OmniFab

Machine Insight

User Guide

GCDC Installation and Usage

1 Introduction

The purpose of the GC Data Collector (GCDC) is IoT enablement of Messer CS cutting machines. GCDC is running on the IPC and collects relevant data from PDC (Process Data Capture) module and send that data to the MXS (Messer data eXchange Server) through a message broker and records activities via the ADS Interface of the TwinCT PLC.

We recommend that you first read through the whole document to get a full understanding for the process before you start any activity.

2 Installation Notes

The installation of the GCDC is tested and works on Windows 10, Windows 7 and XP based GCs.

All installers (MSI-files and others) can be downloaded from http://download.machine-insight.messersoft.com/

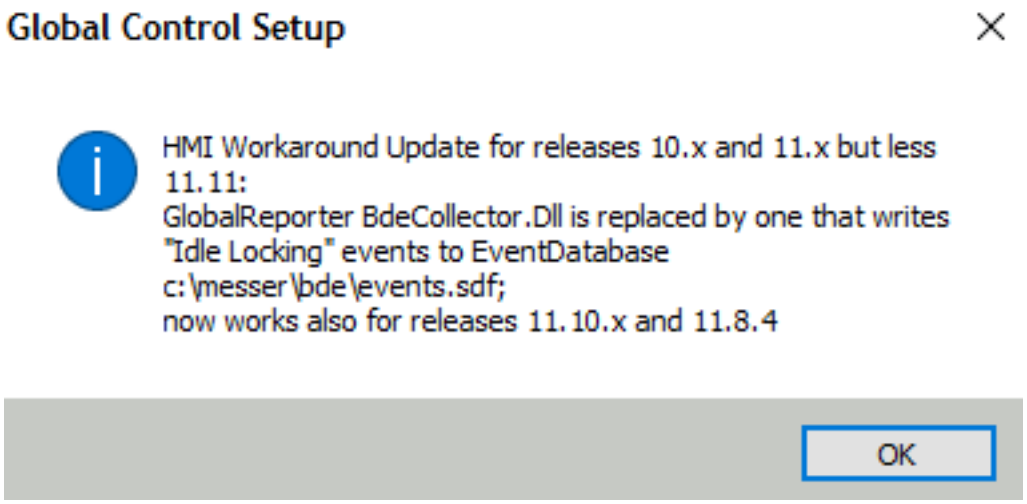
3 GC Installation

Note: Please execute the following steps in the exact order as described.

3.1 Step 1: Settings fot the PLC Controller

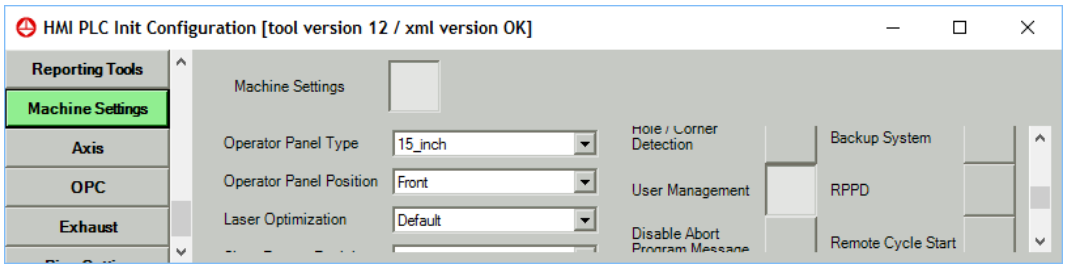
3.1.1 PDC setup for HMI versions 10.x to 11.10

Download the HMI updater from http://download.machine-insight.messersoft.com/indexgcdc.html and run the executable file.

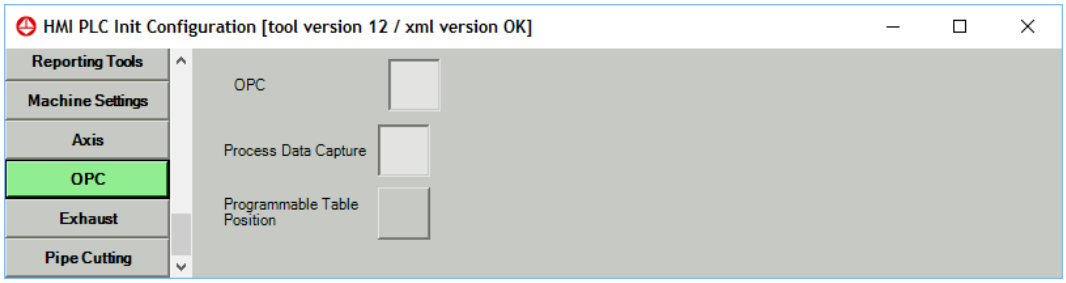


Click Start and let the program finish the update

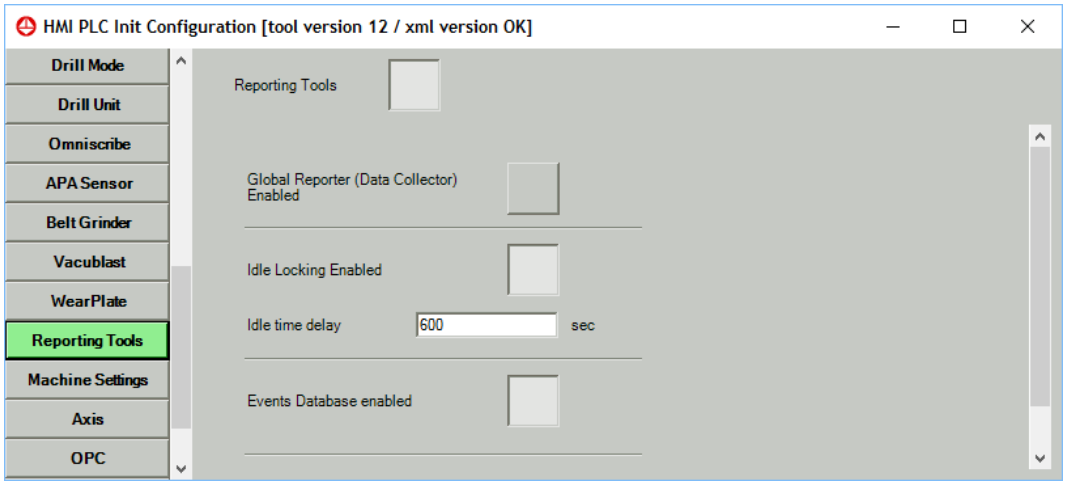
3.1.2 Activate User Management (optional - to unlock user related features)



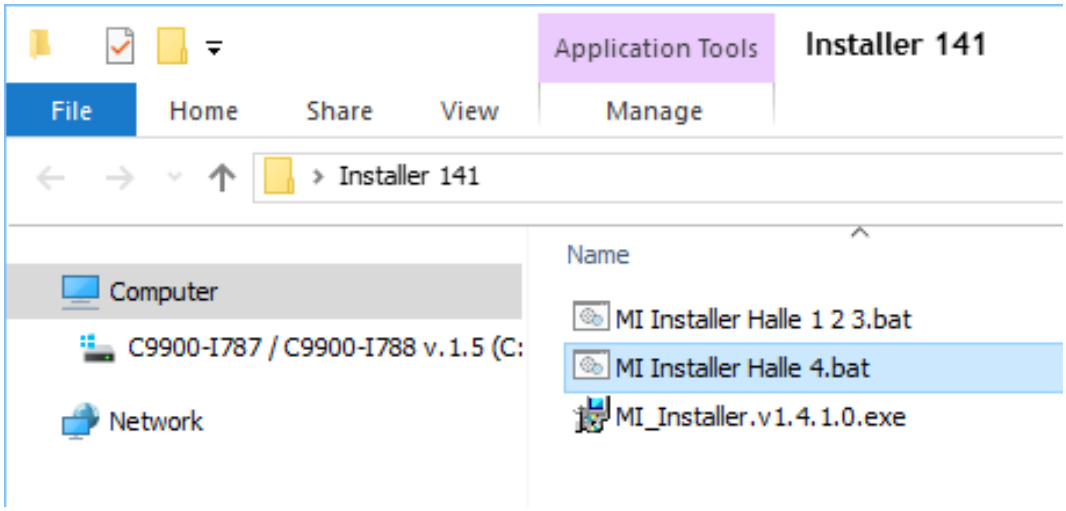
3.1.3 Enable OPC and Process Data Capture.



