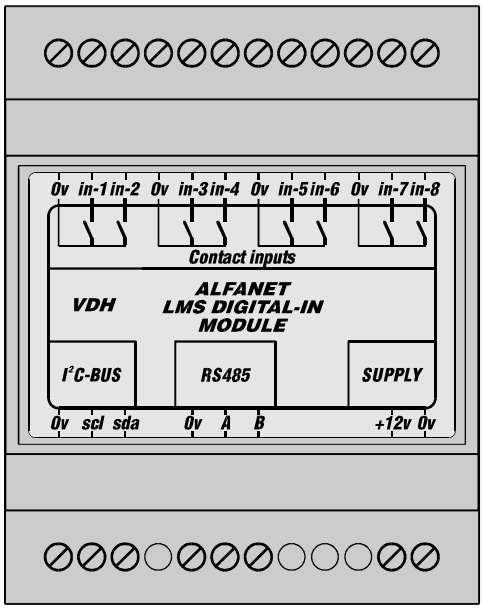
User manual
LMS Controller
8x Digital-in Module
for ALFANET



Description :	LMS CONTROLLER 8XDIG-IN MODULE		Doc. no. : 021330
Type:	MANUAL	Number of pages: 10	Version: V1.0
File: Software:	Do021330 LMS Controller Digital-in Module v10 EN.wp8 LMS-Digin_V1.00	By: BJB	Date: 15-08-2002
VDH Products BV - Roden - Holland		Signed:	File: Doc'02

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1. Technical Specifications.

Type : LMS Controller 8x Digital-In Module
Power supply in : 12Vdc (-5/+10%) from f.i. LMS-Supply-Module
Current consumption : Max. 100mA

Control : Thru PC
Status indications : LEDs on PC screen
Inputs : Max. 20 Digital contact inputs (NO or NC programmable) as follows:
8x Digital contact inputs (NO or NC programmable) on controller and
6x Digital contact inputs (NO/NC progr.) on LMS Dig-In Module-1 and
6x Digital contact inputs (NO/NC progr.) on LMS Dig-In Module-2
Relays : Max. 16 Relays outputs on LMS Relays Modules
At max. 4 LMS Relays Modules can be connected thru the I^2C-bus.
Each Module has 1 SPDT-output (C-NO-NC) and 3 SPST-outputs (C-NO) available. Function of each relay is programmable on the PC as function of the inputs.
Communication : I^2C-bus 0V, SCL,SDA (2-wire shielded min. 0,75mm^2, length max. 5 Meter) Extension-bus for LMS Modules (Max. 2x LMS DIG-IN MODULE and Max. 4x LMS RELAY MODULE).
RS485 0V, Line-A, Line-B (2-wire shielded min. 0,75mm^2, length max. 1 KM) For communication to the ALFANET PC-Interface, which is connected with a PC.

Front : Material chrome polyester sticker
Housing dimensions : 35 x 77 x 71,5mm (hdw)
Panel cutout : 28 x 70mm (hd) at panel mount
Working temperature : -20/+50^{O}C
Storage temperature : -20/+60^{O}C
Working RH : 10/+90 % RH not condensing

- Provided with memory protection during power failure.
- Connection with screw-terminals.

2. Functional Specifications.

2.1 Installation.

On the front of the **LMS Controller 8xDigital-in Module** and at the connection diagram is shown how the inputs, power-supply, I^2C-bus and RS485-network connection must be connected to the controller.

After connecting the **Controller** to the power supply, a self-test function starts.

The **Controller** is thru the **ALFANET PC-INTERFACE** on the PC programmable.

A maximum of eight **LMS Controller 8xDigital-in Modules** can be placed on the RS485-network. These modules must have unique network numbers. Through the jumpers under the screw cover this can be adjusted from address 101 to 108.

2.2 Extension.

The **Controller** can be further extended with a maximum of two I^2C **LMS Digital-In Modules** and a maximum of four I^2C **LMS Relay Modules**.
Each similar type of LMS-Module must then have a unique I^2C address (see the jumper settings in the connection data).
This brings the total to a maximum of 20 digital inputs and 16 relay outputs.

2.3 Operation.

On the PC it is possible to see whether a input is active or not (see LEDs in window).
If there is a fatal alarm a warning box will appear registering the alarm.
The action of every input is registered in the log.

