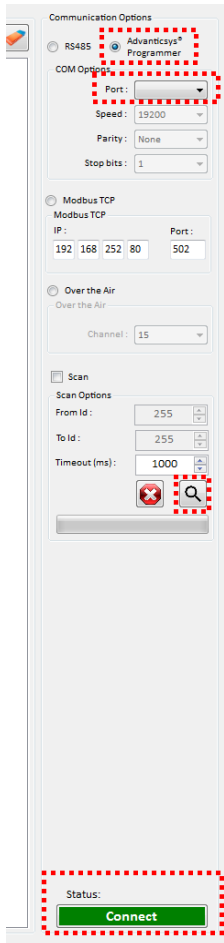


WM CONFIG TOOL – QUICK START GUIDE

Connection and scanning



- CONNECTION:
 - Select **AdvanticsSys Programmer** option.
 - Connect a data microUSB cable between DM108 and PC.
 - Windows should detect a COM PORT generated by DM108. If not, please check the data cable.
 - Choose the correct COM PORT.
 - Finally, click on **CONNECT** button. If the COM port is not busy, the button text changes to **DISCONNECT** and the back-colour to pink.
- SCANNING
 - By clicking the magnifier button, it will scan to the DM108 connected to the PC. The configuration of the DM108 connected will be showed.
 - If you have connected a Coordinator to PC, it will be able to discover, also, near DM108 endpoints.

How to update any change on DM108

<p>Type : DM108</p> <p>Firmware Version : 0.0</p> <p>Serial Number : <input type="text" value="1"/> </p> <p>Modbus Id : <input type="text" value="1"/></p> <p>Seconds of inactivity before RESET : <input type="text" value="1"/> </p>	<p>RS485 :</p> <p>· Baud rate : <input type="text"/></p> <p>· Parity : <input type="text"/></p> <p>· Stop bits : <input type="text"/></p> <p>· TX Delay (ms) : <input type="text" value="0"/> </p>	<div style="border: 2px dashed red; padding: 5px; display: inline-block;">Update</div> <input type="button" value="Set Default Values"/>	
<p>Freq. Band (MHz): <input type="checkbox"/> 865-867 <input checked="" type="checkbox"/> 868-869 Set Freq. Band</p> <p>Radio Id : <input type="text" value="4444"/></p> <p>Rol DM108 : <input type="checkbox"/> Coordinator</p> <p>Group Id : <input type="text" value="1"/></p> <p>Radio Channel : <input type="text"/></p> <p>TX Power (dBm): <input type="text"/></p> <p>Rssi Table : </p>	<p>AES Encryption Enabled: <input type="checkbox"/></p> <p>ACK Enabled : <input type="checkbox"/></p> <p>· ACK Timeout (ms) : <input type="text" value="10"/></p> <p>· ACK Retries : <input type="text" value="1"/></p> <p>· Num ACKs to Send : <input type="text" value="1"/> </p> <p>Routing Retries : <input type="text" value="3"/></p>	<p>Pulse Counter : <input type="text" value="0"/> </p> <p>Pulse Type : <input type="text"/></p>	<p>Output Mode : <input type="text"/></p> <p>· Pulse Width (ms) : <input type="text" value="10"/> </p> <p>· PWM ON Width (ms) : <input type="text" value="10"/> </p> <p>· PWM OFF Width (ms) : <input type="text" value="10"/> </p> <p style="text-align: right;">OUTPUT OFF</p> <p style="text-align: right;">PWM Output </p>

Any change made on the configuration of DM108 will be applied after clicking on the **UPDATE** button. However, there are three values which will be updated only by clicking on the **PENCIL** button: *Seconds of inactivity, TX Delay and Num ACKs to send.*

Modbus Id

Type :	DM108	RS485 :		Update	
Firmware Version :	0.0	· Baud rate :	<input type="text"/>	Set Default Values	
Serial Number :	<input type="text" value="1"/>	· Parity :	<input type="text"/>		
Modbus Id :	<input type="text" value="1"/>	· Stop bits :	<input type="text"/>		
Seconds of inactivity before RESET :	<input type="text" value="1"/>	· TX Delay (ms) :	<input type="text" value="0"/>		

Freq. Band (MHz): <input type="checkbox"/> 865-867 <input checked="" type="checkbox"/> 868-869	Set Freq. Band	Pulse Counter :	<input type="text" value="0"/>	
Radio Id :	<input type="text" value="4444"/>	AES Encryption Enabled:	<input type="checkbox"/>	
Role DM108 :	<input type="checkbox"/> Coordinator	ACK Enabled :	<input type="checkbox"/>	
Group Id :	<input type="text" value="1"/>	· ACK Timeout (ms) :	<input type="text" value="10"/>	
Radio Channel :	<input type="text"/>	· ACK Retries :	<input type="text" value="1"/>	
TX Power (dBm):	<input type="text"/>	· Num ACKs to Send:	<input type="text" value="1"/>	
Rssi Table :	<input type="text"/>	Routing Retries :	<input type="text" value="3"/>	
		Output Mode :	<input type="text"/>	
		· Pulse Width (ms) :	<input type="text" value="10"/>	
		· PWM ON Width (ms) :	<input type="text" value="10"/>	
		· PWM OFF Width (ms) :	<input type="text" value="10"/>	
		OUTPUT OFF		
		PWM Output	<input type="checkbox"/>	

The Modbus ID should be range from 1 to 247, attending to Modbus standard.

