

Manual | EN

TX1200

TwinCAT 2 | PLC Library: TcTestAndSet

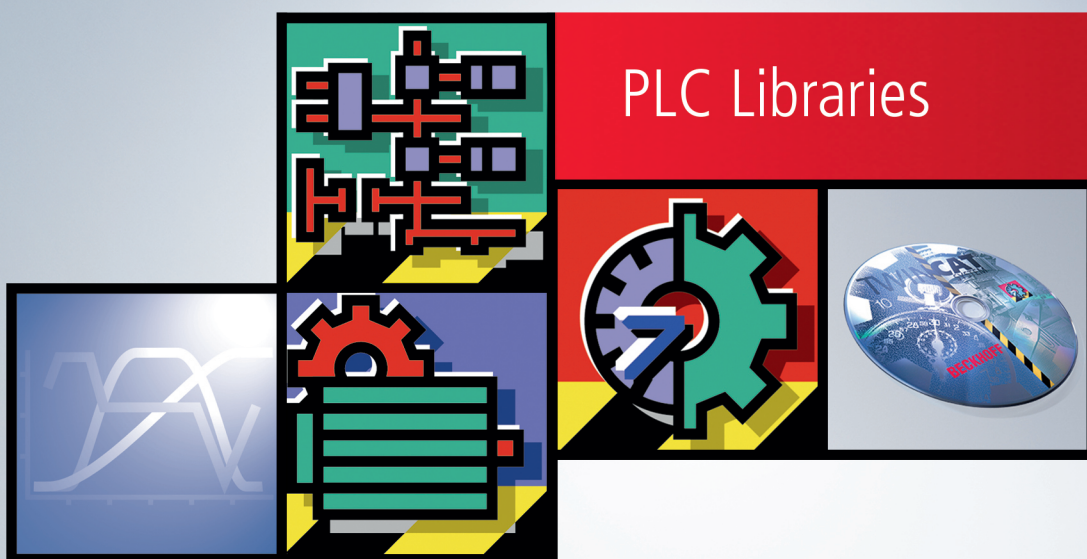


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1 Foreword

1.1 Notes on the documentation

This description is only intended for the use of trained specialists in control and automation engineering who are familiar with applicable national standards.

It is essential that the documentation and the following notes and explanations are followed when installing and commissioning the components.

It is the duty of the technical personnel to use the documentation published at the respective time of each installation and commissioning.

The responsible staff must ensure that the application or use of the products described satisfy all the requirements for safety, including all the relevant laws, regulations, guidelines and standards.

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

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EP1590927, EP1789857, EP1456722, EP2137893, DE102015105702
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1.2 Safety instructions

Safety regulations

Please note the following safety instructions and explanations!
Product-specific safety instructions can be found on following pages or in the areas mounting, wiring, commissioning etc.

Exclusion of liability

All the components are supplied in particular hardware and software configurations appropriate for the application. Modifications to hardware or software configurations other than those described in the documentation are not permitted, and nullify the liability of Beckhoff Automation GmbH & Co. KG.

Personnel qualification

This description is only intended for trained specialists in control, automation and drive engineering who are familiar with the applicable national standards.

Description of symbols

In this documentation the following symbols are used with an accompanying safety instruction or note. The safety instructions must be read carefully and followed without fail!

DANGER

Serious risk of injury!

Failure to follow the safety instructions associated with this symbol directly endangers the life and health of persons.

WARNING

Risk of injury!

Failure to follow the safety instructions associated with this symbol endangers the life and health of persons.

CAUTION

Personal injuries!

Failure to follow the safety instructions associated with this symbol can lead to injuries to persons.

NOTE

Damage to the environment or devices

Failure to follow the instructions associated with this symbol can lead to damage to the environment or equipment.



Tip or pointer

This symbol indicates information that contributes to better understanding.

1.3 Notes on information security

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2 Overview

This library contains a function that can be used to check and set a boolean flag, without being interrupted by other tasks.

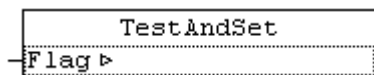
Function

Name	Description
TestAndSet [► 9]	This function can be used to check and set a boolean flag, without being interrupted by other tasks.

Requirements

Component	Version
TwinCAT on the development PC	2.10 Build 1335 or higher
TwinCAT on the Windows CE-Image	2.10 Build 1333 or higher
TwinCAT on the Windows XP-Image	2.10 Build 1333 or higher

3 TestAndSet : BOOL



The function TestAndSet can be used to check and set a flag, without the possibility to be interrupted by other tasks.

VAR_IN_OUT

```
VAR_IN_OUT
  Flag : BOOL; (* Flag to check if TRUE or FALSE *)
END_VAR
```

Flag: Is a boolean flag, tha is being checked

- if it was FALSE, then the flag was available and is being set (to block other tasks), the function returns TRUE

- if it was TRUE, then the flag was blocked, the function returns FALSE

Sample

```
VAR_GLOBAL
  bGlobalTestFlag      : BOOL;
END_VAR

VAR
  iLocalBlockedCounter : DINT;
END_VAR

IF TestAndSet(bGlobalTestFlag) THEN
  (* bGlobalTestFlag was FALSE, nobody was
  blocking, NOW bGlobalTestFlag is set to TRUE and blocking others *)
  (* ... *)
  ;

  (* remove blocking by resetting the flag*)
  bGlobalTestFlag := FALSE;
ELSE
  (* bGlobalTestFlag was TRUE, somebody is blocking *)
  iLocalBlockedCounter := iLocalBlockedCounter + 1;
  (* ... *)
  ;
END_IF
```


More Information:
www.beckhoff.com/tx1200

Beckhoff Automation GmbH & Co. KG
Hülshorstweg 20
33415 Verl
Germany
Phone: +49 5246 9630
info@beckhoff.com
www.beckhoff.com

