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
http://opcfoundation.org/UA/	0	0:NodeVersion
http://opcfoundation.org/UA/DI/	2	2:DeviceClass
http://opcfoundation.org/UA/PlasticsRubber/GeneralTypes/	3	3:UsersType
http://opcfoundation.org/UA/PlasticsRubber/Extrusion_v2/GeneralTypes/	4	4:ExtrusionDeviceType
http://opcfoundation.org/UA/Machinery/	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:MachineIdentificationType		
– 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:MachineIdentificationType	Reference to the instance *Identification* 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:MachineryOperationModeStateMachineType		
– 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	
– EngineeringUnits	0:EUInformation	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.