The following functional settings can be made in the parameter list;

Param.	**Description**
xx00	- Every input can be made active (yes) or turned off (no).
xx01	- All inputs can be made active if it is closed (normally open (yes)) or Made active as the input disconnects (normally open (no)= normally closed).
xx02	- Additional every input can be set as an fatal alarm (yes or no), so that in case of fatal alarm the relay of the PC-Interface will also be activated.
xx03	- Furthermore every input can be coupled to one of the sixteen relay outputs. Whereby it is also possible to select several inputs to drive one and the same relay.
xx04/xx07	- The controller has a on- and a off-switch delay per input in seconds or minutes,
xx08	- Every input can have a maximal time relay active setting (0 = continue).
xx09	- Every input can be set to compulsory confirmation (or acknowledge mandatory). This means that when the input becomes active again, it still remembers this alarm after recovering until the reset button (one of the digital inputs programmed as reset) is pressed.
xx10	- Every input can also be set as resettable, making it possible to deactivate an (alarm) input with reset before it has been recovered.
xx11	- Every input can also be defined as a reset_input, so that alarms that are remembered can be reset. Reset can also be given via the PC. If more inputs are adjusted for this function then they work as one reset, normally one input as reset will be enough.
3000/3015	- Every relay output can be defined to be a control or watch relay. At control the relay comes active as the function becomes active, at watch the relay is normally active and it deactivates as the function becomes active.

Whereby xx is the number of the input (1 ... 20)

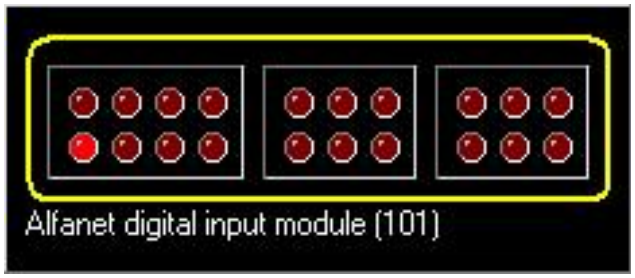
3. Control.

3.1 Controlling.

The **Controller** can only be controlled with the PC. To do so, see also the manual of the ALFANET PC-INTERFACE.

3.2 Readout.

The figure below shows how the Digital-in Module is shown on the PC.
The LEDs give the status of inputs (LED active as input is active).



The three frames show respectively the Alfanet LMS CONTROLLER 8xDIG-IN MODULE and the optional I^2C modules.

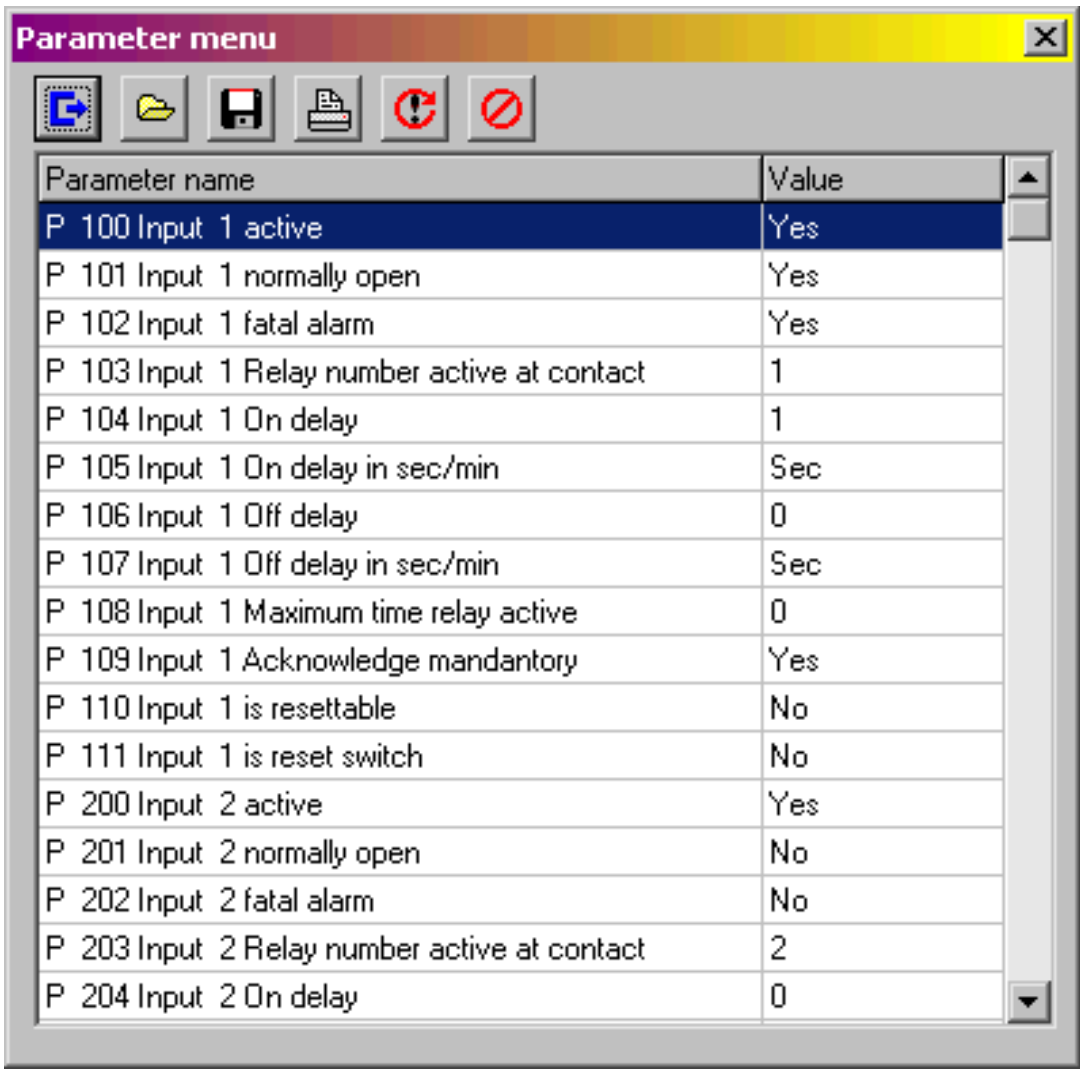
Alfanet Digital in module	I^2C LMS Digital in (1)	I^2C LMS Digital in (2)
1 3 5 7 2 4 6 8	9 11 13 10 12 14	15 17 19 16 18 20

