Technical Review

Commissioning Guide

Use with Viessmann Vitotronic NR2 controls with LonMaker® based building automation system software

KWE Technologies Group

Trademark Information

IMPORTANT

Note:
This guideline provides necessary information to assist in the setup of LonMaker® software to access Viessmann LON system. This information is purely a supplement to the information provided by LonMaker®and Viessmann. It should only be used by those familiar with the product and processes required for commissioning of these systems.

More Viessmann control information can be found in the LON Handbook available from Viessmann or download from www.kwe-tech.com documentation web page.

Information

Toolbinding Overview

In the factory default setting, Viessmann control units are bound via self-installation process (Selfbinding or Autobinding). This self-installation process establishes all necessary connections for data exchange between Viessmann control units. This, however, does not cover the entire range of requirements.

Specifically, the following requirements cannot be covered by the selfbinding process:

- If data must be exchanged between Viessmann control units and devices from other manufacturers.
- If, in addition to the relay outputs of the control, logical signals of the controls processor should be used via an in-/ output module.
- If, for example, via an external 0-10V analog signal, a heat demand is connected for heat production.
- If Viessmann control units in a system are located on both sides of a router due to long cabling.
- If data exchange between Viessmann control units must take place in a different manner than prescribed by the selfbinding process, e.g. if the outdoor temperatures of three sensors must be distributed to two devices.
- If more than five Viessmann heating plants are installed in a network.
- Other possible requirements

If one of the above requirements applies, the system must be configured via start-up software (toolbinding) such as LONmaker. When configuring the system using LONmaker, all bindings that would have been established by the self-installation process, must be recreated.

Information

Configuring the Controls.

A few key-configuration parameters need to be configured, even in toolbinding mode, to ensure proper communication. On the Vitotronic 100 boiler control the following must be set correctly.

Vitotronic 100, GC1 Codings

CA (hex)	Description: Function	Value	Meaning
01	Single/ Multiple boiler system: determines whether it is dealing with a single or multiple boiler system	1 2	Single boiler system Multiple boiler system
07	Boiler number: determines the number of a boiler in a multiple boiler system	1 ... 4	Boiler number 1 ... 4
77	Participant number:	1 ... 99	Participant number 1 ... 99

Vitotronic 333/300-K, MW1 and MW2 Codings

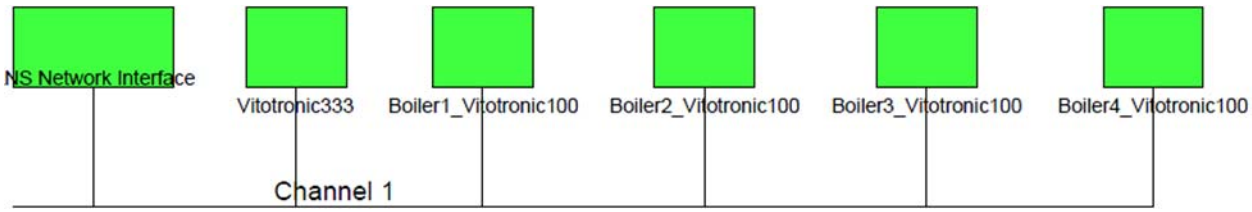
CA (hex)	Description: Function	Value	Adjustment necessary?
35	Number of boilers: determines number of boilers in a system	1 ... 4	Number of boilers 1 ... 4

Configuration using LonMaker.

In this example we're using a Vitotronic333 cascade control and four Vitotronic100 GC1 boiler controls.

1. Commission all 5 controls using XIF files provided on our website (http://www.kwe-tech.com)
Vitotronic controls generally have two LON communication cards; one is a generic boiler/ zone control card and the other is for a master cascade controller. Use the appropriate xif file.

Vitotronic 100 GC1 Vitotronic 200 GW1 Vitotronic 50HK1 Vitotronic 50HK3	Old file : 9000805300030401_LRKH2102.xif New file : 9000805300030402_LRKH2104.xif
Vitotronic 333 MW1S	Old file : 9000805200030401_LRM_2102.xif New file : 9000805200030402_LRM_2104.xif

