JkjJK

Cable list and test tool

Introduction

Concept of x

Concept of y

Functionnalities

Functionnality	State	Remarks
Vehicle type edition	**Work in progress**	
Connector edition	**Work in progress**	
Article edition	**Work in progress**	
Unit edition	**Work in progress**	
Link edition	**Work in progress**	
Link list reporting (printing, PDF)	**Missing**	
Import, export, backup	**Missing**	
Versionning	**Missing**	
Test node edition	**Work in progress**	
Test (model) edition	**Work in progress**	
Calibration	**Missing**	
Test execution edition and API	**Starting**	
Test result reporting (printing, PDF)	**Missing**	

Versionning

On real life project, versionning is a very important feature. Imagine that many systems are allready produced, and that a new feature must be implemented. When used software does not provide versionning, there is needed to create documentation about modifications to do. This can be cumbersome and error prone.

Currently, no versionning is implemented. Adding such feature will request modifications in deep (database schema and C++ classes).

Create a project

The complete workflow

The complete workflow will show how we could use this tool in a project. We considere a project for witch we have to make the entiere engeneering, for example for a modification on the electrical part of a system.

This requiers several tasks, at least:

- Define what to modify
- Draw schemas
- Define components to add or change
- Dependent of the complexity, create cable lists
- Create documentation for continuity check
- Create documentation for comissioning

Cable list tool is able to create a part list, link lists, continuity and isolation checks. This will be explained in next chapiters. Note that schema drawing, project management and other stuff is not, and will probably never, provided by this tool (other tools exists for this).

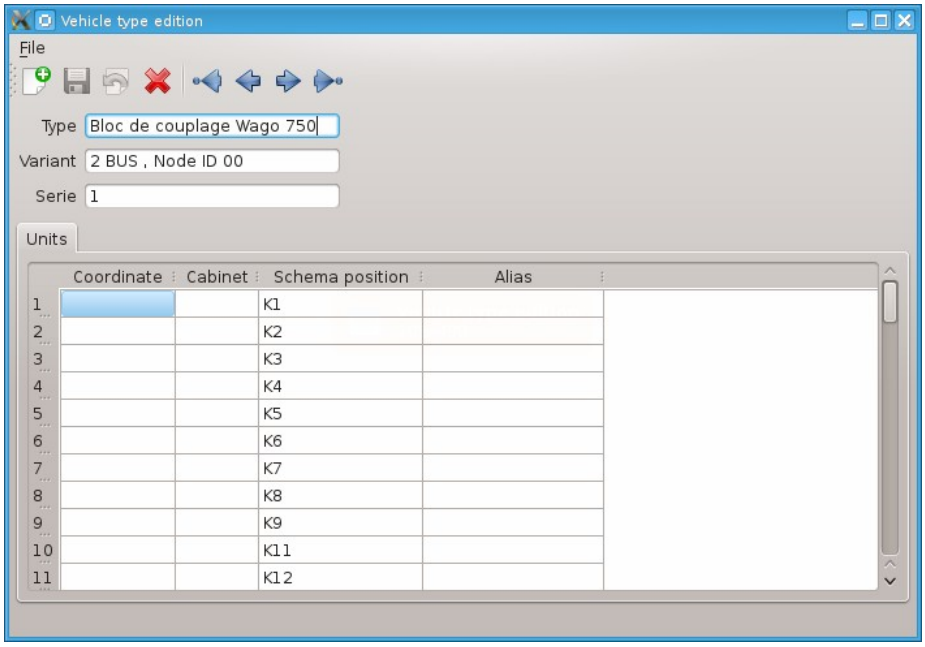
The suggested workflow is:

- Create vehicle type for each system (denomination of vehicle type will be discussed later)
- Enter connectors
- Enter parts of the project by creating articles
- Take schemas and enter each position as new unit
- Add links (in unit edition): if cable lists are needed, check that schema shows every link (most of time, this is not true) an investigate...
- Create test nodes
- Create test (models)
- Create test application itself

At first point of view, this seems to be a infinite task. And yes, it is. But, at some point of a project, if such engeneering was not made, this can give some problems. If you think that these steps are not relevant, then you probably not need to create any test application too.

