

DATA POINTS TELEMATICS ERA - ACCESS EQUIPMENT



Data elements and attributes	imperial / metric Comments	Access				
		Telehandler	Scissor lift	Boom lift	Forklift	
Header information (EquipmentHeader)						
- Telematics Unit Installation Date (UnitInstallDateTime)	Rental Company specific ID NOTE: PIN and VIN are interchangeable mutually exclusive.	Yes	Yes	Yes	Yes	
- Equipment Make (OEMName)		Yes	Yes	Yes	Yes	
- Equipment Model (Model)		Yes	Yes	Yes	Yes	
- Equipment ID (EquipmentID)		Yes	Yes	Yes	Yes	
- Serial Number(SerialNumber)		Yes	Yes	Yes	Yes	
- OEM ISO Number (PIN)		Yes	Yes	Yes	Yes	
Vehicle Identification Number (VIN)						
- Vehicle Identification Number (VIN)		Yes	Yes	Yes	Yes	
- Telematics hardware ID number		Yes	Yes	Yes	Yes	
- Telematics hardware model		Yes	Yes	Yes	Yes	
- Telematics hardware make	Yes	Yes	Yes	Yes		
- Telematics network types	Yes	Yes	Yes	Yes		
- Telematics SIM card number (+ country code number)	Yes	Yes	Yes	Yes		
Last known location (Location)						
- Date and time (datetime) local	Multiple inputs for bi-energy and hybrid machines	Yes	Yes	Yes	Yes	
- Date and time (datetime) GMT and or universal		Yes	Yes	Yes	Yes	
- Historical movement of the machine for the last 60 days		Yes	Yes	Yes	Yes	
- Latitude of location (Latitude)		Yes	Yes	Yes	Yes	
- Longitude of location (Longitude)		Yes	Yes	Yes	Yes	
- Altitude of location (Altitude)		Yes	Yes	Yes	Yes	
- Units of Altitude (AltitudeUnits)		Yes	Yes	Yes	Yes	
Operating hours (CumulativeOperatingHours)						
- Date and time (datetime) local		Multiple inputs for bi-energy and hybrid machines	Yes	Yes	Yes	Yes
- Date and time (datetime) GMT and or universal			Yes	Yes	Yes	Yes
- Cumulative operating hours (Hour)	Yes		Yes	Yes	Yes	
- Starter battery status (for thermal engine powered machines)	Yes		Yes	Yes	Yes	
- idle (non charging) voltage	Yes		Yes	Yes	Yes	
- chargin voltage (engine running)	Yes		Yes	Yes	Yes	
Cumulative fuel used (FuelUsed)						
- Date and time (datetime)		Yes	Yes	Yes	Yes	
- Unit of measure of fuel (FuelUnits)		Yes	Yes	Yes	Yes	
- Cumulative fuel used (FuelConsumed)		Yes	Yes	Yes	Yes	
Fuel used in the preceding 24hr (FuelUsedLast24)						
- Date and time (datetime)		Yes	Yes	Yes	Yes	
- Unit of measure of fuel (FuelUnits)		Yes	Yes	Yes	Yes	
- Fuel used preceding 24 hrs (FuelConsumed)		Yes	Yes	Yes	Yes	
Fuel remaining ratio (FuelRemaining)						
- Date and time (datetime)		Yes	Yes	Yes	Yes	
- Fuel remaining ratio (Percent)		Yes	Yes	Yes	Yes	
- Unit of Measure of Fuel Tank (FuelTankCapacityUnits)		Yes	Yes	Yes	Yes	
- Fuel Tank Capacity (FuelTankCapacity)		Yes	Yes	Yes	Yes	
Cumulative distance travelled (Distance)						
- Date and time (datetime)		Yes	Yes	Yes	Yes	
- Unit of measure of distance (OdometerUnits)		Yes	Yes	Yes	Yes	
- Cumulative distance travelled (Odometer)		Yes	Yes	Yes	Yes	

