



Data Model for the Exchange of electrological Information

Version 1.1

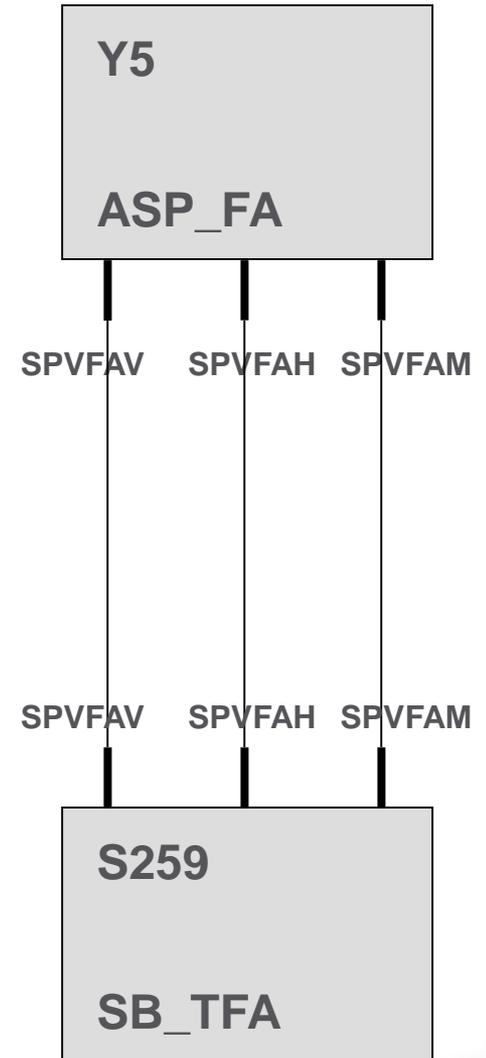
VDA AK CAD/CAM
WG Car Electric
2007-09-24

Content of the Elog Model

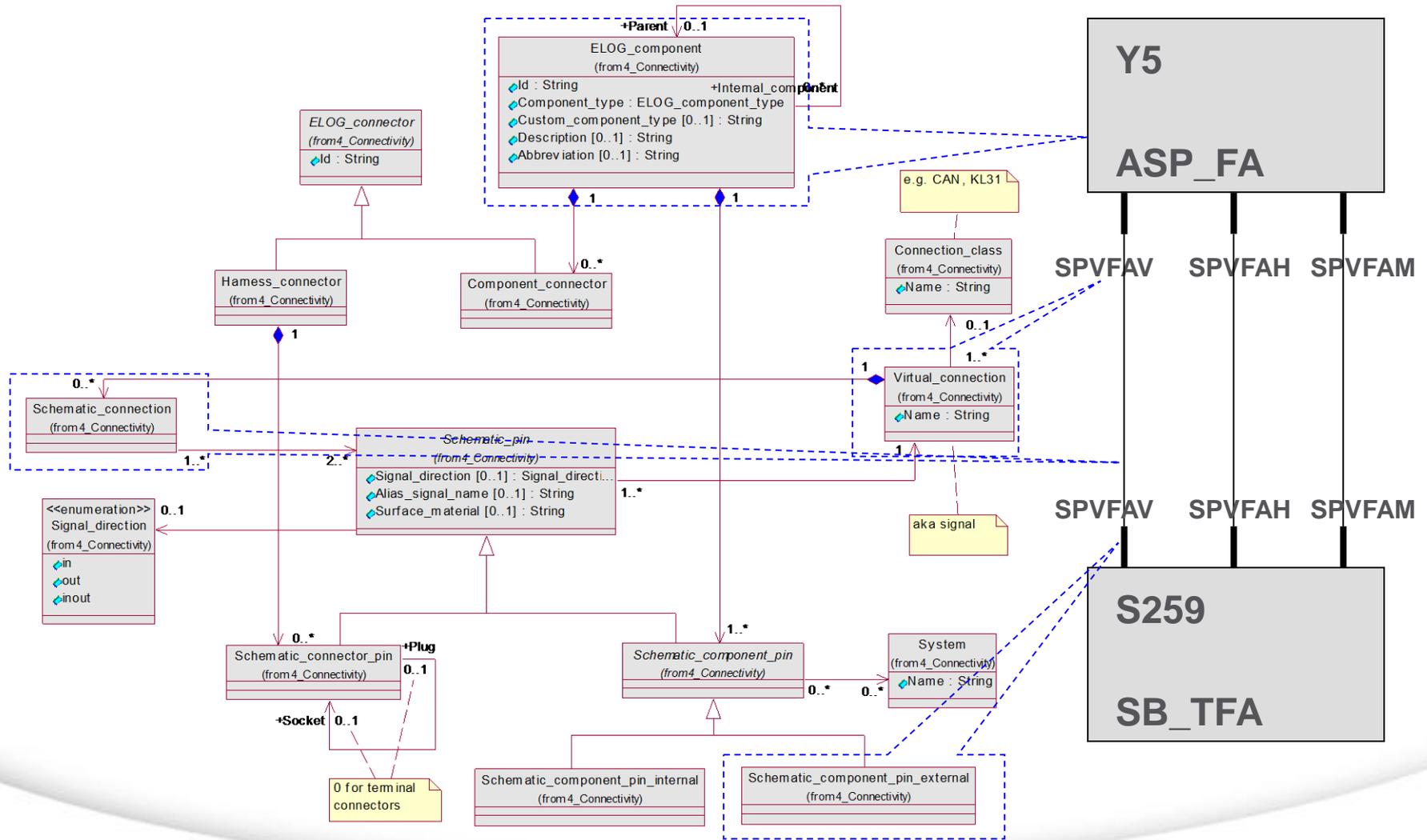
- Schematic diagrams and schematic concepts (optional)
 - Connectivity between components (pin to pin, signal)
 - Inline connectors (if relevant for the harness architecture)
 - Basic component positioning and connection routing (optional)
 - Variant configuration for components and pins
- Wiring diagrams
 - Splices
 - Terminal specification (variant dependent)
 - Connector, Slot, Cavity information (variant dependent)
 - Wire specification (variant dependent)
- Sheets and Layout (optional)
 - Sheets (schematic diagrams, wiring diagrams, schematic concepts)
 - Basic layout information to reconstruct sheet layout

Objects on a schematic diagram

- Occurrences of electrical components (e.g. Y5)
- Pins (e.g. SPVFAV)
 - Identified by signal name
 - No cavity assignment, no terminal specification yet
- Connections
 - Architectural relevant connection path between pins assigned to the same signal
 - No wiring details (color, cross section area) yet
- Splices, inline connectors



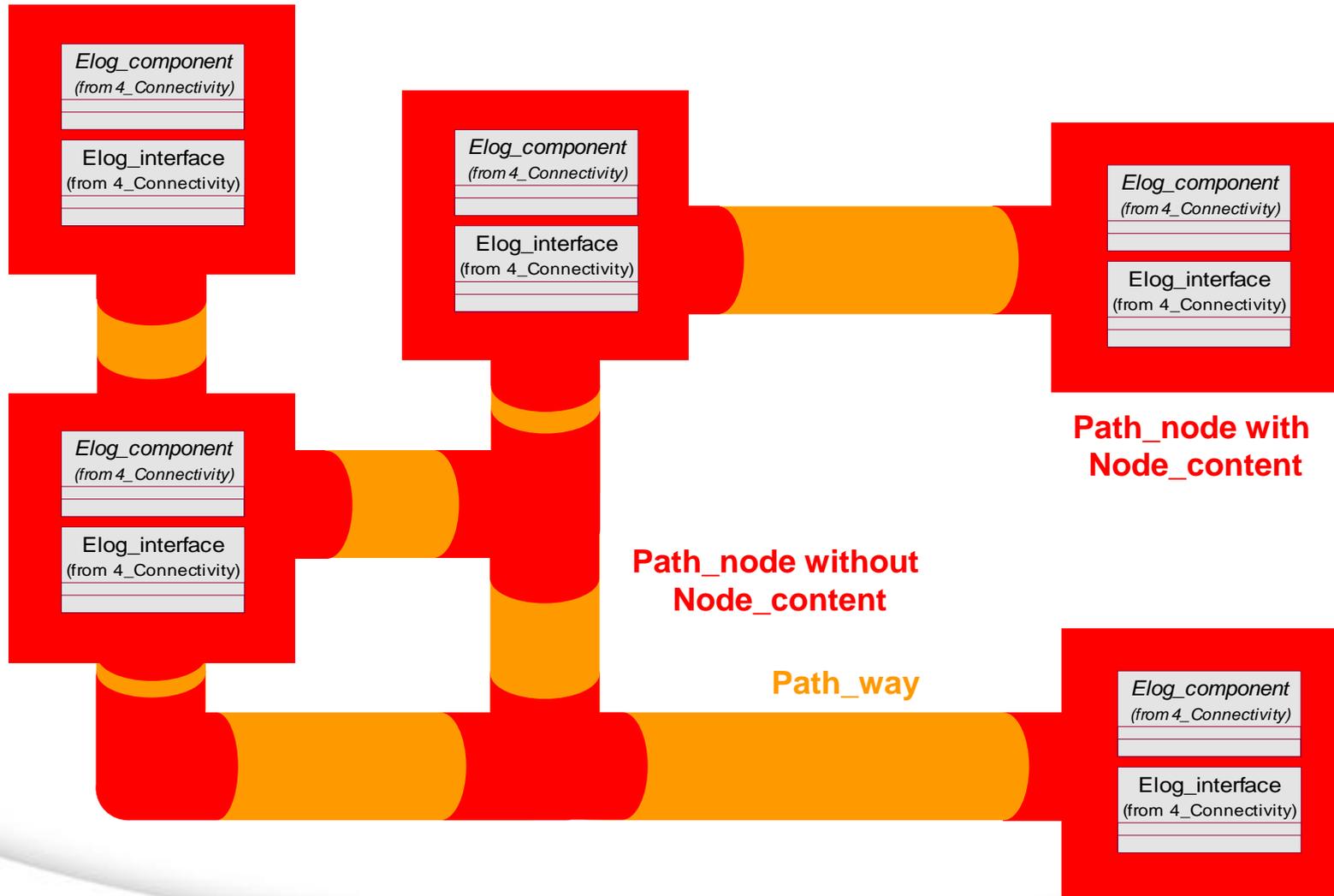
Objects on a schematic diagram



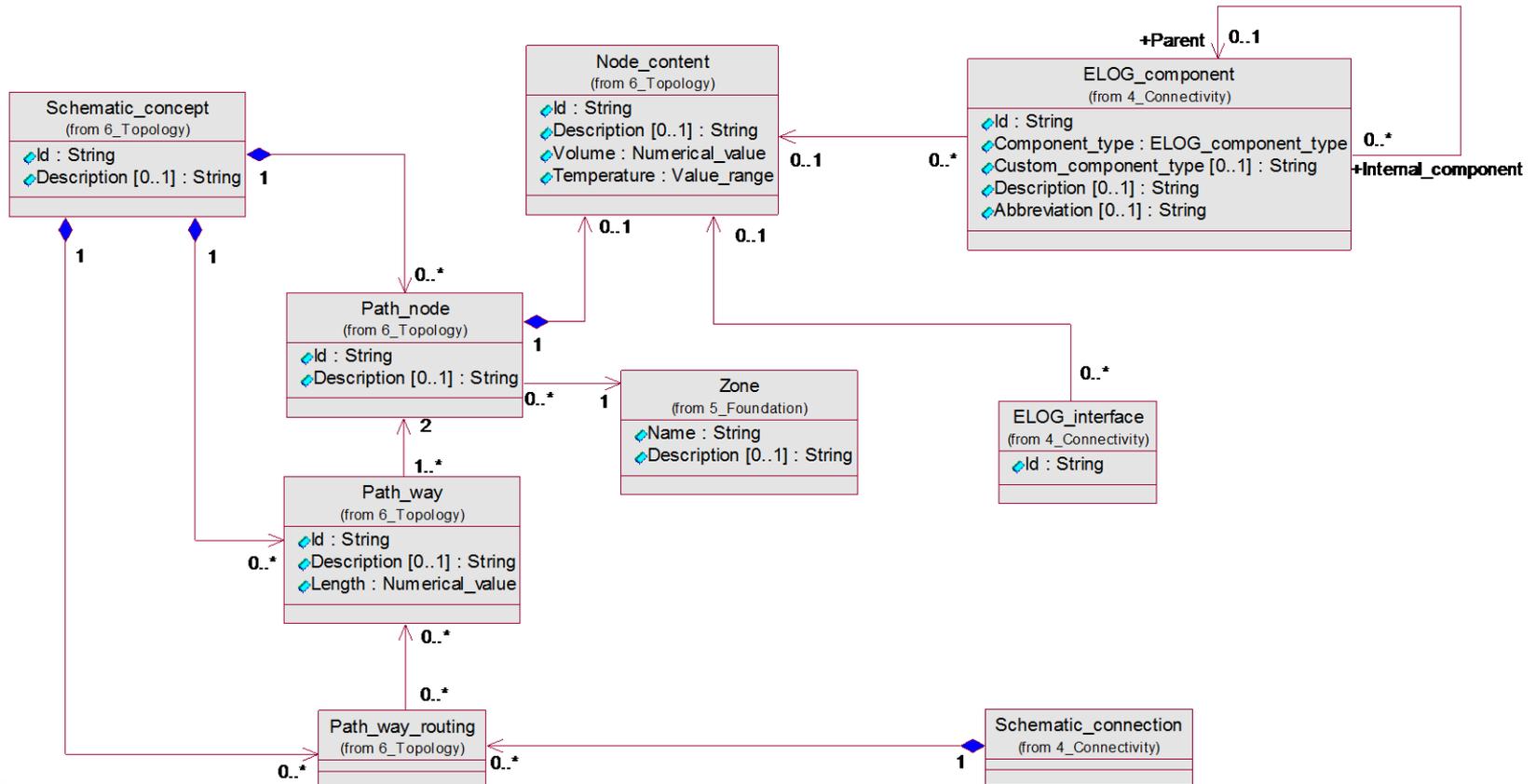
Schematic concepts

- Alternative schematic concepts for the systems architecture
- Basic positioning of electrical components and architecture relevant connectors („Node_content“)
- Length values („Path_way“) to compare and assess schematic concepts regarding price and weight