3.1.4 Enable Reporting Tools, Idle Locking Enabled and Events Database. Set Idle time delay to 600.

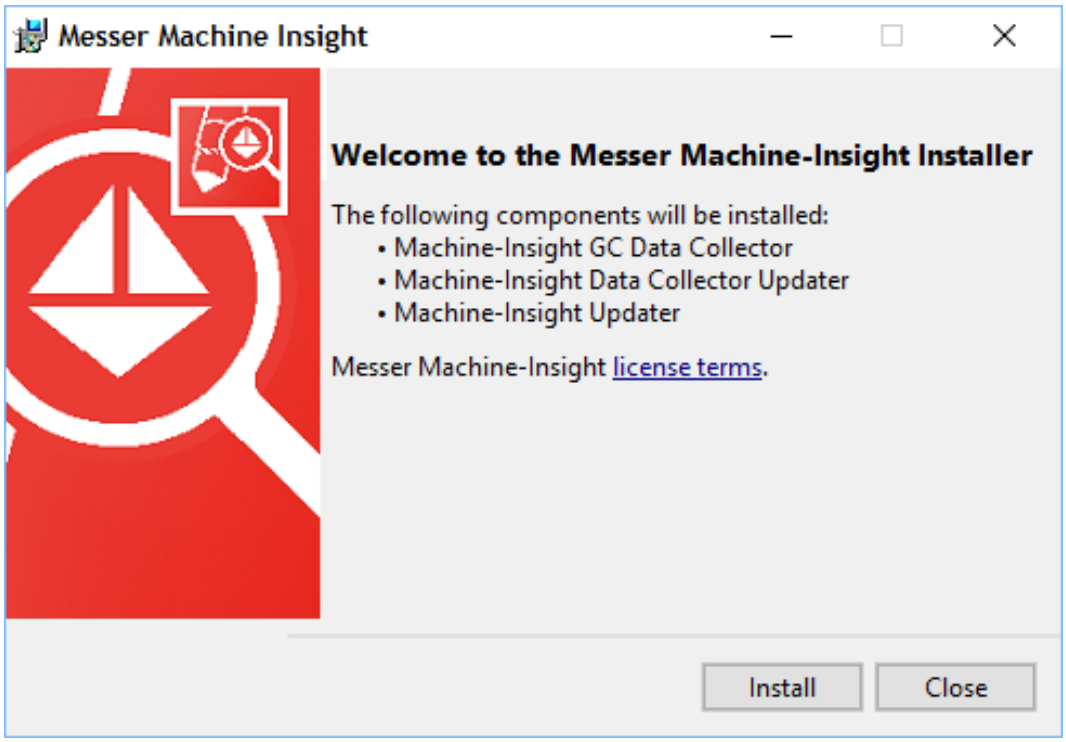


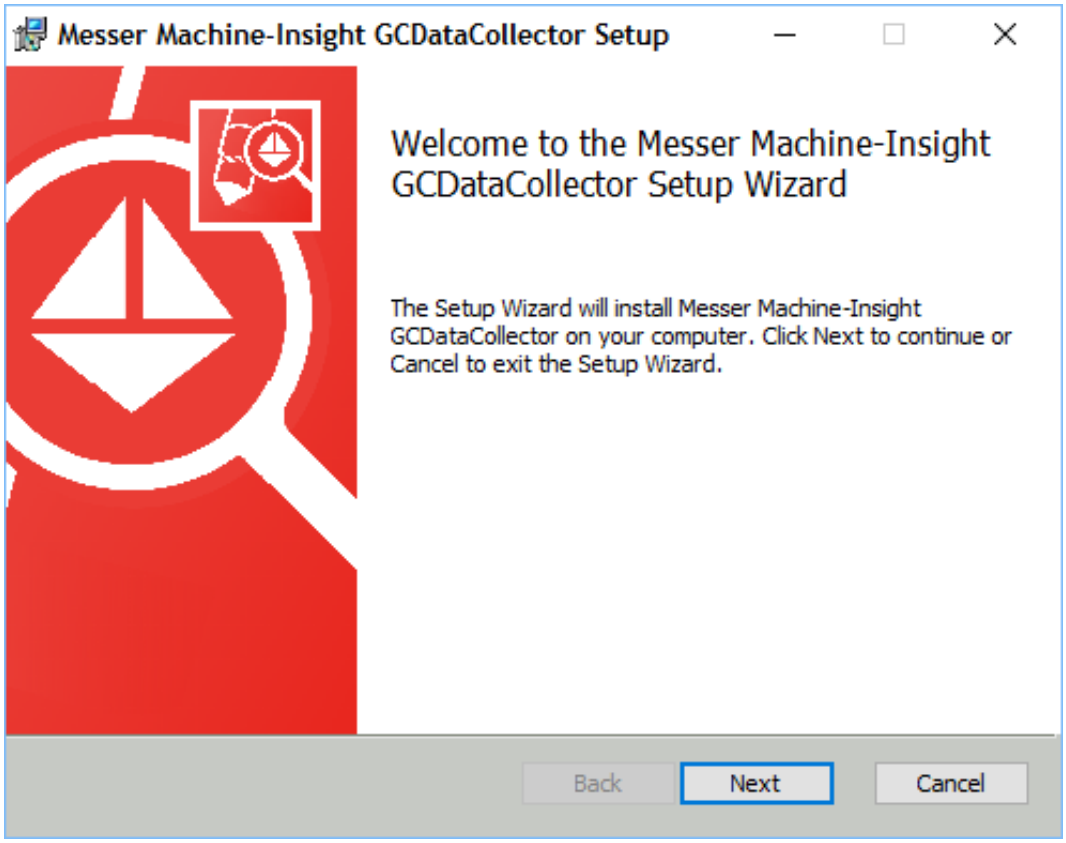
3.2 Step 2: Launch installer



3.3 Step 3: Perform the installation

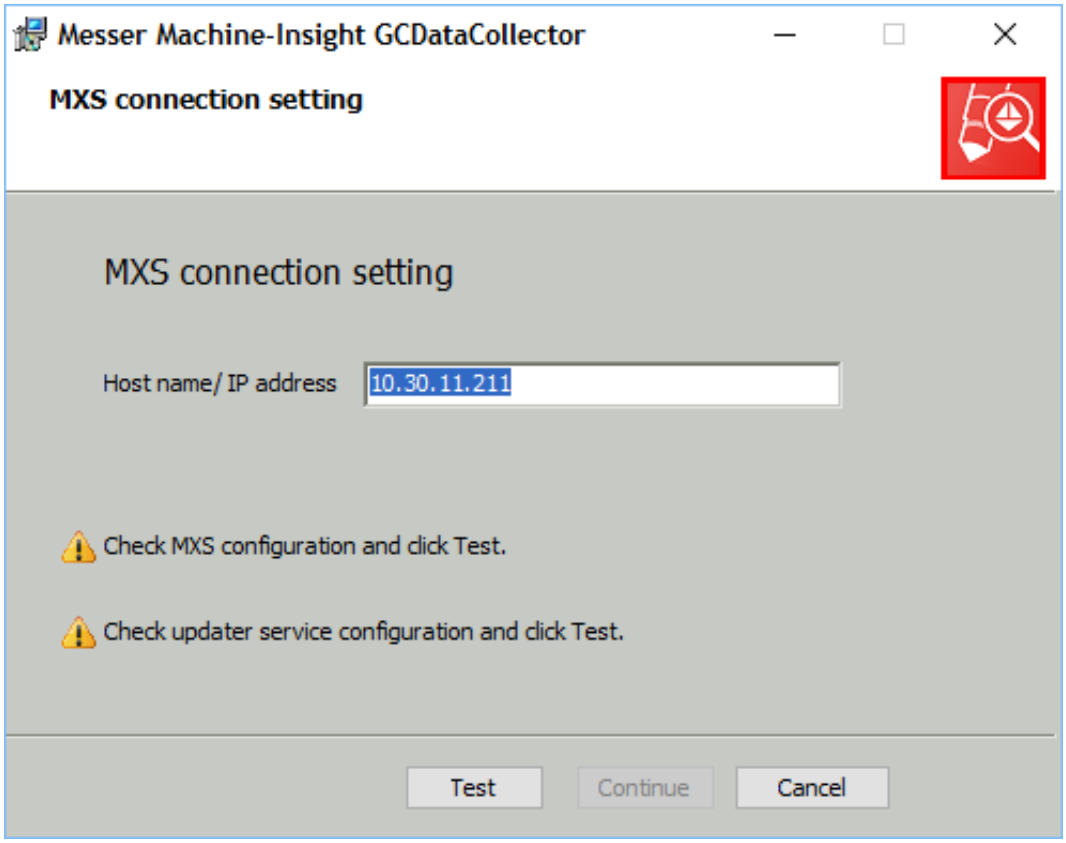
The installer consists of a wizard with 3 steps. Each step can only be completed after a successful test. Therefore, where necessary, make the necessary settings, then press [Test] and if the test was successful, continue the installation with [Continue].