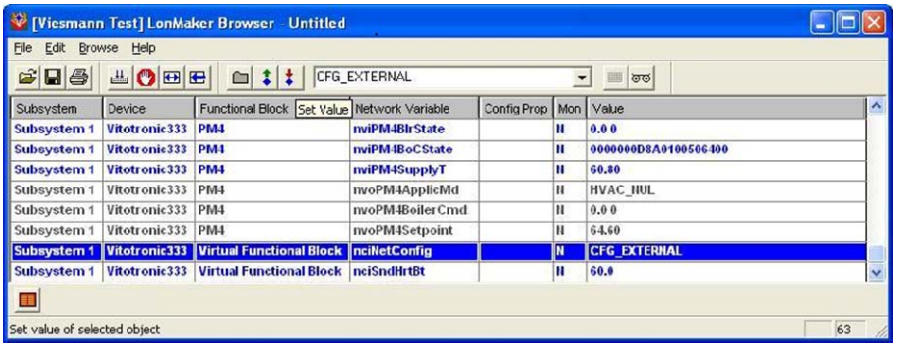


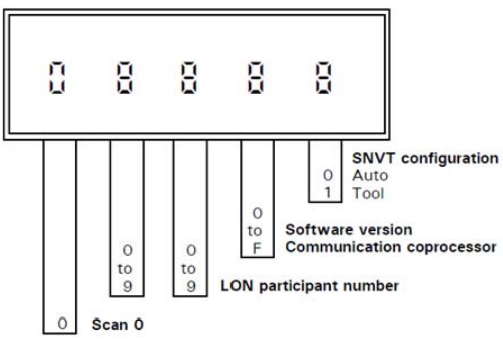
2. It is important that the controls, at this point, are set to tool binding mode. This will prevent the control from attempting to selfbind at start-up and use internal EEPROM stored connections instead. These are the connections that you will create using LonMaker.

This is done by force-writing the nciNetConfig variable to CFG_EXTERNAL

Toolbinding configuration can be verified by reviewing the following scan codes in the diagnostic screen:

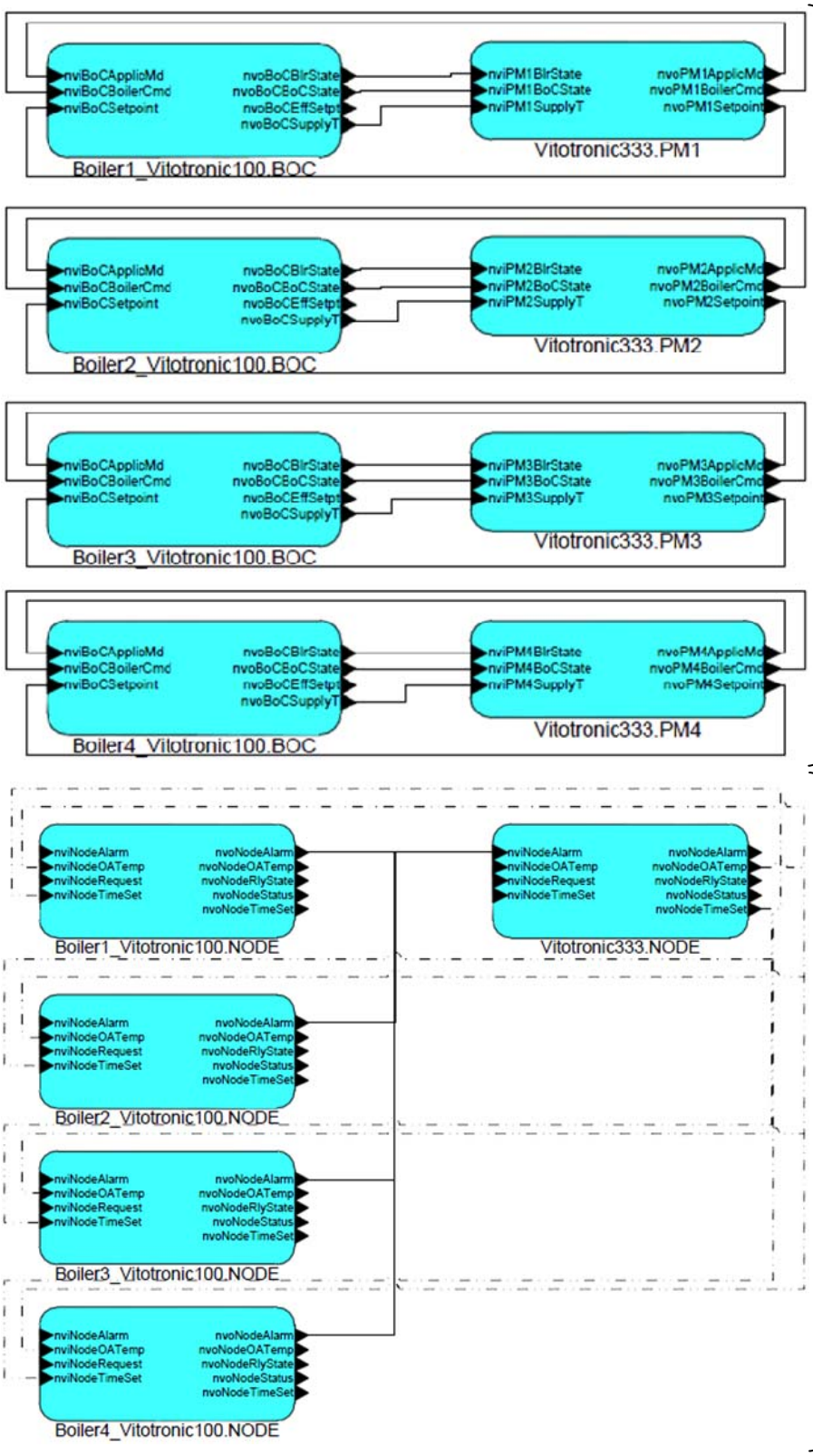
Vitotronic 100 – Scan 0 and Scan 1
Vitotronic 333/300K – Scan 5 and Scan 6





