Arlyn UpScale

3rd-Party Scale Integration

ADDENDUM

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CONTENTS

1 INTRODUCTION

Thank you for choosing Arlyn Scales. This addendum is meant as a supplement to the **Arlyn UpScale Instruction Manual**. Therefore, it is important that you first familiarize yourself with the overall functionality of the scale using the Instruction Manual before starting to read this addendum.

The purpose of this addendum is to setup the 3rd-Party Integration feature of the Arlyn UpScale indicator. This will be detailed further below.

2 ARLYN UPSCALE TOUCHSCREEN INDICATOR

The Arlyn UpScale Touchscreen Indicator is a new state-of-the-art digital indicator available exclusively from Arlyn Scales. It is equipped with a 7-inch HD IPS Capacitive 5-point widescreen touchscreen display with a resolution of 1024x600 (WSVGA) pixels. The Arlyn UpScale is driven by a powerful Quad Core processor and comes with a spacious 8GB of storage. It is also equipped with 2GB of DDR3 RAM giving it more than enough power to multitask across simultaneous processes.

The Arlyn UpScale also offers unique connectivity options and features that are not found in other scales in the weighing industry. These features include:

- Data Logging with Google Spreadsheets
- Integration to AxChange Cloud Monitoring
- Modbus RTU/ASCII & Modbus TCP/IP
- Setpoint Email/Print (Email on Weight Target)
- Checkweighing
- Custom Fields Support
- User Management & Time Tracking

.. and many more (www.arlynscales.com/scale-options).

3 WHAT IS 3RD-PARTY INTEGRATION?

Given that most scales do not have features as the ones offered by the Arlyn UpScale Touchscreen indicator, the 3rd-party Integration system allows for the Arlyn UpScale indicator to be plugged into any existing scale from other manufacturers (3rd-party scales), tap into their data stream protocol, and display their weight on the UpScale.

In addition to displaying the weight, the Arlyn UpScale will also pass the weight through its feature modules, so the weights are processed as if it came from an Arlyn Scale.

3.1 Example

For example, Mettler Toledo scales do not have the ability to log data on to a Google Spreadsheet on the internet. But our Arlyn UpScale Indicator is able to do this through the "Data Logging with Google Spreadsheet" feature.

The UpScale as well as the 3rd-party scales need to be configured to talk to each other, but once they are properly set, the experience becomes seamless.
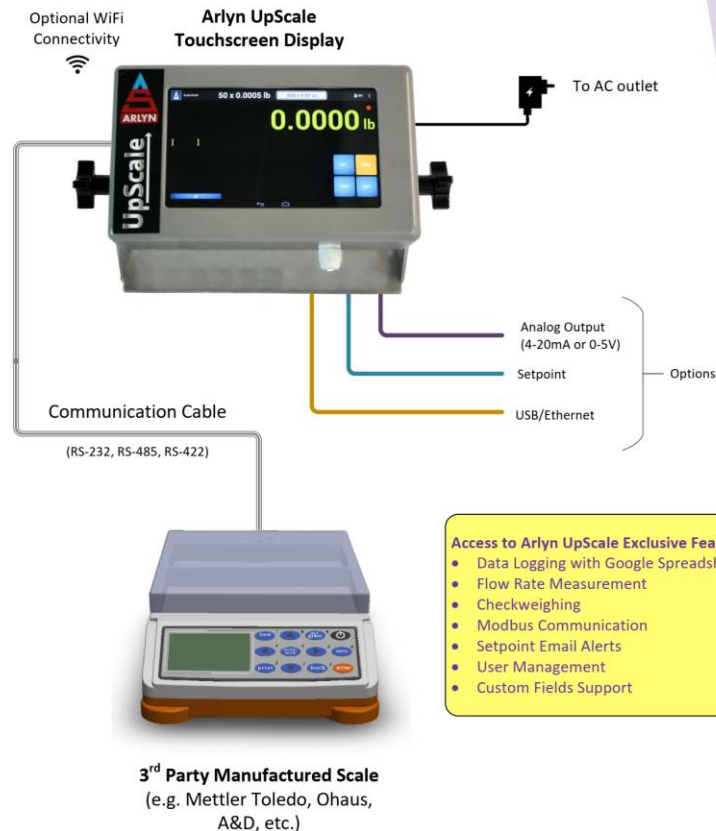
3.2 Advantages

Some of the advantages of this system are:

a. You can easily expand the functionalities while keeping your existing scale setup.
b. If any of the scales offered by Arlyn Scales do not suite you but you would like to have many of the unique features outlined in Section 2 above, you can still purchase scales from other manufactures and use the Arlyn UpScale to take advantage of its features.

