ISO 11783-11
Mobile Data Element Dictionary

DDE Request Form

DDE Supplement / Attachment

DDIdentifier(10)	DDEName
320	Last loaded Weight
321	Last unloaded Weight

Version: 4 20171120

The DDI's Last loaded Weight and Last unloaded Weight are used within a weighing system to share measured load information between a Task Controller and a Weighing System. See also message handling diagram below.

A common use case within the agriculture industry is the load measurement of a harvested product by a grain cart when transported from the field.

The following Device Description structure and message handling diagram is a recommendation how to implement a TC capable weighing system.

This Document should be seen as an Extension to the already published Document: http://dictionary.isobus.net/isobus/attachments/279/ISO11783-11-DDI-229-Weighing System Implementation.pdf

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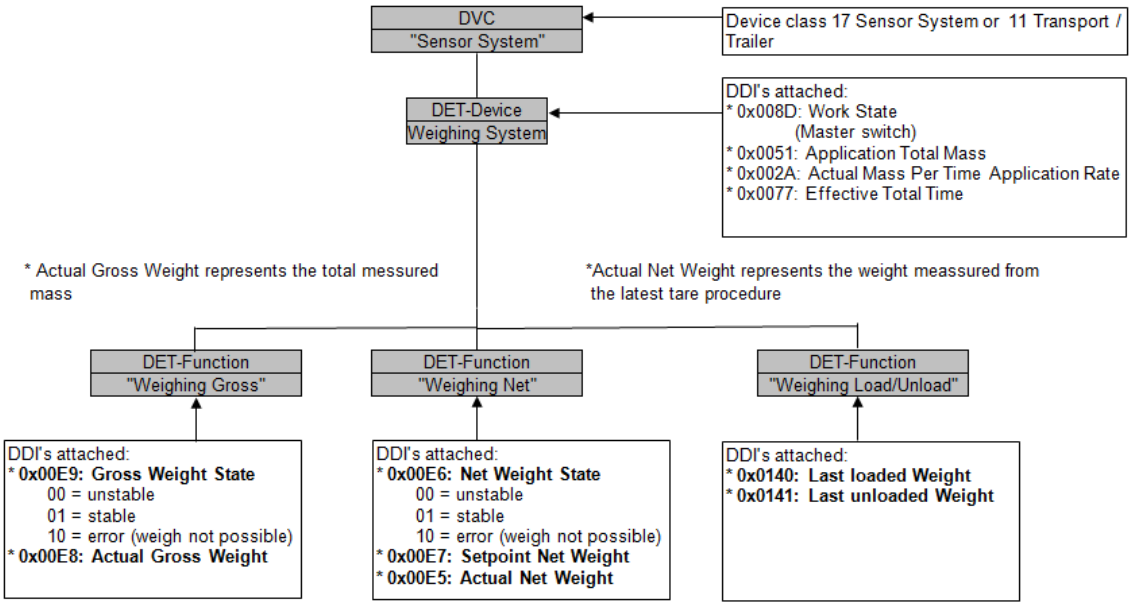
ISOBUS Weighing System Device Description Data



Device Description

This device description shown in the picture above is an example how a device description could look like. Last loaded and unloaded Weight could be also added below the DET element of type device. For systems with multiple bins they might be added below each bin.

Message Handling

The Setpoint Net Weight DDI below the Net weighing function is used to tare the weight. The Setpoint and Actual Net Weight DDI shall both present the current tare weight. If the TC sends a zero value to the Setpoint Net Weight DDI the weighing system shall start tare procedure. After the tare procedure both DDI will have a zero value.

Every time a tare procedure takes place, the Weighing System sends one of the DDI's "Last loaded Weight" or "Last unloaded Weight".

