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Project number:
Dealer name:
Dealer reference:
Dealer contact person:
Offer subject:
Offered by:

Machine type: Cabinet Smartswitch [13] compact
Machine series:
Machine number: 20820531
Machine nominal supply voltage: [1P85...264V+N+PE/47...63Hz]
Machine nominal supply current:
Machine connected load:
Machine cos phi:
Machine maximum pre-fuse:

Corporation name:
Corporation address:
Postal code:
Domicile/city:
Region:
Country:
Contact person:
Telephone number:

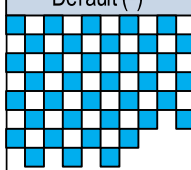
Project name: 20820531EAS020 Cabinet Smartswitch [13] compact
Project status: [As Build]
Project template: 20820531EAS011 Cabinet Smartswitch [13] compact
Project initial date: 01/01/2024
Project designed by: MBL
Document number: 20820531EAS020
Page number: 1
Number of pages: 8

Notice 1: [ETO]
Notice 2:
Notice 3:

NEN-EN-IEC 60204-1:2006

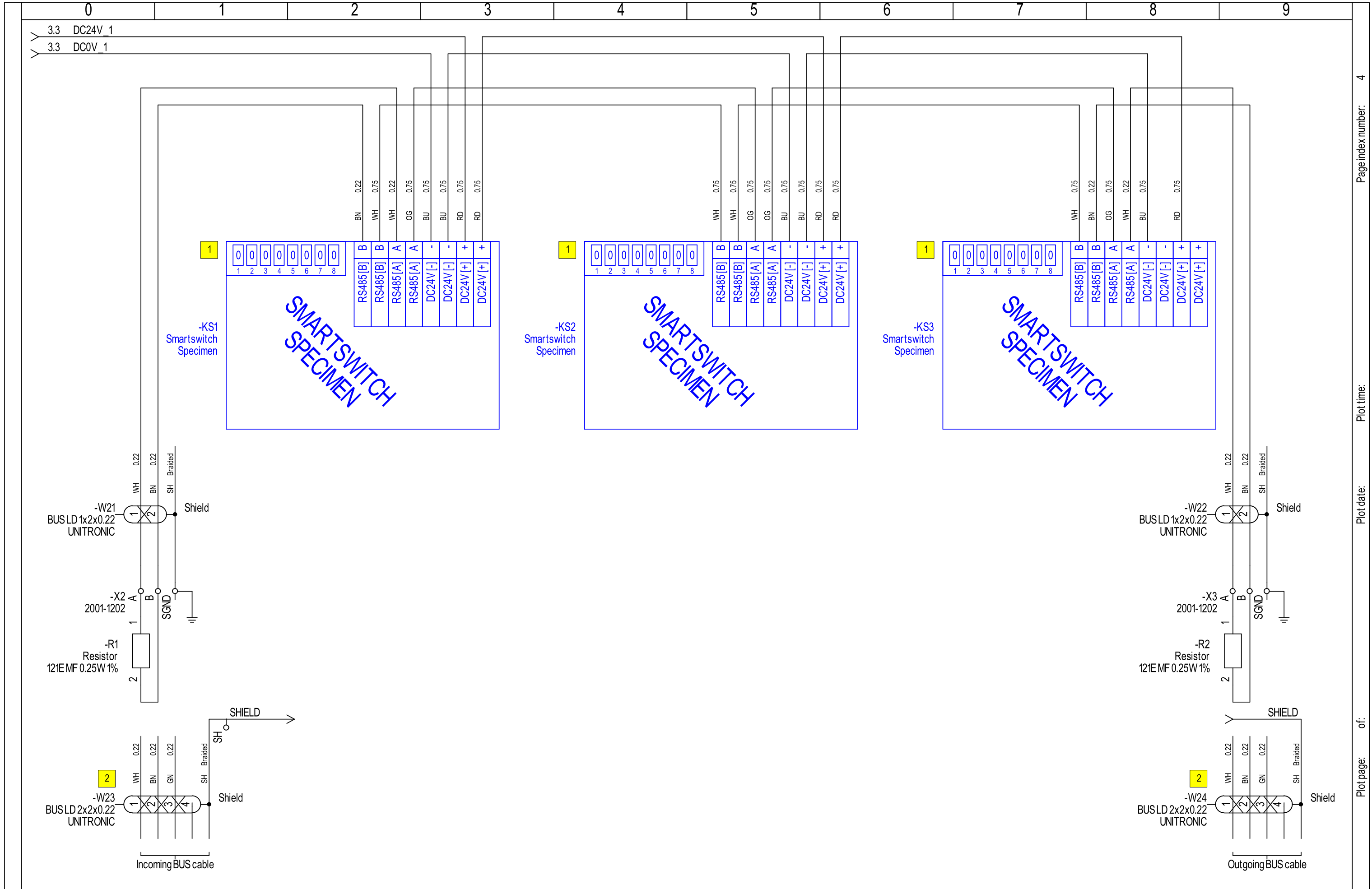
Color	Abbreviation	Power circuit
Black	BK	Mains voltage phase
Blue	BU	Mains voltage null
Yellow/green	YEGN	Ground [Systeem ground]
Control circuit		
Red	RD	Control circuit DC24V plus
Blue	BU	Control circuit DC24V min
White	WH	Control circuit DC24V switched
Brown	BN	Control circuit AC24V phase
Yellow	YE	Control circuit AC24V null
Grey	GY	Control circuit AC24V switched
Alarm circuit		
Orange	OG	Signaling and alarm