4 INTEGRATION WIRING DIAGRAM

3RD PARTY SCALE INTEGRATION – WIRING DIAGRAM

Arlyn UpScale Touchscreen Indicator connected to a non-Arlyn Scale through RS-232 or other TTL communication means (RS-422, RS-485, etc.)

Optional WiFi Connectivity

Arlyn UpScale Touchscreen Display

50 x 0.0005 lb
0.0000 lb

To AC outlet

Analog Output (4-20mA or 0-5V)
Setpoint — Options
USB/Ethernet

Communication Cable
(RS-232, RS-485, RS-422)

Access to Arlyn UpScale Exclusive Features
- Data Logging with Google Spreadsheets
- Flow Rate Measurement
- Checkweighing
- Modbus Communication
- Setpoint Email Alerts
- User Management
- Custom Fields Support

3rd Party Manufactured Scale
(e.g. Mettler Toledo, Ohaus, A&D, etc.)

Summary
Connect any scale* to the Arlyn UpScale Touchscreen Indicator to get access to exclusive features to meet the special requirements of your application.

NOTES:
1) 3RD -Party scale must have communication configured to be compatible with the Arlyn UpScale. Most of the manufacturers mentioned have protocols already built to be compatible with the Arlyn UpScale.
2) Some functions may not be available for certain 3rd -Party scales. Please consult manual for further details.
3) Contact us for additional compatibility options for additional scale manufacturers.

Figure 1: Scale Integration Mechanical Illustration

5 SUPPORTED MODELS

MANUFACTURER	MODELS/SERIES	SUPPORTED FUNCTIONS
Ohaus	All Ohaus Models	• Weight Streaming
A&D	Tested Model (EK-600i)	• Weight Streaming • Remote Keys
Mettler Toledo	All Mettler Toledo Scales	• Weigh Streaming

If your model is not listed above, please call the Arlyn Scales Sales Department at (800) 645-4301 to determine if your 3rd-Party Model is supported.

6 INTEGRATION WITH OHAUS NAVIGATOR

The Ohaus Navigator scale needs to be equipped with the RS-232 Interface Kit for it to be properly integrated with the Arlyn UpScale. The RS-232 from the Ohaus Scale connects to the RS-232 connector of the Arlyn UpScale. This exchange of data enables the Arlyn UpScale to process the weight data from the Ohaus scale.

The RS-232 Manual for the Ohaus Scale can be found here:
https://dmx.ohaus.com/WorkArea/showcontent.aspx?id=27342

Follow the steps below to integrate the Ohaus Navigator Weighing scale (or any* Ohaus Scale) with the Arlyn UpScale Touchscreen Indicator.
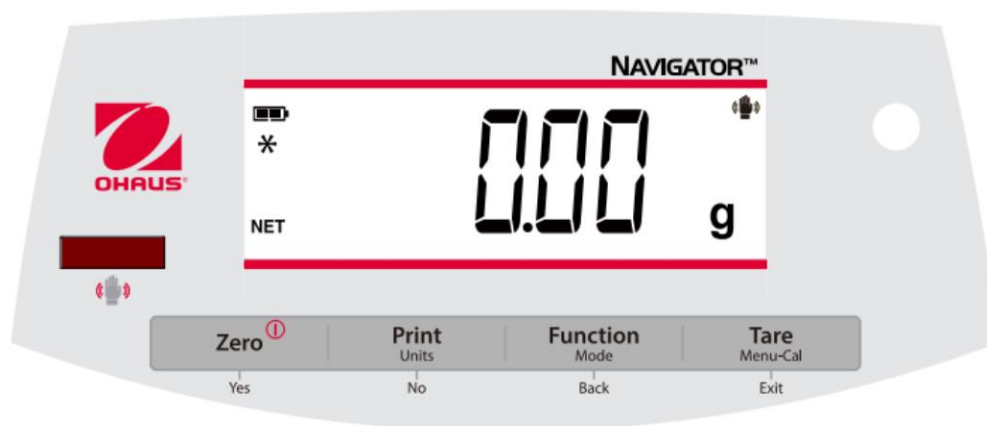