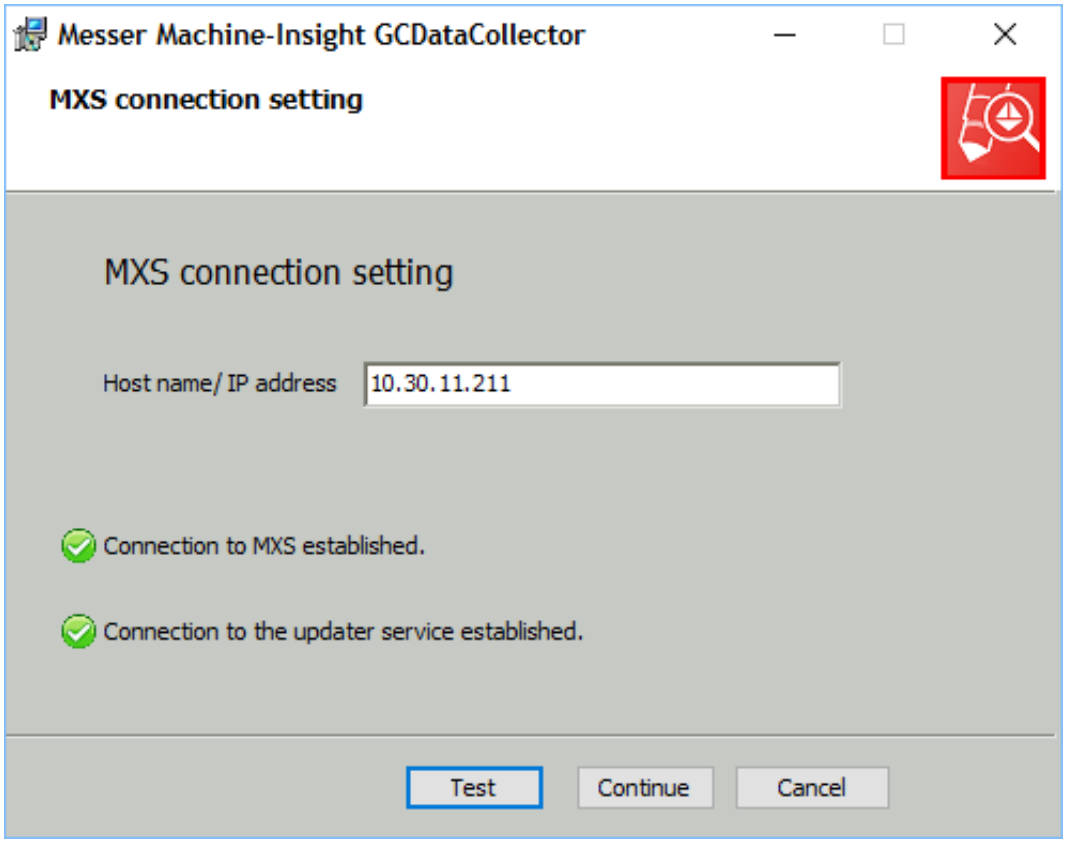




3.3.1 Configuration of the MXS IP

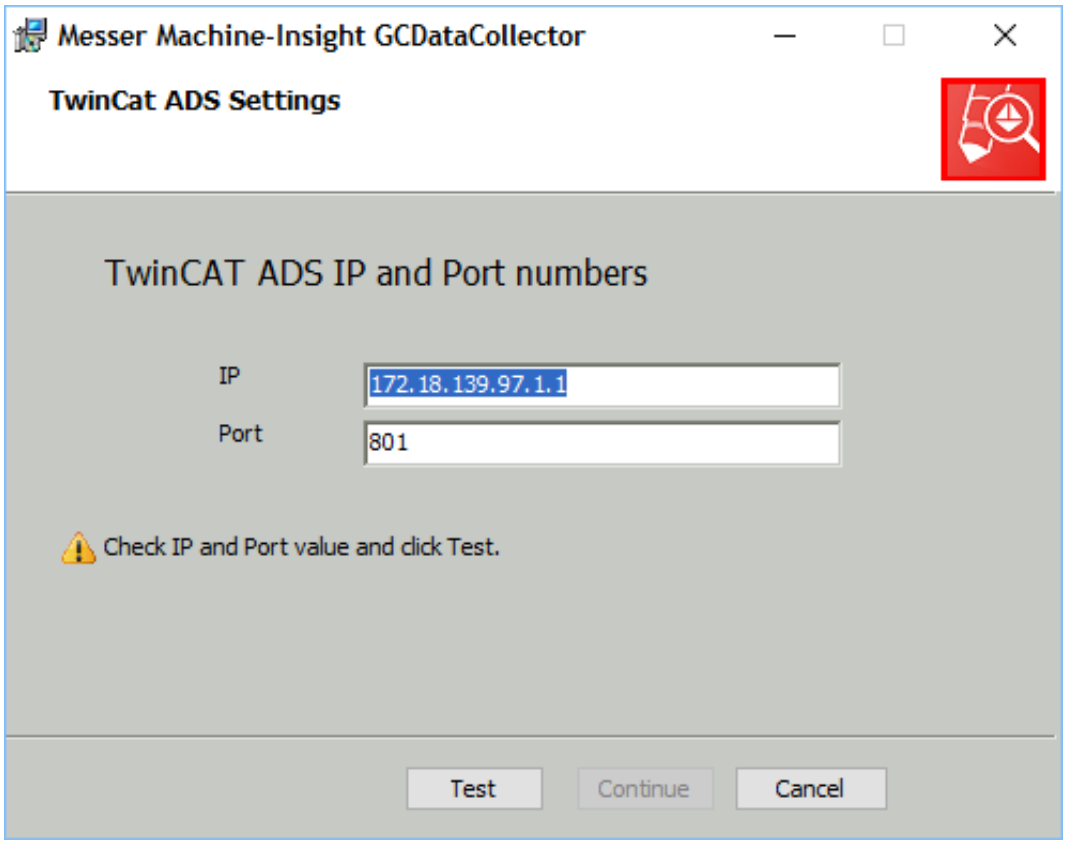
Configuration of the MXS IP. If the installer is started via the bat file, the IP is already pre-filled.