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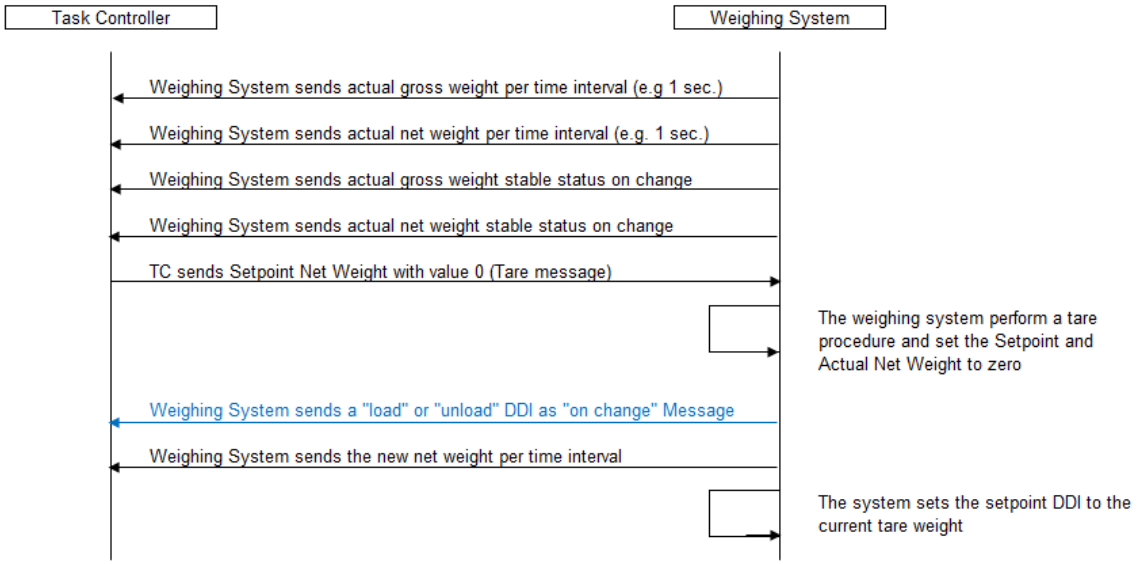
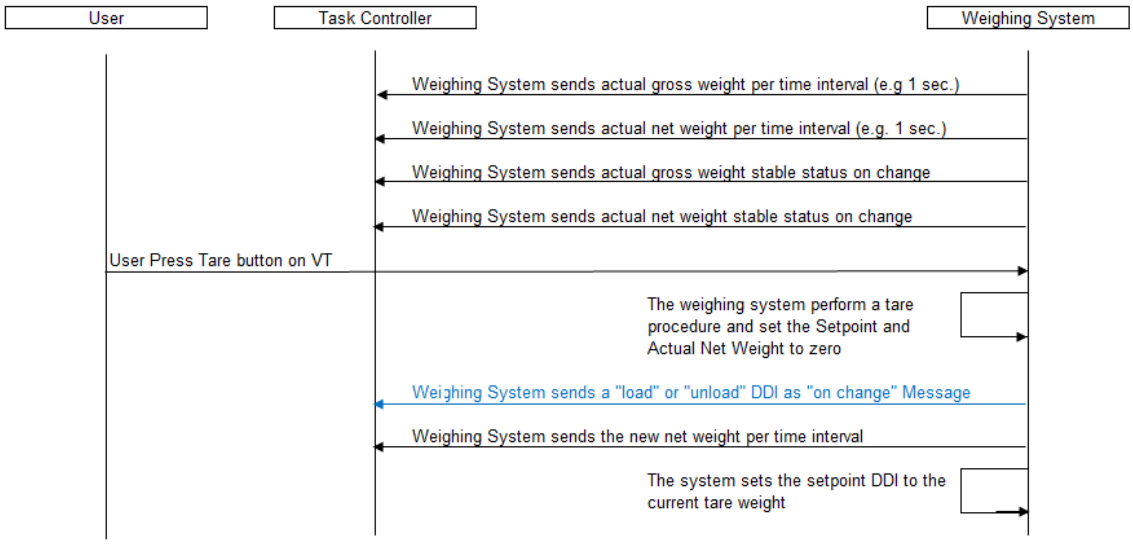
Message Handling (without Auto-Tare but with Setpoint sent from TC)



Remark: if a "Load" is performed, the Unload DDI should be set to "0"
if a "Unload" is performed, the Load DDI should be set to "0"

Message Handling (with Manual Tare; nothing sent from TC)



Remark: if a "Load" is performed, the Unload DDI should be set to "0"
if a "Unload" is performed, the Load DDI should be set to "0"