Figure 2: Ohaus Navigator Front Panel

6.1 Configure Ohaus Scale
1) Press and hold the MENU-CAL button.
2) Toggle the FUNCTION button multiple times until the *RS-232* function is shown on screen.
3) Configure the RS-232 function (default settings)
   a. Baud: 9600
   b. Data Bits: 8
   c. Stop Bits: 1
   d. Handshake: None
   e. Parity: None
   f. End: Yes

4) Toggle the FUNCTION button multiple times until the *PRINT* function is shown on screen.
   a. Stable: Off
   b. A-Print: Off
   c. End: Yes
5) Press the MENU-CAL button again to exit the menu.

6.2 Configure the Arlyn UpScale Indicator for Ohaus Integration

Refer to the screenshot below:

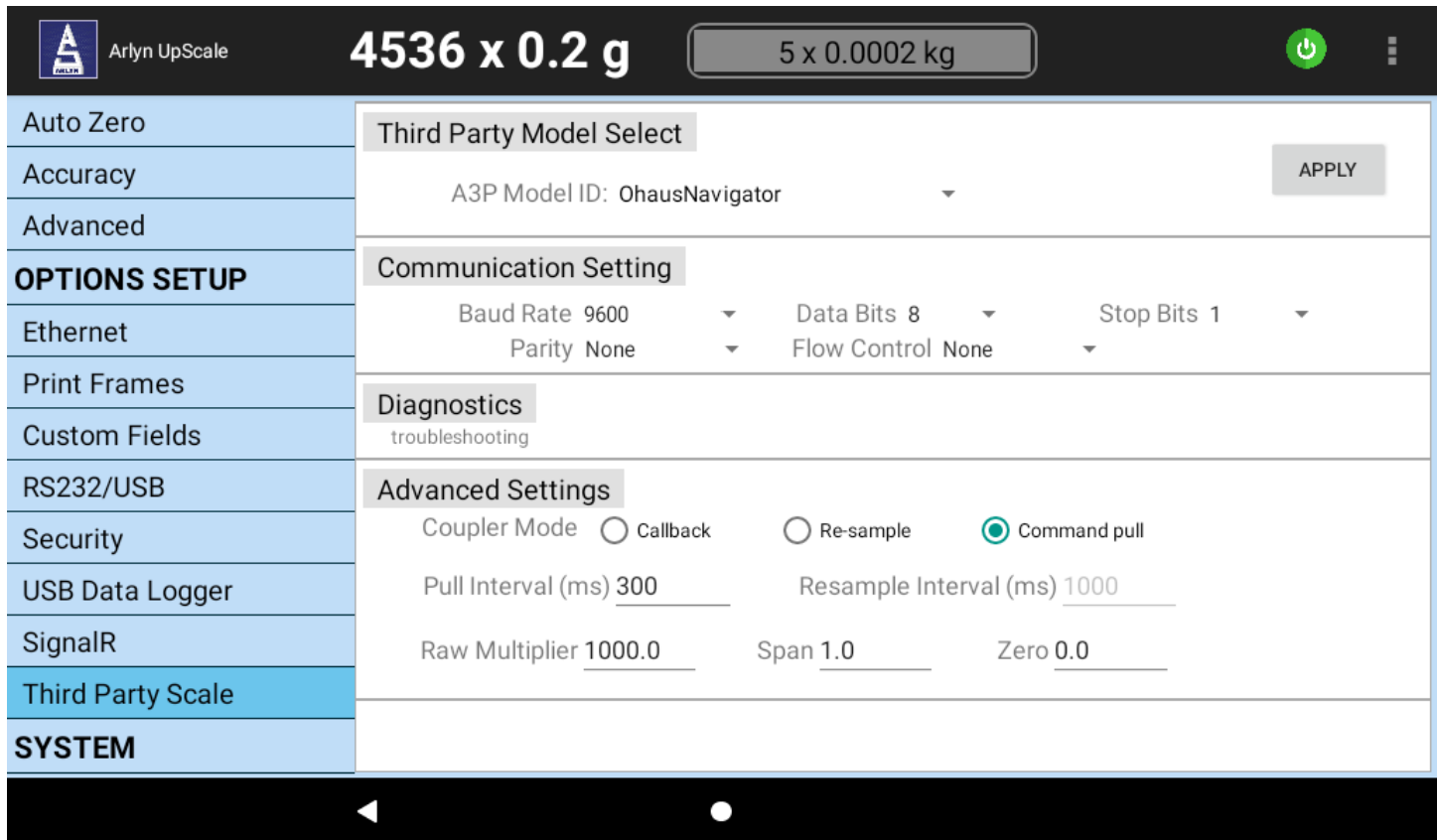*Figure 3: Arlyn UpScale Settings for Ohaus Integration*