Wire gauge designation in [mm²]

Default (-)	Originating from page	Optional (-)
		



Project file: 20820531EAS020 Cabinet Smartswitch[13] compact	Project initial date: 01/01/2024	Page initial date: 01/01/2024	Symbol scale: 1:1	Page: 2
Project number: 20820531EAS020	Function (-): =Unit	Project designed by: MBL	Drawing scale: 1:1	of: 8
URL: http://www.Ridder.com	Location (+): +Main cabinet	Page revision date:		Page index:
Document number: 20820531EAS020	Product (-): -Standards	Project status: [As Build]	Page revision:	



Project file:	20820531EAS020 Cabinet Smartswitch [13] compact	Page initial date:	01/01/2024	Symbol scale:	1:1	Page:	4
Project number:	Function (-): =Unit	Project initial date:	01/01/2024	Page designed by:	MBL	Drawing scale:	1:1 of: 8
URL:	http://www.Ridder.com	Location (+):	+Main cabinet	Project designed by:	MBL	Page revision date:	
Document number:	20820531EAS020	Product (-):	-Smartswitch [KS1...KS3]	Project status:	[As Build]	Page revision:	

Customer inquiry [1] - Type of Smartswitch(es)

1	Which type of Smartswitch(es) does the customer want in the cabinet.
	The customer can opt for specific Smartswitch types to be installed in the cabinet. A Smartswitch type provides a certain type of control. How many and which type of Smartswitch(es) are to be installed in the cabinet? Register this in the table below.

#	Product code	Applied Smartswitches Climate open_close
	20800000	Smartswitch 11-5092b[02]_5 Ventilation top
	20800020	Smartswitch 13-5092b[02]_5 Ventilation side
	20800500	Smartswitch 15-5092b[02]_5 Screen
	20800510	Smartswitch 26-5092b[02]_5 Screen outside

#	Product code	Applied Smartswitches Climate on_off
	20800200	Smartswitch 01-5092b[00]_3 Heating hot air
	20800300	Smartswitch 02-5092b[00]_3 Cooling
	20800600	Smartswitch 04-5092b[00]_3 CO2
	20800800	Smartswitch 03-5092b[00]_3 Fan
	20800700	Smartswitch 08-5092b[00]_3 Fogging valve
	20800900	Smartswitch 05-5092b[00]_3 Pad-fan system
	20801000	Smartswitch 10-5092b[00]_3 Pad-fan valve
	20801100	Smartswitch 09-5092b[00]_3 Inflation
	20801800	Smartswitch 31-5092b[00]_3 Supplementary lighting
	20801850	Smartswitch 32-5092b[00]_3 Cyclic program

#	Product code	Applied Smartswitches Climate specific
	20800100	Smartswitch 22-5111b[00]_53 Heating pipe
	20800400	Smartswitch 24-5103b[00]_0 Alarm + meteo
	20800450	Smartswitch 55-9225b[00]_0 Sensor box analogue inputs