Point to Point Connections

3. We now create the bindings that are usually created during the selfbinding process. The connections are as follows:



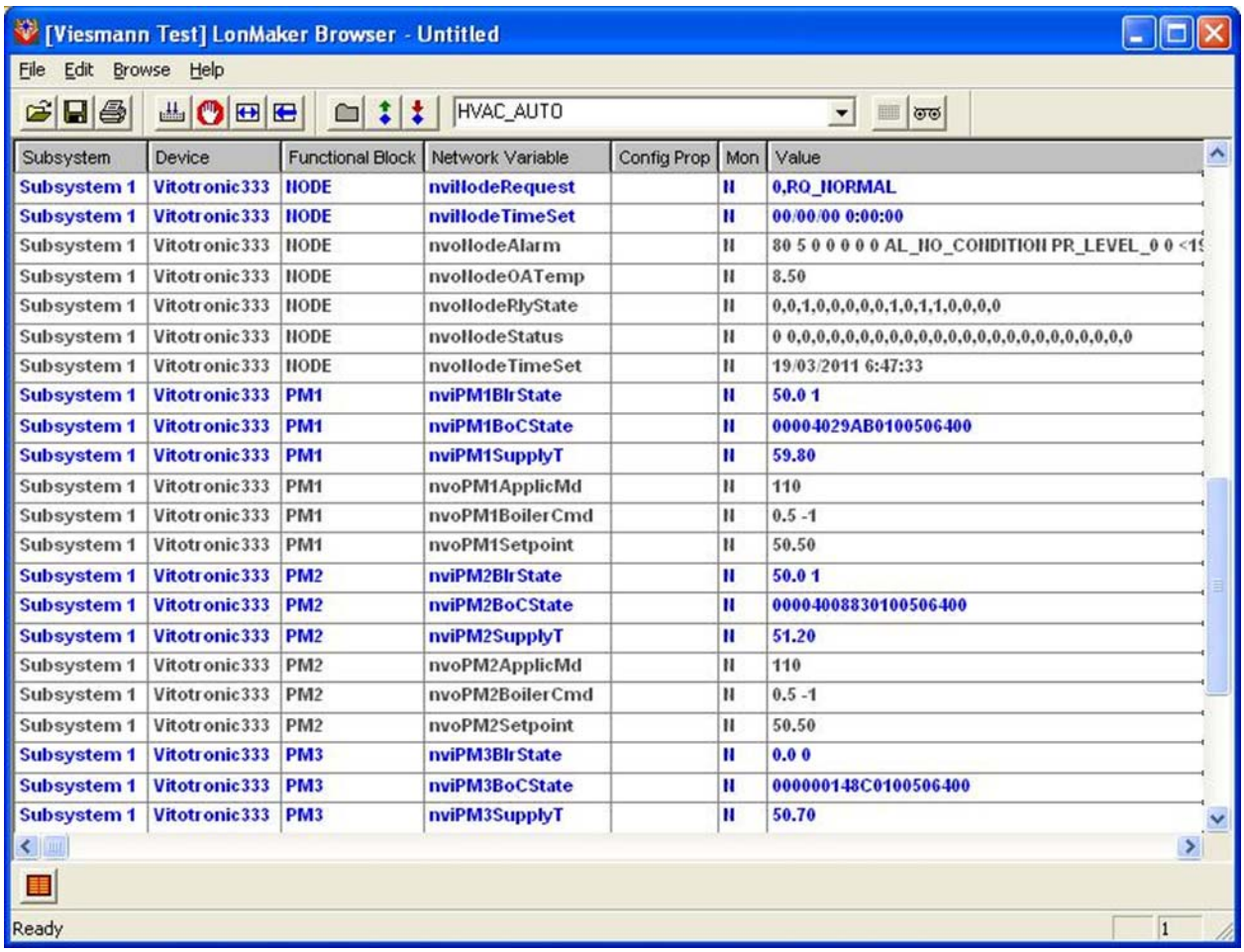
Connections between the individual boiler control BOC Objects of the Vitotronic 100, GC1 and the Production Manager Object of the Vitotronic 333/300-K, MW1 and MW2 controls.

Number of connections dependant on the number of boiler controls

Connections between the individual boiler control Node Objects of the Vitotronic 100, GC1 and the Node Object of the Vitotronic 333/300-K, MW1 and MW2 controls.

Number of connections dependant on the number of boiler controls

4. The controls can now be power cycled and all current data should become visible in the LONmaker browser.



Note:
Faults that may appear on the screens of the controls maybe caused by incomplete connections performed during the point binding process.

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