1) **Third Party Model Select:** Ohaus Navigator
2) **Communication Setting:**
   a. Baud Rate: 9600
   b. Data Bits: 8
   c. Stop: 1
   d. Parity: None
   e. Flow Control: None
3) **Advanced Settings:**
   a. Coupler Mode: Command Pull
   b. Leave the rest of the settings as default.

Press the APPLY button on the screen to finalize the setting.

6.3 Operation

Once the settings are complete, go back to the main screen to see if the weight is now responding. Place a weight on the Ohaus platform. The weight on the Arlyn UpScale should also reflect the same weight.

If there is an issue with the operation, check the Troubleshooting section for more details.

7 INTEGRATION WITH A&D SCALE

Any A&D scale used for this integration needs to be equipped with the RS-232 Interface Kit for it to be properly integrated with the Arlyn UpScale. The RS-232 from the A&D connects to the RS-232 connector of the Arlyn UpScale. This exchange of data enables the Arlyn UpScale to process the weight data from the A&D scale.

The Manual for the A&D Scale can be found here:

https://andprecision.com/?dl_id=78

Follow the steps below to integrate the A&D Weighing scale (or any* A&D Scale) with the Arlyn UpScale Touchscreen Indicator.
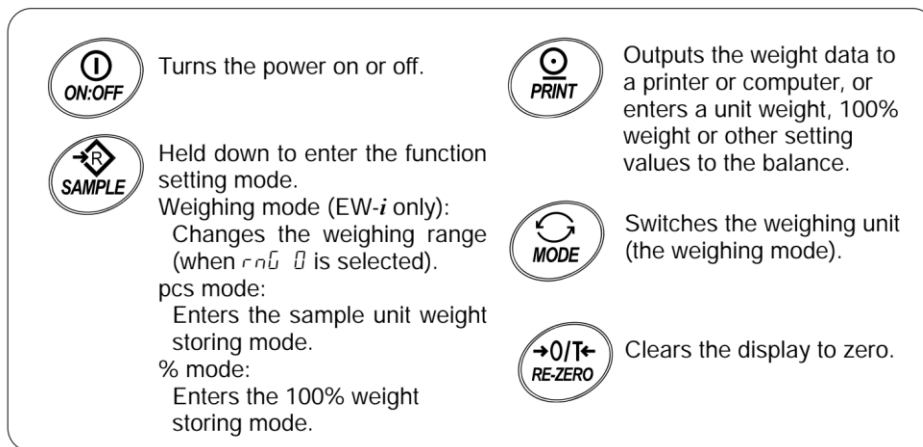
Figure 4: A&D Scale Button Functions

7.1 Configure the A&D Scale (for EK-600i)

Make a note of which model scale you have. Depending on the model, the front panel have different worded keys to show the same function. The EK-600i has:

- ENTER (instead of) PRINT
- TARE (instead of) RE-ZERO

Follow the steps below using the button presses associated with your scale.

1) Press and hold the SAMPLE key until you see the "Func" (Function) class.
2) Press ENTER/PRINT key to enter this class.
3) **Set the Data Output Mode to Command and Stream:**
   a. Toggle the SAMPLE button until you see "Prt" (Data output mode) function. Press the ENTER/PRINT button to set this to 0.
   b. Press the MODE button to back out.

4) ***Set Baud Rate to 9600 bps:***
   a. Toggle the SAMPLE button until you see "Bps" (Baud Rate) function. Press the ENTER/PRINT button to set this to 2 (9600 bps).
   b. Pres the MODE button to back out.
5) ***Set the Data Bits to 8 bit at No Parity:***
   a. Toggle the SAMPLE button until you see "BtPr" (Data and Parity) function. Press the ENTER/PRINT button to set this to 2.
   b. Press the MODE button to back out.
6) Once the above settings are complete, press the MODE button to back out all the way to the main weight screen.