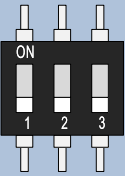
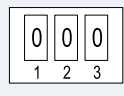
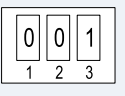
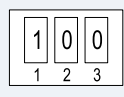
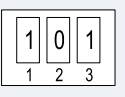
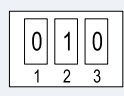
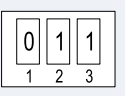
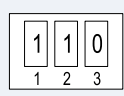
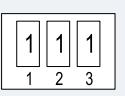
#	Product code	Applied Smartswitches Water on_off
	20801300	Smartswitch 27-5092b[00]_3 Filling pump
	20801310	Smartswitch 53-5092b[00]_3 Fresh water pump
	20801900	Smartswitch 35-5092b[00]_3 Agitator
	20801210	Smartswitch 34-5092b[00]_3 System pump CleanLite
	20801220	Smartswitch 39-5092b[00]_3 System pump HortiJet
	20801200	Smartswitch 06-5092b[00]_3 System pump FertiMX

#	Product code	Smartswitches Water specific
	20801511	Smartswitch 42-5102d[00]_00 EC concentration pulse volume
	20801512	Smartswitch 41-5102d[00]_00 EC concentration pulse flow
	20801513	Smartswitch 17-5102d[00]_53 EC concentration servo flow
	20801514	Smartswitch 18-5102d[00]_00 EC concentration pulse flow
	20801515	Smartswitch 37-5102d[00]_53 EC concentration servo volume
	20801521	Smartswitch 19-5102d[00]_53 EC pre-blend
	20801530	Smartswitch 43-5102d[00]_00 EC quantity pulse flow
	20801531	Smartswitch 44-5102d[00]_00 EC quantity pulse volume
	20801610	Smartswitch 21-5091b[00]_00 pH control pulse
	20801620	Smartswitch 29-5091b[00]_53 pH control servo flow
	20801700	Smartswitch 23-5104b[00]_0 Irrigation valve
	20801910	Smartswitch 40-8192b[00]_0 Moisture content
	20801990	Smartswitch 57-0276b[00] Weight
	20800410	Smartswitch 28-5103b[00]_0 Alarm + MOD-bus ballast
	20800415	Smartswitch 52-5103b[00]_0 Alarm + MOD-bus ZED ballast
	20801920	Smartswitch 45-9225b[00]_0 NoNa+ input module 1
	20801930	Smartswitch 46-9225b[00]_0 NoNa+ input module 2
	20801940	Smartswitch 47-9225b[00]_0 NoNa+ input module 3
	20801950	Smartswitch 48-5104b[00]_0 NoNa+ output module 1
	20801960	Smartswitch 49-5104b[00]_0 NoNa+ output module 2
	20801970	Smartswitch 50-5104b[00]_0 NoNa+ output module 3
	20801980	Smartswitch 51-5102d[00]_00 EC measurement 2

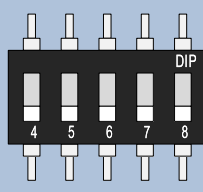
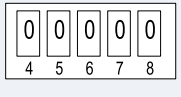
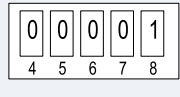
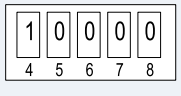
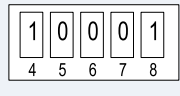
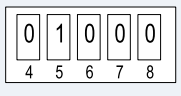
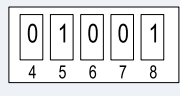
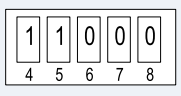
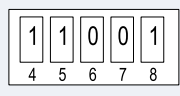
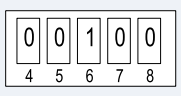
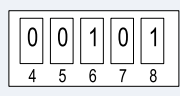
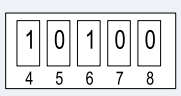
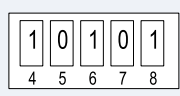
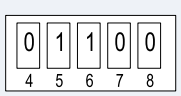
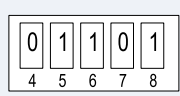
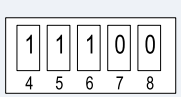
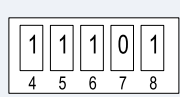
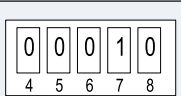
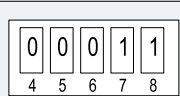
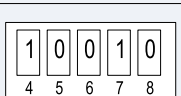
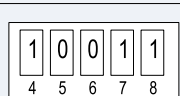
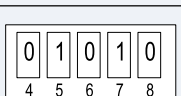
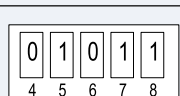
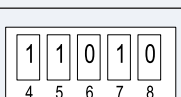
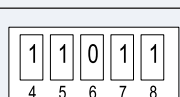
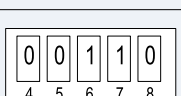
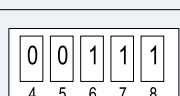
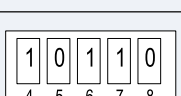
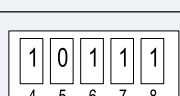




