

This instruction describes the configuration and testing of the METTLER TOLEDO ETHERNET OPTION for using in a network. Basically the ETHERNET Option can be configured with the Vision menu of the scale. A more detailed configuration requires a browser like Microsoft IE or Netscape Communicator.

Installation

The menu item **Option** shows in the initial state, that the ETHERNET – Option is not installed. This delineation is available for all Options and allows the user a fast overlook about the feasible options.

Com 1					
Com 2		ETHERNET		not installed	
Com 3		USB		not installed	
Option		Analog		not installed	
↑	↓		>>	Up	End



After the first-time installation of the ETHERNET – Option a release for the configuration is necessary. This release requires the SICS command SOP.

With the SICS command SOP (**S**et **O**ption) the supply voltage of the ETHERNET – Option can be simultaneous activated or deactivated. The following delineation shows the syntax..

Command	Answer	Descripton
SOP EO 1	SOP A	ETHERNET-Option enable
SOP EO 0	SOP A	ETHERNET-Option disable
SOP EO	SOP A 1 SOP A 0	Inquire the adjustment ETHERNET-Option is enable ETHERNET-Option disable



Serial interface

The connection between the ETHERNET – Option and the scale occurs internal with the serial interface COM 2, or if the scale has an analog option with COM 3. The following picture shows the factory default settings. With **Reset Com** the factory default settings can be recovered.

Com 1	ETHERNET				
Com 2	Mode	Dialog			
Com 3	Baud	9600			
Option	Parity	8-none			
↑	↓		>>	UP	End

! The factory default setting for the ETHERNET – Option is 9600, 8-none.
CAUTION: Adjust the serial interface to the factory default settings, if the ETHERNET – Option must be replaced or additional integrated.

Network

The parameters IP – address, Subnet – mask and Gateway for the communication inside of the network have to be adjusted under the menu item **COMMUNICATION – Option – ETHERNET**. The following picture shows the factory default settings. With **Reset ETHERNET** the factory default settings can be recovered.

ETHERNET					
USB	IP Adress	192 .168 . 1 . 1			
Analog	Subnet Mask	255 . 255. 255 .0			
	Gateway	0 . 0 . 0 . 0			
↑	↓		Bearb.	Zurück	Ende

! For the exact settings of the IP-Address, Subnet Mask and the Gateway it is essential to connect your network administrator.

! If the setting for the IP – Address, Subnet Mask and Gateway shows ----.----.----.----, the ETHERNET – Option doesn't provide any parameters.
 The settings of the serial interface have to be controlled (factory default setting).
 Check out the correctly integration of the ETHERNET – Option in the scale.



IP – Address

With the IP – Address a member of a network can be definitely identified. Either the IP – Address of the member is dedicated static or dynamic about DHCP. **The ETHERNET – Option doesn't support DHCP.** The IP – Address consists of 4 bytes (32 bit) and is usually indicated in decimal form. The codomain of one byte lies between 0 and 255. For a better readability are the bytes separated by points.

Subnet Mask

The IP – Address is separated into a Net – ID and a Host – ID. The Net – ID addresses the network and the Host – ID the member. From the 32 bits of the Subnet Mask are the bits of the Net – ID set on 1. Which part of the IP – Address is belonging to the Net – ID depends on the dimension of the network. The following delineation shows the 3 essential network categories.

Category	31	24	23	16	15	8	7	0
A	Net-ID			Host-ID				
B	Net-ID				Host-ID			
C	Net-ID						Host-ID	

The network can be partitioned in more subnets. For this partition is a part of the Host – ID used. But this method reduces the number of the possible members in the subnet. In the factory default setting is the Subnet mask adjusted for a network with the category C.

Gateway

With assistance of the Net – ID the ETHERNET – Option recognize if the acceptor of the dates is part of the same subnet. Agree this part from the IP- Address of acceptor with the ETHERNET – Option, the dates will be directly send up to the acceptor. If there is a difference, the acceptor isn't located in the same subnet. And the dates will be sending up to the configured gateway for an intermediation.