Messer Machine-Insight GCDataCollector
MXS connection setting
MXS connection setting
Host name/ IP address
10.30.11.211
Check MXS configuration and click Test.
Check updater service configuration and click Test.
Test
Continue
Cancel

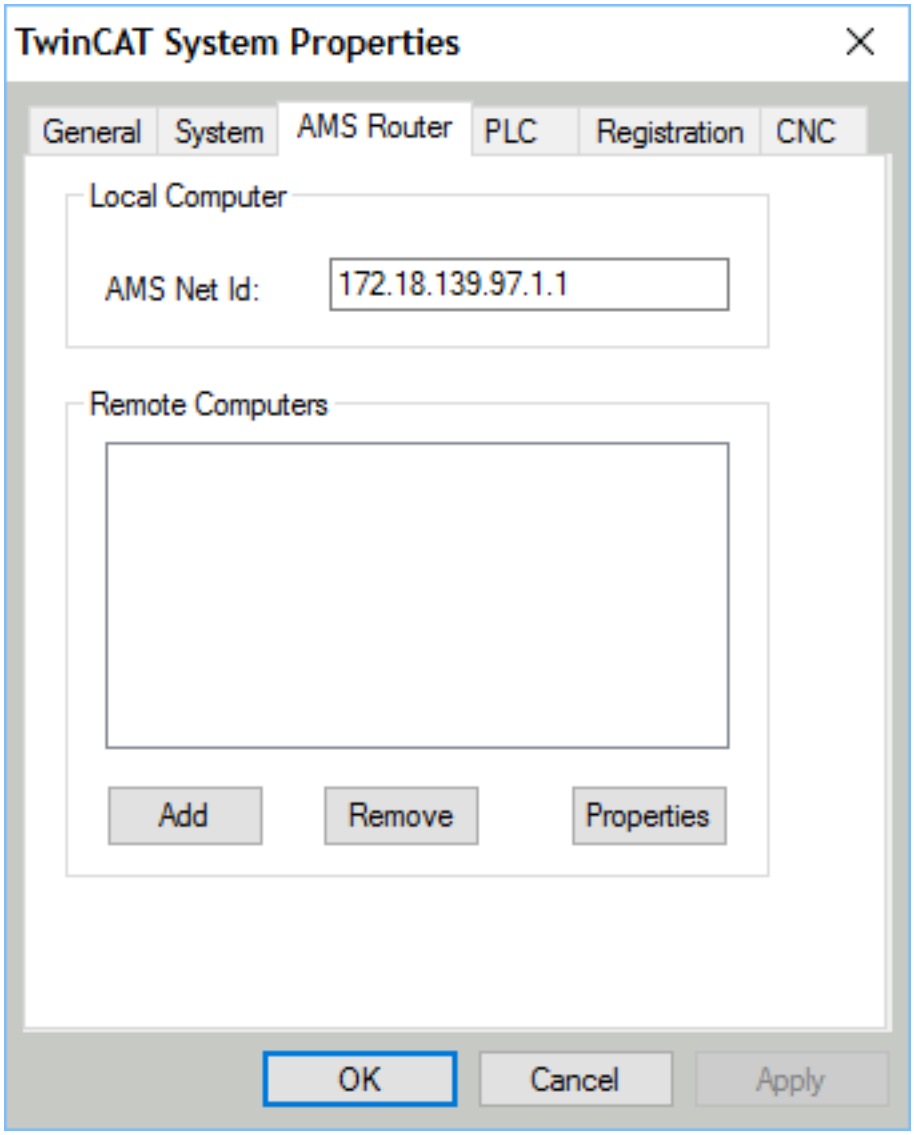

Messer Machine-Insight GCDataCollector
MXS connection setting
MXS connection setting
Host name/ IP address
10.30.11.211
Connection to MXS established.
Connection to the updater service established.
Test
Continue
Cancel

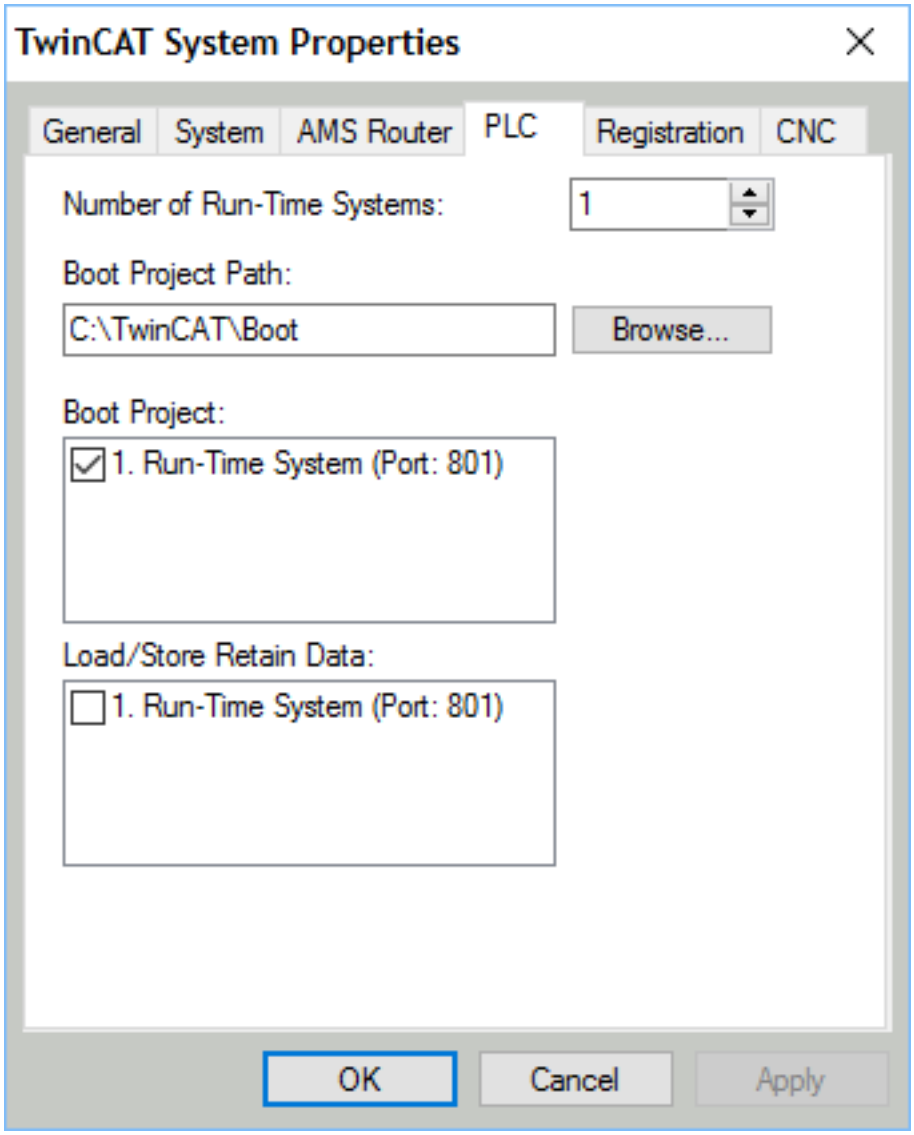
3.3.2 Configuration of ADS IP and port

The ADS IP and the port are read out automatically.

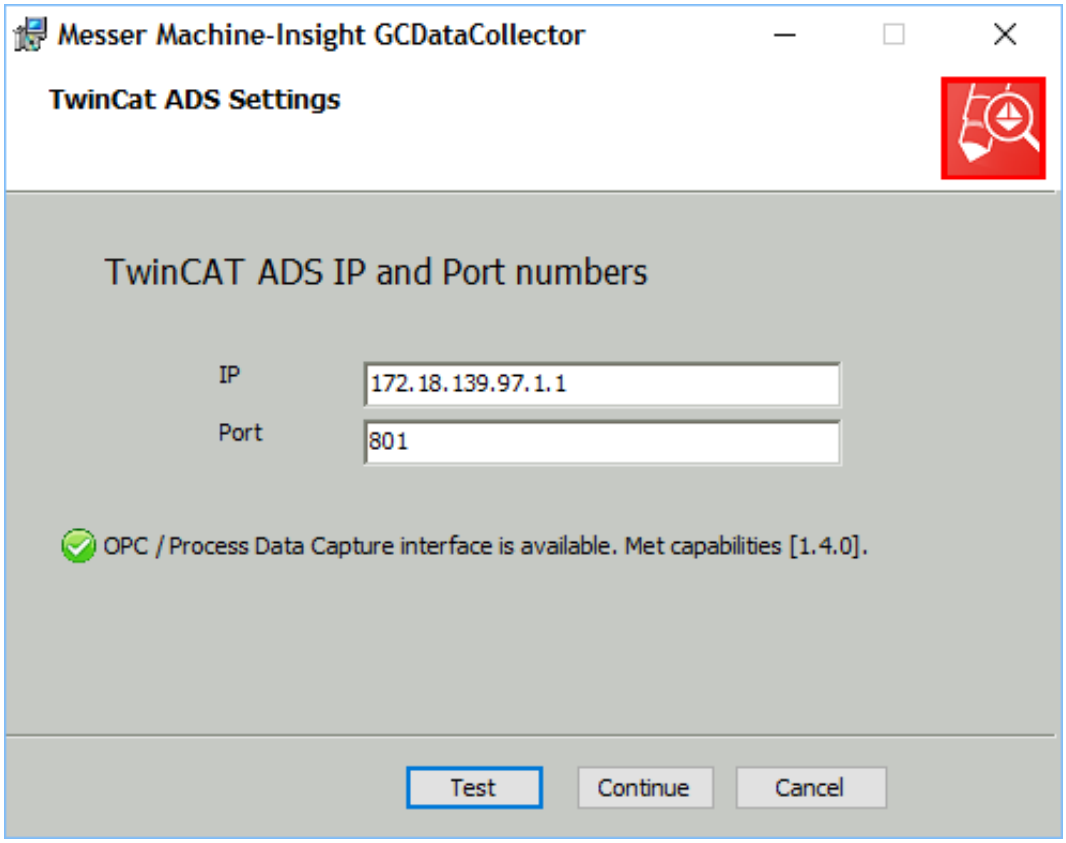


Check with the values in the TwinCat System Properties. Without this control, MI may capture data from another machine on the same network.