7.2 Configure the Arlyn UpScale for A&D Integration
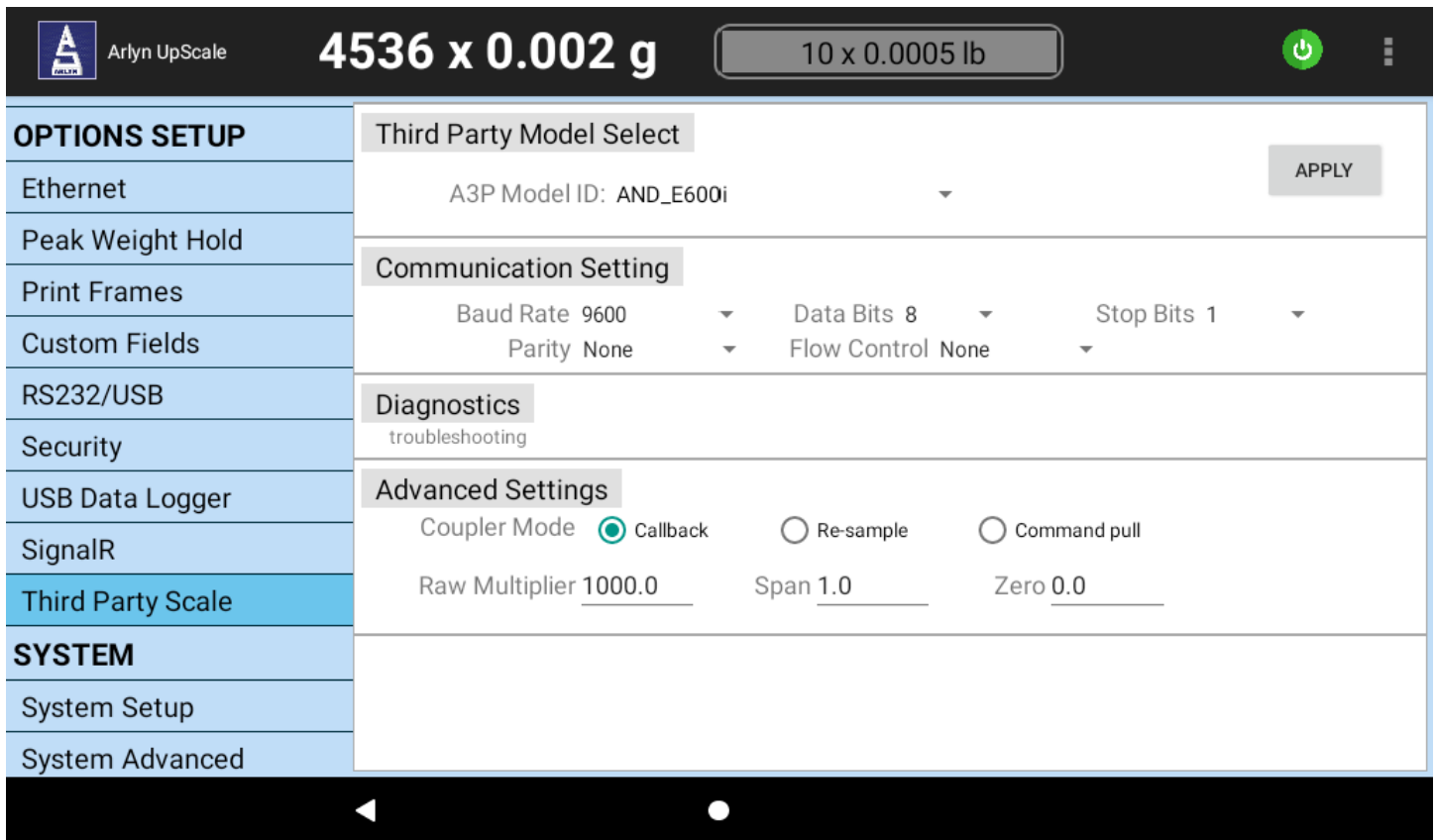
Refer to the screenshot below.

Figure 5: Arlyn UpScale Settings for A&D Scale Integration

1) **Third Party Model Select:** AND_E600i
2) **Communication Setting:**
   a. Baud Rate: 9600
   b. Data Bits: 8
   c. Stop: 1
   d. Parity: None
   e. Flow Control: None
3) **Advanced Settings:**

a. Coupler Mode: Callback
b. Leave the rest of the settings as default.