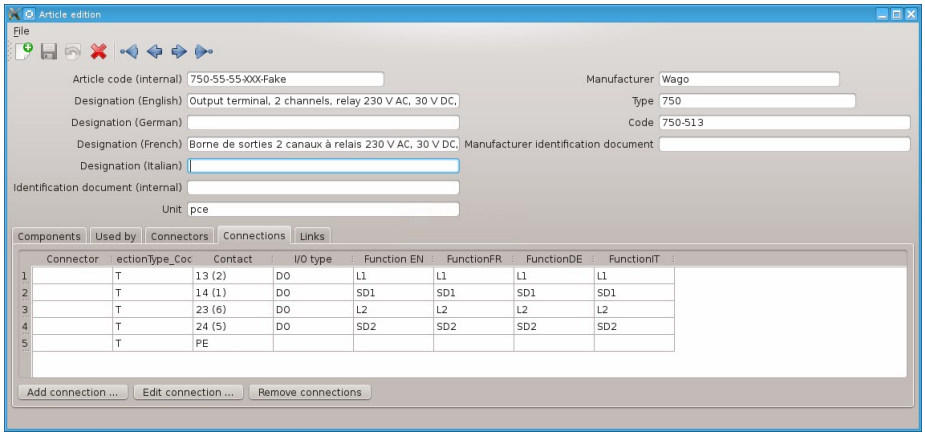
Create vehicle types

The term ‘Vehicle type’ seems to be something wrong. The main idea here is a container for all elements (units) of a system.