TwinCAT System Properties
General
System
AMS Router
PLC
Registration
CNC
Local Computer
AMS Net Id:
172.18.139.97.1.1
Remote Computers
Add
Remove
Properties
OK
Cancel
Apply



Press [Test] and [Continue] to continue the installation.



3.3.3 Configuration of the NTP service

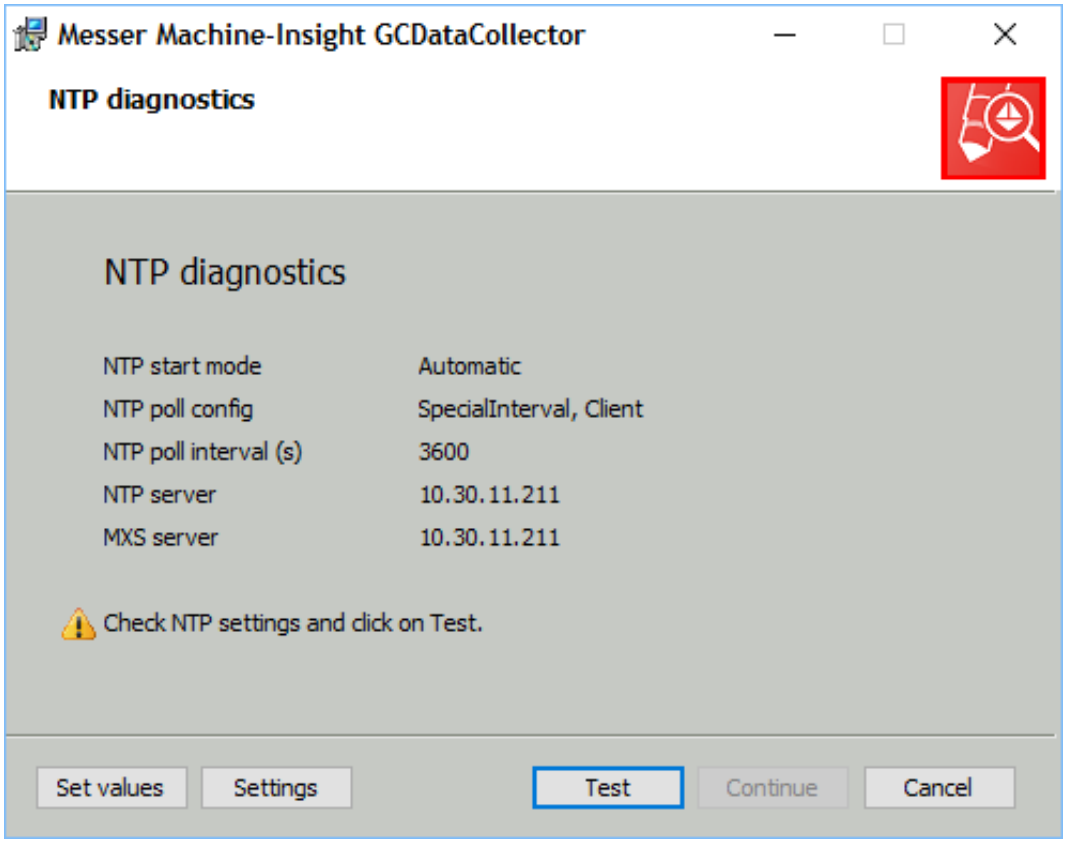
Proceed as follows to configure the NTP service:

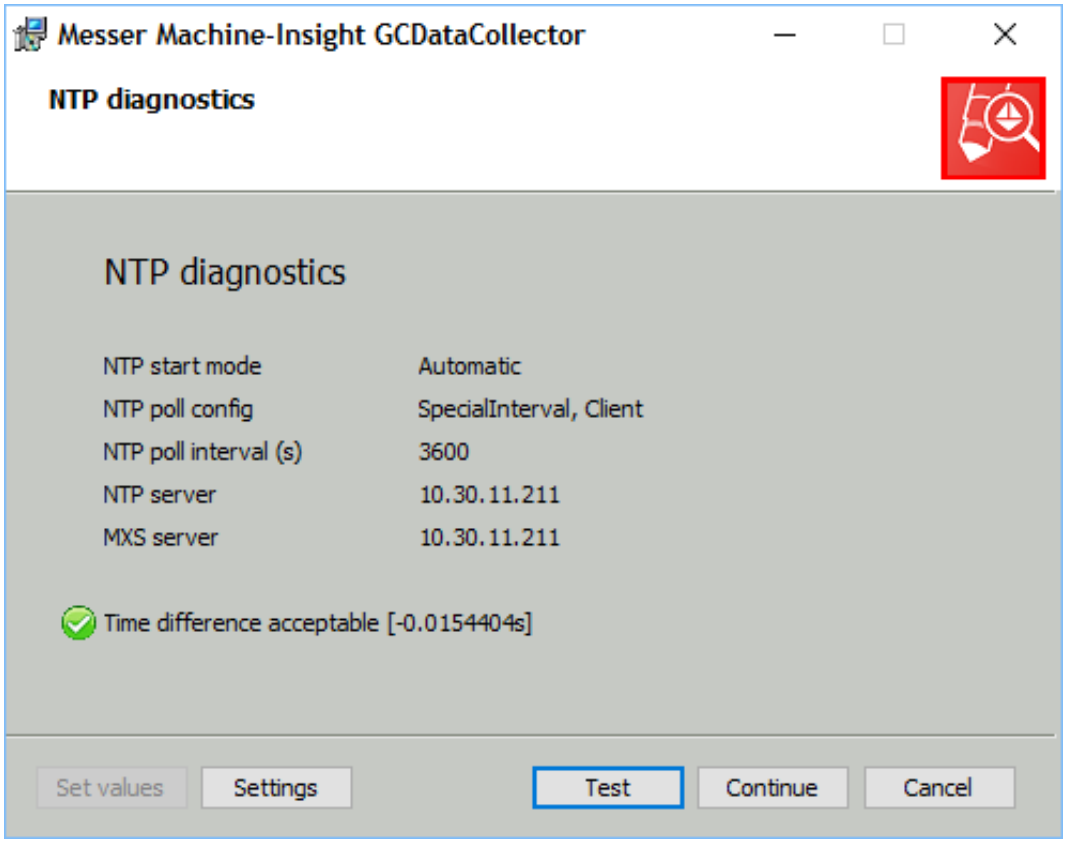
> Press [Set values] to overwrite the settings in Windows.

> Press [Test].

If the test is successful, continue the installation via [Continue].

