

OPC 40084-3 Instance for umati Demonstrator

The namespace for the instances is manufacturer specific, e.g.
`http://samplemanufacturer.com/umati_sample_extruder_instance/`

Table 2 shows the complete structure of the instance needed for the umati demonstrator. The demonstrator requires, that all mandatory elements of the *Extruder_InterfaceType* are existent, even if there are not displayed in the dashboard. If the value of a variable a not displayed, is can be filled with a static dummy value (e.g. empty string). All displayed values are highlighted in light-blue.

Important: Version 2.0 of OPC 40084-3 must be used which defines, that the instance of the *Extruder_InterfaceType* is located under the Machines folder defined by OPC UA for machinery and that the *MachineIdentificationType* (also defined in OPC UA for Machinery) is used for the identification.

Table 1 – Namespaces used in this document

NamespaceURI	Namespace Index	Example
<code>http://opcfoundation.org/UA/</code>	0	0:NodeVersion
<code>http://opcfoundation.org/UA/DI/</code>	2	2:DeviceClass
<code>http://opcfoundation.org/UA/PlasticsRubber/GeneralTypes/</code>	3	3:UsersType
<code>http://opcfoundation.org/UA/PlasticsRubber/Extrusion_v2/GeneralTypes/</code>	4	4:ExtrusionDeviceType
<code>http://opcfoundation.org/UA/Machinery/</code>	5	5:Machines

Table 2 – Sample instance of OPC 40084-3

BrowseName	Type	Example Value	Remarks
Objects			
↳ Machines			
↳ Extruder_<Manufacturer>_<SerialNumber>	Extruder_InterfaceType		
– 4:IsPresent	0:Boolean	true	1)
– 4:LineId	0:String	"Foil line 1"	1)
– 3:SupportedLogbookEvents	3:LogbookEventsEnumeration[]	empty array / NULL	1)
↳ 2:Identification	5:MachinelIdentificationType		
– 2:ProductInstanceUri		"https://samplemanufacturer.com/Extruder987"	1)
– 2:Manufacturer	0:LocalizedText	"Sample Manufacturer"	
– 2:Model	0:LocalizedText	"Extruder 3000"	2)
– 2:SerialNumber	0:String	"987"	
– 2:DeviceClass	0:String	"Extruder"	
– 5:Location	0:String	"K 14 F42/N 51.260407 E 6.744588"	2), 3)
– ControllerName	0:String	"My Controller"	1)
↳ 5:MachineryBuildingBlocks	0:FolderType		
↳ 2:Identification	5:MachinelIdentificationType	Reference to the instance <i>Identification</i> above	
↳ 2:MachineryItemState	4:ExtrusionMachineryItemState_StateMachineType		
– CurrentState	0:LocalizedText	"Executing"	
– Id	0:NodeId	ns=4;i=5092	1)
↳ 4:ExtrusionExecutingSubState	4:ExtrusionExecutingSubState_StateMachineType		1)
– CurrentState	0:LocalizedText	"ControlledRun"	1)
– Id	0:NodeId	ns=4;i=5070	1)
↳ 2:MachineryOperationMode	5:MachineryOperationMode_StateMachineType		
– CurrentState	0:LocalizedText	"Processing"	
– Id	0:NodeId	ns=5;i=5026	
↳ Users	3:UsersType		1), 4)
– 0:NodeVersion	0:String	"1"	1)
↳ TemperatureZones	3:TemperatureZonesType		
– 0:NodeVersion	0:String	"1"	1)
↳ TemperatureZone_001	4:ExtrusionTemperatureZoneType		
– 3:Id	0:String	"Temperature Zone 1"	1)
– 3:IsPresent	0:Boolean	true	1)
– 3:ControlMode	3:ControlModeEnumeration	2 (= AUTOMATIC)	1)
– 3:ActualValue	0:AnalogItemType → 0:Double	120.5	
– EURange	0:Range	Low: 0 High: 200	1)
– EngineeringUnits	0:EUIInformation	namespaceUri: "http://www.opcfoundation.org/UA/ units/un/cefact" unitId: 4408652 displayName: "°C" description: "degree Celsius"	

- 1) This variable is mandatory in the model but will not be displayed in the demonstrator
- 2) Not mandatory in OPC UA for Machinery but for this model and will be displayed in the demonstrator
- 3) See <https://showcase.umati.org/Dashboard.html#location-of-fair-machine-and-software-icons-on-the-dashboard> for rules for filling the location.
- 4) Container object is mandatory in the model, but no instances inside (besides Variable *NodeVersion*) needed.