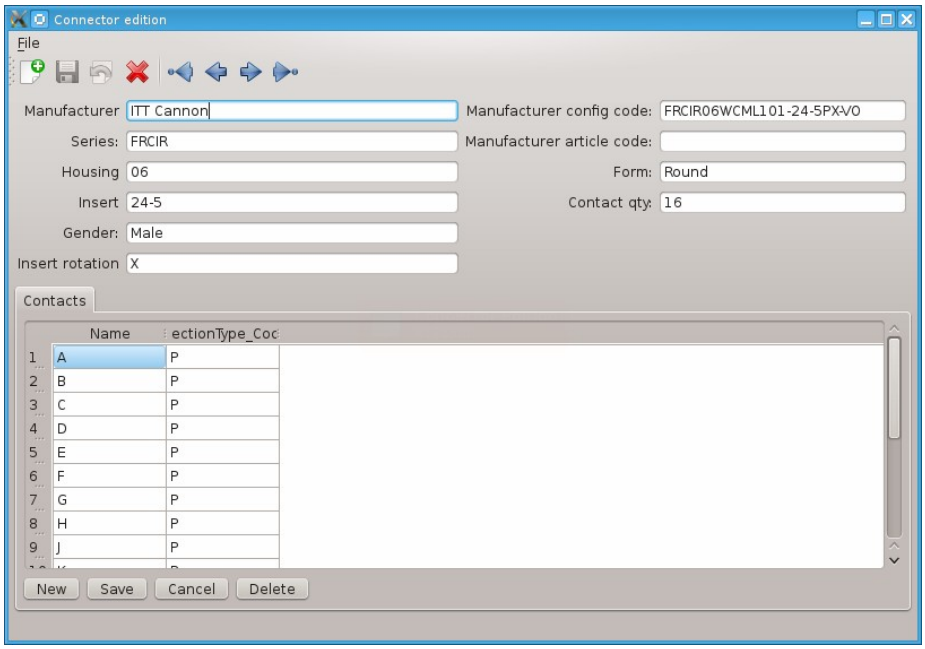
Vehicle type

Create articles



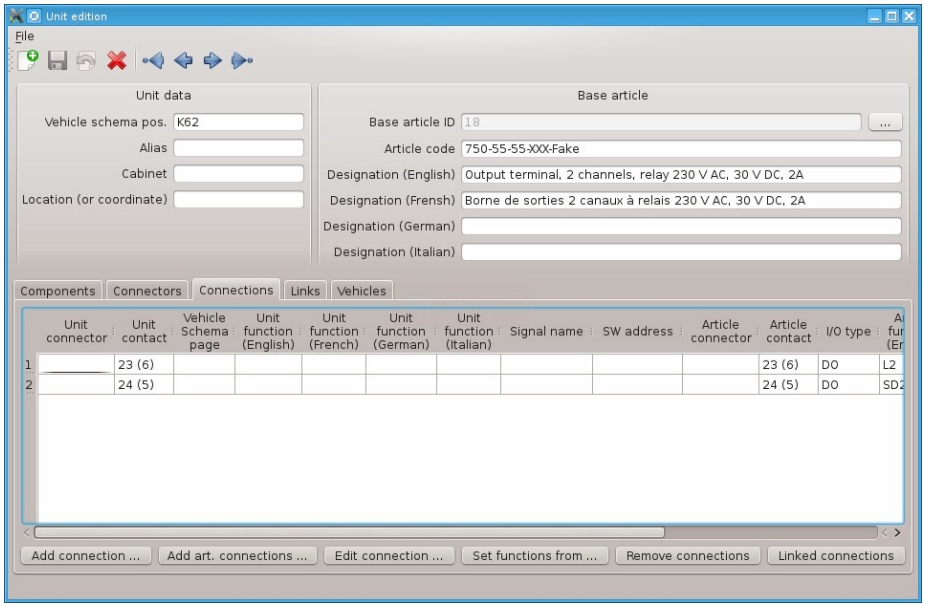
Article edition

Create connectors

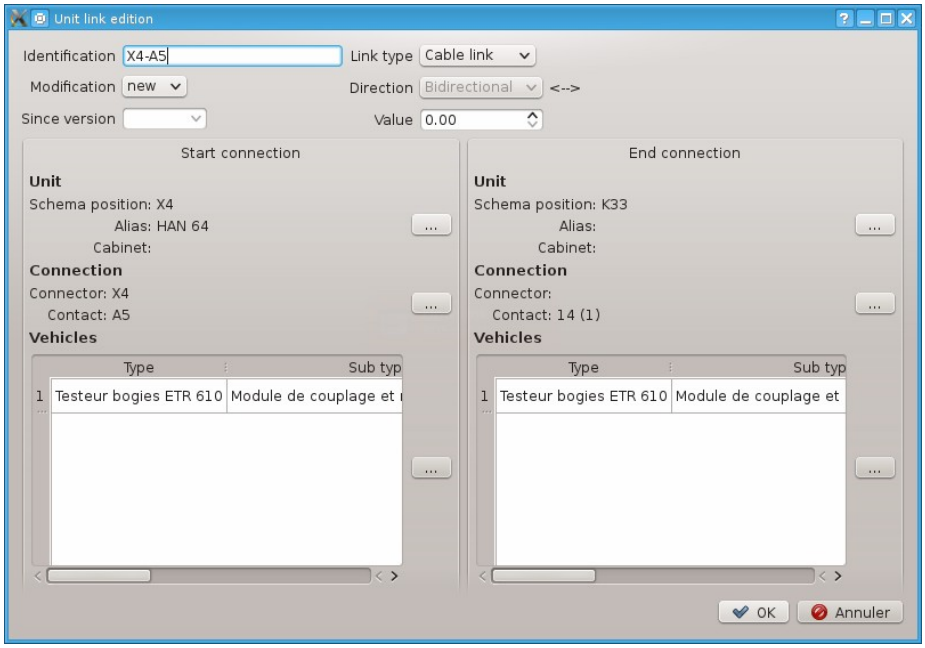


Connector edition

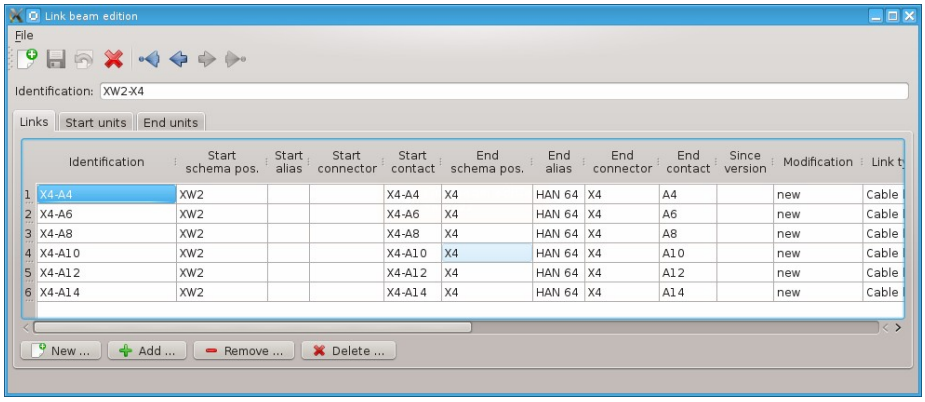
Create units



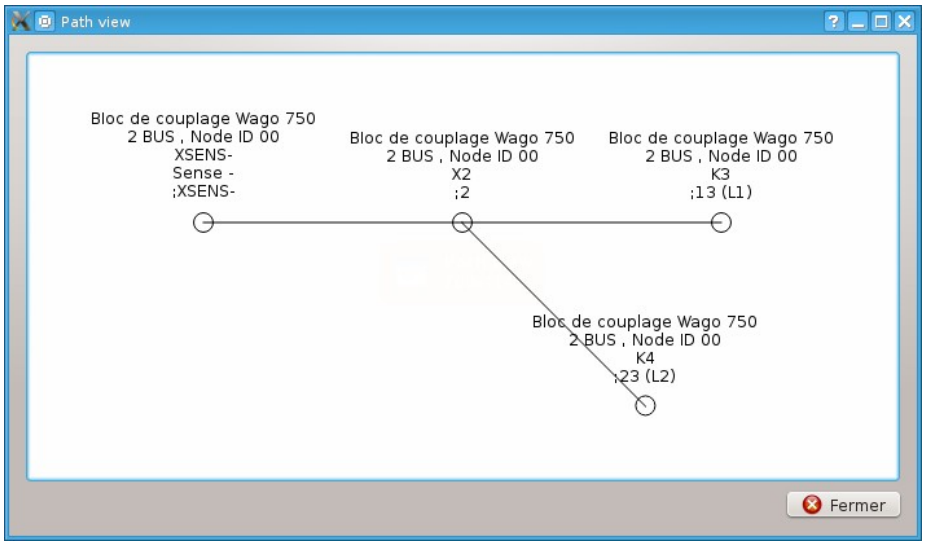
Unit edition



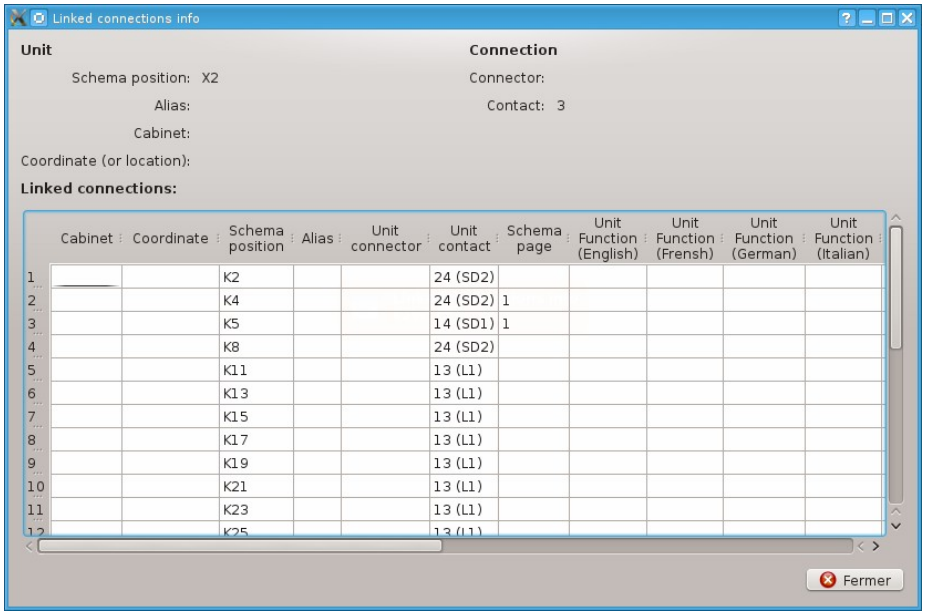
Unit link edition



Link beam edition

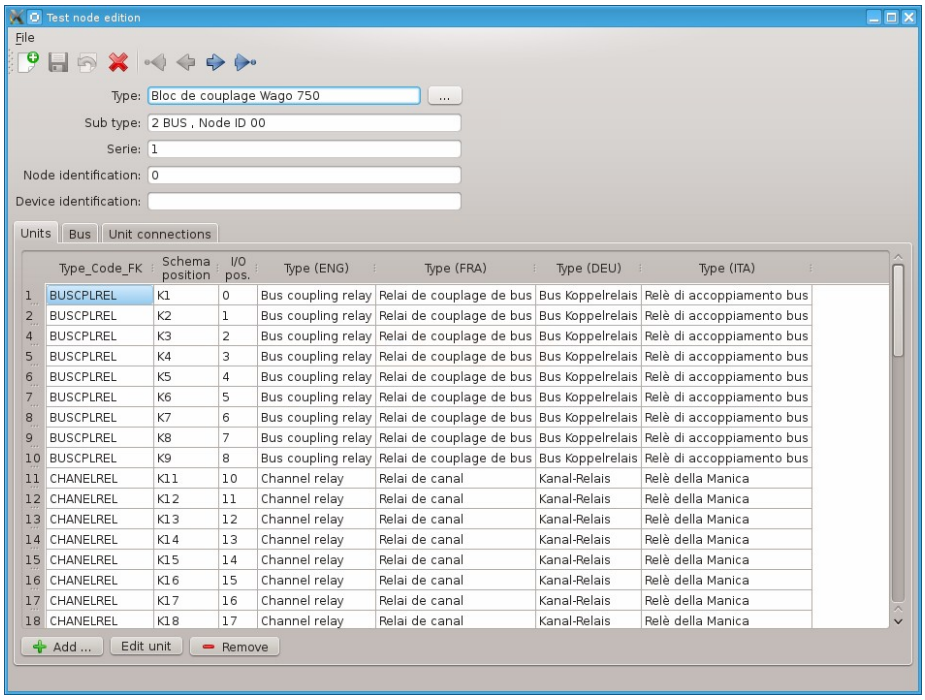


Unit link path view



Unit linked connections view

Create test nodes

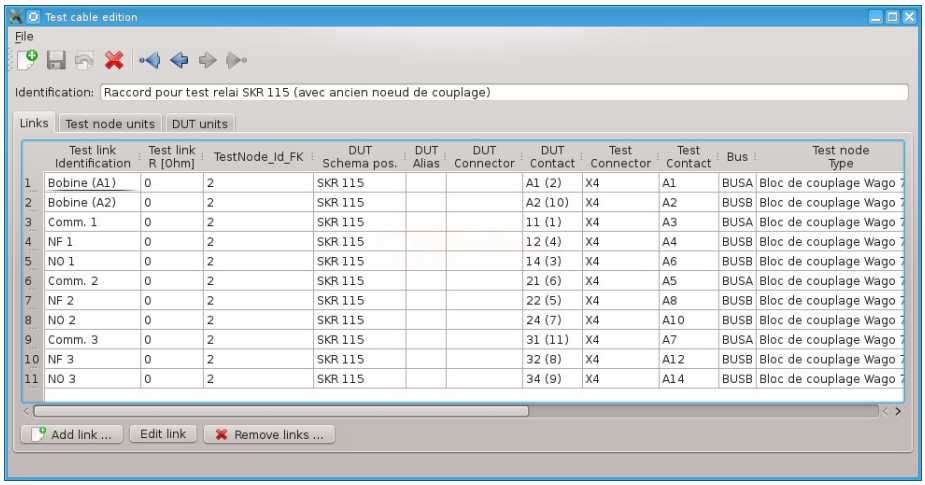


	Type_Code_FK	Schema position	I/O pos.	Type (ENG)	Type (FRA)	Type (DEU)	Type (ITA)
1	BUSCPLREL	K1	0	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
2	BUSCPLREL	K2	1	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
4	BUSCPLREL	K3	2	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
5	BUSCPLREL	K4	3	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
6	BUSCPLREL	K5	4	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
7	BUSCPLREL	K6	5	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
8	BUSCPLREL	K7	6	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
9	BUSCPLREL	K8	7	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
10	BUSCPLREL	K9	8	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
11	CHANELREL	K11	10	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
12	CHANELREL	K12	11	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
13	CHANELREL	K13	12	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
14	CHANELREL	K14	13	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
15	CHANELREL	K15	14	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
16	CHANELREL	K16	15	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
17	CHANELREL	K17	16	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
18	CHANELREL	K18	17	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica