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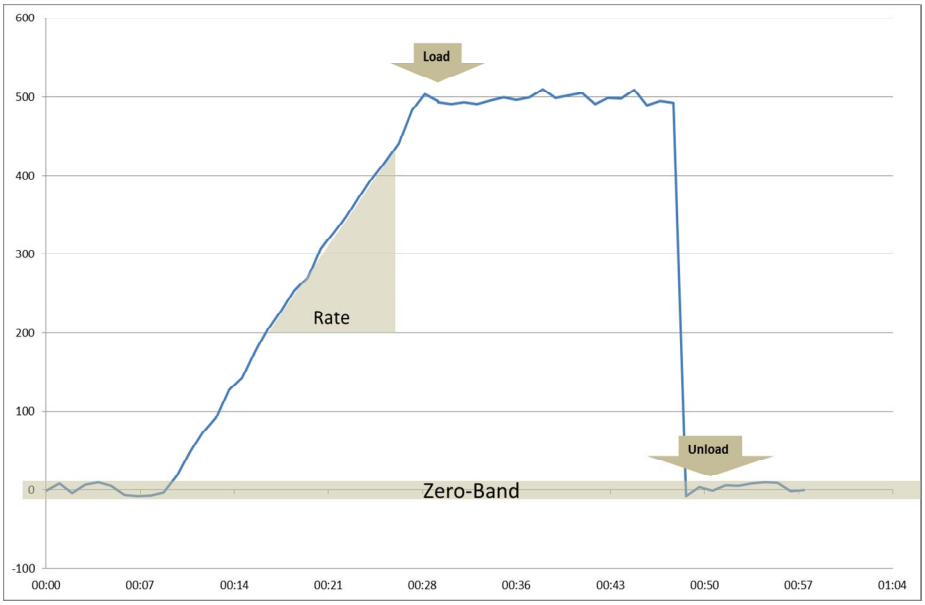
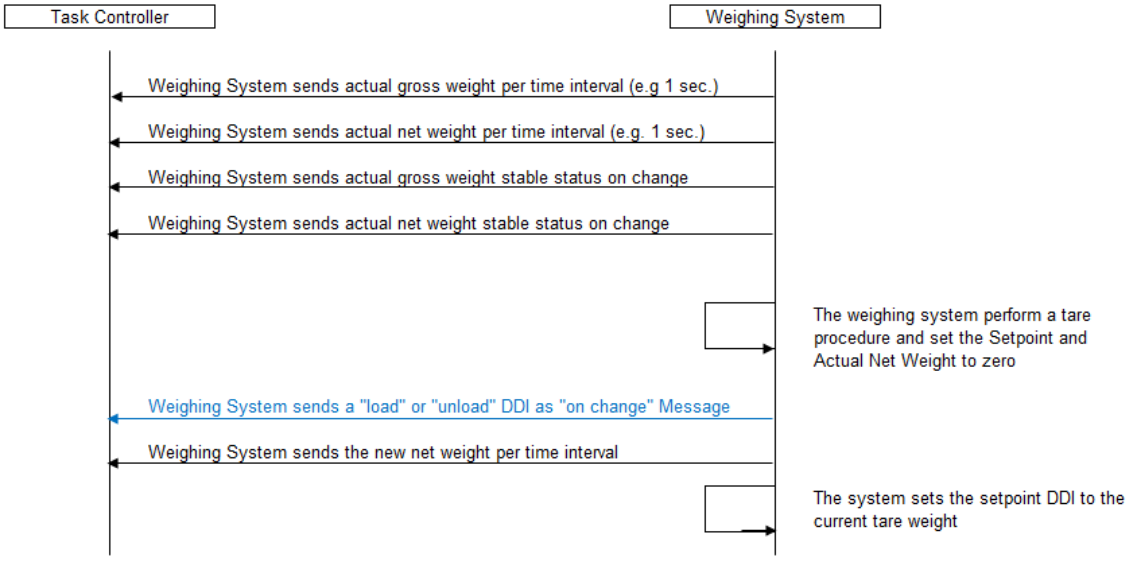
Message Handling (with Automatic Tare; nothing sent from TC)

Automatic Tare should be seen as an “intelligent detection algorithm”, where the weighing System does detect Load and Unload events by itself.





Remark: if a "Load" is performed, the Unload DDI should be set to "0"
if a "Unload" is performed, the Load DDI should be set to "0"

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Example

Transport application where the grain cart loads and unloads the harvested product.

Gross	Net	
0	0	
2000	2000	Load 2000
2000	0	Tare msg
5000	3000	Load 3000
5000	0	Tare
6500	1500	Load 1500
6500	0	Tare
4500	-2000	Unload 2000
4500	0	Tare
3000	-1500	Unload 1500
3000	0	Tare
7000	4000	Load 4000

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The table provides an overview about the recommended DDI settings.

Weighing System DDI	DDI dez	DDI hex	Type		Properties		Trigger Methods				
DDI ISO name			DPD	DPT	Setable	Default set	Time interval	Distance interval	Threshold limits	On change	Total
DET-Device Weighing System											
Work State	141	0x00D8	x			x	x			x	
Application Total Mass	81	0x0051	x		x		x	x			x
Actual Mass Per Time Application Rate	42	0x002A	x				x	x			
Effective Total Time	119	0x0077			x		x	x			x
DET-Function Weighing Gross											
Gross Weight State	233	0x00E9	x			x	x			x	
Actual Gross Weight	232	0x00E8	x			x	x			x	
Minimum Gross Weight	234	0x00EA	x	x							
Maximum Gross Weight	235	0x00EB	x	x							
DET-Function Weighing Net											
Net Weight State	230	0x00E6	x			x	x			x	
Setpoint Net Weight	231	0x00E7	x		x	x				x	
Actual Net Weight	229	0x00E5	x			x	x			x	
DET-Function Automatic Documentation											
Last Loaded Weight	320	0x0140	x			x				x	
last Unloaded Weight	321	0x0141	x			x				x	