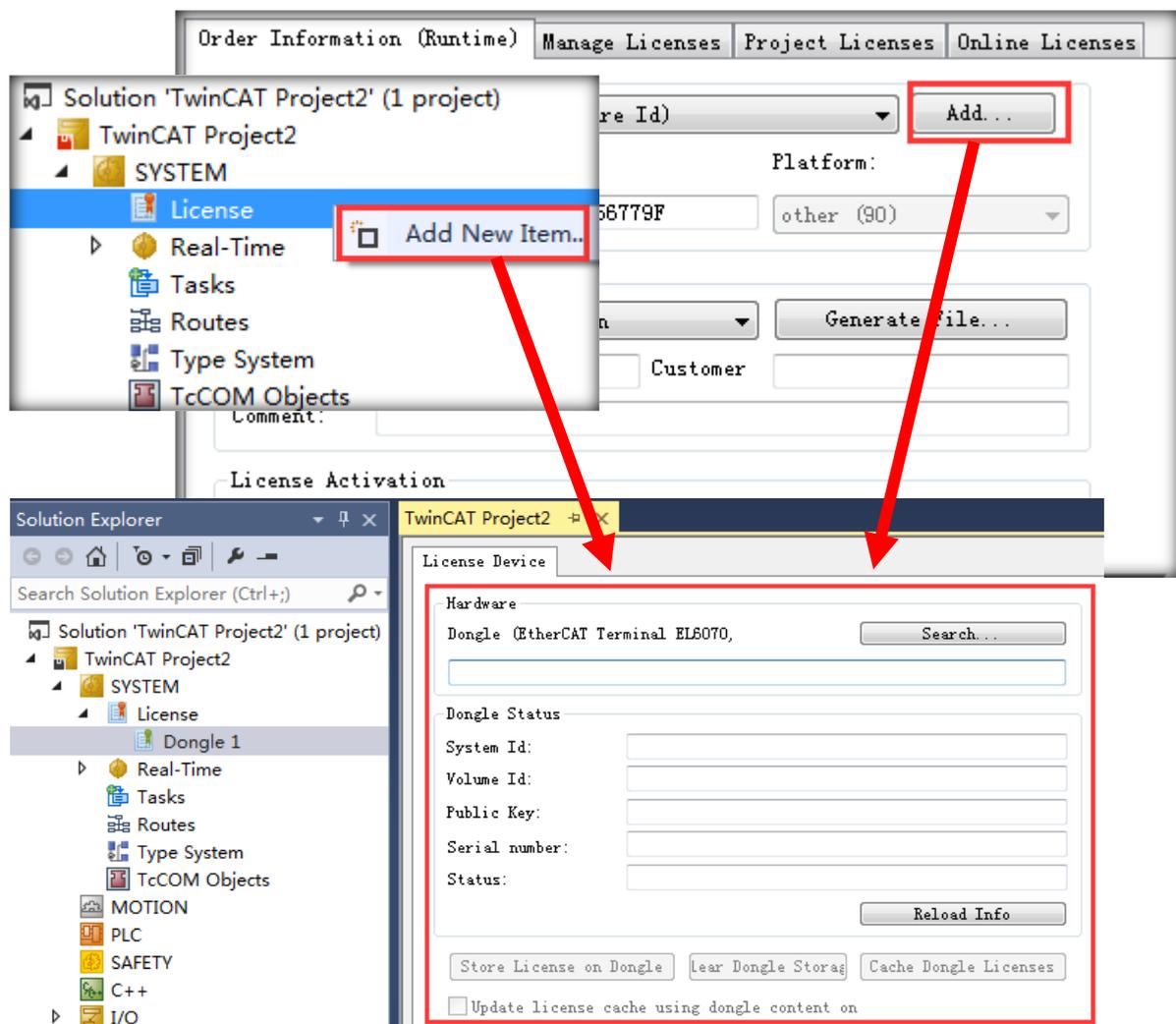


因此只需这 2 步操作就可以轻松利用 dongle 对目标系统完成授权。

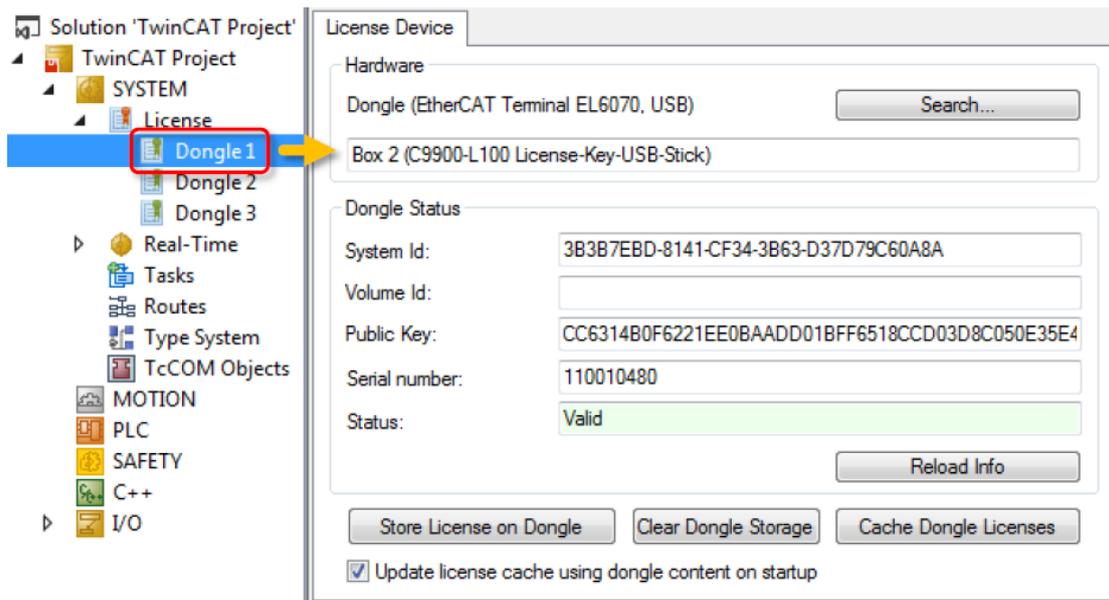
4. Dongle 的使用与授权的激活 (TC3.1.4022 新版本)

4.1 从 4022 版本开始 Dongle 可以实现只需配置一次即可自适应, 并且配置过程少许发生了变化

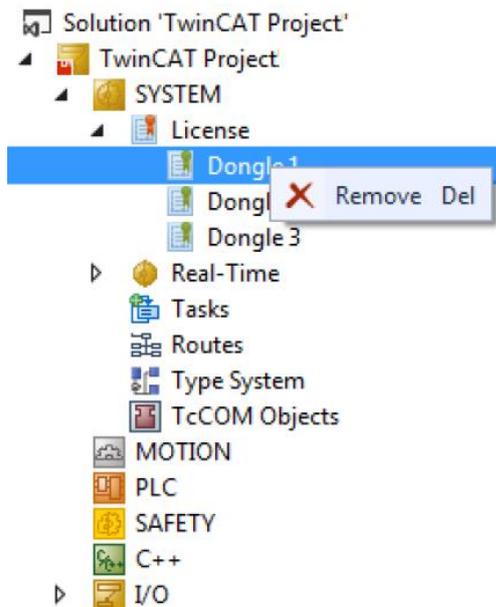
(1) 首先需要在 license 中添加一个 dongle, 可以右键 license 进行添加, 也可以直接在 license→Order Information 中点击 Add 完成添加



(2) 随后点击 Search 选择已经扫描到的 Dongle (也可以同事配置多个 Dongle)



(3) 通过右键 Dongle 也可以删除



(4) 回到 Order Information, 可以针对所勾选的授权指定其激活在什么硬件设备中 (Dongle 还是 EPC/IPC), 选中任意授权都可以在 license Device 下拉框选择 Target (Hardware Id) 还是 Dongle1 (Hardware Id)

Order Information (Runtime) | Manage Licenses | Project Licenses | Online Licenses

License Device: Target (Hardware Id) [Add...]