Schematic concepts

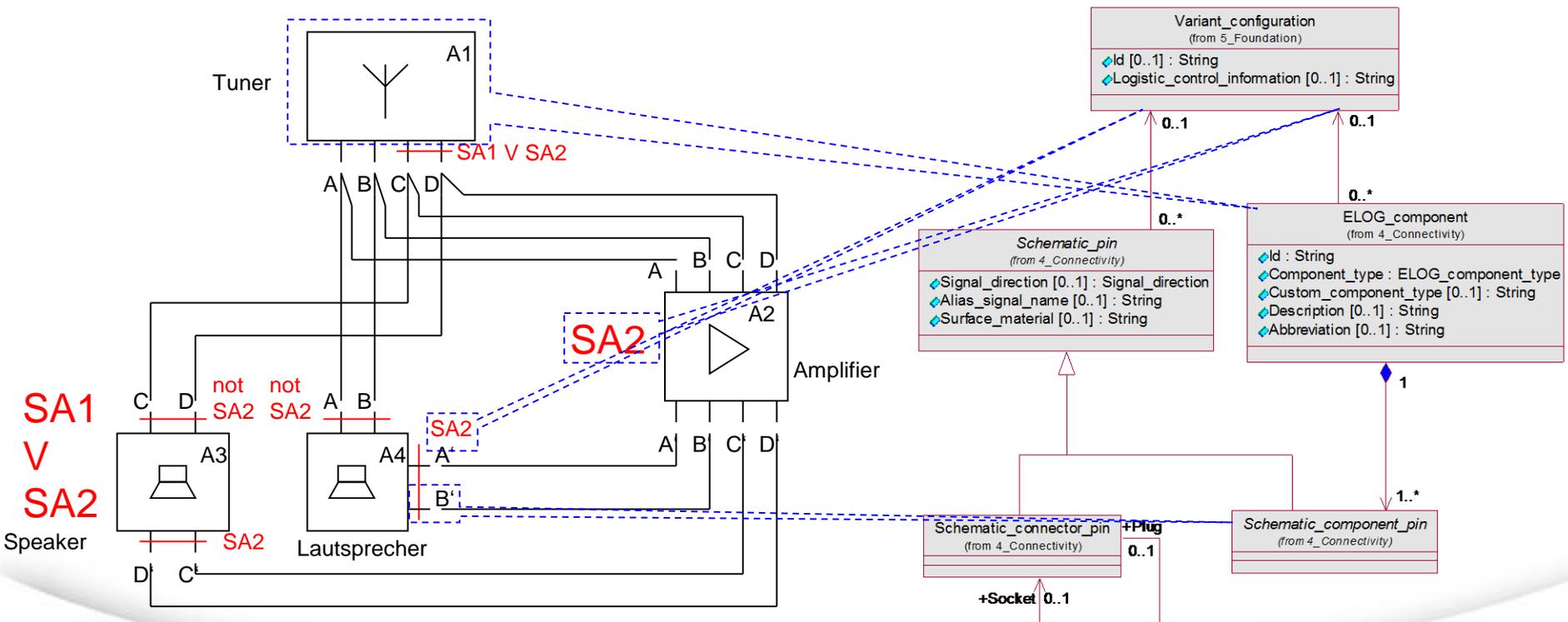


Schematic concepts

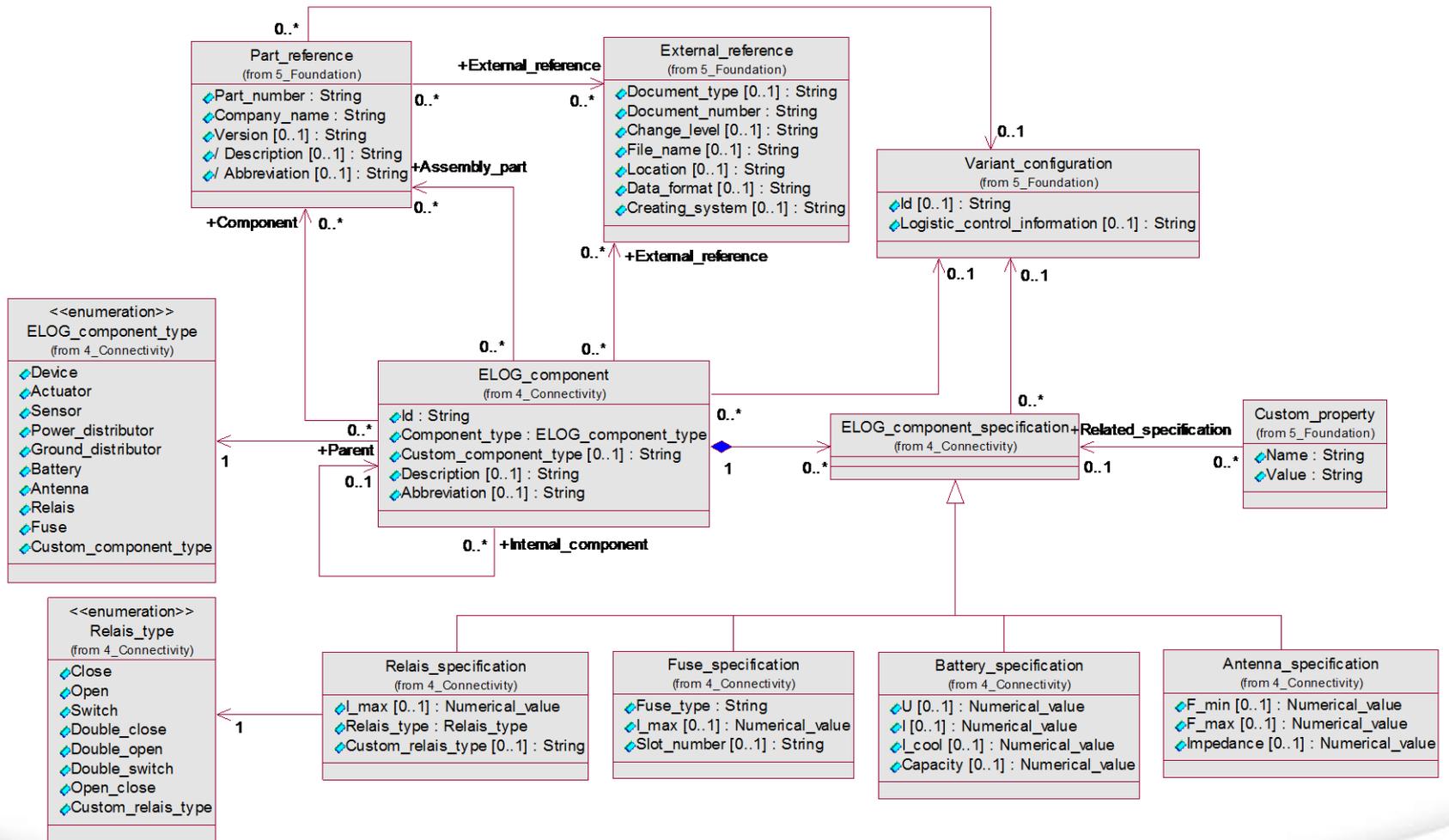


Variant configuration of schematics

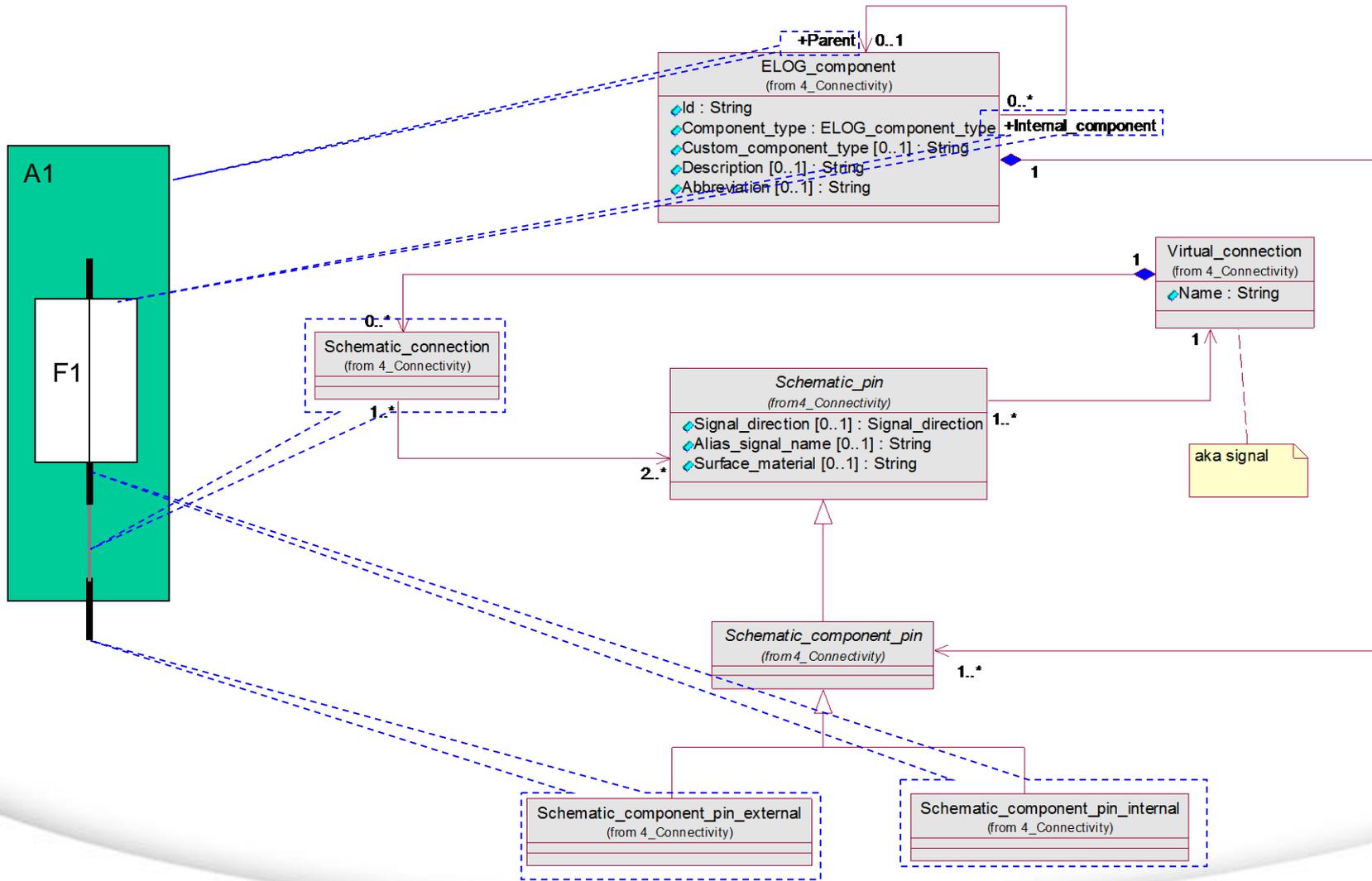
- Variants of components are modeled as electrical component with their pins assigned to variant configurations.