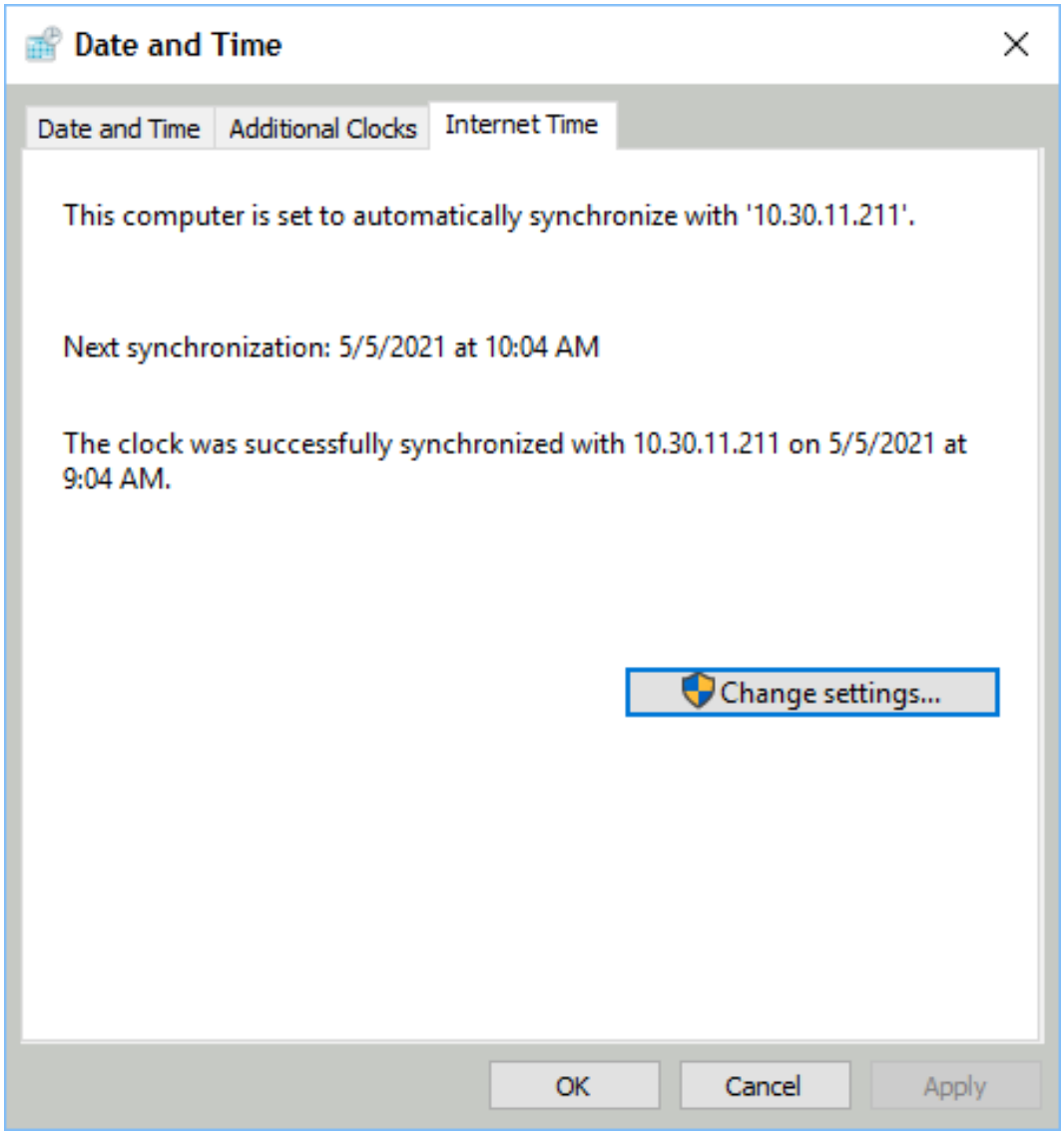
If the test is not successful, follow the instructions under "Manual time synchronisation under Windows".

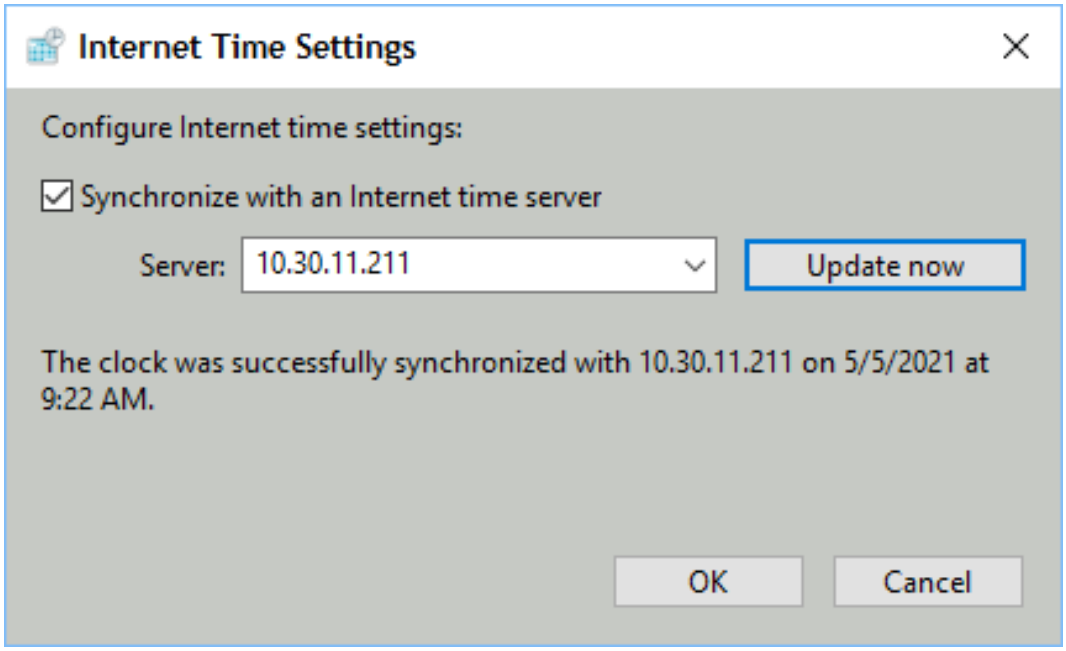

Messer Machine-Insight GCDataCollector
NTP diagnostics
NTP diagnostics
NTP start mode
Automatic
NTP poll config
SpecialInterval, Client
NTP poll interval (s)
3600
NTP server
10.30.11.211
MXS server
10.30.11.211
Check NTP settings and click on Test.
Set values
Settings
Test
Continue
Cancel


Messer Machine-Insight GCDataCollector
NTP diagnostics
NTP diagnostics
NTP start mode
Automatic
NTP poll config
SpecialInterval, Client
NTP poll interval (s)
3600
NTP server
10.30.11.211
MXS server
10.30.11.211
Time difference acceptable [-0.0154404s]
Set values
Settings
Test
Continue
Cancel

3.3.4 Manual time synchronisation under Windows (in case the test failed)

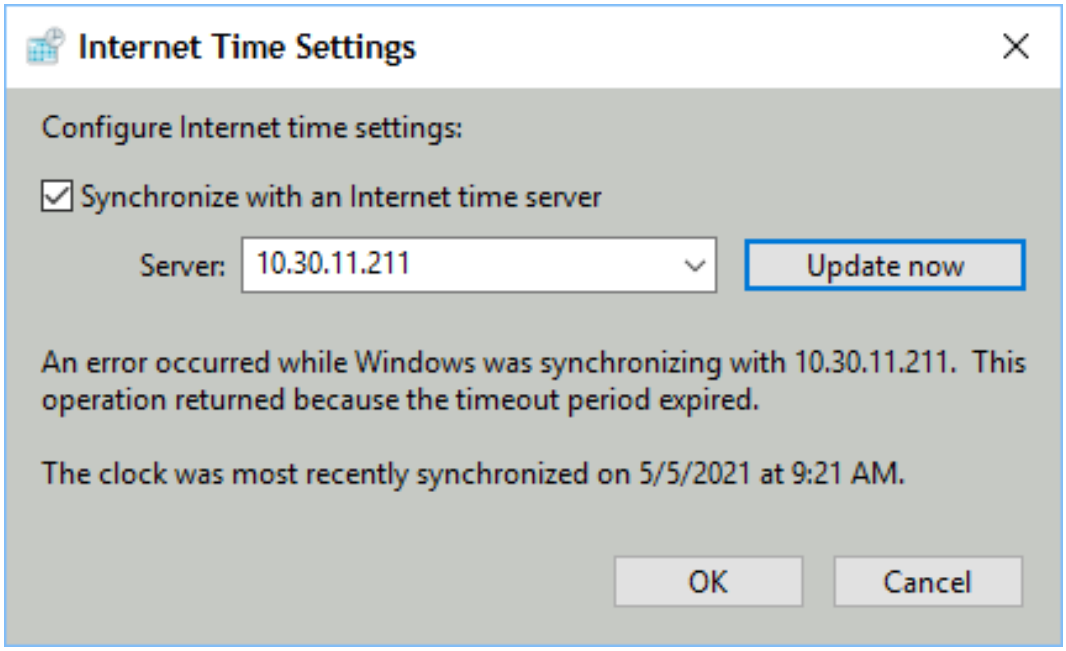
Open the Windows settings for date and time via [Settings] in the installer. Switch to the tab [Internet Time], press [Change settings...], enter the IP of the MXS and press [Update now].



