Engineering Note

WMF Commissioning with PC







Table of Contents

1	Intro	duction	3
2	Req	uired material	3
3	Con	nect WMF with PC	4
4	PC o	configuration	4
	4.1 4.2 4.3 4.4 4.5	Windows 10 instructions Reset IP configuration Windows 8 instructions Windows 7 instructions Windows XP instruction	4 7 7 7
5	Con	necting WMF with APW-Link	8
	5.1 5.2	PROFINET version	8 10

1 Introduction

This document aims to explain the commissioning of WMF weigh module with a PC or laptop via TCP/IP.

Be aware that the TCP/IP connection does not offer all features implementet in the Standard Automation Interface (SAI) protocoll.

Fast Weight Update Channel as an example is not available with a TCP/IP connection.

Further documentation can be downloaded from <u>www.mt.com/WMF</u>

2 Required material

For connection with the weigh module, you will need the following equipment:

Picture	Description	Part number
Constant Ale	WMF weigh module	Various models available (see Datasheet)
	Connection cable for the weigh module (M12 – RJ45, 2 m)	30326112
	PoE injector to supply power to the weigh module Country specific power cable not included!	30326111
	Ethernet patch cable to connect to a PC or laptop	3rd party product
	Ethernet/USB converter to keep the LAN port of the PC or laptop unoccupied (optional)	30326110
	PC or laptop with APW-Link Software v2.3 or higher	Free download link: <u>www.mt.com/apw-link</u>

3 Connect WMF with PC

Do the connections as depicted below:



It is recommended to use an USB-Ethernet converter, since you can keep the LAN port of your PC/laptop unoccupied for Internet connection.

Follow the steps below in order to configure the IP address of the Ethernet/USB converter or PC Ethernet port.

4 PC configuration

4.1 Windows 10 instructions

1. Go to your START menu



2. Go to Settings

	М	
ß		Mail
	2	Maps
ŝ		Messaging
	e	Microsoft Edge
Φ	ŵ	Microsoft Store
-	Q	Hi 🧧

3. Go to Network & Internet



4. Go to Ethernet

Startseite	Status
Einstellung suchen \mathcal{P}	Netzwerkstatus
Netzwerk und Internet	⊒—⊍—∰
Status	LAN-Verbindung* 11 mt.mtnet
// WLAN	Sie sind mit dem Internet verbunden.
配 Ethernet	Wenn Sie über einen eingeschränkten Datentarif verfügen, können Sie für dieses Netzwerk eine getaktete Verbindung festlegen oder andere Eigenschaften ändern.
✿ DFÜ	Verbindungseigenschaften ändern

5. Go to Change adapter options

Home	Ethernet	
Find a setting	Ethernet	Related settings
		Change adapter options
letwork & Internet	tsunami Connected	Change advanced sharing options
Status		Network and Sharing Center
🗟 Wi-Fi		HomeGroup
Ethernet		Windows Firewall

- 6. Right click on the local area connection depending on your connection an select properties:
 - <u>WITH</u> USB-Ethernet Adapter: select your adapter (if you are not sure which one to select, physically disconnect and reconnect the adapter to see which network appears/disappears)
 - <u>WITHOUT</u> USB-Ethernet Adapter: select Local Area Connection



7. Highlight "Internel Protocol Version 4 (TCP/IPv4)" and click Properties



- 8. Assign a fixed IP address to your Ethernet/USB converter. This IP address must be in the same subnet as the IP address of the weigh module.
 - Default IP address of the weigh module: 192.168.0.55
 - IP address of the Ethernet/USB converter: 192.168.0.x (last digit must differ from IP address of the weigh module) where x = [0...255]
 - Subnet mask: 255.255.255.0

Click **OK** to save the settings

Internet Protocol Version 4 (TCP/IPv4)	Properties 🔋 🖾
General	
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	matically if your network supports a ask your network administrator
Obtain an IP address automatical	ly
Use the following IP address:	
IP address:	192.168.0.9
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	· · ·
Obtain DNS server address auton	natically
Use the following DNS server add	resses:
Preferred DNS server:	
Alternate DNS server:	• • •
Validate settings upon exit	Advanced
	OK Cancel

If you are using a VPN connection and you cannot connect with the WMF, disconnect the VPN connection and try again.

Do not forget to reset your IP configuration after your finished the WMF configuration (see chapter 4.2)

4.2 Reset IP configuration

After you finish the configuration of the weigh module via Ethernet connection, you have to switch back to **automatic IP address assignment** described in step 8 in order to be able to connect to the Internet with your PC or laptop again.