Radio ID and Role

Type :	DM108	RS485 :		Update	
Firmware Version :	0.0	· Baud rate :	<input type="text"/>	Set Default Values	
Serial Number :	<input type="text" value="1"/>	· Parity :	<input type="text"/>		
Modbus Id :	<input type="text" value="1"/>	· Stop bits :	<input type="text"/>		
Seconds of inactivity before RESET :	<input type="text" value="1"/>	· TX Delay (ms) :	<input type="text" value="0"/>		

Freq. Band (MHz): <input type="checkbox"/> 865-867 <input checked="" type="checkbox"/> 868-869	Set Freq. Band	Pulse Counter :	<input type="text" value="0"/>	
Radio Id :	<input type="text" value="4444"/>	AES Encryption Enabled:	<input type="checkbox"/>	
Role DM108 :	<input type="checkbox"/> Coordinator	ACK Enabled :	<input type="checkbox"/>	
Group Id :	<input type="text" value="1"/>	· ACK Timeout (ms) :	<input type="text" value="10"/>	
Radio Channel :	<input type="text"/>	· ACK Retries :	<input type="text" value="1"/>	
TX Power (dBm):	<input type="text"/>	· Num ACKs to Send:	<input type="text" value="1"/>	
Rssi Table :	<input type="text"/>	Routing Retries :	<input type="text" value="3"/>	
		Output Mode :	<input type="text"/>	
		· Pulse Width (ms) :	<input type="text" value="10"/>	
		· PWM ON Width (ms) :	<input type="text" value="10"/>	
		· PWM OFF Width (ms) :	<input type="text" value="10"/>	
		OUTPUT OFF		
		PWM Output	<input type="checkbox"/>	

The role of DM108 could be **Coordinator** (master) or **Endpoint** (slave). When *Coordinator* is checked on WM Config Tool, automatically the *Radio ID* has the value of **257**. If *Coordinator* is not checked, the radio ID could be range from **258** to **65279**. That is because the radio ID **257** is unique for Coordinators.

Group ID, Radio channel and TX POWER

Type : DM108 Firmware Version : 0.0 Serial Number : <input type="text" value="1"/> <input type="button" value="Q"/> <input type="button" value="✎"/> Modbus Id : <input type="text" value="1"/> Seconds of inactivity before RESET : <input type="text" value="1"/> <input type="button" value="Q"/> <input type="button" value="✎"/>	RS485 : · Baud rate : <input type="text"/> · Parity : <input type="text"/> · Stop bits : <input type="text"/> · TX Delay (ms) : <input type="text" value="0"/> <input type="button" value="Q"/> <input type="button" value="✎"/>	<input type="button" value="Update"/> <input type="button" value="Set Default Values"/>	
Freq. Band (MHz): <input type="checkbox"/> 865-867 <input checked="" type="checkbox"/> 868-869 <input type="button" value="Set Freq. Band"/> Radio Id : <input type="text" value="4444"/> Rol DM108 : <input type="checkbox"/> Coordinator Group Id : <input type="text" value="1"/> Radio Channel : <input type="text"/> TX Power (dBm): <input type="text"/> Rssi Table : <input type="button" value="Q"/> <input type="button" value="✎"/>	AES Encryption Enabled: <input type="checkbox"/> ACK Enabled : <input type="checkbox"/> · ACK Timeout (ms) : <input type="text" value="10"/> · ACK Retries : <input type="text" value="1"/> · Num ACKs to Send : <input type="text" value="1"/> <input type="button" value="✎"/> Routing Retries : <input type="text" value="3"/>	Pulse Counter : <input type="text" value="0"/> <input type="button" value="Q"/> <input type="button" value="✎"/> Pulse Type : <input type="text"/> <input type="button" value="Q"/> <input type="button" value="✎"/>	Output Mode : <input type="text"/> <input type="button" value="Q"/> · Pulse Width (ms) : <input type="text" value="10"/> <input type="button" value="Q"/> <input type="button" value="✎"/> · PWM ON Width (ms) : <input type="text" value="10"/> <input type="button" value="Q"/> <input type="button" value="✎"/> · PWM OFF Width (ms) : <input type="text" value="10"/> <input type="button" value="Q"/> <input type="button" value="✎"/> <input type="button" value="OUTPUT OFF"/> PWM Output

The **group ID** has a range from 0 to 255.

Radio channel: from 0 to 9.

TX POWER: from +9dBm to +25dBm*.

*+26dBm and +27dBm are forbidden, so please, don't use them.