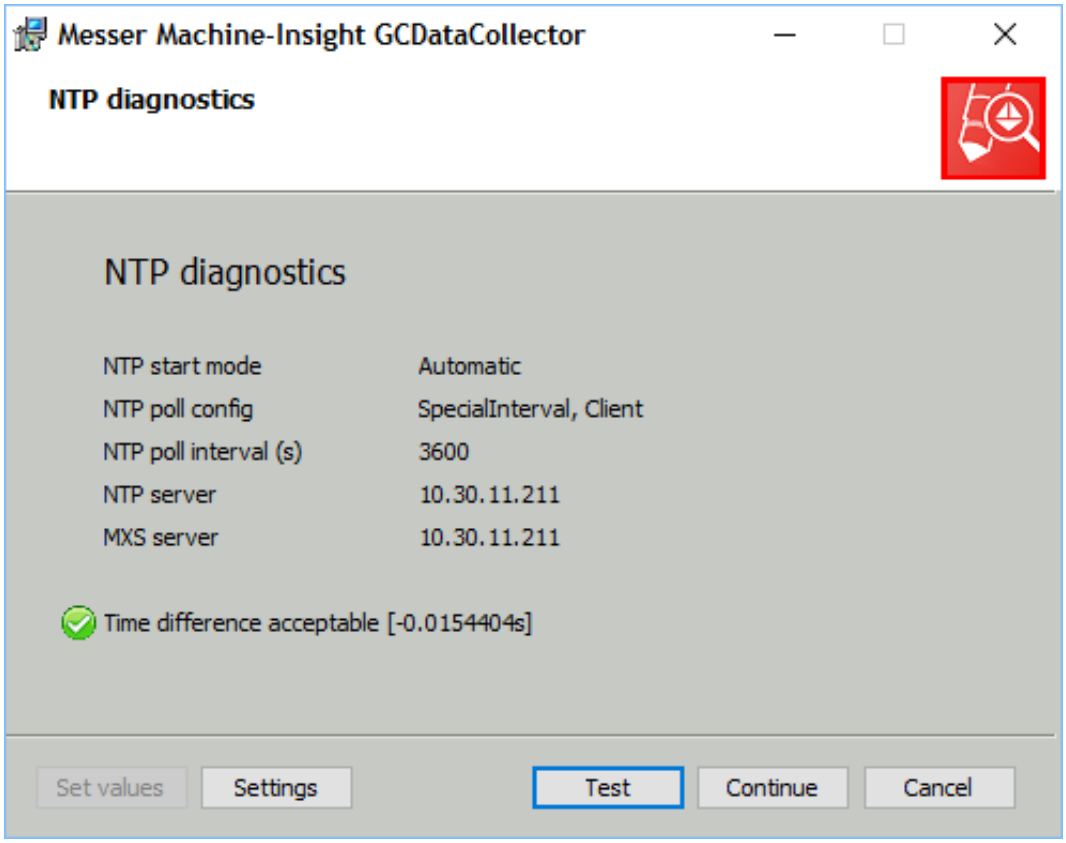


It may be necessary to press [Update now] several times until the time synchronisation was successful. The first attempt often fails. More than 5 attempts should not be necessary.

The error message for a failed time synchronisation looks like this:

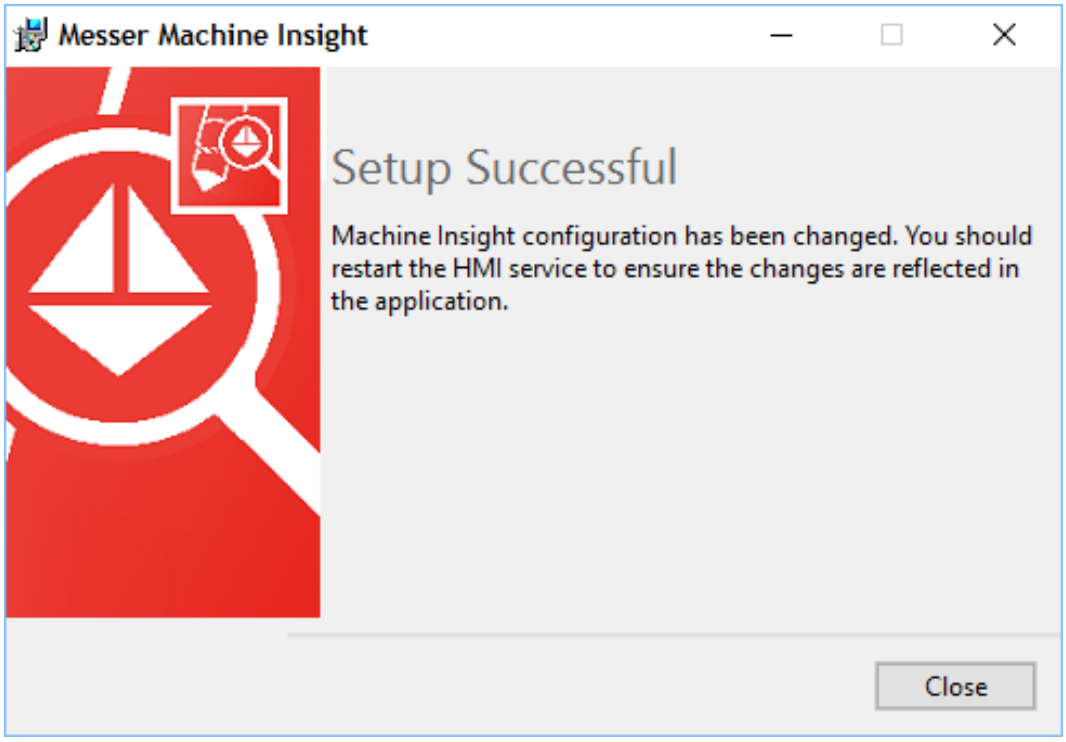


After the time synchronisation was successful, press [Test] again and continue the installation via [Continue].

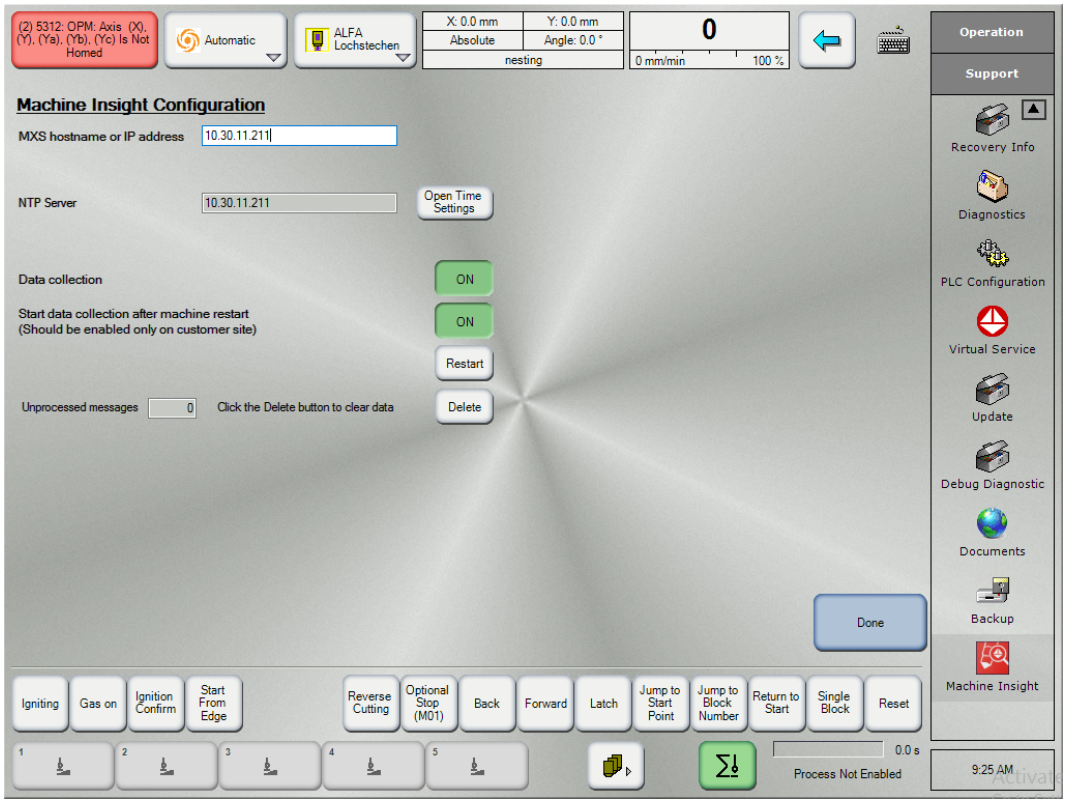


3.4 Step 4: Complete installation

After successful installation, restart the HMI.