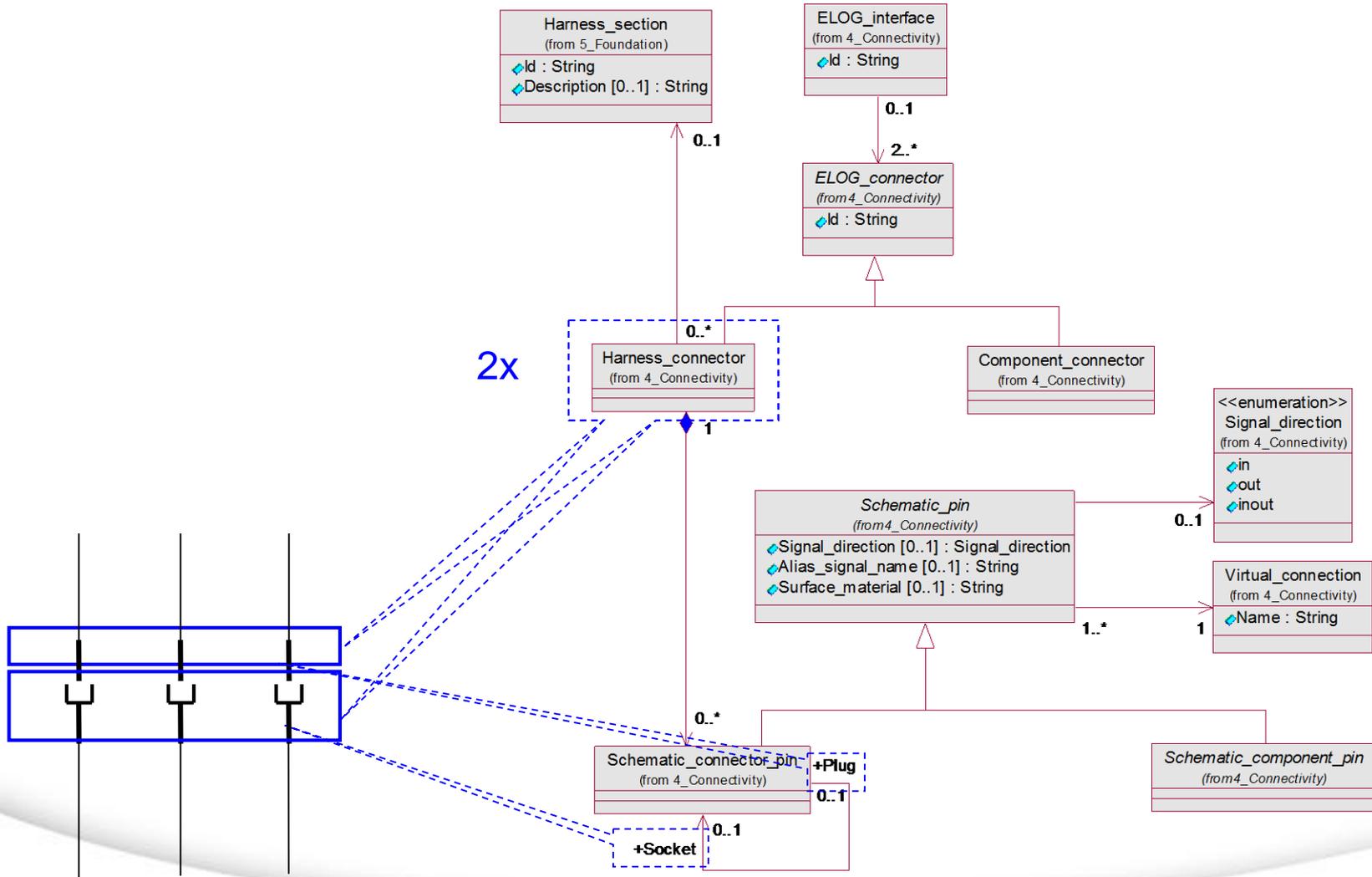
Components specifications



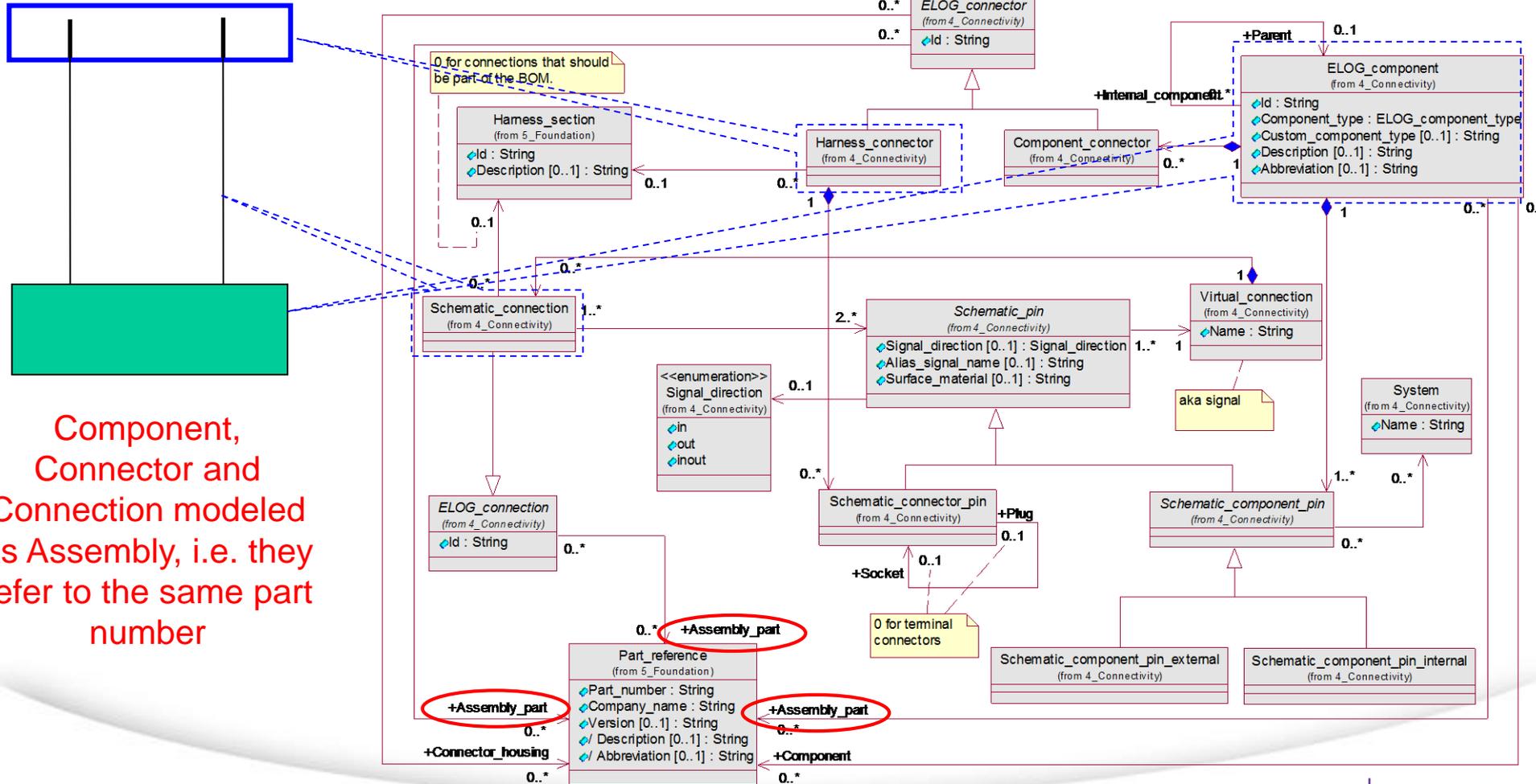
Internal connections



Inline connector

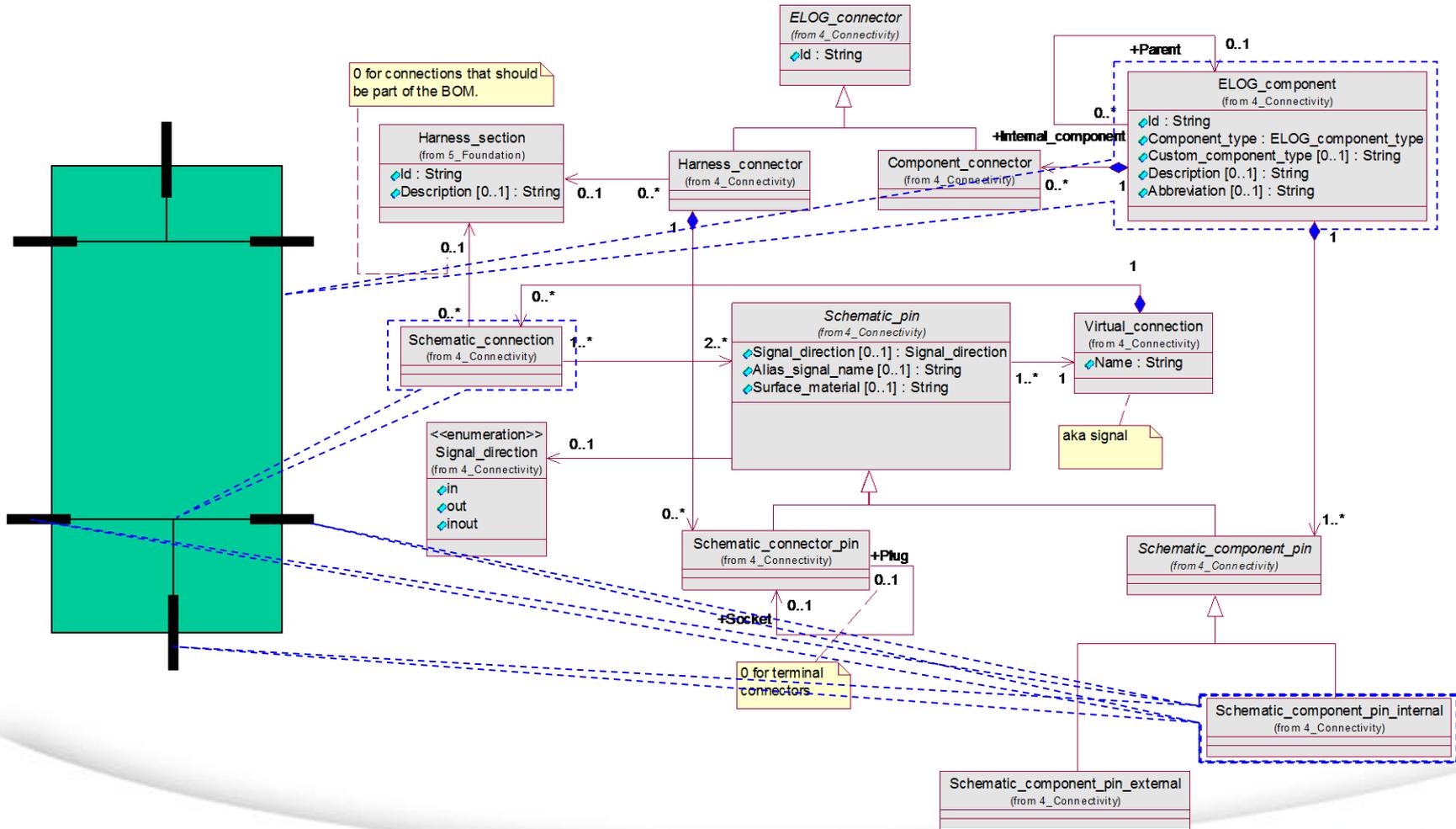


Wires inside an electrical component



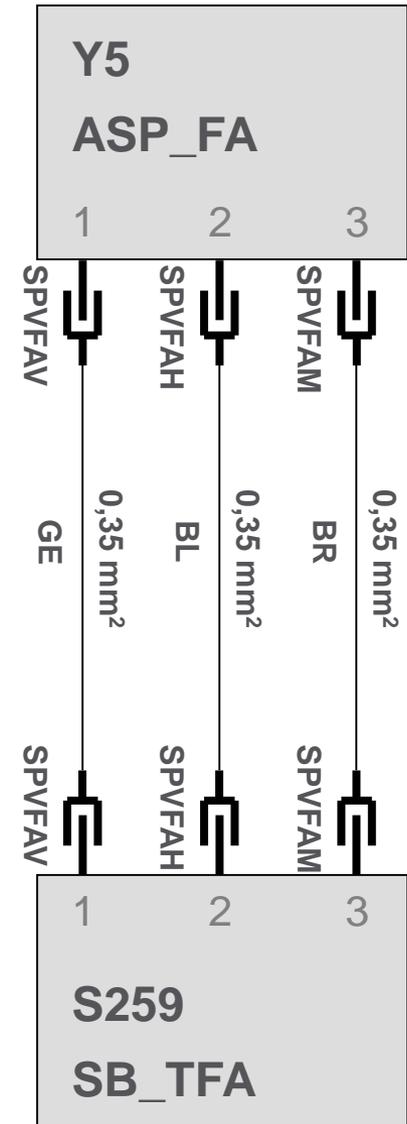
Component, Connector and Connection modeled as Assembly, i.e. they refer to the same part number

Connector component



Objects on a wiring diagram

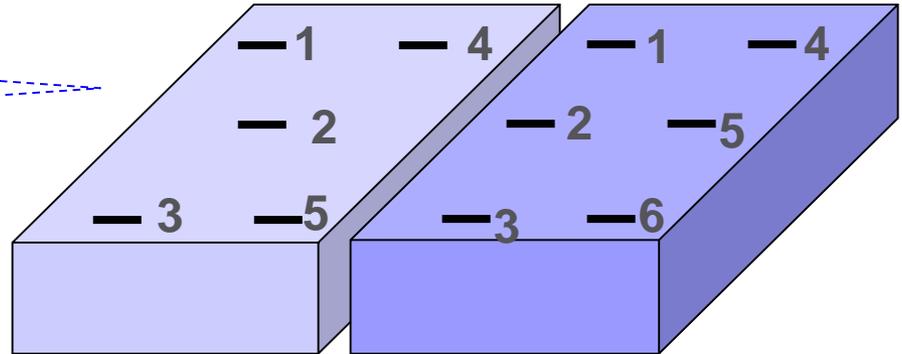
- Occurrences of electrical components (e.g. Y5)
 - Just the ones of the schematic diagrams
- Pins
 - Distinction of component pin and wiring pin, terminal specifications
 - Assignment to cavities, slots and connectors (variant dependent)
- Wiring connections
 - Refinement of schematic connections to wiring connections segments
 - Variant dependent wire specification (e.g. wire type, color, cross section area)
- Splices



Pins Connectors of the wiring diagram

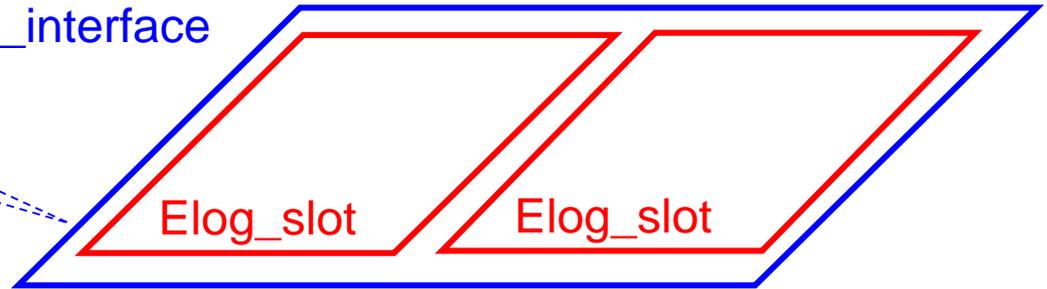
2 physical Harness connectors with 1 slot each
 Harness_connector_id: e.g. A1*1B_1, A1*1B_2

Harness_connector (2x)