Press the APPLY button on the screen to finalize the setting.

7.3 Operation

Once the settings are complete, go back to the main screen to see if the weight is now responding. Place a weight on the Mettler Toledo platform. The weight on the Arlyn UpScale should also reflect the same weight.

If there is an issue with the operation, check the Troubleshooting section for more details.

8 INTEGRATION WITH METTLER TOLEDO SCALE

The Mettler Toledo scale needs to have RS-232 Communication Interface for it to be properly integrated with the Arlyn UpScale. The RS-232 from the Mettler Toledo scale connects to the RS-232 connector of the Arlyn UpScale. This exchange of data enables the Arlyn UpScale to process the weight data from the Mettler Toledo scale.

 The RS-232 Manual for the Mettler Toledo Scale (Classic ML model equipped with RS-232) can be found here: https://www.mt.com/us/en/home/library/operating-instructions/laboratory-weighing/NewClassicML_E.html

Follow the steps below to integrate the Mettler Toledo scale (or any* MT Scale) with the Arlyn UpScale Touchscreen Indicator.
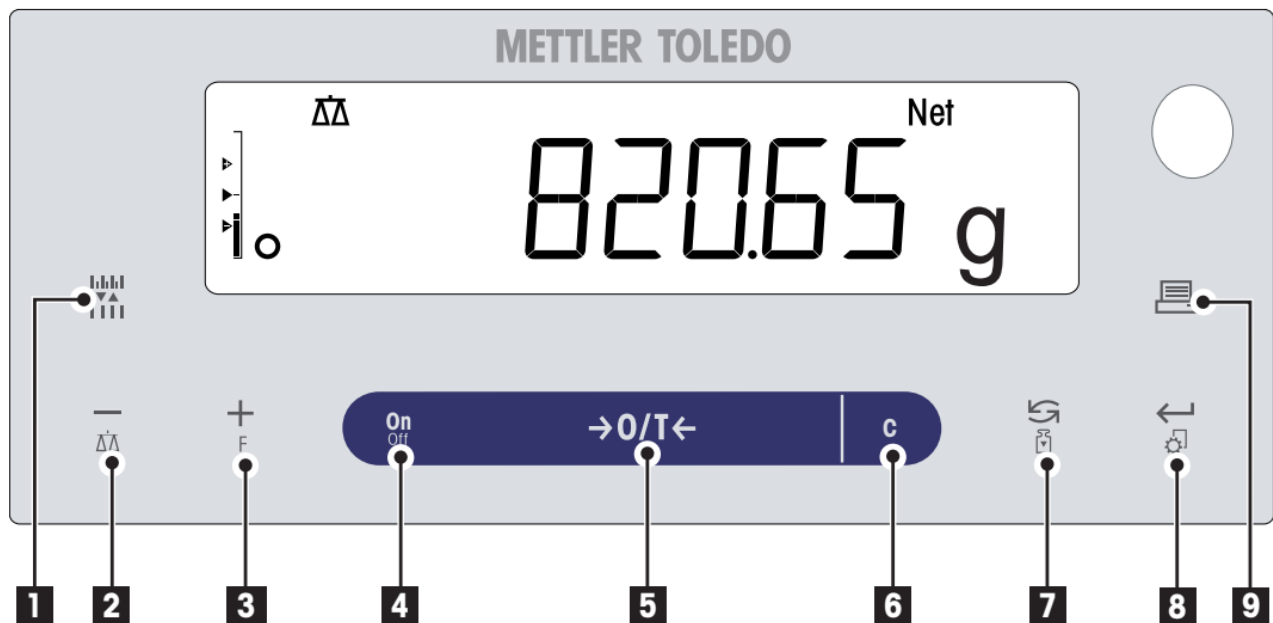

Figure 6: Mettler Toledo Scale Front Panel

8.1 Configure the Mettler Toledo Scale

6) Press and hold the MENU button.
7) Go to INT.FACE and press ENTER.
8) Navigate to the following options and change each of them accordingly:
   a. BAUD: 9600   // Baud Rate 9600
   b. BIT.PAR.: 8/NO   // Data Bits 8, No Parity

c.　STOPBIT: 1 BIT　　　　// Stop Bit 1
　　d.　HD.SHK: OFF　　　　　// Handshaking off
　　e.　RS E.O.L: CR LF　　　　// End of Line – Carriage Return & Line Feed (CR LF)

　　Press the "C" button to back out one level. Continue to the next step.