System Id: E0A7CC86-A9A0-C565-795F-68B7A8318BC5 Platform: other (90)

License Request

Provider: Beckhoff Automation [Generate File...]

License Id: Customer Id:

Comment:

License Activation

7 Days Trial License... License Response File...

Order No	License	Instances	License Device	Current Status
TC1250	TC3 PLC / NC PTP 10	cpu license	Dongle 1 (Hardware Id)	missing
TE1300	TC3 Scope View Professional	cpu license	Dongle 1 (Hardware Id)	missing
TE1400	TC3 Target For Matlab Simulink	cpu license	Target (Hardware Id)	missing
TE1410	TC3 Interface For Matlab Simulink	cpu license	Target (Hardware Id) Dongle 1 (Hardware Id)	missing

(5) 在 Order Information 最上面的 License Device 中也选择 Dongle1 (Hardware Id)，这样就可以把 System Id 从控制器切换到 Dongle

Order Information (Runtime) | Manage Licenses | Project Licenses | Online Licenses

License Device: Target (Hardware Id) [Add...]

System Id: Target (Hardware Id)
Dongle 1 (Hardware Id)

E0A7CC86-A9A0-C565-795F-68B7A8318BC5 other (90)

License Request

Provider: Beckhoff Automation [Generate File...]

License Id: Customer Id:

Comment:

License Activation

7 Days Trial License... License Response File...

Order No	License	Instances	License Device	Current Status
TC1250	TC3 PLC / NC PTP 10	cpu license	Dongle 1 (Hardware Id)	missing
TE1300	TC3 Scope View Professional	cpu license	Dongle 1 (Hardware Id)	missing
TE1400	TC3 Target For Matlab Simulink	cpu license	Target (Hardware Id)	missing
TE1410	TC3 Interface For Matlab Simulink	cpu license	Target (Hardware Id)	missing

(6) 新版本在配置 dongle, 尤其是 platform 十分方便, 可以通过下拉框选择所购买的等级。

The screenshot shows the 'License Request' section of the software interface. The 'License Device' is set to 'Dongle 1 (Hardware Id)'. The 'System Id' is 'E0A7CC86-A9A0-C565-795F-68B7A8318BC5'. The 'Platform' dropdown menu is open, showing a list of options including 'other (90)', 'other (91)', 'other (92)', 'other (93)', 'other (94)', 'micro (10)', 'economy (20)', 'economy plus (30)', 'performance (40)', 'performance plus (50)', 'mid performance (60)', 'high performance (70)', 'very high performance (80)', 'very high performance (81)', 'very high performance (82)', 'very high performance (83)', and 'very high performance (84)'. The 'other (90)' option is currently selected.

Order No	License	Insta	License Device	Current Status
TC1250	TC3 PLC / NC PTP 10	cpu license	Dongle 1 (Hardware Id)	missing
TE1300	TC3 Scope View Professional	cpu license	Dongle 1 (Hardware Id)	missing
TE1400	TC3 Target For Matlab Simulink	cpu license	Target (Hardware Id)	missing
TE1410	TC3 Interface For Matlab Simulink	cpu license	Target (Hardware Id)	missing

PS: TE (Engineering 授权选择 94 完成授权申请)

(7) 最后输入 License Id, 点击 Generate File 生成授权申请文件发送给固定邮箱, 就可以得到授权响应文件

The screenshot shows the 'License Request' section of the software interface. The 'License Device' is 'Dongle 1 (Hardware Id)'. The 'System Id' is '30F57BCD-E128-9B43-0445-68699F53746E'. The 'Platform' dropdown menu is set to 'other (94)'. The 'Provider' is 'Beckhoff Automation'. The 'License Id' field contains '1234567' and the 'Customer' field contains 'ABCD'. The 'Generate File...' button is highlighted with a red box.

