

DDE Supplement / Attachment

DDIdentifier ⁽¹⁰⁾	DDName
638	Setpoint Tire Pressure
639	Actual Tire Pressure
640	Default Tire Pressure
641	Minimum Tire Pressure
642	Maximum Tire Pressure

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In many agriculture field applications like spraying or fertilizing the tire pressure is an important factor to control and reduce soil compaction. On pressure-based control systems, it is important to be able to monitor and control the pressure to ensure the proper tire pressure.

ISO TC Mapping for Tire Pressure DDI

Tire Pressure DDI may be added below device element of type Function within a DDOP structure. With that only one general set of tire pressure DDIs is enough to control several single tire pressures of single device or machine combination like tractor with an attached implement.

- Pressure for each tire will be set by pressure DDIs mapped to each function level of the sensor/device
- No limitation on number of tires to monitor
- Through Device Element Offset (X, Y) DDIs each tire can be identified
- Set of DDIs can be defined for each tire/ wheel

The Device, DET #0 may represent tractor ECU, Implement Controller or a Sensor System. This depends on the design of system. Mapping of DDI can entirely depend on the configuration planned by manufacturer. Having unique source address for each separate controller during communication is important. Function may represent individually accessible valve/ sensor.

In case of an independent Tire Pressure Sensor System the global defined function code 38 "Tire Pressure Control" shall be used as function code number.

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Another option is using only one Tire pressure DDI at the Device level or Function level. This indicates all the sub functions which represent tire and are mapped to respective Function or Device may have the same pressure.

Devices that can vary tire pressure at a function or sub-function detail shall model this capability through the definition of function or sub-function device elements with tire pressure attributes. The tire pressure attributes that in this case may occur at two different device element levels specify that this is device with two sub-controllable pressure attributes. Pressure control commands received at the topmost function level shall be automatically forwarded by the device to its child functions. Pressure control commands received at the most detailed level only apply to the addressed function. A device descriptor object pool shall have no more than one level of sub-functions.

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Below are two examples of a device description object pool a final or production design may differ from this example.

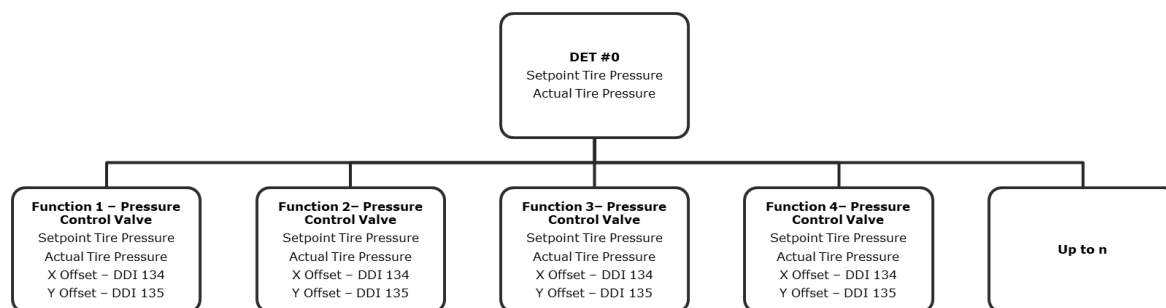


Fig 1 - Each Tire has Separate pressure values defined

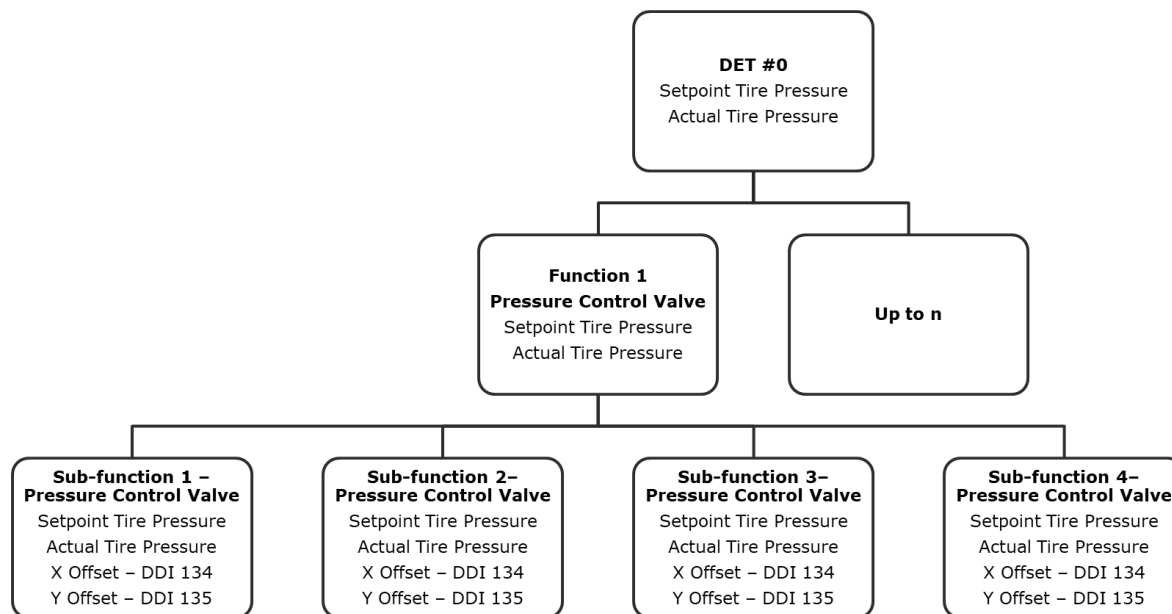


Fig 2- Each Tire is mapped to sub function with pressure values defined