A name can be coupled to this LED's status in the LOG-menu of the PC-Software. This is then shown when the cursor is above the LED.
For the naming of the module (Alfanet digital-in module (101)) see the PC-software manual.

The status of the relays of the optional I^2C LMS_RELAY_MODULES are not shown. They are coupled to a particular input, via the parameters.

4. Viewing and changing Parameters.

Thru the context menu (= right-mouse button) the parameters can be readout or changed.

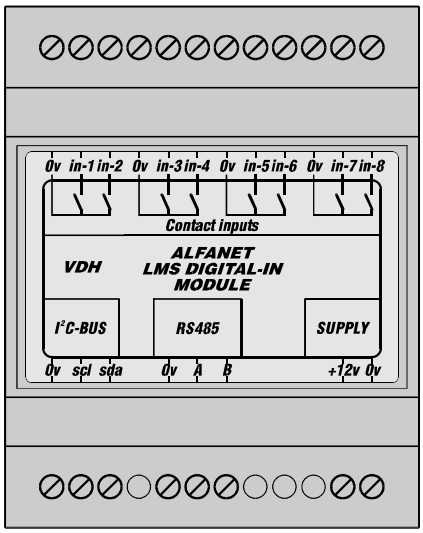


4.1 Parameter list.

Remark: xx = 01 .. 20, the input contact number;