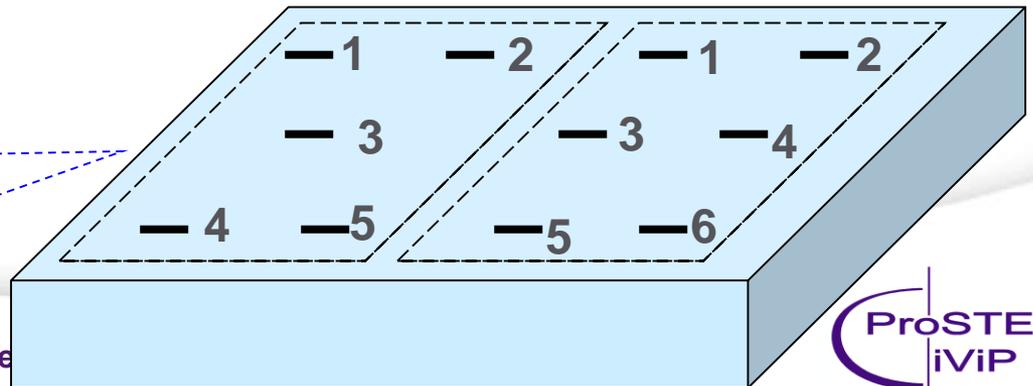


1 logical connector with 2 slots!
 Connector_id: e.g. A1*1_1, A1*1_2

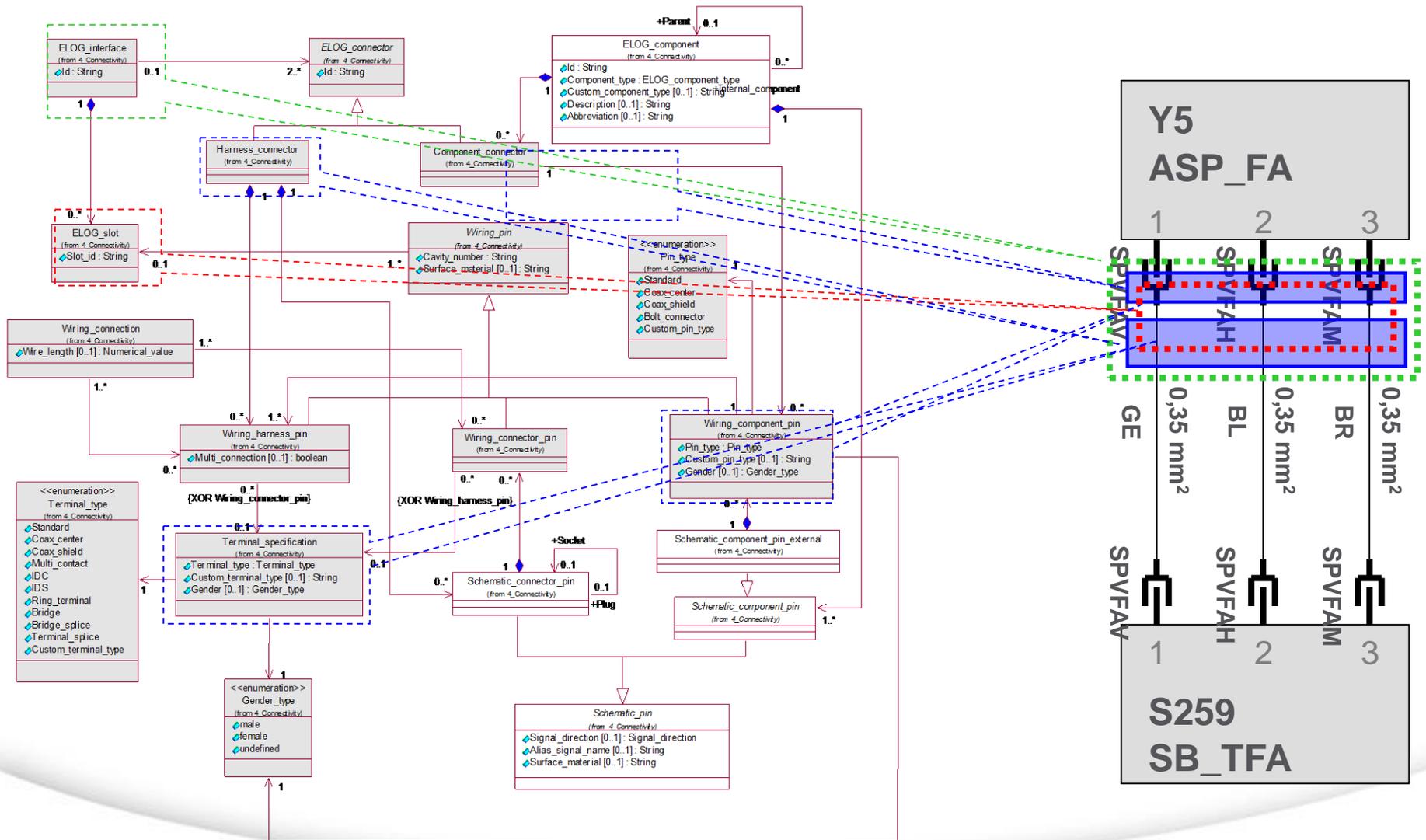
Elog_interface



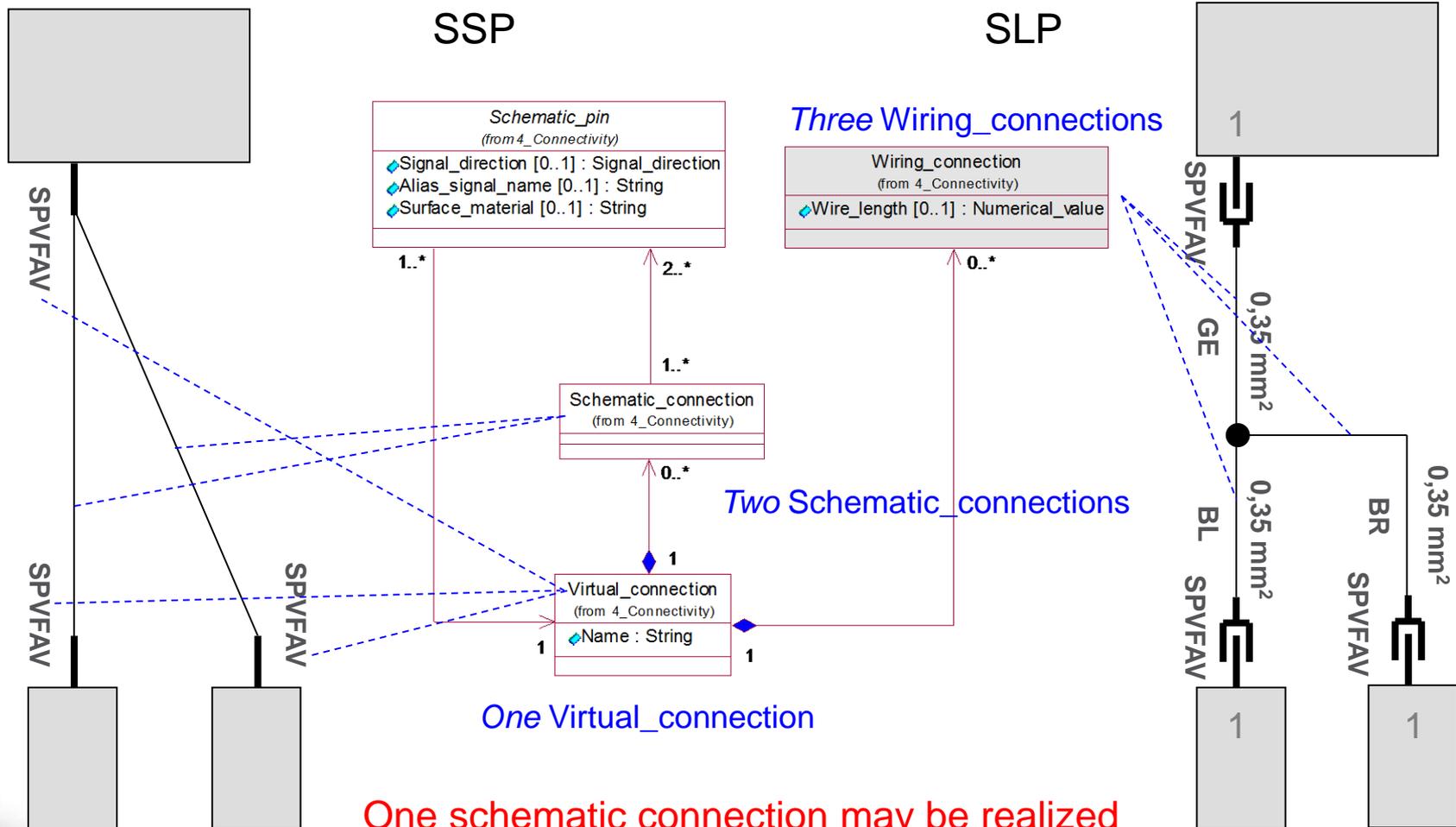
1 physical Component connector with 2 slots
 Component_connector_id: e.g. A1*1S_1, A1*1S_2