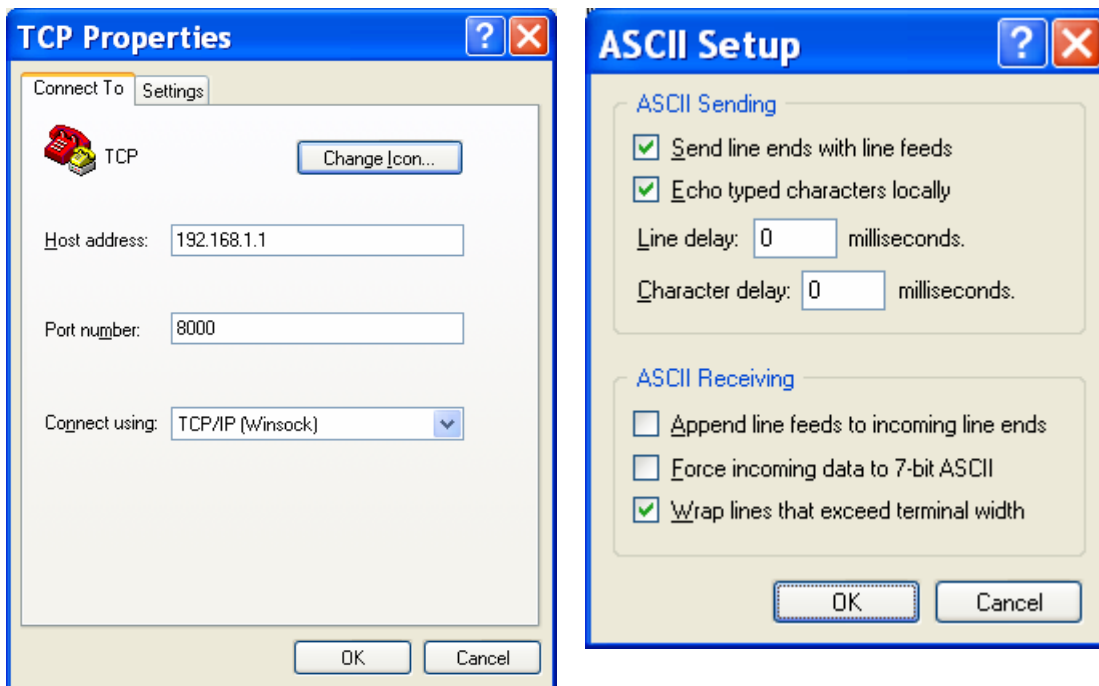
Test

After the configuration the first part of the ETHERNET – Option can be tested. **Ping** is used in networks for simple tests and diagnostics. With Ping you can prove if a certain member exists in the network and if he is addressable. The call for the command Ping occurs in the DOS – BOS (Command Prompt). The following delineation shows the command syntax and the possible reactions.

Command	ping 192.168.1.1
Answer	Reply from 192.168.1.1: bytes = 32, time = 2ms, TTL = 64
No answer	Request timed out.

Communication

The **HyperTerminal** and the **SICS commands** allows a communication between the scale and your PC. To start the HyperTerminal with Windows you have to choose **Start – All Programs – Accessories – Communication**. In the following screenshots shows the settings for the HyperTerminal.



For Ping and the HyperTerminal you have to attend the setting of the internet protocol TCP/IP of the network interface card of your PC.



Network Access

If you already use a Switch / Hub to connect your PC to the network, there aren't any more settings for the network interface card necessary. By a direct access between the ETHERNET – Option and the PC through a **crossed patch cable**, you have to attend the settings of the internet protocol TCP / IP. You can elect the settings under windows with **Start – Control Panel – Network Connections**. Select with the right mouse button the settings for the network interface card. The following screen shots show the settings for the **Internet Protocol TCP / IP**.