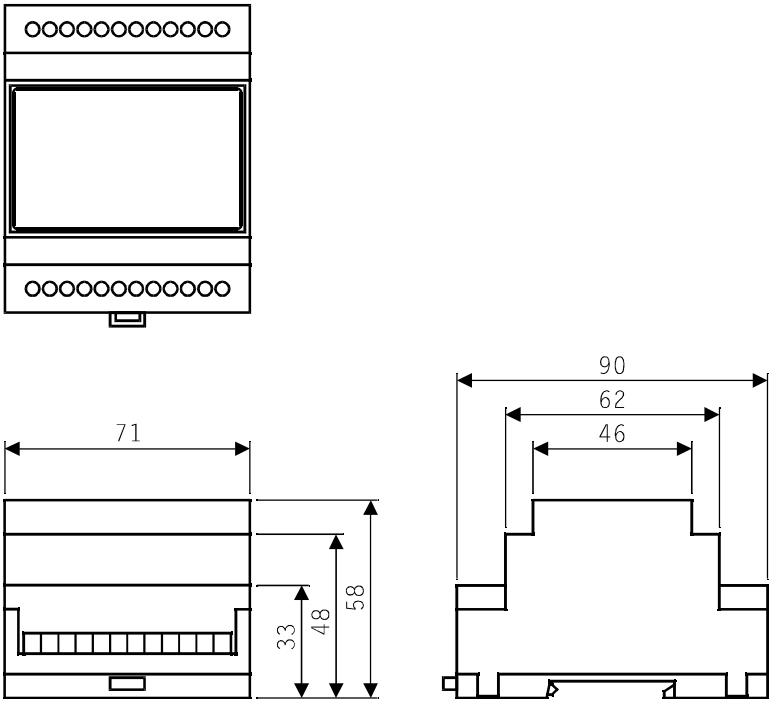
Parameter	Description Parameter	Range	Default Value
xx00	Input xx active	0=no 1=yes	0
xx01	Input xx normally open	0=no 1=yes	0
xx02	Input xx fatal alarm	0=no 1=yes	0
xx03	Input xx relay number active at contact	0..16 0 = no relay	0
xx04	Input xx switching on delay	0 .. 240	0
xx05	Input xx switching on delay in sec/min	0 = seconds 1 = minutes	0
xx06	Input xx switching off delay	0 .. 240	0
xx07	Input xx switching off delay in sec/min	0 = seconds 1 = minutes	0
xx08	Input xx maximum time relay active	0 .. 240 minutes 0 = continuous	0
xx09	Input xx Acknowledge mandatory (must be conformed)	0=no 1=yes	0
xx10	Input xx is resettable	0=no 1=yes	0
xx11	Input xx is reset-input	0=no 1=yes	0
3000	Relay 1 = watch relay	0=no, 1=Yes	0
3001	Relay 2 = watch relay	0=no, 1=Yes	0
3002	Relay 3 = watch relay	0=no, 1=Yes	0
3003	Relay 4 = watch relay	0=no, 1=Yes	0
3004	Relay 5 = watch relay	0=no, 1=Yes	0
3005	Relay 6 = watch relay	0=no, 1=Yes	0
3006	Relay 7 = watch relay	0=no, 1=Yes	0
3007	Relay 8 = watch relay	0=no, 1=Yes	0
3008	Relay 9 = watch relay	0=no, 1=Yes	0
3009	Relay 10 = watch relay	0=no, 1=Yes	0
3010	Relay 11 = watch relay	0=no, 1=Yes	0
3011	Relay 12 = watch relay	0=no, 1=Yes	0
3012	Relay 13 = watch relay	0=no, 1=Yes	0
3013	Relay 14 = watch relay	0=no, 1=Yes	0
3014	Relay 15 = watch relay	0=no, 1=Yes	0
3015	Relay 16 = watch relay	0=no, 1=Yes	0
9995	Software version	-	-