Procedure [1] - Addressing Smartswitches within the BUS-system

1	Set the section number for all Smartswitches within the BUS-system.
A	The section number is digitally composed with DIP-switches [1..3], of which DIP-switch [1] is the [Least Significant Bit], and DIP-switch [3] is the [Most Significant Bit].
1	Set the sequence number for all Smartswitches within the BUS-system.
B	The Smartswitch sequence number is digitally composed with DIP-switches [4..8], of which DIP-switch [4] is the [Least Significant Bit], and DIP-switch [8] is the [Most Significant Bit].
1	Remarks
C	The address of a Smartswitch; DIP-switches [1..8] has to be unique within the BUS-system. A Smartswitch of type [20800400 Smartswitch 24-5103b[00]_0 Alarm+meteo] always needs to be present within a BUS-system. This Smartswitch always needs to be addressed as [000 00000].

Section number - DIP-switch [1..3]

	Section 1		Section 5	
	Section 2		Section 6	
	Section 3		Section 7	
	Section 4		Section 8	

Smartswitch sequence number - DIP-switch [4..8]

	00		16	
	01		17	
	02		18	
	03		19	
	04		20	
	05		21	
	06		22	
	07		23	
	08		24	
	09		25	
	10		26	
	11		27	
	12		28	
	13		29	
	14		30	
	15		31	

Procedure [2] - Connecting cabinets within the BUS-system

2	General specifications RS485 network
A	<p>Cabinets in the network are connected in series.</p> <p>Stubs of the transmission line are not allowed.</p> <p>The [A] and [B] signals are transmitted over a twisted-pair.</p> <p>The [SGND] (Signal Ground) of the different cabinets are connected to one another over one wire of a twisted-pair.</p> <p>The [SGND] in a cabinet is connected to [PE] of that cabinet.</p> <p>The [SH] (Cable Shield) is ONLY connected to [PE] in the controller cabinet.</p> <p>The cable shields of incoming and outgoing BUS-cables in Smartswitch cabinets are spliced together and are NOT connected to [PE].</p> <p>Both the outer ends of the network have to be terminated with a 120 [Ohm] resistor.</p> <p>The maximum length of the RS485 BUS-cable in the installation is 1200 [m]. This length only applies when a suitable RS485 Bus-cable type is utilized in the installation.</p> <p>General specification for RS485 BUS-cable:</p> <ul style="list-style-type: none"> • Suitable for bus systems based on RS485, • Twisted pair(s), • Shielded, • Characteristic impedance 120 [Ohm]. <p>Recommended cable types:</p> <p>32002810 Buskabel UNITRONIC BUS LD 2x2x0.22 100 [m] 32002811 Buskabel UNITRONIC BUS LD 2x2x0.22 300 [m] 32002812 Buskabel UNITRONIC BUS LD 2x2x0.22 500 [m] 32002820 Buskabel UNITRONIC BUS LD 3x2x0.22 100 [m]</p>