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Data elements and attributes	imperial / metric Comments daily 24 hours / reports / customer info	Access			
		Telehandler	Scissor lift	Boom lift	Forklift
Cumulative idle operating hours (Cumulative Idle Hours)	TBD how to define IDLE status (non IDLE / IDLE specifically for PA)				
– Date and time (datetime) – Cumulative idle hour (Hour)		Yes	Yes	Yes	Yes
Caution Codes (CautionMessages)	Specify caution codes that are most important Extensive list of error codes				
– Date and time (datetime) – Caution codes referencing number identifier (Identifier) – Description of caution (Description)		Yes	Yes	Yes	Yes
		Yes	Yes	Yes	Yes
Engine condition (EngineStatus)					
– Date and time (datetime)		Yes	Yes	Yes	
– Engine number (EngineNumber)		Yes	Yes	Yes	
– Engine running (Running)		Yes	Yes	Yes	
Engine Emission status					
CO2		Yes	Yes	Yes	
NOx		Yes	Yes	Yes	
DEF remaining ratio (DEFRemaining)					
– Date and time (datetime)		Yes	Yes	Yes	
– DEF remaining ratio (Percent)		Yes	Yes	Yes	
– Unit of Measure of DEF Tank (DEFTankCapacityUnits)		Yes	Yes	Yes	
– DEF Tank Capacity (DEFTankCapacity)		Yes	Yes	Yes	
Digital input state (SwitchStatus)					
– Date and time (datetime)		Yes	Yes	Yes	
– Digital input number (SwitchNumber)		Yes	Yes	Yes	
– Is switch on or off (IsOn)		Yes	Yes	Yes	
Cumulative power take off hours (CumulativePowerTakeOffHours)					
– Date and time (datetime)		Yes	Yes	Yes	
– Cumulative power take off hours (Hour)		Yes	Yes	Yes	
– Attachmenttype		Yes	Yes	Yes	
Average daily engine load factor (AverageLoadFactorLast24)	(unit of measurement: torque/pressure/etc.)				
– Date and time (datetime)		Yes	Yes	Yes	
– Average daily load factor (LoadFactor)		Yes	Yes	Yes	
Peak Daily and Actual Speed (MaximumSpeedLast24)					
– Date and time (datetime)		Yes	No	No	
– Unit used for speed (SpeedUnits)		Yes	No	No	
– Peak speed (Speed)	actual speed!	Yes	No	No	
– Actual speed		Yes	Yes	Yes	
Cumulative Load Count (CumulativeLoadCount)					
– Date time (datetime)		Yes	Yes	Yes	
– Cumulative load count (Count)		Yes	Yes	Yes	
Cumulative Payload Totals (CumulativePayloadTotals)					
– Date and time (datetime)		Yes	Yes	Yes	
– Unit of measure for payload (weightuom)		Yes	Yes	Yes	
– Cumulative payload (Payload)		Yes	Yes	Yes	
Cumulative Nonproductive Regeneration Hours (CumulativeActiveRegenerationHours)					
– Date and time (datetime)		Yes	Yes	Yes	
– Cumulative regeneration hour (Hour)		Yes	Yes	Yes	
Date and time skipped regeneration cycle		Yes	Yes	Yes	

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Cumulative idle non operating hours (CumulativeNonProductiveIdleHours)					
- Date and time (datetime)		Yes	Yes	Yes	Yes
- Cumulative non productive idle (Hour)		Yes	Yes	Yes	Yes
Diagnostic Trouble Codes (DiagnosticTroubleCode)					
- Diagnostic Trouble Code Identifier (CodeIdentifier)		Yes	Yes	Yes	Yes
- Date and time (datetime)		Yes	Yes	Yes	Yes
- Code severity (CodeSeverity)		Yes	Yes	Yes	Yes
- Code description (CodeDescription)		Yes	Yes	Yes	Yes
- Temperature units (temperatureunits)		Yes	Yes	Yes	Yes
- Ambient air temperature (airtemp)		Yes	Yes	Yes	Yes
- Description of Code Source (CodeSource)					
Battery status					
- Date and time of load cycle (at partly electric driven machines)		Yes	Yes	Yes	Yes
- input voltage for the charger (main line input - 380V / 220V / 110V)		Yes	Yes	Yes	Yes
- Battery voltage		Yes	Yes	Yes	Yes
- Remaining capacity		Yes	Yes	Yes	Yes
- Battery level		Yes	Yes	Yes	Yes
- Current charging battery (bi-energy / hybrid)		Yes	Yes	Yes	Yes
- Current discharging battery (bi-energy / hybrid)		Yes	Yes	Yes	Yes
- Charging Cycle Hystory		Yes	Yes	Yes	Yes
- Main power source disconnect Push Alert	If battery driven	Yes	Yes	Yes	Yes
Main power status					
- Main power voltage	If battery driven	Yes	Yes	Yes	Yes
Emergency shutdown					
Activation date & Time emergency shutdown		Yes	Yes	Yes	Yes
Extraction&Elevation					
Length		Yes	Yes	Yes	Yes
Height		Yes	Yes	Yes	Yes
Reach (in Meters)		Yes	No	Yes	No
Angle		Yes	Yes	Yes	Yes
Outriggers					
Date and time		Yes	Yes	Yes	No
Outriggers deployed yes/no		Yes	Yes	Yes	No
Collisions					
Date and time of collision		Yes	Yes	Yes	Yes
Amount of collision		Yes	Yes	Yes	Yes
Low impact (KJ)		Yes	Yes	Yes	Yes
Medium impact (KJ)		Yes	Yes	Yes	Yes
High impact (KJ)		Yes	Yes	Yes	Yes
Hydraulics					
level		Yes	Yes	Yes	Yes
temp		Yes	Yes	Yes	Yes
Inclination (tilt)		Yes	Yes	Yes	Yes

Data elements:

	ISO - Urgently needed by the rental companies
	ISO - Not needed in priority by the rental companies
	Addition to ISO standard, needed by the rental companies

Frequency:

	once per setup / possible to pull
	once per day
	every 15 minutes
	push function / as soon it happens

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Cell: E102

Note: yes, in the case of truck mounted or trailer mounted boom lift

Cell: E103

Note: yes, in the case of truck mounted or trailer mounted boom lift

Cell: E104

Note: yes, in the case of truck mounted or trailer mounted boom lift