Pins Connectors of the wiring diagram

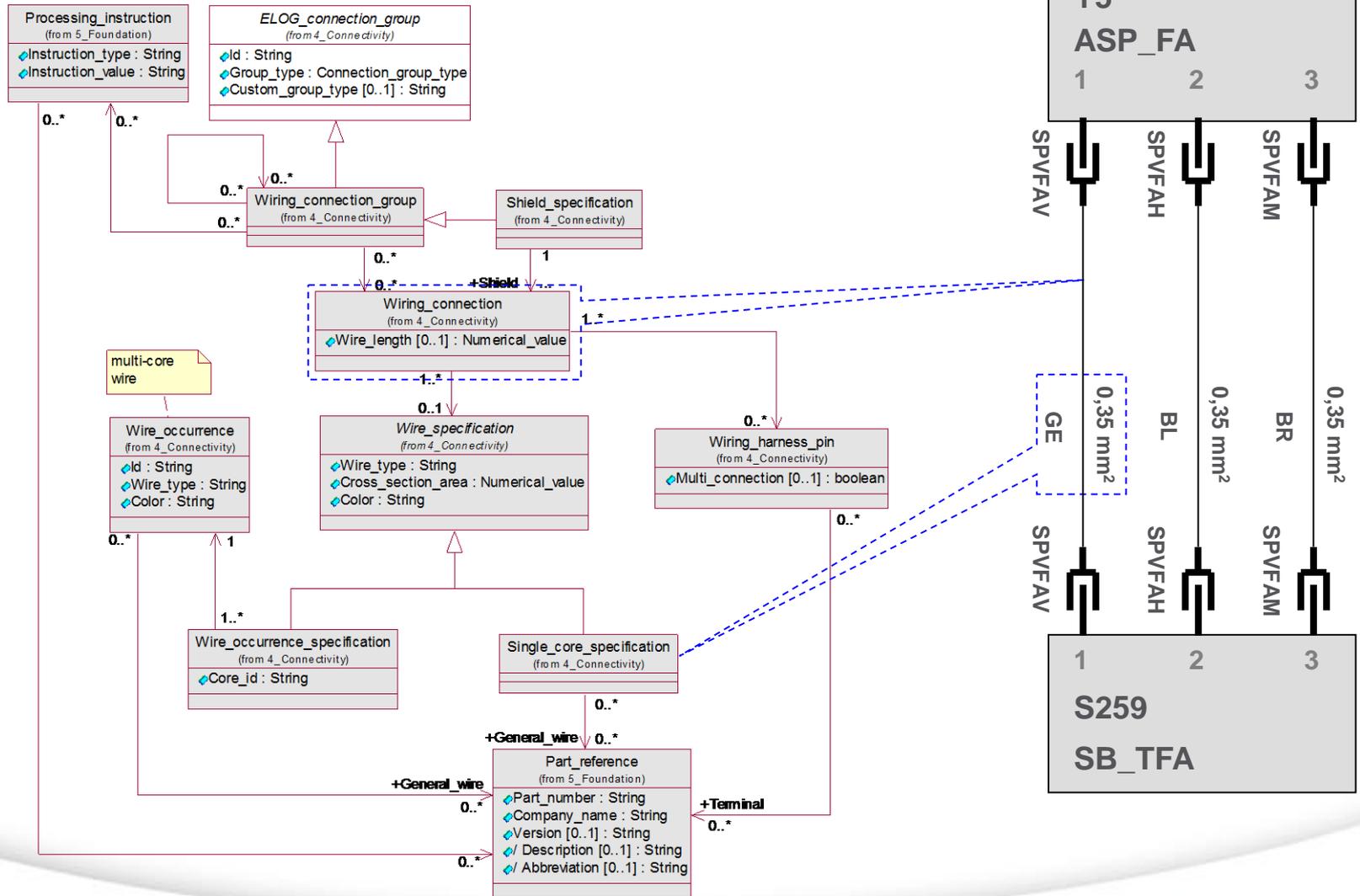


Virtual-, Schematic- and Wiring_connection

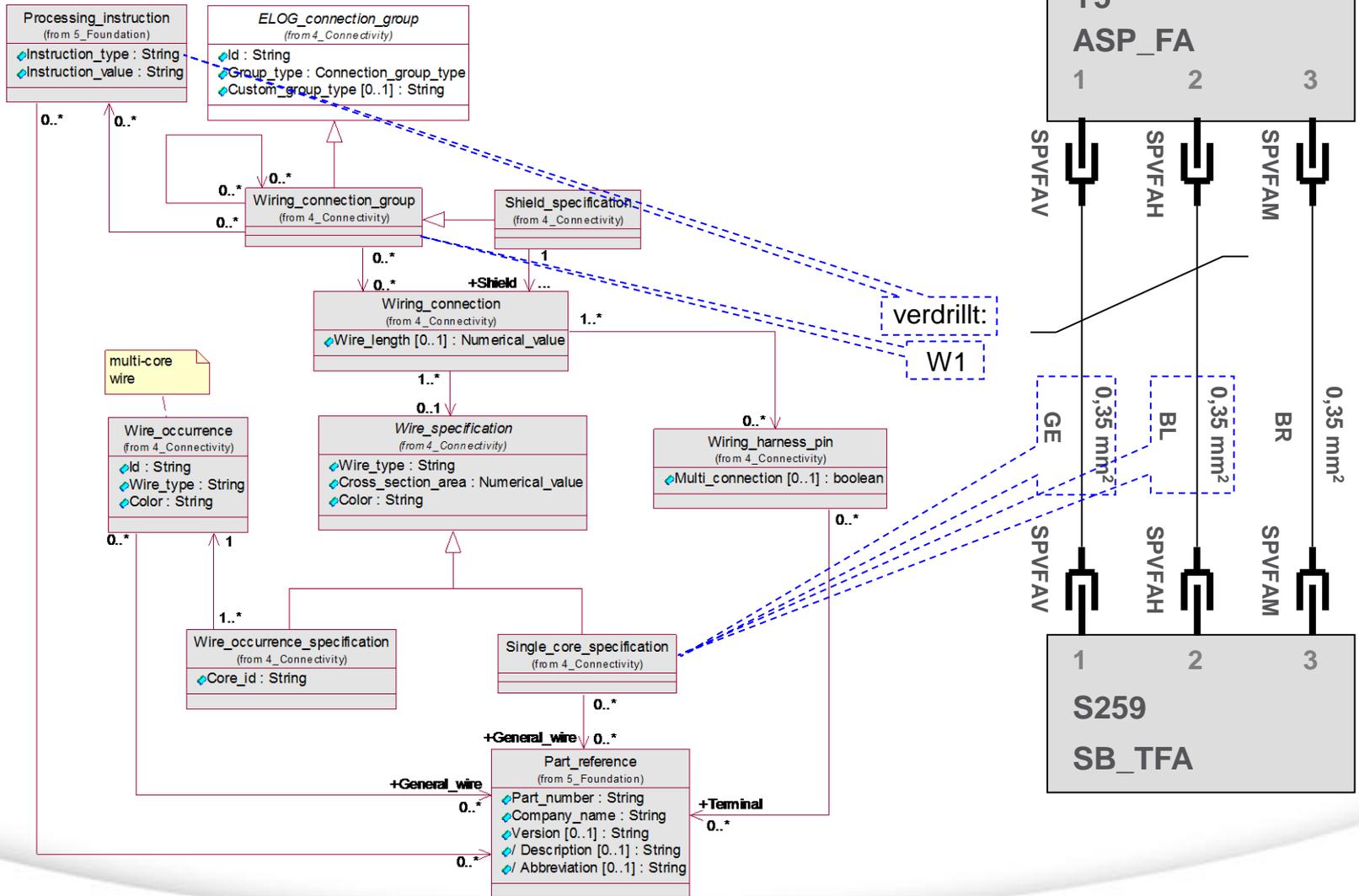


One schematic connection may be realized by two or more wiring connections

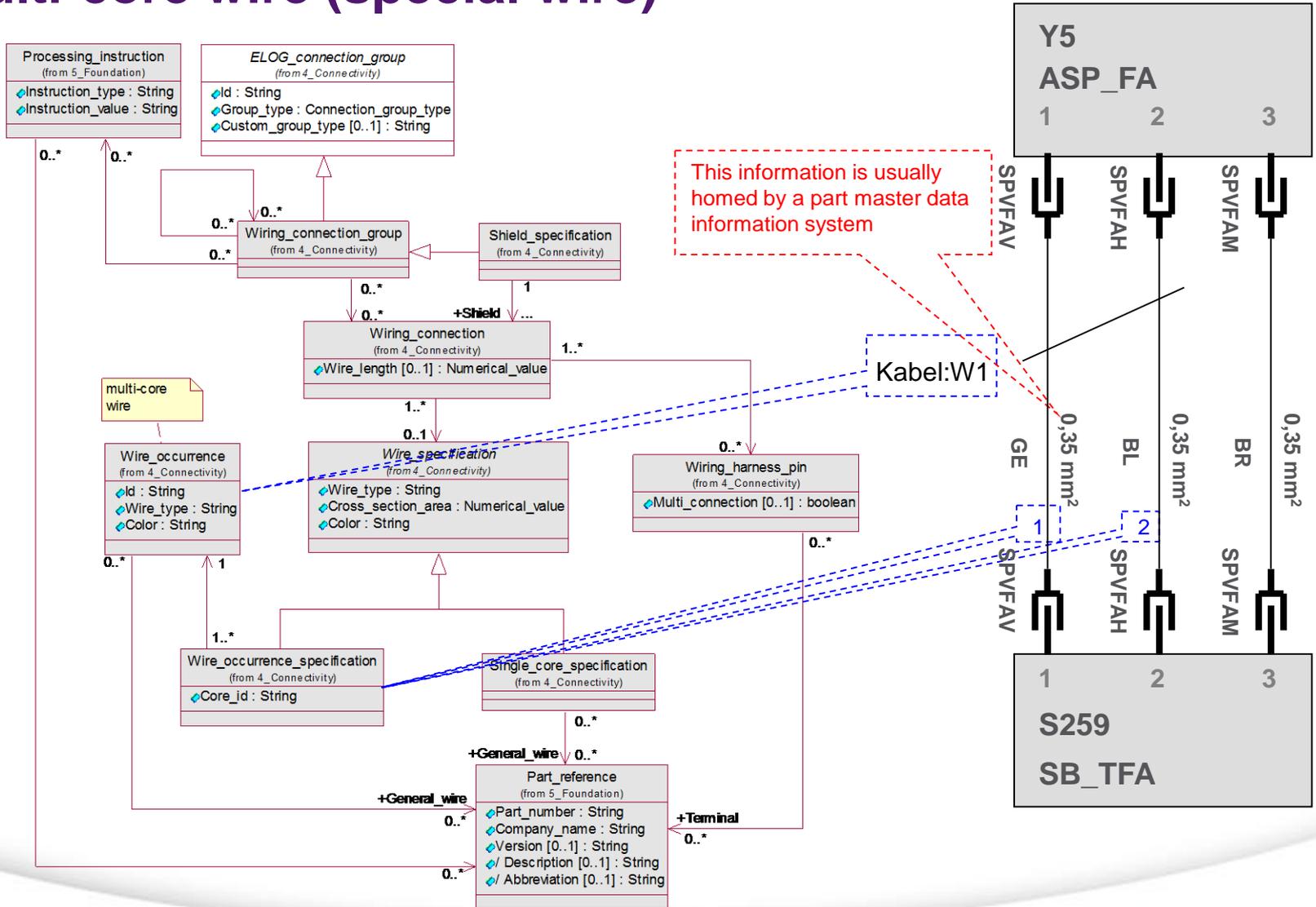
Single-core wire



Wiring group

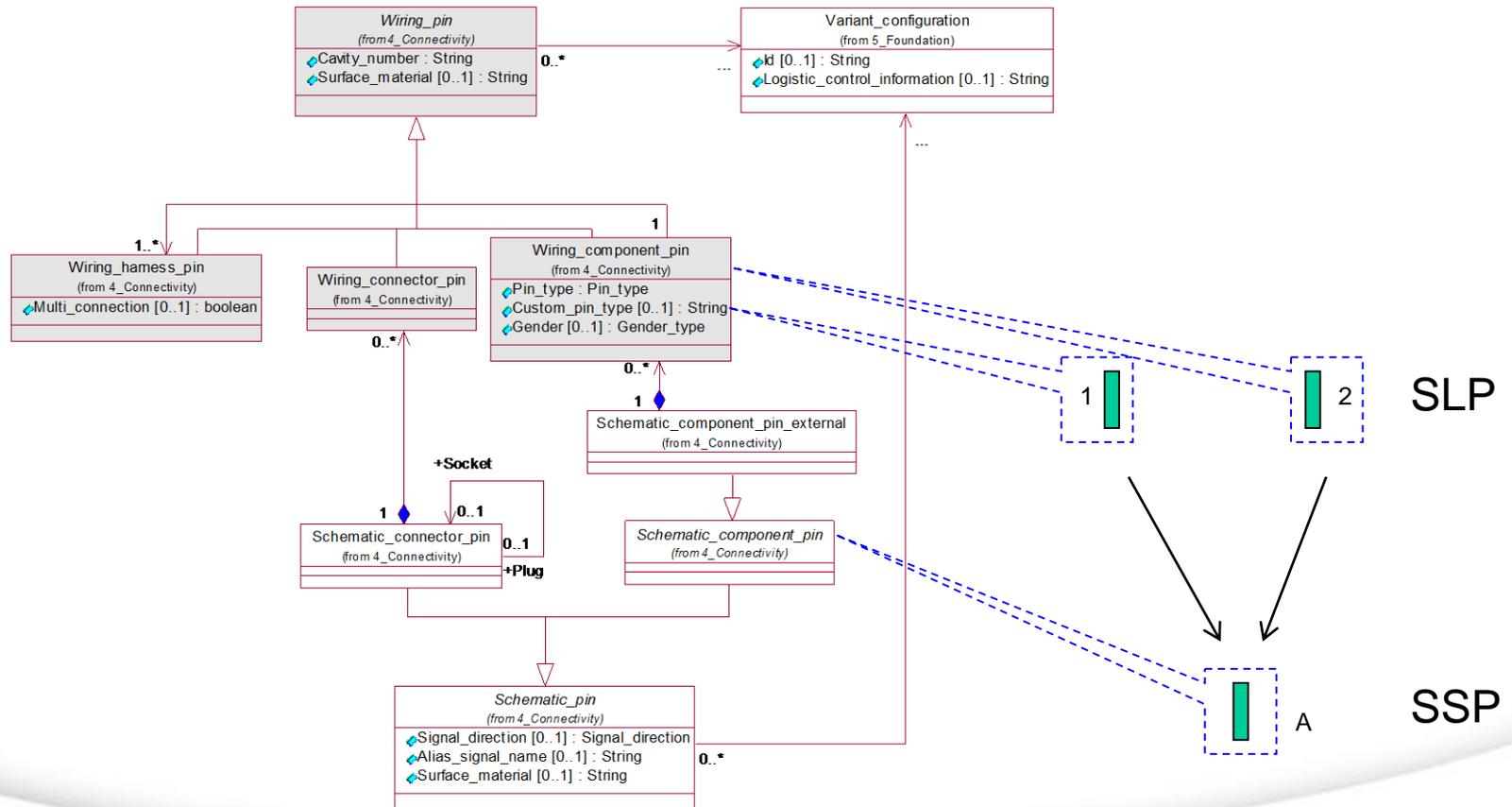


Multi-core wire (special wire)

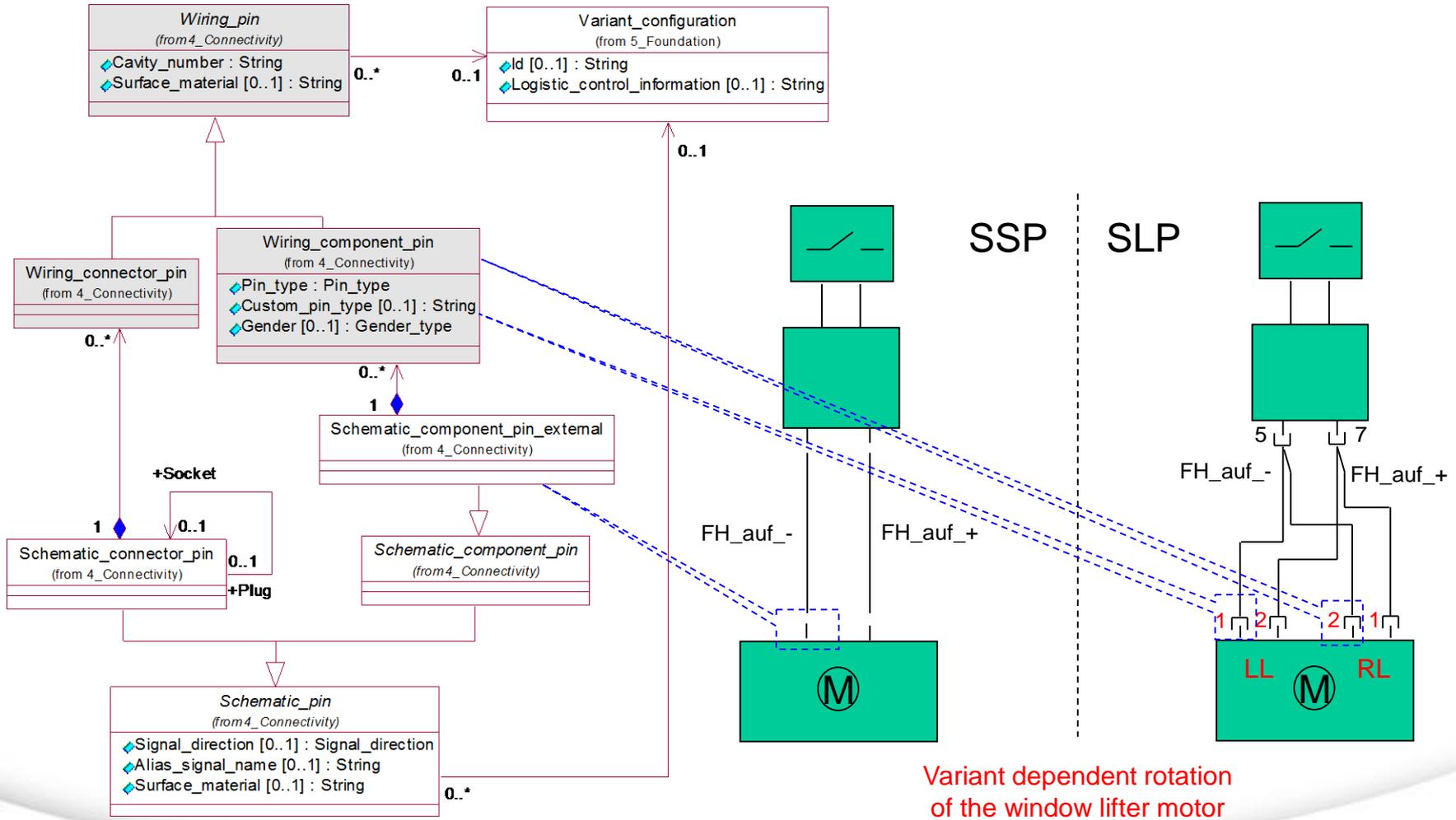


Pinning variants

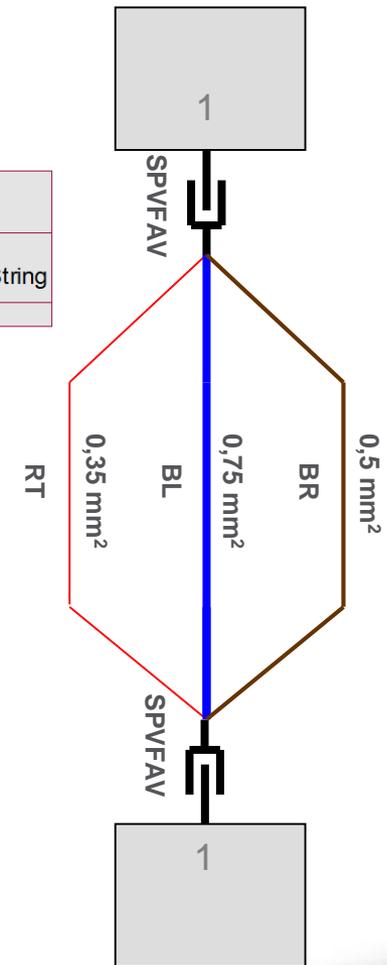
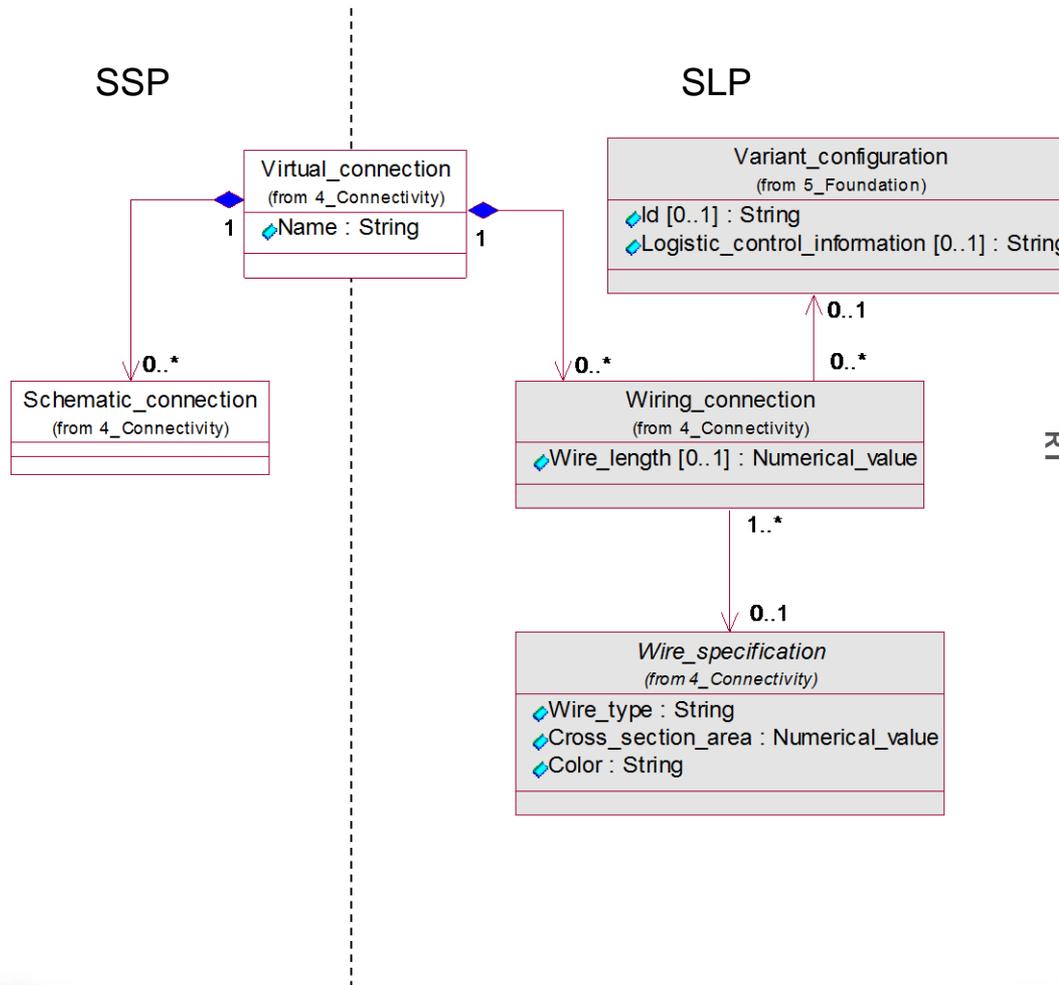
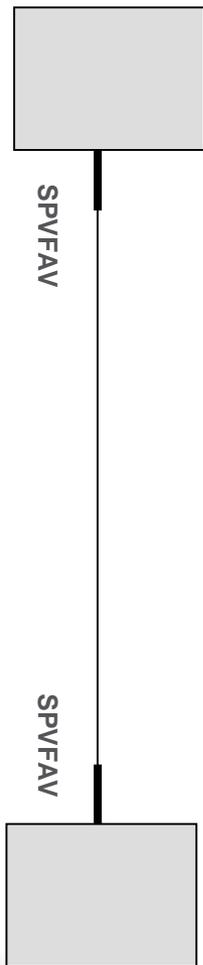
- One schematic pin may be realized by one or more wiring pins, e.g. to model pinning variants