AES, ACKs and Routing

Type : DM108 Firmware Version : 0.0 Serial Number : <input type="text" value="1"/> <input type="button" value="Q"/> <input type="button" value="✎"/> Modbus Id : <input type="text" value="1"/> Seconds of inactivity before RESET : <input type="text" value="1"/> <input type="button" value="Q"/> <input type="button" value="✎"/>	RS485 : · Baud rate : <input type="text"/> · Parity : <input type="text"/> · Stop bits : <input type="text"/> · TX Delay (ms) : <input type="text" value="0"/> <input type="button" value="Q"/> <input type="button" value="✎"/>	<input type="button" value="Update"/> <input type="button" value="Set Default Values"/>	
Freq. Band (MHz): <input type="checkbox"/> 865-867 <input checked="" type="checkbox"/> 868-869 <input type="button" value="Set Freq. Band"/> Radio Id : <input type="text" value="4444"/> Rol DM108 : <input type="checkbox"/> Coordinator Group Id : <input type="text" value="1"/> Radio Channel : <input type="text"/> TX Power (dBm): <input type="text"/> Rssi Table : <input type="button" value="Q"/> <input type="button" value="✎"/>	AES Encryption Enabled: <input type="checkbox"/> ACK Enabled : <input type="checkbox"/> · ACK Timeout (ms) : <input type="text" value="10"/> · ACK Retries : <input type="text" value="1"/> · Num ACKs to Send : <input type="text" value="1"/> <input type="button" value="✎"/> Routing Retries : <input type="text" value="3"/>	Pulse Counter : <input type="text" value="0"/> <input type="button" value="Q"/> <input type="button" value="✎"/> Pulse Type : <input type="text"/> <input type="button" value="Q"/> <input type="button" value="✎"/>	Output Mode : <input type="text"/> <input type="button" value="Q"/> · Pulse Width (ms) : <input type="text" value="10"/> <input type="button" value="Q"/> <input type="button" value="✎"/> · PWM ON Width (ms) : <input type="text" value="10"/> <input type="button" value="Q"/> <input type="button" value="✎"/> · PWM OFF Width (ms) : <input type="text" value="10"/> <input type="button" value="Q"/> <input type="button" value="✎"/> <input type="button" value="OUTPUT OFF"/> PWM Output

It's recommended to always use the **AES Encryption** for security reasons, so by default, leave that option checked.

Also, for **ACK enabling**. When ACKs are enabled, it is recommended next values:

- **ACK Timeout:** from 70 to 100ms.
- **ACK Retries:** from 1 to 3.
- **Num ACKs to send:** from 2 to 4.

When the DM108 is a *Coordinator*, it has the possibility to configure the **Routing Retries**. The Coordinator saves in its memory the routing paths of each endpoint: when a path fails, the Coordinator use the retries to try again the same path. If it exceeds the retries, it will remove the path and try to discover a new one.

RS485 UART configuration

Type : DM108 Firmware Version : 0.0 Serial Number : <input type="text" value="1"/> <input type="button" value="Q"/> <input type="button" value="✎"/> Modbus Id : <input type="text" value="1"/> <input type="button" value="Q"/> Seconds of inactivity before RESET : <input type="text" value="1"/> <input type="button" value="Q"/> <input type="button" value="✎"/>	RS485 : · Baud rate : <input type="text"/> · Parity : <input type="text"/> · Stop bits : <input type="text"/> · TX Delay (ms) : <input type="text" value="0"/> <input type="button" value="Q"/> <input type="button" value="✎"/>	<input type="button" value="Update"/> <input type="button" value="Set Default Values"/>	
Freq. Band (MHz): <input type="checkbox"/> 865-867 <input checked="" type="checkbox"/> 868-869 <input type="button" value="Set Freq. Band"/> Radio Id : <input type="text" value="4444"/> Rol DM108 : <input type="checkbox"/> Coordinator Group Id : <input type="text" value="1"/> Radio Channel : <input type="text"/> TX Power (dBm): <input type="text"/> Rssi Table : <input type="button" value="Q"/> <input type="button" value="✎"/>	AES Encryption Enabled: <input type="checkbox"/> ACK Enabled : <input type="checkbox"/> · ACK Timeout (ms) : <input type="text" value="10"/> · ACK Retries : <input type="text" value="1"/> · Num ACKs to Send : <input type="text" value="1"/> <input type="button" value="Q"/> <input type="button" value="✎"/> Routing Retries : <input type="text" value="3"/>	Pulse Counter : <input type="text" value="0"/> <input type="button" value="Q"/> <input type="button" value="✎"/> Pulse Type : <input type="text"/> <input type="button" value="Q"/> <input type="button" value="✎"/>	Output Mode : <input type="text"/> <input type="button" value="Q"/> · Pulse Width (ms) : <input type="text" value="10"/> <input type="button" value="Q"/> <input type="button" value="✎"/> · PWM ON Width (ms) : <input type="text" value="10"/> <input type="button" value="Q"/> <input type="button" value="✎"/> · PWM OFF Width (ms) : <input type="text" value="10"/> <input type="button" value="Q"/> <input type="button" value="✎"/> <input type="button" value="OUTPUT OFF"/> PWM Output

The DM108's RS485 port could be configured:

- **Baudrate:** 2400, 4800, 9600 or 19200
- **Parity:** None, Odd or Even.
- **Stop bits:** 1 or 2.
- **TX Delay:** recommended to leave it to 0 ms. It is only necessary for slow devices.