Understanding Net Per Block
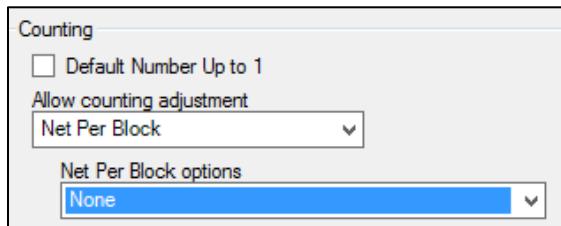
Setting Net Per Block and Batch Counting

This Support Note outlines the different flavors of the Net Per Block feature. This document assumes you are on Auto-Count version 19.1.1.230 or higher.

The settings in Plant Manager and how you connect the hardware via sensors determines how your machines will count and what the operator sees on the screen. This is important to understand when setting up specialty counting methods like Net Per Block and Batch counting, especially with a containerization workflow. This section describes how you can set up different options and sensors to achieve a certain type of counting.

> **Note** The examples in this section assumes you are using the containerization set up of Rolls in Outers and Boxes on Pallets.
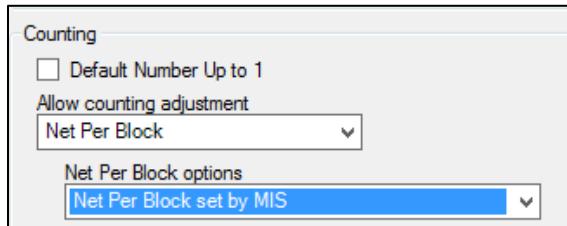
Basic Net Per Block

- Requires an I/O signal per output – Outfeed [X | all] Button Count
- The I/O signal triggers a *block quantity* of net per output.

The basic Net Per Block counting option as shown is used with a net sensor. With each pulse of the sensor, Auto-Count will use the Net Per Block value (block size) set by the operator on the Main screen to count net. For example, if the operator sets the Net Per Block value to 10, each time the net pulse is triggered, Auto-Count increments the net count by 10. This applies across all outputs on the run.
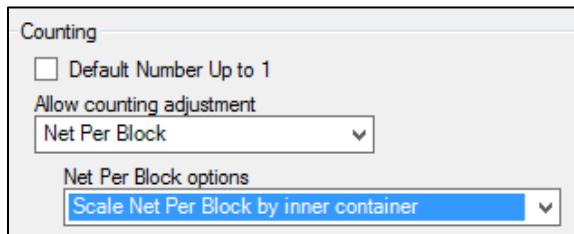
Net Per Block Set by MIS

- Requires the MIS to provide at least one level of containerization.
- Requires an I/O signal per output – Outfeed [X | all] Button Count
- The I/O signal triggers a *roll length* of net per output.

Use this option when the MIS sends the container size information. Auto-Count will then use the inner most container size for Net Per Block. It counts in the same manner as regular Net Per Block – per net pulse. The operator does not have to set it manually, although they can change it on the Outputs page by editing the output size.

Scale Net Per Block by Inner Container

- Requires the MIS to provide at least one level of containerization.

- Requires an I/O signal per output – Outfeed [X | all] Button Count

- The I/O triggers *'x' number of rolls* worth of net per output. Then Auto-Count will calculate the Net value as (number of rolls) *multiplied by* (roll length) to increment the net quantity.

Use this option when the MIS sends the container sizes but instead of counting one block with each net pulse, you are counting multiple blocks of things per net pulse. You are counting by the inner-most container size in length. The operator *cannot* edit the Net Per Block value by editing the output size (container size).

For example, if the Net Per Block is set to 10, then with each net pulse, Auto-Count counts a total of 10 rolls but in total length. If each roll has a length of 150 meters, then each net pulse would increment the Net Quantity on the screen by 1500 meters.

> **Note** As of 19.1.1.238, Auto-Count can detect if each product or outfeed on a run has a different container size and apply it accordingly. For example, if each net pulse counts 10 rolls but 5 of those rolls are 100 meters and 5 are 150 meters, then the total Net Quantity will increment by (5*100m) +(5*150m) = 1250 meters.

Batch Counting - Counting by Container

Auto-Count can also count by container (batch counting) when certain complex workflows are used. For example, if you are producing rolls which then get packed into a box, Auto-Count will keep track of how many rolls are being produced and keep track of completed boxes.

> **Warning** Do not turn on Net/Gross per Block when using the Counting by Container type of workflow since this method already counts in batches via the hardware sensors. Currently, the only MIS using this feature is Radius.

Palletizer: When wired to the Palletizer it acts like the Net Per Block - Set by MIS feature. The I/O sensor signifies a full roll has been completed, using the roll length from the output screen. In this case, the signal triggers a "roll" length of net.

- Requires an I/O signal per product (Palletizer [X] Full Batch Input)

- Requires the MIS to provide at least one level of containerization.

- The I/O signal triggers a *roll length* net count.

Container: When wired to the ContainerA, it behaves in a similar way to Scale NPB by Inner Container. The I/O sensor signifies an outer full of rolls has been completed, using the number of rolls in an outer and the roll length from the output screen to increment the net length.

- Requires a single I/O signal per product (Container A[X] Full Batch Input)

- Requires the MIS to provide at least 2 levels of container.

- The I/O signal triggers an *outer of rolls* net count.

The number of outputs in a batch (rolls in an outer) and the output size (roll length) are both defined by the MIS, but the operator can change these values on the outputs screen. See the *Auto-Count 4D User Guide*, "Counting by Container" section for details.