Internet Protocol Version 4 (TCP/IPv4)	Properties 🛛 🕅 🖾
General	
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	matically if your network supports a ask your network administrator
Obtain an IP address automatical	ly
Output Description Use the following IP address:	<u> </u>
IP address:	192.168.0.9
Subnet mask:	255.255.255.0
Default gateway:	
Obtain DNS server address autor	natically
Ouse the following DNS server add	resses:
Preferred DNS server:	
Alternate DNS server:	• • •
Validate settings upon exit	Advanced
	OK Cancel

4.3 Windows 8 instructions

- 1. Use the administrator account credentials to log on to Windows 8 computer, to which static IP and DNS address is to be assigned
- 2. Click Desktop tile from the Start screen to go to the desktop
- 3. Once on the desktop screen, hover mouse to the bottom right corner of the window
- 4. From the displayed options in the right, click Settings
- 5. Click Control Panel from the Settings pane
- 6. On Control Panel window, click Network and Internet
- 7. From the right pane of Network and Internet window, click Network and Sharing Center category
- 8. From the left pane of Network and Sharing Center window, click Change adapter settings
- 9. On Network Connections window, right-click the network adapter on which static IP and DNS address is to be configured
- 10. From the context menu that appears, click Properties
- 11. Follow Windows 10 description; chapter 4.1 Step 8

4.4 Windows 7 instructions

- 1. Go to your START menu, click "Control Panel"
- 2. Under "Network and Internet", select "View network status and tasks"
- 3. Click "Change Adapter Settings" on the left menu bar
- 4. Follow Windows 10 description; chapter 4.1 Step 6

4.5 Windows XP instruction

- 1. Open Windows Start menu
- 2. Open Control Panel
- 3. Classic view: Open Network Connections
- 4. Category view: Select Network and Internet Connections, and then Network Connections
- 5. Follow Windows 10 description; chapter 4.1 Step 6

5 Connecting WMF with APW-Link

5.1 PROFINET version

- 1. Open the APW-Link software (free download from: www.mt.com/apw-link)
- 2. Select Receive Configuration File and click Next

S		Home	-												
1	E	E	E	12		12	1	P.			80	4		?	
	Read				Save	Save Setting					Test &		Options	Online	
														Help	
We	igh Modu	le Configui	ation	8	ackup & R	estore		Configura	tion Views		Adjustments	M	iscellaneo	IUS	
NM -	None ×	+													
				P								×			
							-				1				
						Y man mar			1						
						1	0		1	Y	1ac				
					• Re	eceive Configu	uration File	(Open C	onfiguratio	on Backup File				
						1.00					_				
					U Laun	ich wizard at s	tartup			Next	Car	ncel			

3. Select Ethernet in the dropdown menu for the Connection Type

Note:

You can select to perform an IP scan, if you want to connect to multiple weigh modules in the same network. IP scan is not necessary for a single line connection with known IP address of the weigh module.

Click Next

	. M	lettier-Toledo APW-Link		_ 🗆 ×
Home Miscellaneous				•
6 6 6 6		10 Co 351 AM	Ti 🗣	
Weigh Module Configuration	Backup & Restore	Configuration Views	Adjustments Weight & Chart	
+	nti incentante escanos e una en			
	Port Selection		×	
	Connection Type	Ethernet	🖸 O O	
	Detection Type	Auto Manual	0	
	, second second			
	IP Scan	🔘 Yes 🛛 🔍 No	0	
		Next	Cancel	
		Next	Concer	
Ready				

- 4. Enter the following:
 - IP address: 192.168.0.55 (this is the default IP address of the WMF weigh module, if you have changed the IP address of the WMF, enter the actual IP address here)
 - Port: 80
 - Source Ethernet card: 192.168.0.x (that is the address which you have assigned to your PC/laptop or Ethernet/USB adapter before)

Note: Source Ethernet card is displayed only if there are multiple Ethernet ports are available at the same time such as WLAN and LAN or when there is a virtual LAN due to Ethernet/USB converter. If there is only one port available, this option is not displayed.

Click Next to connect to the WMF module

Ethernet Settings	×
IP Address	192.168.0.55
Port	80
Source Ethernet Card	192,168.0.9
End of Line	<cr><lf></lf></cr>
	Back Next Cancel

5.2 EtherNet/IP version

You may encounter a problem when trying to establish a connection to the weigh module because in the EtherNet/IP protocol, the DHCP is active by default. This means that the IP address of the weigh module is automatically assigned by the DHCP protocol.