Test node edition

Affect units

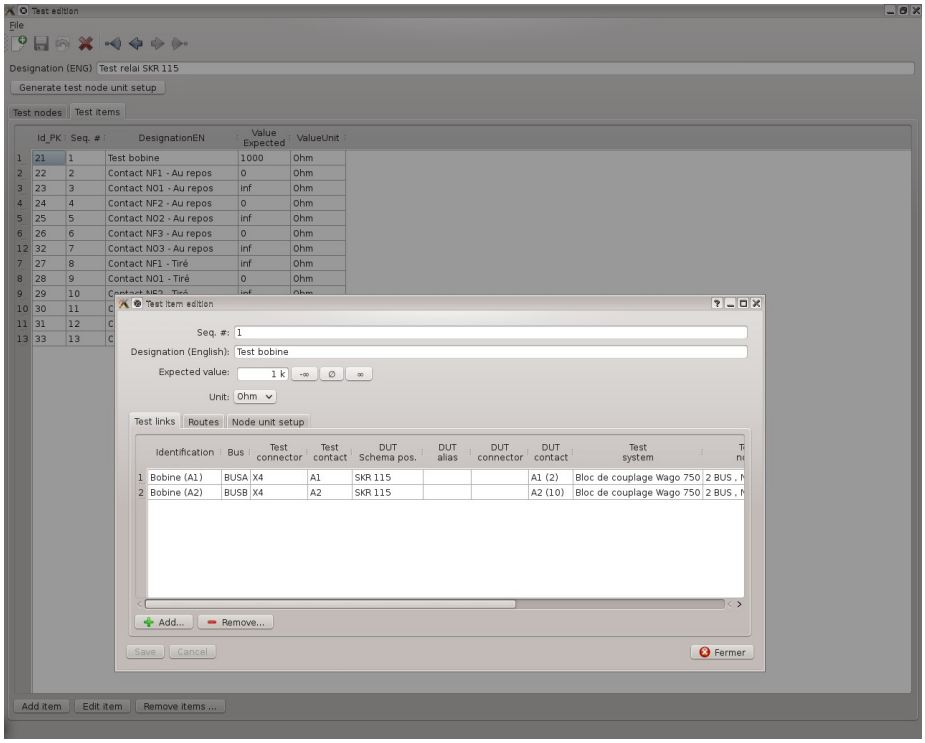
Create test cables



	Test link Identification	Test link R [Ohm]	TestNode_Id_FK	DUT Schema pos.	DUT Alias	DUT Connector	DUT Contact	Test Connector	Test Contact	Bus	Test node Type
1	Bobine (A1)	0	2	SKR 115			A1 (2)	X4	A1	BUSA	Bloc de couplage Wago 7
2	Bobine (A2)	0	2	SKR 115			A2 (10)	X4	A2	BUSB	Bloc de couplage Wago 7
3	Comm. 1	0	2	SKR 115			11 (1)	X4	A3	BUSA	Bloc de couplage Wago 7
4	NF 1	0	2	SKR 115			12 (4)	X4	A4	BUSB	Bloc de couplage Wago 7
5	NO 1	0	2	SKR 115			14 (3)	X4	A6	BUSB	Bloc de couplage Wago 7
6	Comm. 2	0	2	SKR 115			21 (6)	X4	A5	BUSA	Bloc de couplage Wago 7
7	NF 2	0	2	SKR 115			22 (5)	X4	A8	BUSB	Bloc de couplage Wago 7
8	NO 2	0	2	SKR 115			24 (7)	X4	A10	BUSB	Bloc de couplage Wago 7
9	Comm. 3	0	2	SKR 115			31 (11)	X4	A7	BUSA	Bloc de couplage Wago 7
10	NF 3	0	2	SKR 115			32 (8)	X4	A12	BUSB	Bloc de couplage Wago 7
11	NO 3	0	2	SKR 115			34 (9)	X4	A14	BUSB	Bloc de couplage Wago 7

Test cable edition

Create test (models)