5. Front view.

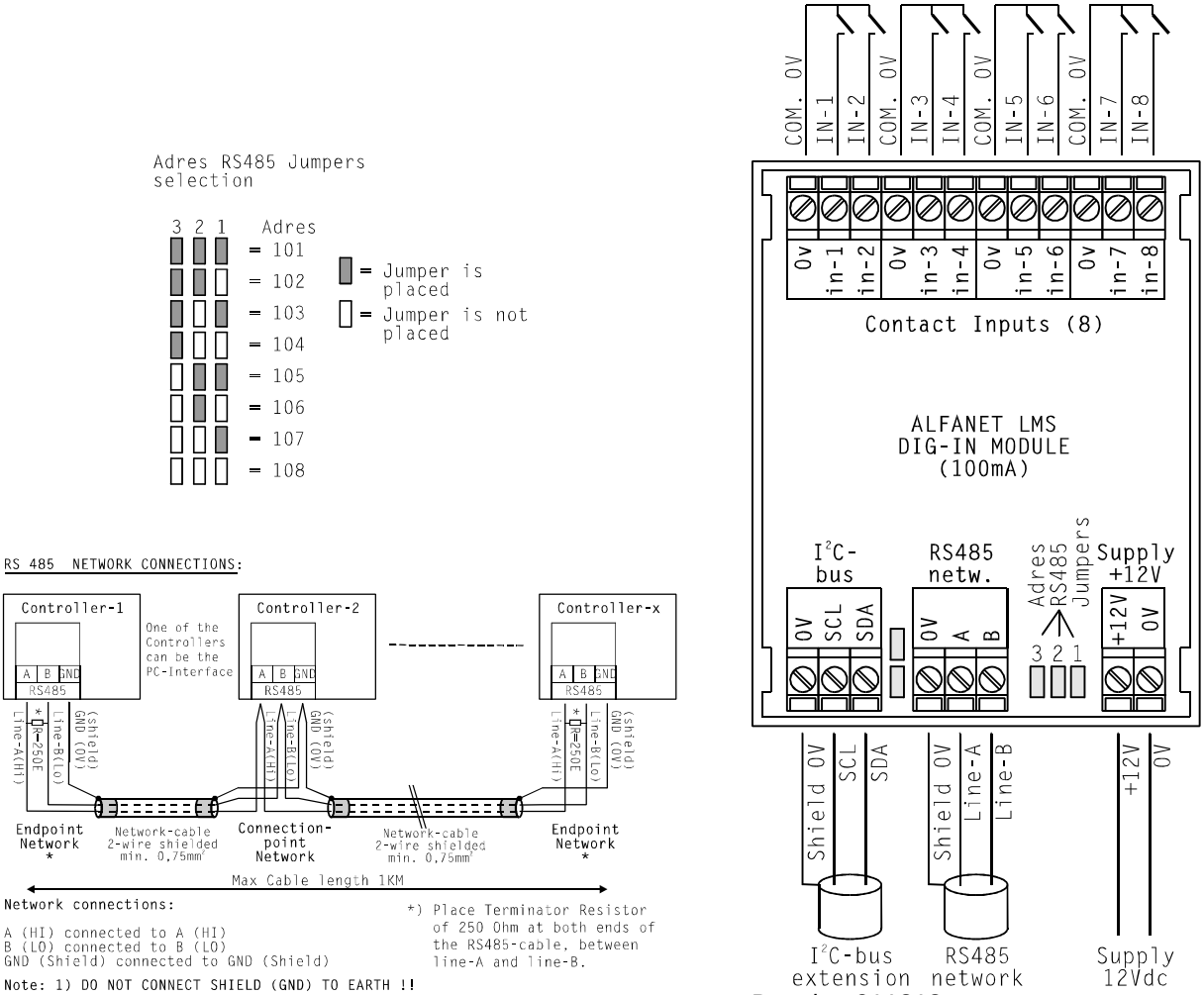


Drawing 011819

6. Dimensions.

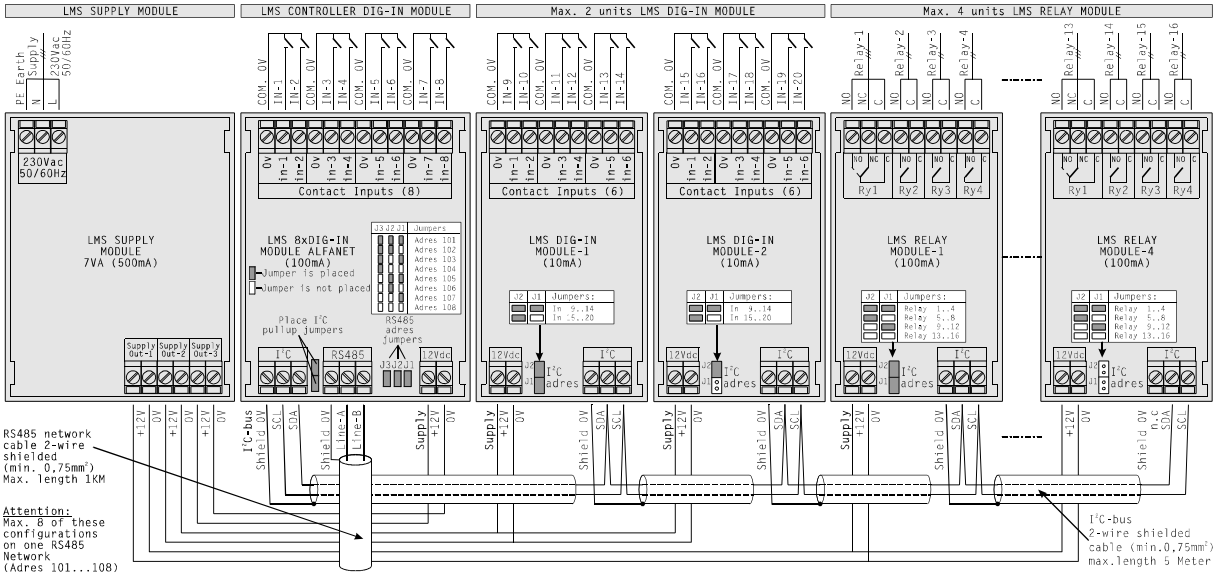


7. Connections.

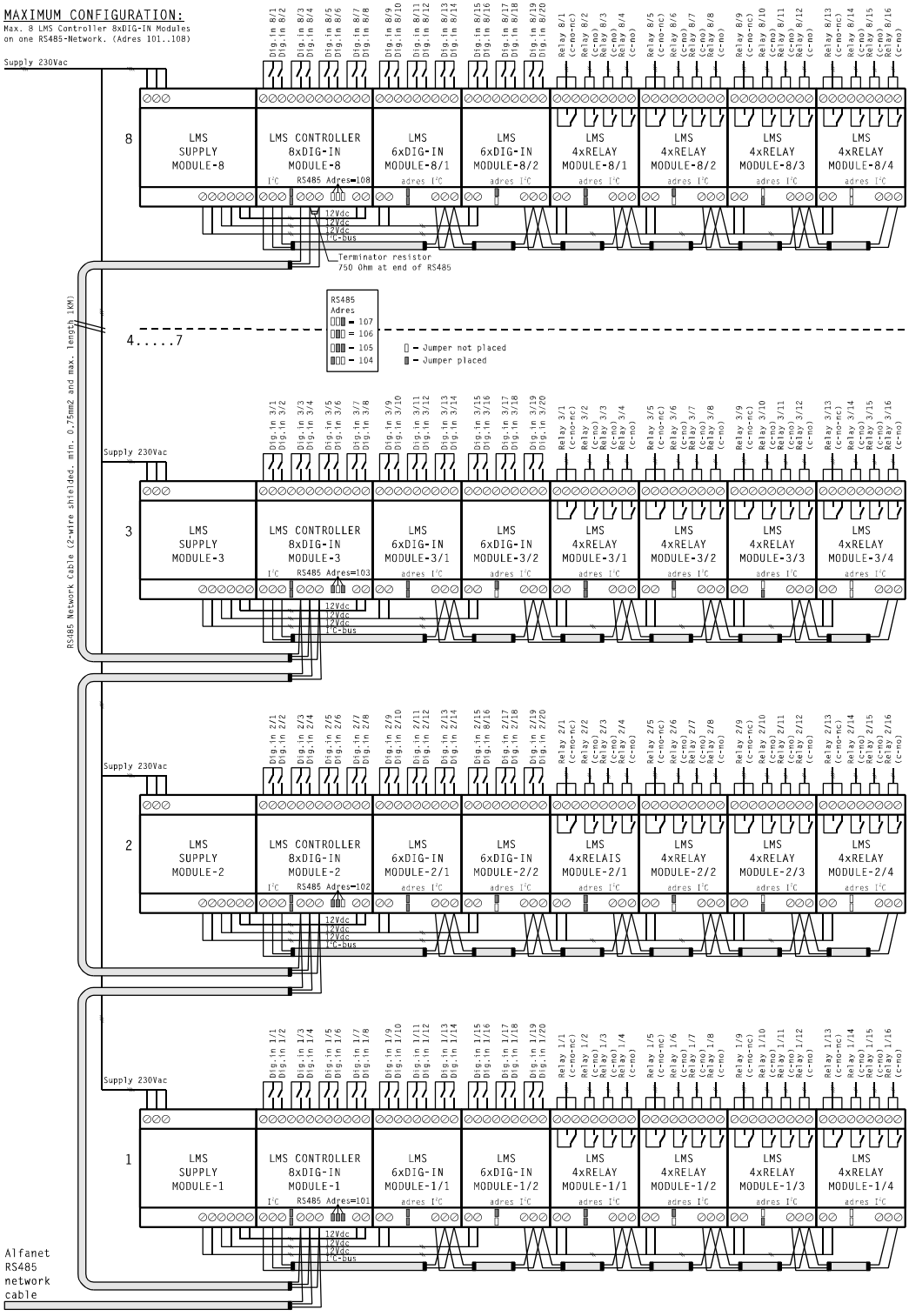


Drawing 011818

Drawing 011823 Connections LMS Controller 8xDIG-IN Module with maximum extension



Drawing 011846 Maximum configuration on one RS485-Network



8. Address.

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