Pinning variants

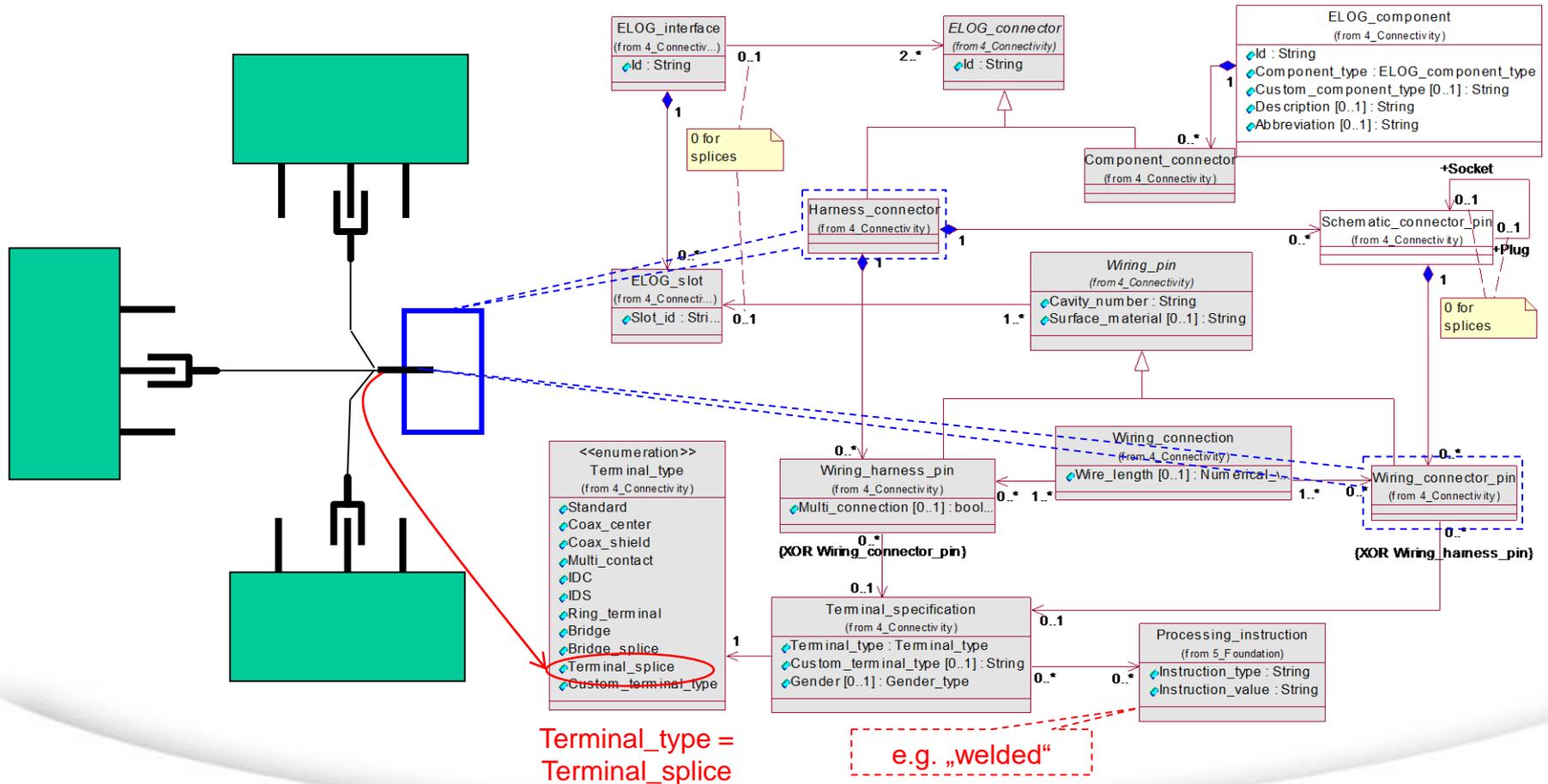


Wiring variants

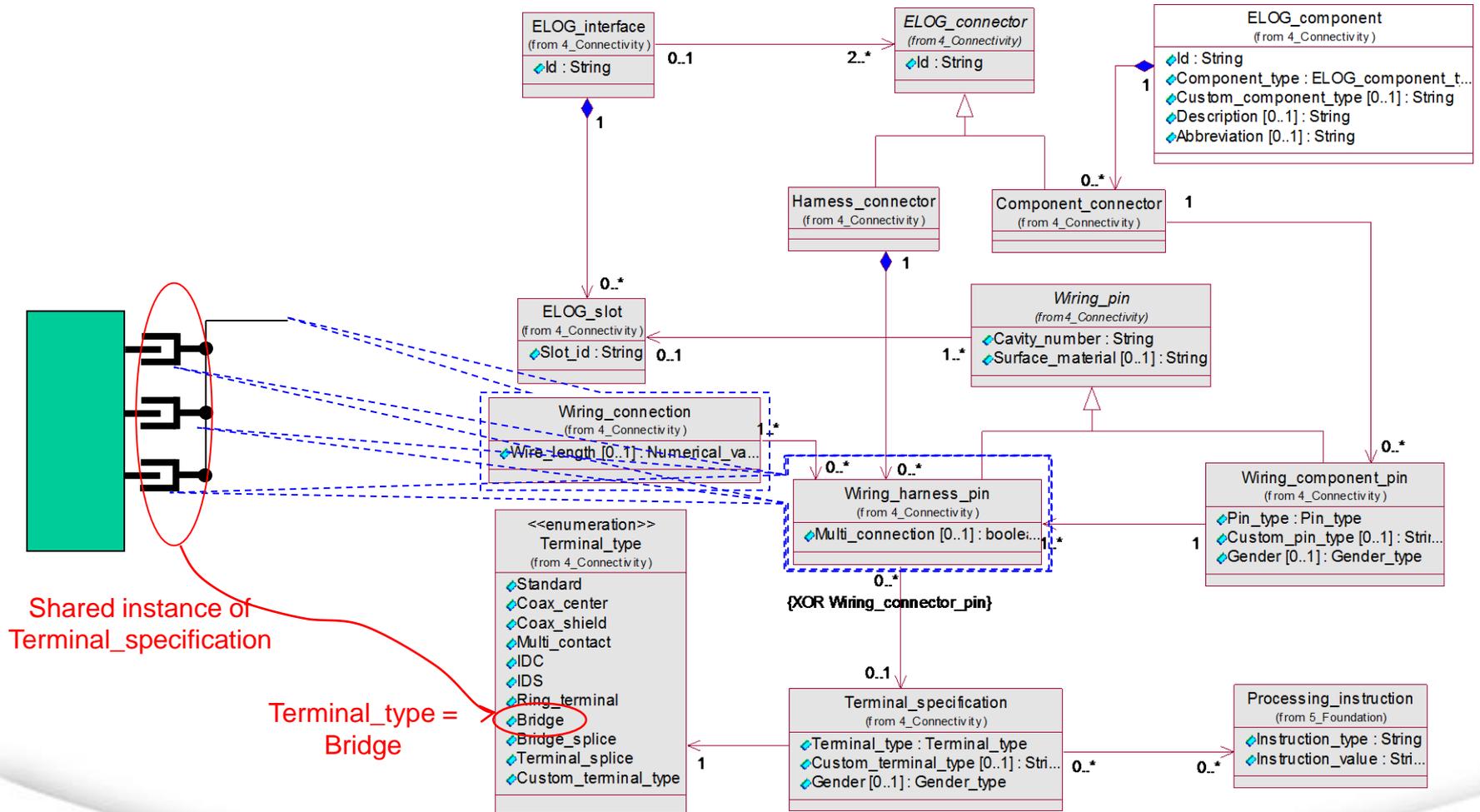


Splices

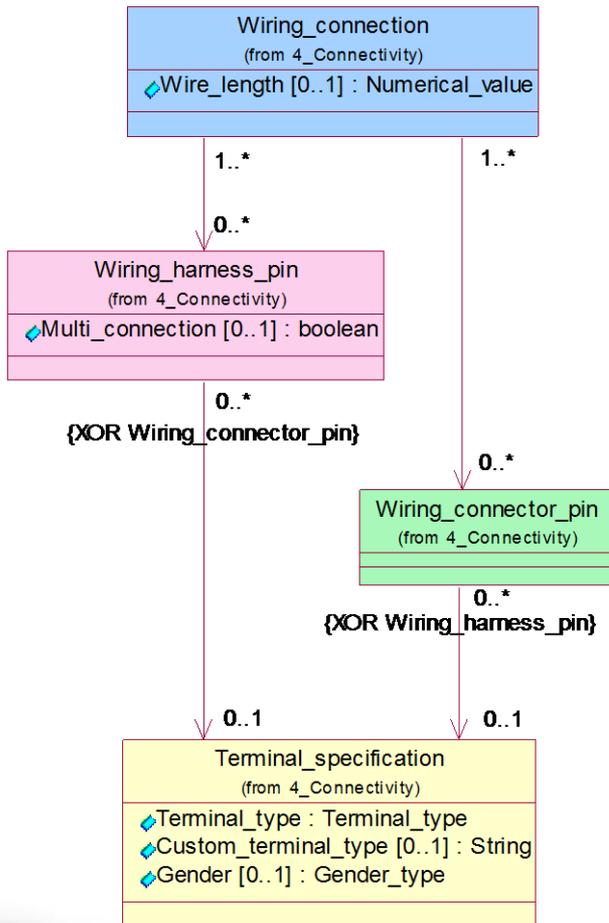
- Modeled as (virtual) connector, terminal specification and processing instruction used to specify the realization (e.g. Terminal_splice, welded)
- IDS alike



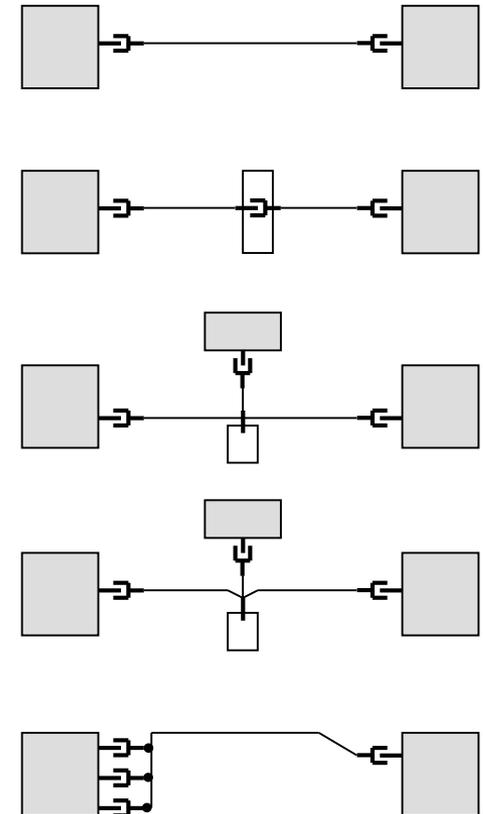
Bridge (Option 1)