Order No	License	Instances	License TAN	License Device
TC1200	TC3 PLC	cpu license		Target (Hardware ...)
TE1400	TC3 Target For Matl...	cpu license		Dongle 1 (Hardwa...)

4.2 EL6070 和 C9900-L100 如何使用

(1) 授权响应文件后，我们需要对 dongle 进行授权，返回到 Dongle

License Device

Hardware

Dongle (EtherCAT Terminal EL6070, Search...)

Box 2 (C9900-L100 License-Key-USB-Stick)

Dongle Status

System Id: 30F57BCD-E128-9B43-0445-68699F53746E

Volume Id:

Public Key: D763D33CD0852F18E78D39B58655B158AF4B329B47BF459D0

Serial number: 0

Status: Valid

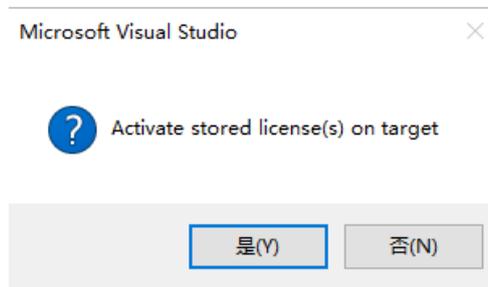
Reload Info

Store License on Dongle Learn Dongle Storage Cache Dongle Licenses

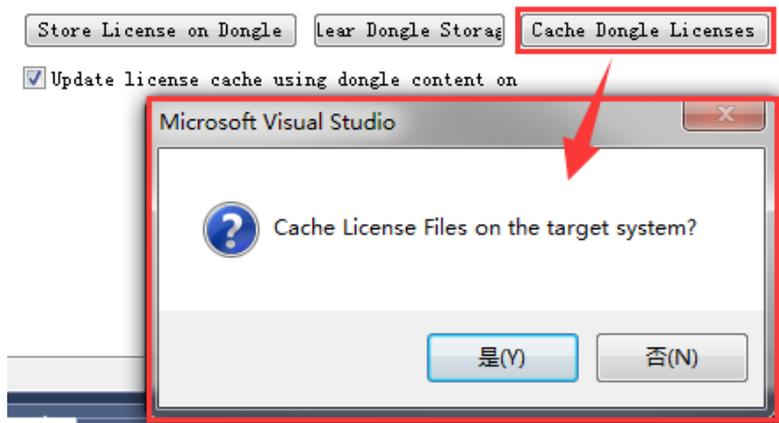
Update license cache using dongle content on

点击其中的 Store License on Dongle，把授权响应文件导入到 Dongle 即可完成 dongle 的授权绑定工作

(2) 完成所有步骤后，每次在 IPC 中插入 C9900-L100 或者在 EPC 后加入 EL6070，并且成功扫描上来后，在 License Device 中都会自动弹出窗口激活 license 到目标系统中，点击“是”就会自动把 dongle 中所存储的 license 全部拷贝到目标文件夹下 C:\TwinCAT\3.1\Target\License 中，如果目标控制器是 CE 操作系统，此文件在\Hard Disk\TwinCAT\3.1\Target\License 中