The MI menu appears in the HMI menu:

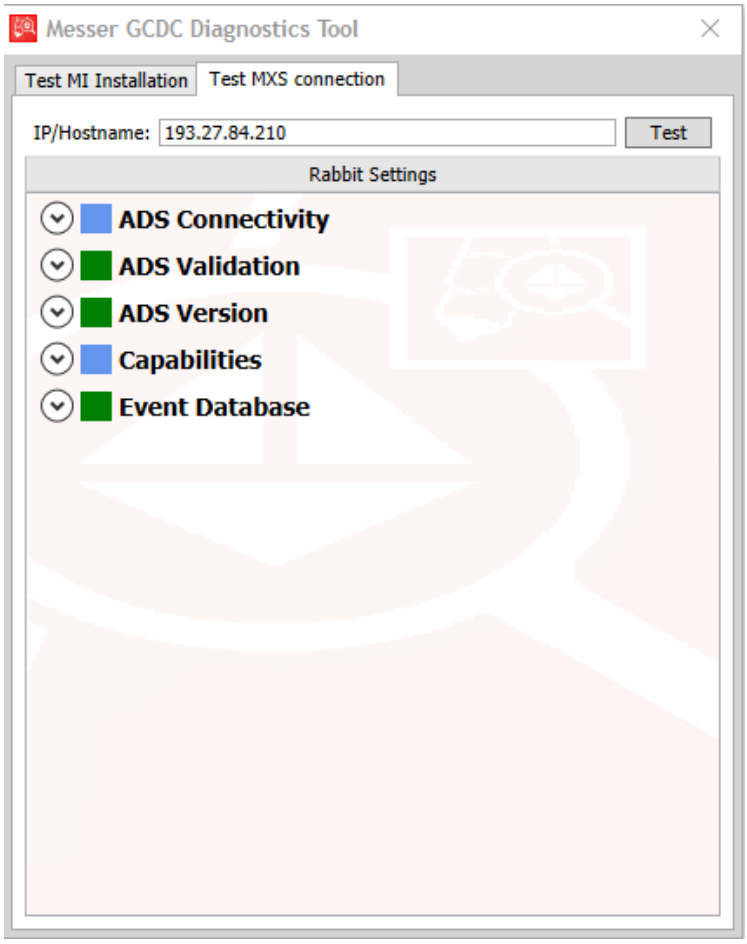


3.5 Step 5: Diagnostics tool

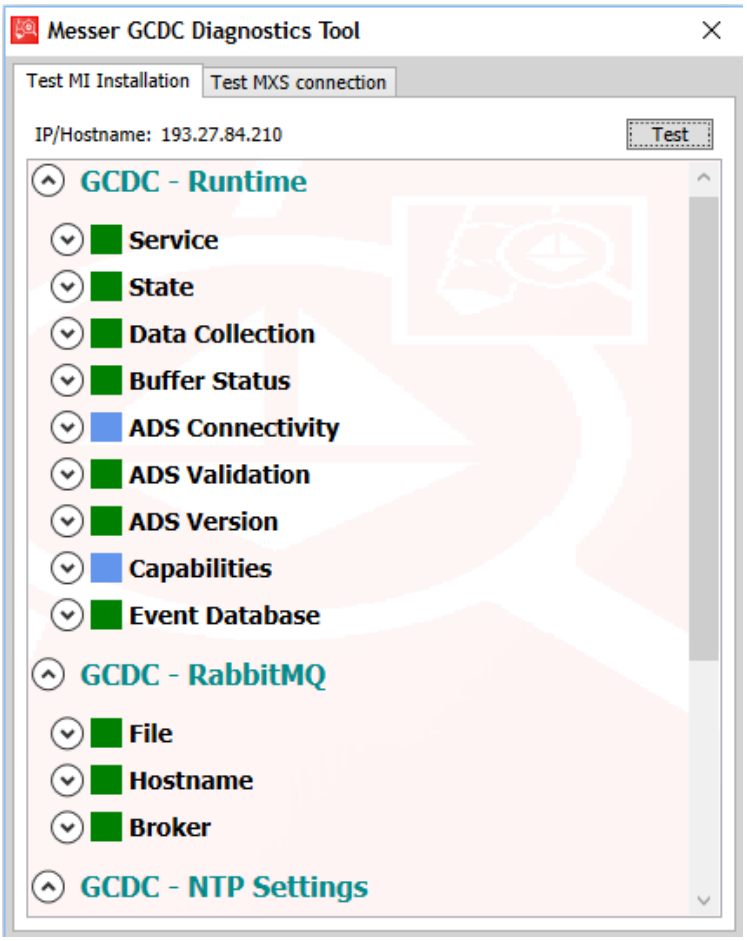
The purpose of the diagnostic tool is to test the manual IP configuration. If GCDC is installed, it should automatically identify it, but if that's not the case, you can manually enter the IP/hostname and perform the test.

Download the Diagnostics Tool from http://download.machine-insight.messersoft.com/indexgcdc.html, and run it.

Prior to the installation of the GCDC, in the second tab "Test MXS Connection" you can enter the MXS IP and click Test for a manual configuration of services.

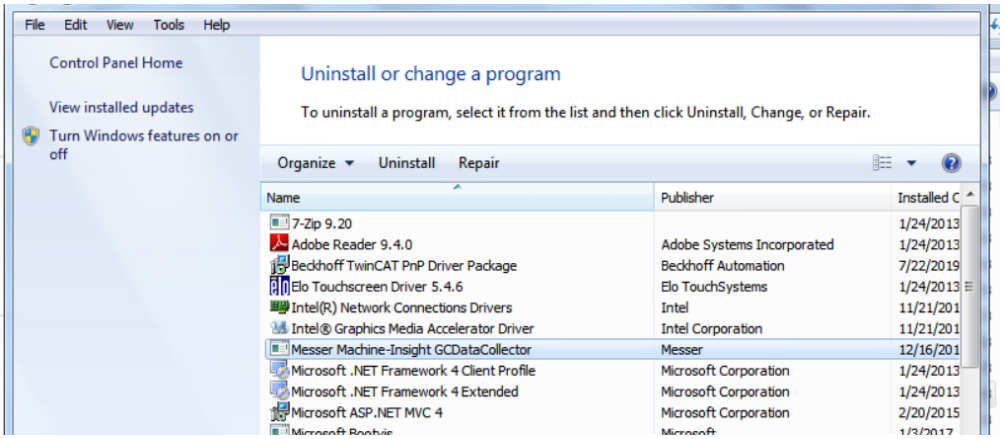


After the installation of a GCDC,from the first tab "Test MI Installation" you can test the installation by clicking the Test button.



4 Uninstall

Use Windows software uninstaller.



5 Glossary

Abbreviation	Name	Explanation
ADS/AMS	Automation Device Specification	Beckhoff-specific protocol on top of TCP/IP infosys.beckhoff.com
MXS	Messer data eXchange Server	
GC	Global Control	
GCDC	Global Control Data Collector	
msi	Microsoft installer file	
PDC	Process Data Capture	
GC	Global Control	Software environment on which the GCDC, the PLC and PDC runs
PLC	Programmable Logic Controller	
IPC	Industrial PC	Hardware on which the GC runs