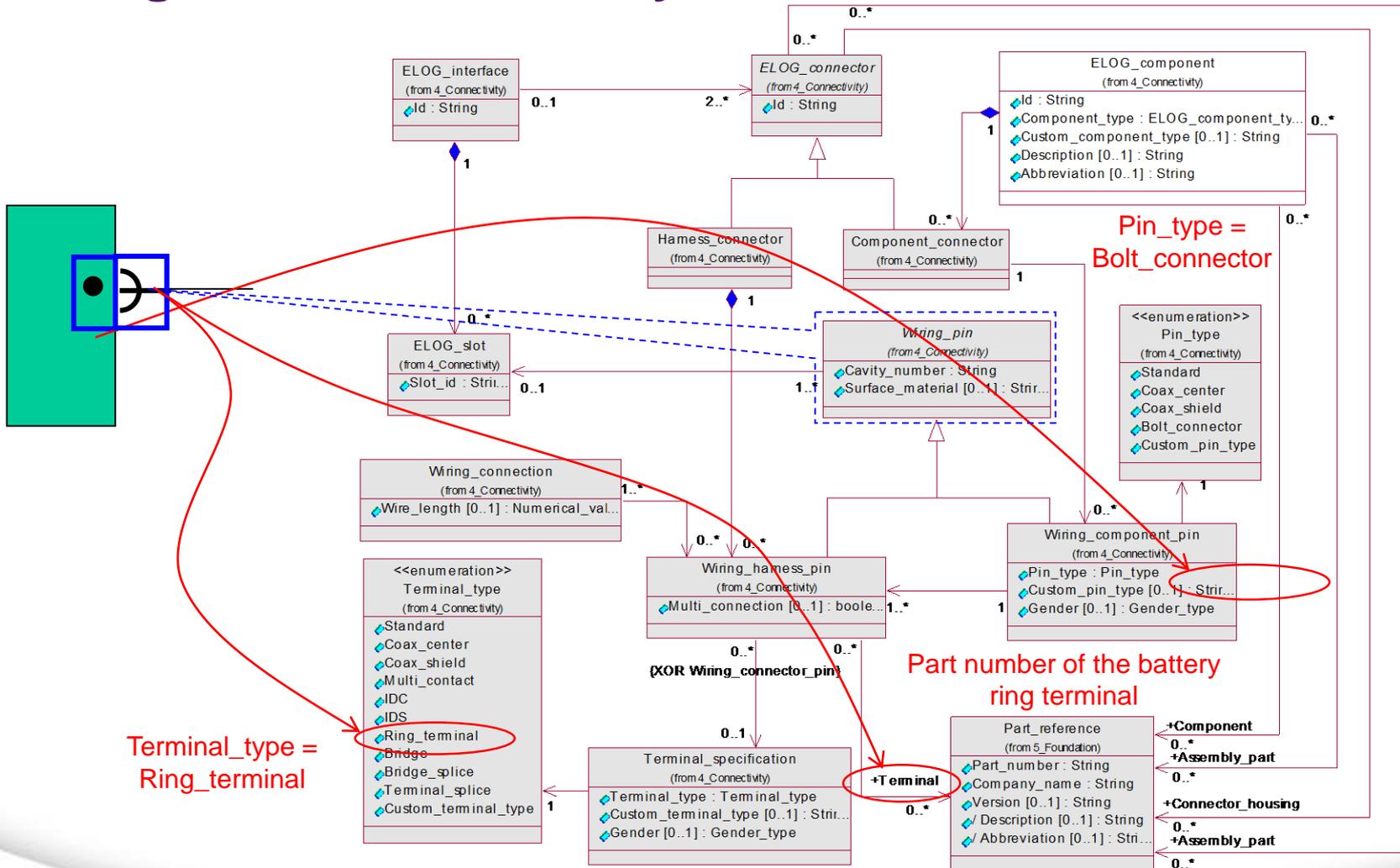
Multiplicities of wiring connection ends



	W C	W H P	W C P	T S
Example:				
Simple connection between two components	1	2	0	2
Connection between two components with an inline connector in the middle	2	2	2	4
IDC with two connections between three components (one is passing the connector)	2	3	1	4
Terminal splice with three connections between three components	3	3	1	4
One connection with bridge terminal (Option 1) connecting three pins of one component and one pin of the other component	1	4	0	2

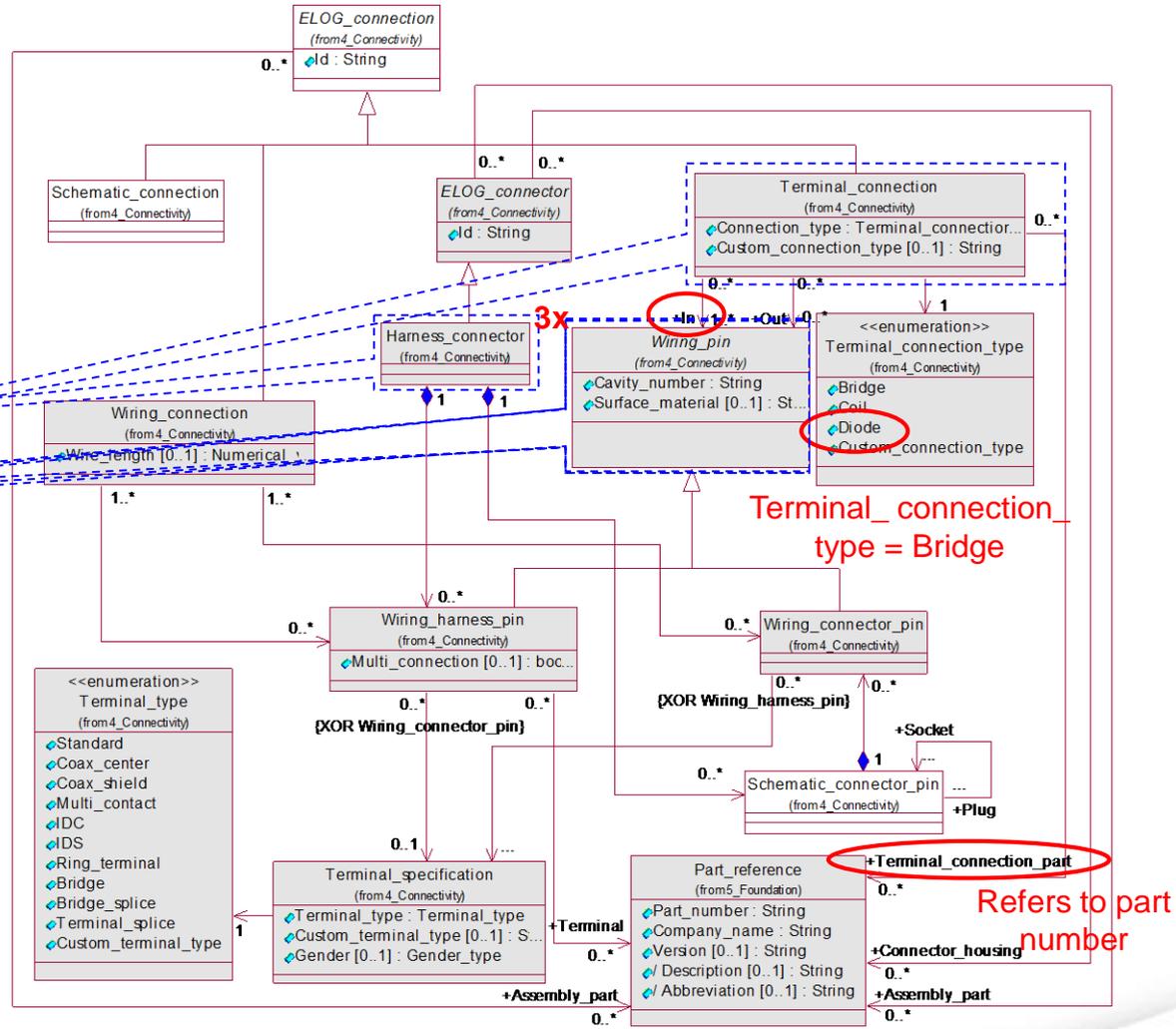
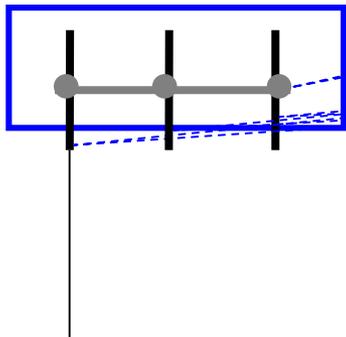


Ring terminal for battery

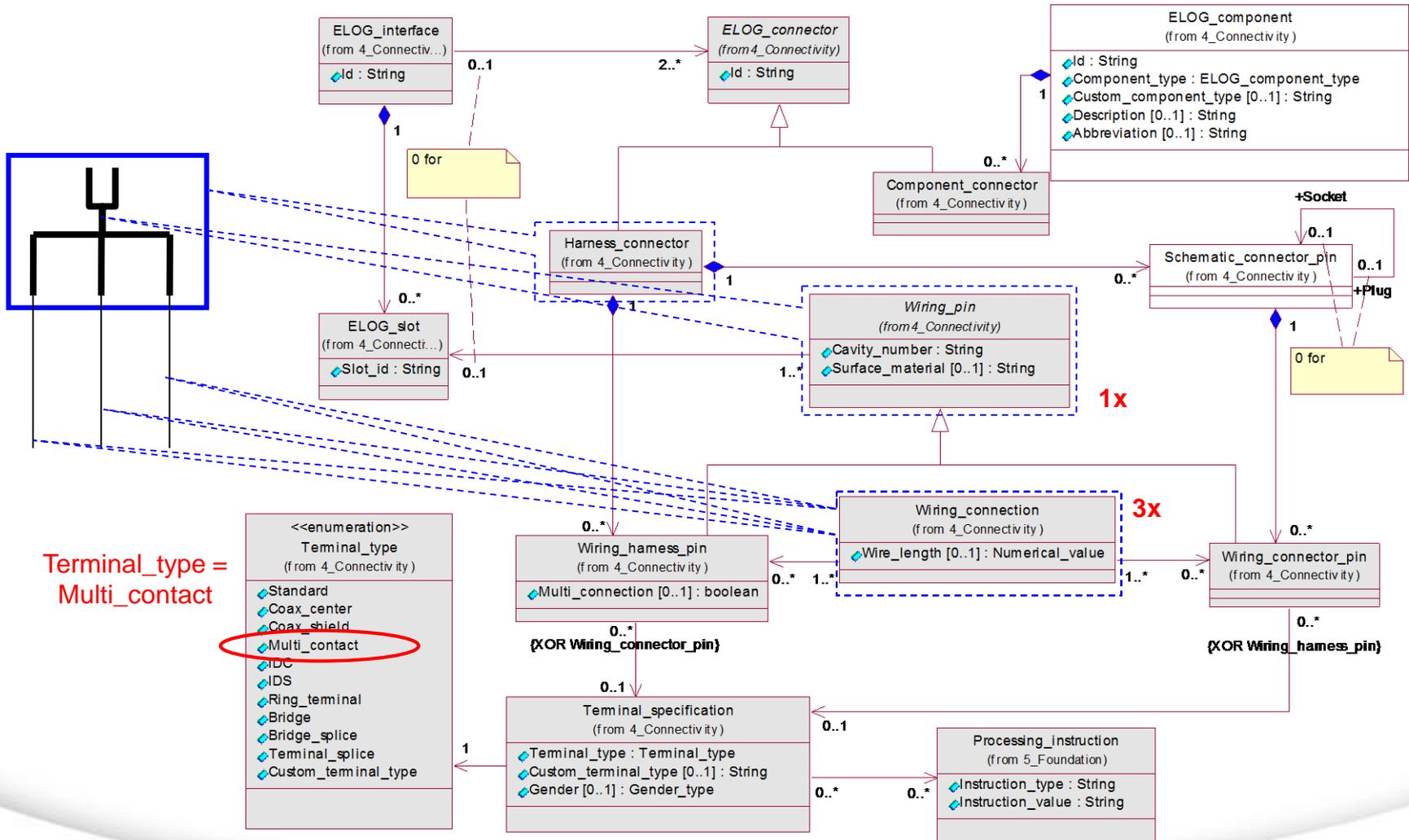


Bridge (Option 2)

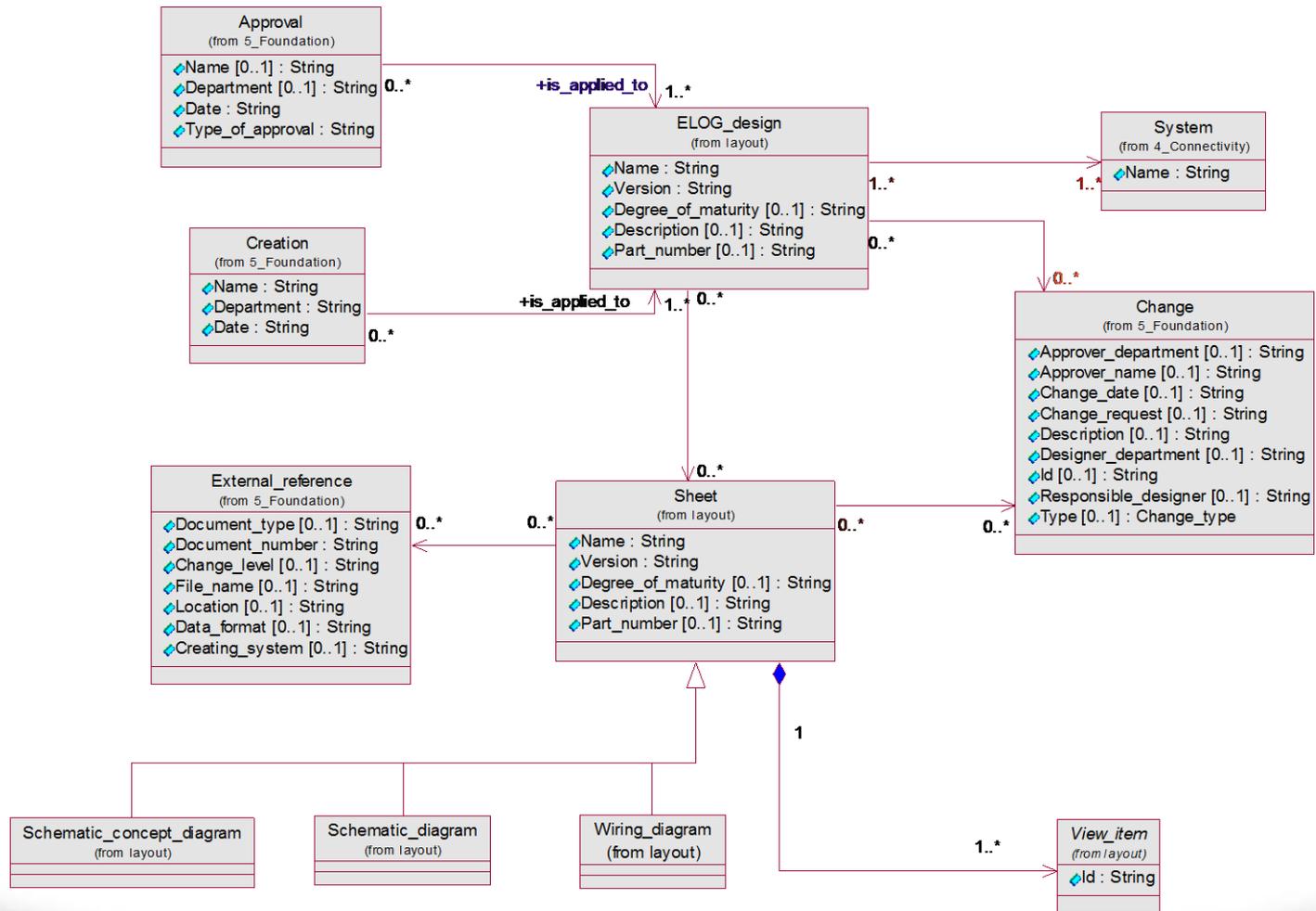
A bridge may be modeled as Terminal_connection as well