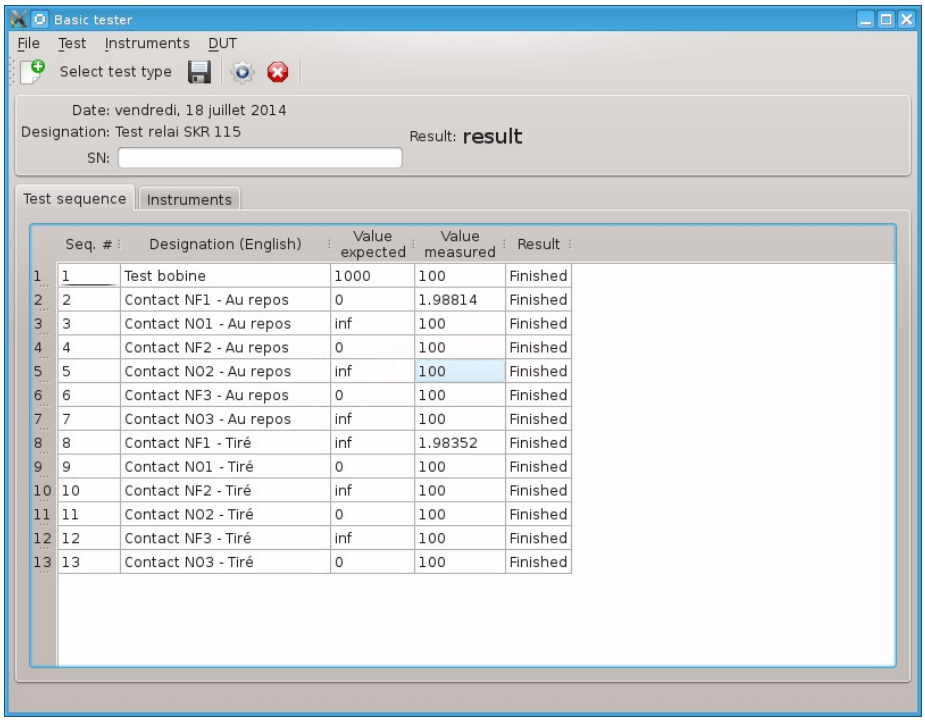
Test (model) edition

Add routes

Edit test node unit setup

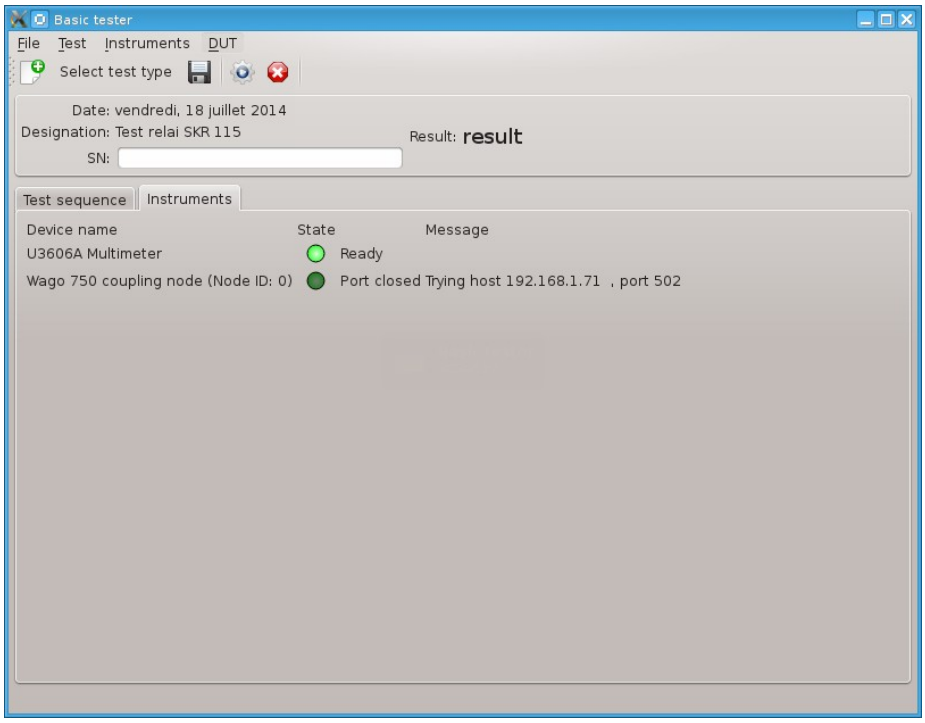
Calibration

Create test application



	Seq. #	Designation (English)	Value expected	Value measured	Result
1	1	Test bobine	1000	100	Finished
2	2	Contact NF1 - Au repos	0	1.98814	Finished
3	3	Contact NO1 - Au repos	inf	100	Finished
4	4	Contact NF2 - Au repos	0	100	Finished
5	5	Contact NO2 - Au repos	inf	100	Finished
6	6	Contact NF3 - Au repos	0	100	Finished
7	7	Contact NO3 - Au repos	inf	100	Finished
8	8	Contact NF1 - Tiré	inf	1.98352	Finished
9	9	Contact NO1 - Tiré	0	100	Finished
10	10	Contact NF2 - Tiré	inf	100	Finished
11	11	Contact NO2 - Tiré	0	100	Finished
12	12	Contact NF3 - Tiré	inf	100	Finished
13	13	Contact NO3 - Tiré	0	100	Finished

Basic test tool example



Basic test tool example (instruments states)

Vehicle type

Connector

Article

Unit

Test node

Test connection cable

Licence

Credits