Follow the steps below in order to fix this problem:

1. Perform a temporary reset of the IP address to default value by holding a magnet close to the back side of the weigh module and following the sequence depicted in the picture below.



Observe the color changes of the above LED during the sequence. At the end of this sequence, the IP address of the weigh module will be reset to the default (192.168.0.55) temporarily.

(A power cycle will cause that the old IP address is assigned to the weigh module again)

- 2. Open the APW-Link software (free download from: www.mt.com/apw-link)
- 3. Select Receive Configuration File and click Next



4. Select Ethernet in the dropdown menu for the Connection Type

Note:

You can select to perform an IP scan, if you want to connect to multiple weigh modules in the same network. IP scan is not necessary for a single line connection with known IP address of the weigh module.

Click Next						
	N	lettler-Toledo APW-L	nk			_ 🗆 ×
Home Miscellaneous						()
E E E E		10 %	3.5;	T:		
Connect Weigh Read Write Factory	Open Save Save Setting			Test &		
Module Settings Settings Reset	Settings Settings as Backup & Restore				Weight & Chart	
+	and a nearest	Company			Tragin & chart.	
				>	<	
	Connection Type	Ethernet				
		-		_		
	Detection Type	() Auto	O Manual	v		
	IP Scan	🔘 Yes	No	0		
				<u> </u>		
			Next	Cancel		
Ready						• •

- 5. Enter the following:
 - IP address: 192.168.0.55 (this is the default IP address of the WMF weigh module, if you have changed the IP address of the WMF, enter the actual IP address here)
 - Port: 80
 - Source Ethernet card: 192.168.0.x (that is the address which you have assigned to your PC/laptop or Ethernet/USB adapter before)

Note: Source Ethernet card is displayed only if there are multiple Ethernet ports are available at the same time such as WLAN and LAN or when there is a virtual LAN due to Ethernet/USB converter. If there is only one port available, this option is not displayed.

hernet Settings		
IP Address	192.168.0.55	0
Port	80	0
0 EU - 0 I	102168.0.0	– – –
Source Ethernet Card	192.100.0.9	
End of Line	<cr> <lf></lf></cr>	• •
	Back Nevt	Cancel
	- Back Next	Cancer

Click Next to connect to the WMF module

6. In order to prevent that the IP address is overwritten by the DHCP protocol after a power cycle, you can go to the "IP Configuration" tab in APW-Link and select the option "IPv4 configuration managed by this device". Don't forget to write the new settings to the weigh module.



Edit Settings									
Basic	Weigl	hing	Adjustment	Weigh Module Informat	ion	*IP Configuration	Diagnostics		
	0	Default Gateway			0.0	0.0.0			0
	0	DNS Server				0.0.0.0			2
🗐 Ipv	/4 Netw	ork Co	onfiguration Mo	ode					
8	Netwo	etwork interface 1							
	N	Mode			Set IP configuration manually				0
IPv4 Host Address and Netmask									
8	Netwo	etwork interface 1							
	H	Host			192.168.0.55				2
_	N	Netmask			255.255.255.0				0
🗐 IPv	/4 Defau	ult Gat							
8	Netwo	etwork interface 1							
	0	Default gateway address				0.0.0			2
IPv4 DNS Server Address									
8	Netw	Network interface 1							
_	0	DNS server address				0.0.0.0			2
IPv	/4 Devic	e Mar	naged Network	Configuration	IP	v4 configuration m	anaged by this dev.	🔽 (2

 You can now assign a fixed IP address to the weigh module, which will stay permanent (not change after a power cycle). This step deactivates the DHCP protocol which is responsible for the automatic assignment of the IP address.

Ba	sic	Weighing	Adjustment	Weigh Module Information	on *IP Configuration	n Diagnostics		
	Ipv	4 Runtime N	etwork Configu	ration Information			4	
Network interface 1								
8	Ipv	4 Network Co	onfiguration M	ode				
		Network int	terface 1					
		Mode			Set IP configuration			
	IPv	4 Host Addre	ess and Netmas	k				
		Network int	terface 1					
		Host			192.168.0.20		?	
		Netma	sk		255.255.255.0		0	
IPv4 Default Gateway Address								
	Network interface 1							
		Default	t gateway addr	ess	0.0.0.0		0	
	IPv4 DNS Server Address							
		Network int	terface 1					
		DNS se	erver address		0.0.0.0		?	
	IP _V	4 Device Mar	naged Network	Configuration	IPv4 configuration m	anaged by this device		

www.mt.com

For more information

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