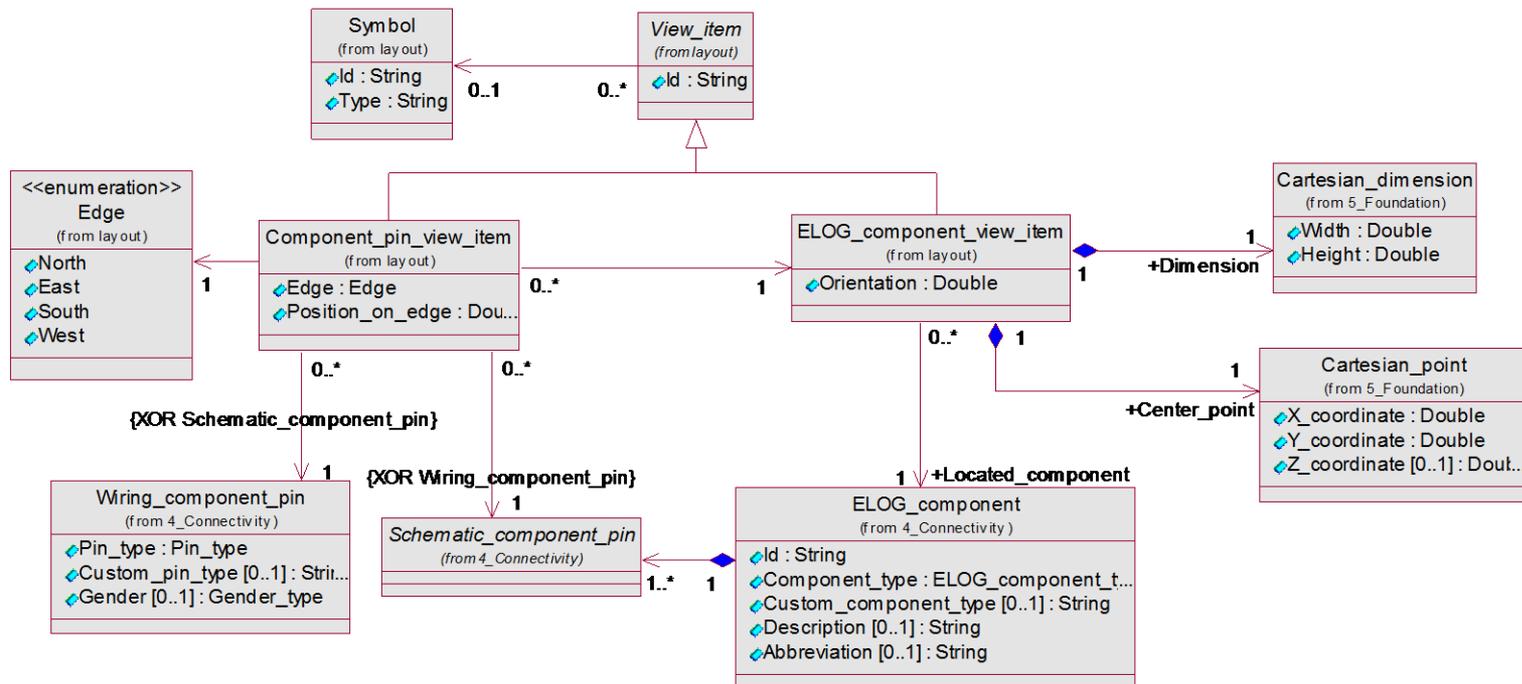
Multi-contact



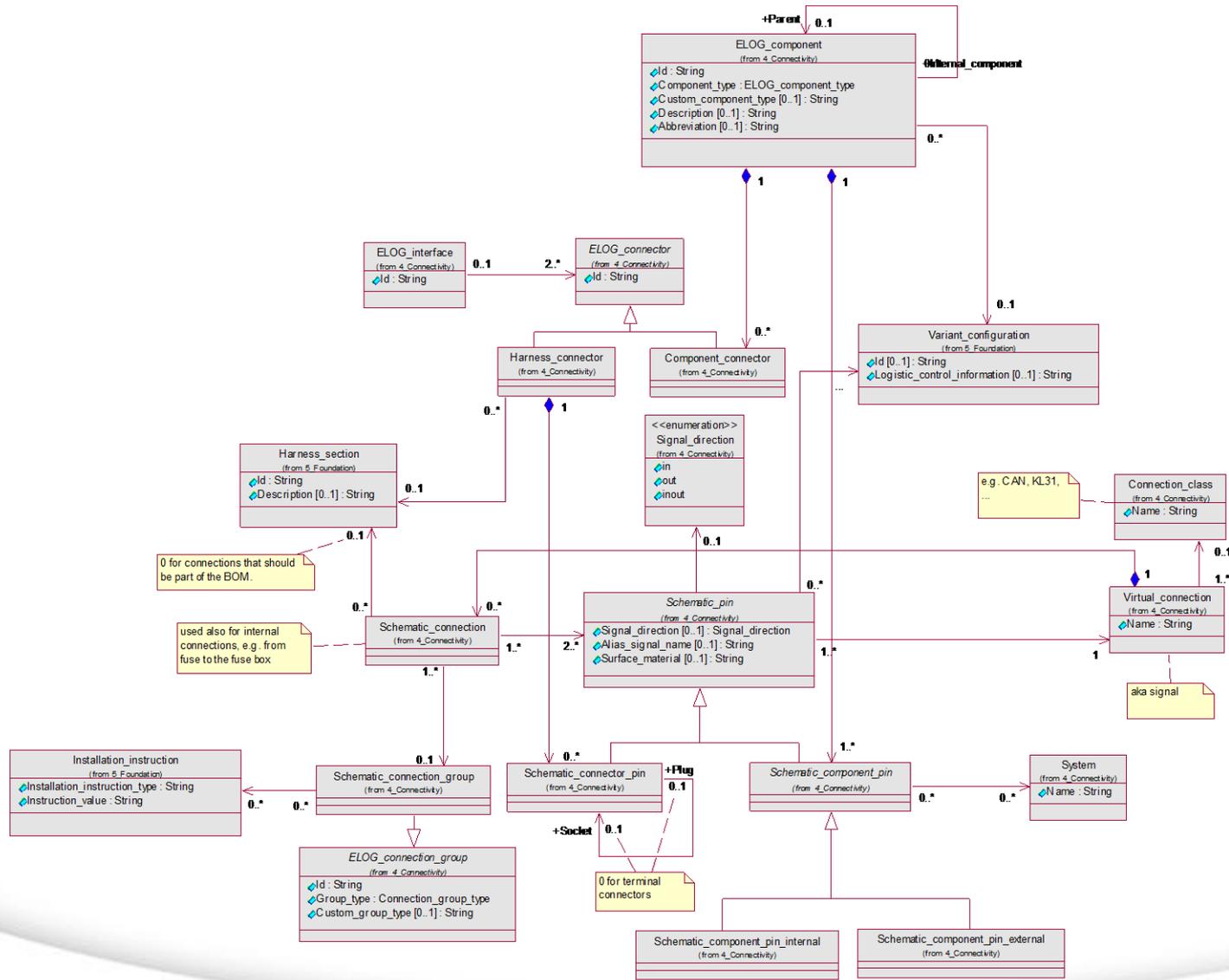
Sheet layout



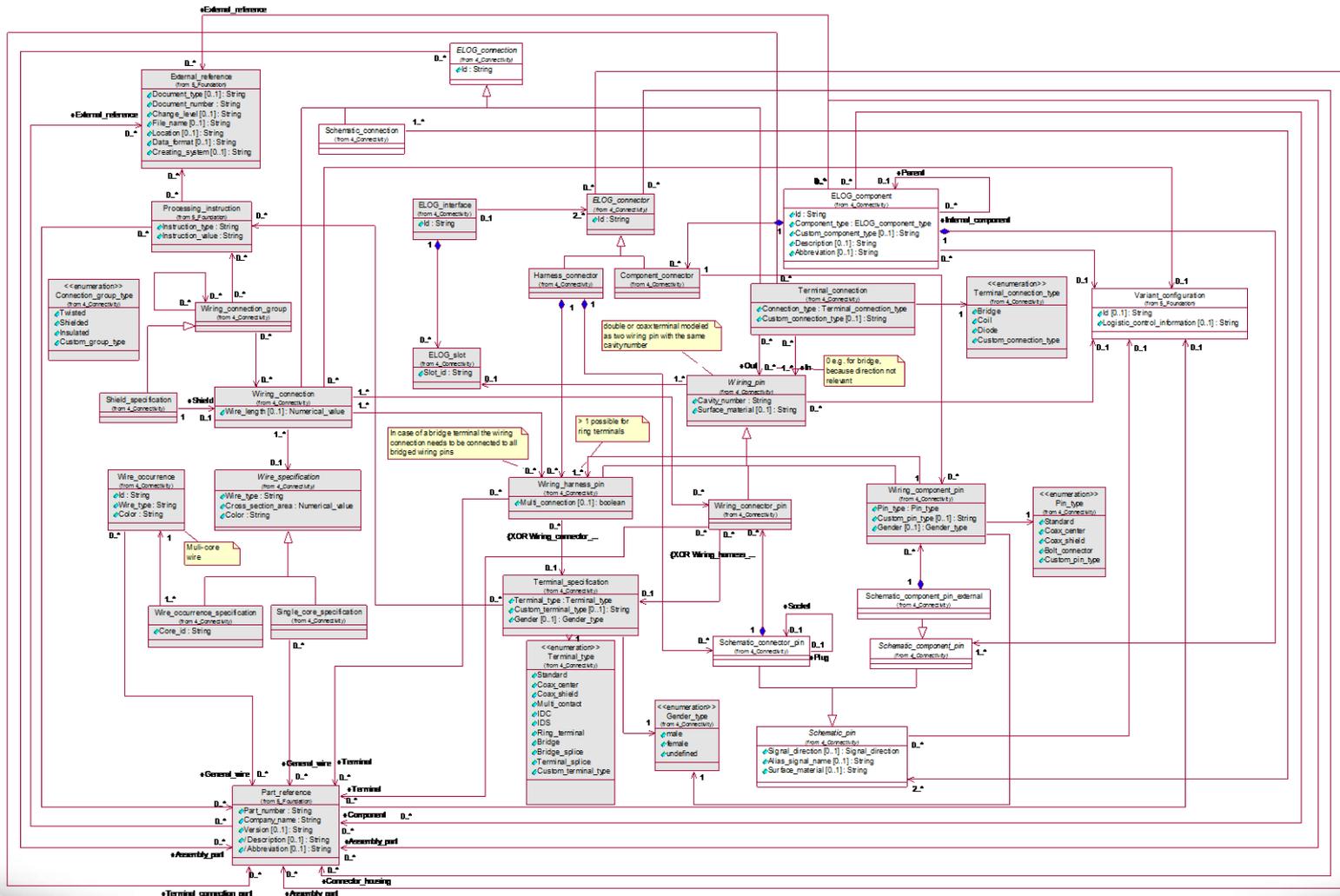
Layout information for a component



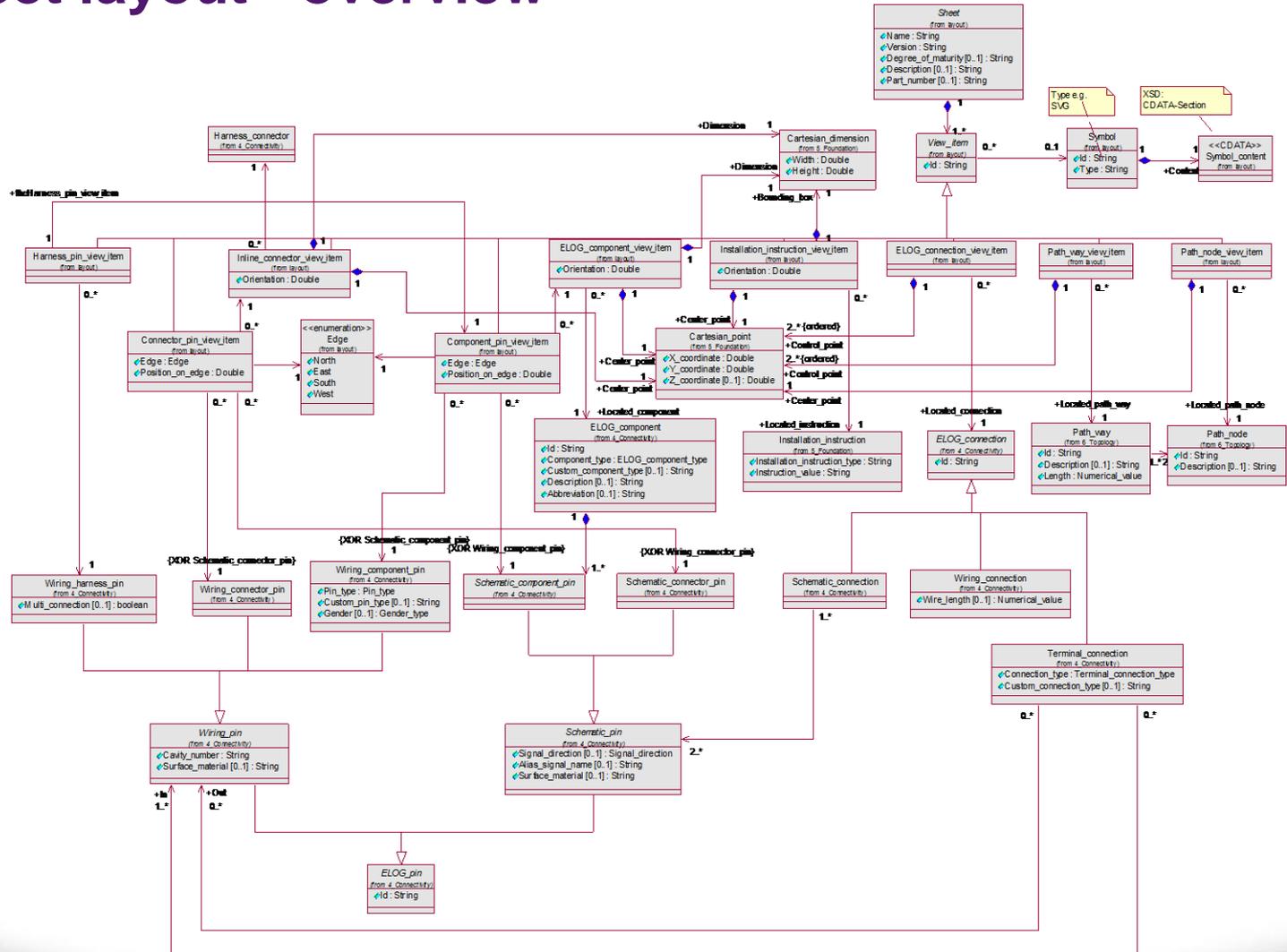
Schematic diagram (overview)



Wiring diagram (overview)



Sheet layout - overview



XML-Structure (for XSD-Generator)