9) Set the Print Output Frame to print out Gross Weight, Tare Weight and Net Weight.
　　a.　Navigate to SINGLE and press ENTER.
　　b.　Set the value to "G/T/N". Press ENTER to confirm.

　　Press the "C" button to back out one level. Continue to the next step.

10) Set the Print Interval to print out every 1 second.
　　a.　Navigate to INTERVL and press ENTER.
　　b.　Set the value to 1 second. Press ENTER.

11) Press the "C" button to back out all the way to the main weight screen. The Mettler Toledo scale is now set for communicating with the Arlyn UpScale.

8.2 Configure the Arlyn UpScale Indicator for Mettler Toledo Integration
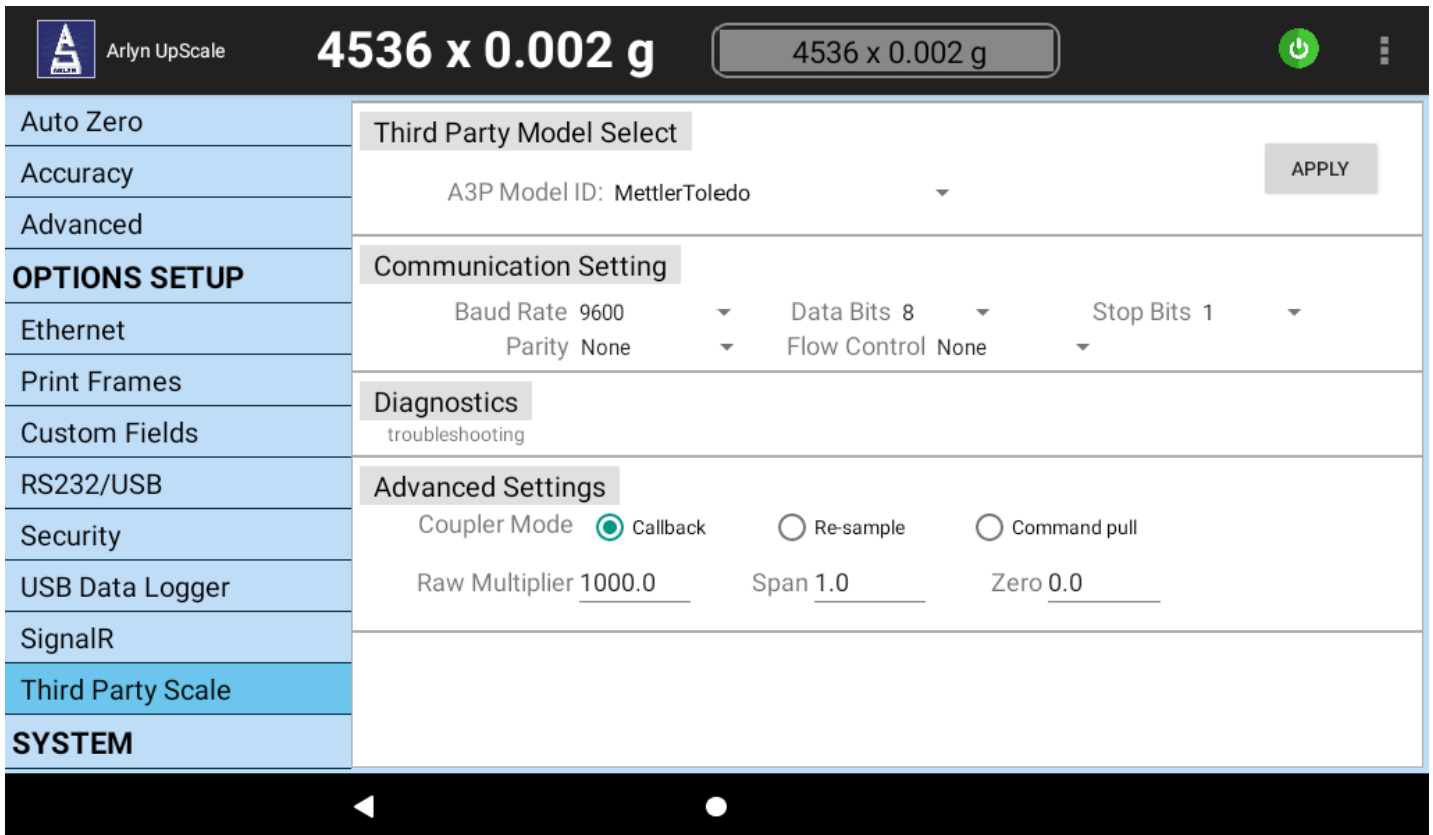
Refer to the screenshot below:

Figure 7: Arlyn UpScale Settings for Mettler Toledo Integration

4) **Third Party Model Select:** Mettler Toledo
5) **Communication Setting:**

a. Baud Rate: 9600
b. Data Bits: 8
c. Stop: 1
d. Parity: None
e. Flow Control: None
6) **Advanced Settings:**
a. Coupler Mode: Callback
b. Leave the rest of the settings as default.

Press the APPLY button on the screen to finalize the setting.

8.3 Operation

Once the settings are complete, go back to the main screen to see if the weight is now responding. Place a weight on the Mettler Toledo platform. The weight on the Arlyn UpScale should also reflect the same weight.

If there is an issue with the operation, check the Troubleshooting section for more details.

9 TROUBLESHOOTING

If you aren't getting the results you are expecting, please consult the list below for a possible remedy. If you are still having difficulties, please contact our Service Department and one of our technicians will be happy to walk you through it.

1) ***The Arlyn UpScale is not showing any weights from the 3rd-Party scale***
   a) Reboot the scale to see if this fixes the problem.
   b) Make sure the 3rd Party scale you are using is listed in the Supported Models section. If your scale is not shown
   c) Try the instructions listed for your 3rd-Party scale accordingly based on the manufacturer.
   d) Check to see if the Arlyn UpScale is receiving streams from the 3rd-Party Scale by using the Diagnostics function. This can be found in the "Third Party Scale" menu -> Diagnostics

If you can see the data is not streaming, then there is something wrong with the settings or connectivity.

2) ***The Arlyn UpScale doesn't show the "Third Party Scale" option in the settings***
   a) The 3rd-Party Option is an add-on that needs to be purchased at the time of order. Please call Arlyn Scales Technical Support at (800) 645-4301 for additional information.

3) ***There is a problem with my 3rd Party Scale. It doesn't turn on (or some other issue is causing problems).***
   a) Please contact the 3rd-Party scale manufacturer for further assistance.

4) **There is a problem with the Arlyn UpScale that is not related to the 3rd-Party Integration process.**
   a) Please consult the Arlyn UpScale Manual here: https://www.arlynscales.com/arlyn-upscale-usermanual/.
   b) If the issue is not resolved, call Technical Support at (800) 645-4301 for further assistance.

10 LIMITED WARRANTY

Arlyn Scales warrants that your Arlyn Scales' equipment and systems, when properly installed will operate per written specifications. All systems and components are warranted against defects in materials and workmanship for a period of one year.

Arlyn Scales warrants that the equipment sold hereunder will conform to the written specifications authorized by Arlyn Scales. Arlyn Scales warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, Arlyn Scales will, at their option, repair or replace such goods returned within the warranty period subject to the following conditions:

1. Upon discovery by Buyer of such nonconformity, Arlyn Scales will be given prompt written notice with a detailed explanation of the alleged deficiencies.
2. Return Materials Authorization Number (RMA#) must be obtained from Arlyn Scales Technical Support department for any equipment to be returned to Arlyn Scales for warranty replacement or repair. Failure to do so will result in delay for repair or replacement, or could result in equipment lost in shipment, at the expense of the Buyer.
3. RMA# must be obtained by calling Arlyn Scales Technical Support at (800) 645-4301 ext. 101.
4. Individual electronic components returned to Arlyn Scales for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment.
5. Examination of such equipment by Arlyn Scales confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; Arlyn Scales will be the sole judge of all alleged non-conformities.
6. Such equipment has not been modified, altered or changed by any person other than Arlyn Scales.
7. Arlyn Scales will have reasonable time to repair or replace the defective equipment. The buyer is responsible for shipping both ways.
8. In no event will Arlyn Scales be responsible for travel time, or on-location repairs, including assembly or disassembly of equipment, nor will Arlyn Scales be liable for the cost of any repairs made by others.

THESE WARRANTIES EXCLUDE ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ARLYN SCALES WILL NOT, IN ANY EVENT, BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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