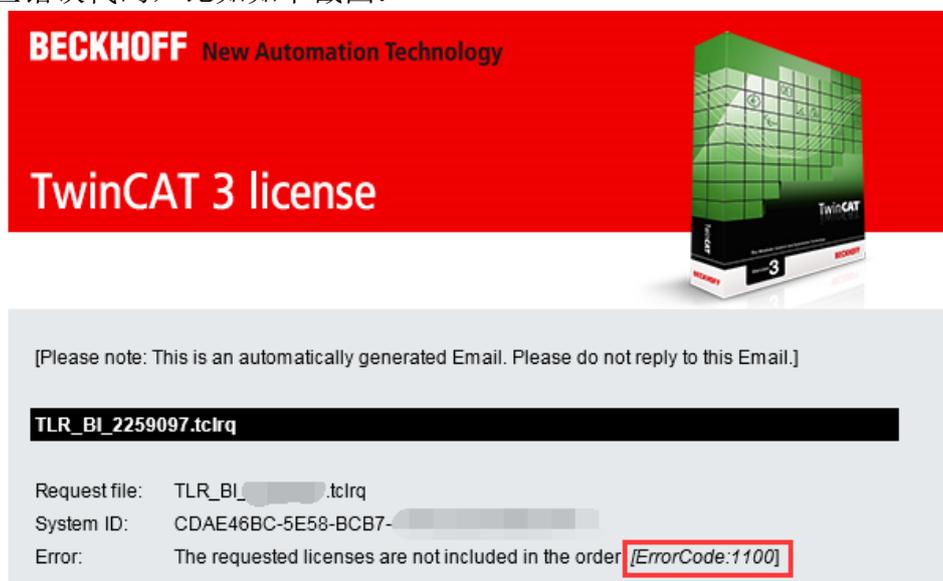


(3) 或者手动点击 Cache Dongle Licenses 也可以把授权文件导入到目标设备中。新版本针对第一次使用的目标设备只需配置一次即可，之后就可以即插即用无需配置。



5. 申请授权报错汇总

无论对于 IPC/EPC 还是对于 dongle 进行授权单独申请的时候，都需要发送申请文件到德国固定邮箱，从而得到响应文件，才可以完成授权激活，但在这个过程中，由于各种原因，难免会有申请失败的情况，不过德国服务器也会针对这个问题返回一些错误代码，比如如下截图：



下面列表就是一些常见错误，以及原因和解决方式

Error ID	Explanation	Procedure
999	The number of product licenses requested in the request file is no longer available for the specified order number.	Please ensure that you have ordered the correct number of licenses, and that these have not already been activated on other devices. Check that no licenses are included in the License Request file, which are not included in the order. (The License Request file is an XML file and can easily be opened with suitable editors, e.g. Notepad++.) For general queries relating to your order please contact your Beckhoff sales contact , referring directly to the Beckhoff order number. If the licensing attempt is linked to a hardware replacement, please contact Beckhoff Service .
1000	The order number specified in the request file does not exist	Please ensure that you have used the correct order number in the "License ID" field. Generate another TwinCAT 3 request file and send it to tlclicense@beckhoff.com . For general queries relating to your order please contact your Beckhoff sales contact , referring directly to the Beckhoff order number (VExxxx).
1100	The licenses requested in the request file are not included in the specified order number.	Please ensure that you only request licenses, which you have actually ordered. In case of queries please contact your Beckhoff sales contact , referring directly to the Beckhoff order number (VExxxx).
1200	The transmitted request file does not contain an order number.	Please generate another request file. Ensure that the Beckhoff order number (VExxxx) pertaining to your TwinCAT 3 order was entered in the "License ID" field.
1300	The transmitted request file does not contain a system ID.	Please check whether the correct target system is set! Once the target system has been set, generate another request file and send it to tlclicense@beckhoff.com . If the error message persists, please contact Beckhoff Support .
1400	The transmitted request file does not contain a license.	Please check that the required licenses are listed in the "Order Information" tab. All the licenses required by TwinCAT 3 solution are automatically entered there by default. Should this not be the case, please enter the licenses manually via the Manage Licenses tab.
1500	The request file you sent is not readable.	Please generate another TwinCAT 3 request file via TwinCAT XAE and send it to tlclicense@beckhoff.com . If the error message persists, please contact Beckhoff Support .

注意：如果返回的 Error ID 在上面列表中不存在，可以等待一段时间，尝试再次发送申请文件到德国固定邮箱