Procedure [2] - Connecting cabinets within the BUS-system - Continued

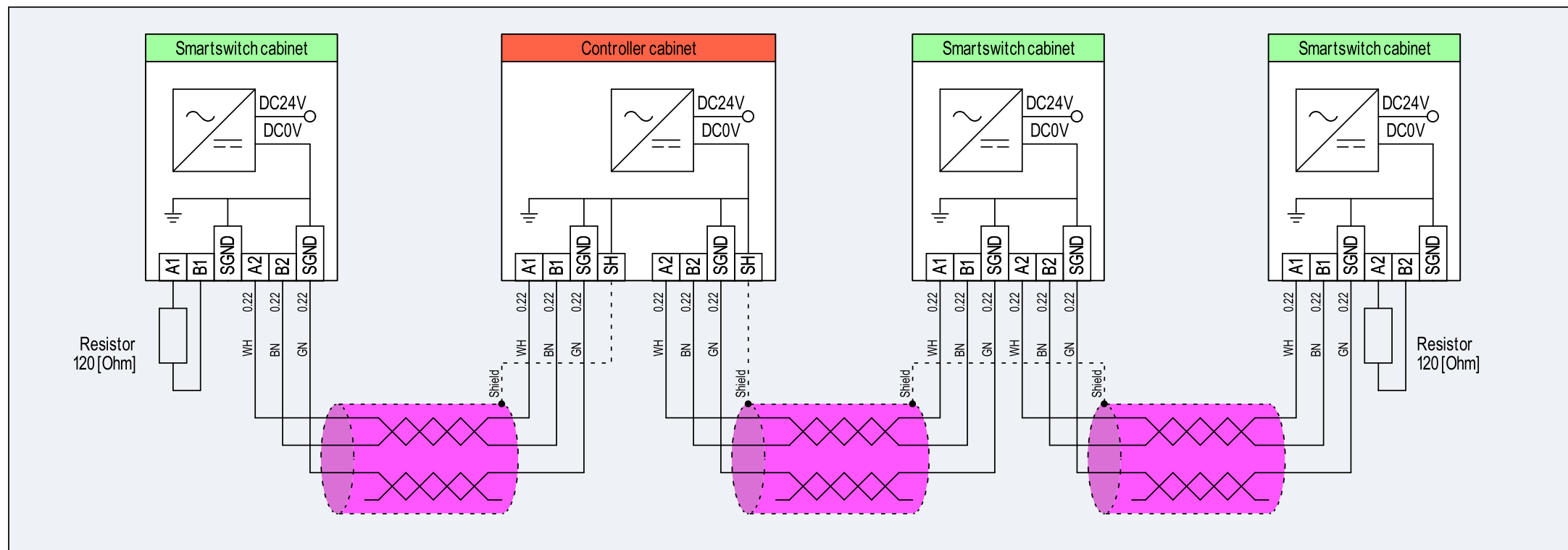
2	Connecting outgoing BUS-cable to Smartswitch cabinet
E	<p>Remove resistor [R2] currently connected to terminals [A2] and [B2].</p> <p>Connect twisted pair [1] wire [WH] to terminal [A2].</p> <p>Connect twisted pair [1] wire [BN] to terminal [B2].</p> <p>Connect twisted pair [2] wire [GN] to terminal [SGND].</p> <p>Splice the cable shield of the outgoing BUS-cable together with the cable shield of the incoming BUS-cable (when present) using a splice connector. When there is no incoming BUS-cable then isolate the shield of the outgoing BUS-cable, and leave it unconnected. A BUS-cable shield should only be connected to GND at ONE outer end of that cable; in the Controller cabinet.</p> <p>When there is no outgoing BUS-cable then leave resistor [R2] in place, connected to terminals [A2] and [B2].</p>

2	Connecting incoming BUS-cable to Controller cabinet
B	<p>Remove Resistor [R1] currently connected to terminals [A1] and [B1].</p> <p>Connect twisted pair [1] wire [WH] to terminal [A1].</p> <p>Connect twisted pair [1] wire [BN] to terminal [B1].</p> <p>Connect twisted pair [2] wire [GN] to terminal [SGND].</p> <p>Connect cable shield to terminal [SH].</p> <p>When there is no incoming BUS-cable then leave resistor [R1] in place, connected to terminals [A1] and [B1].</p>

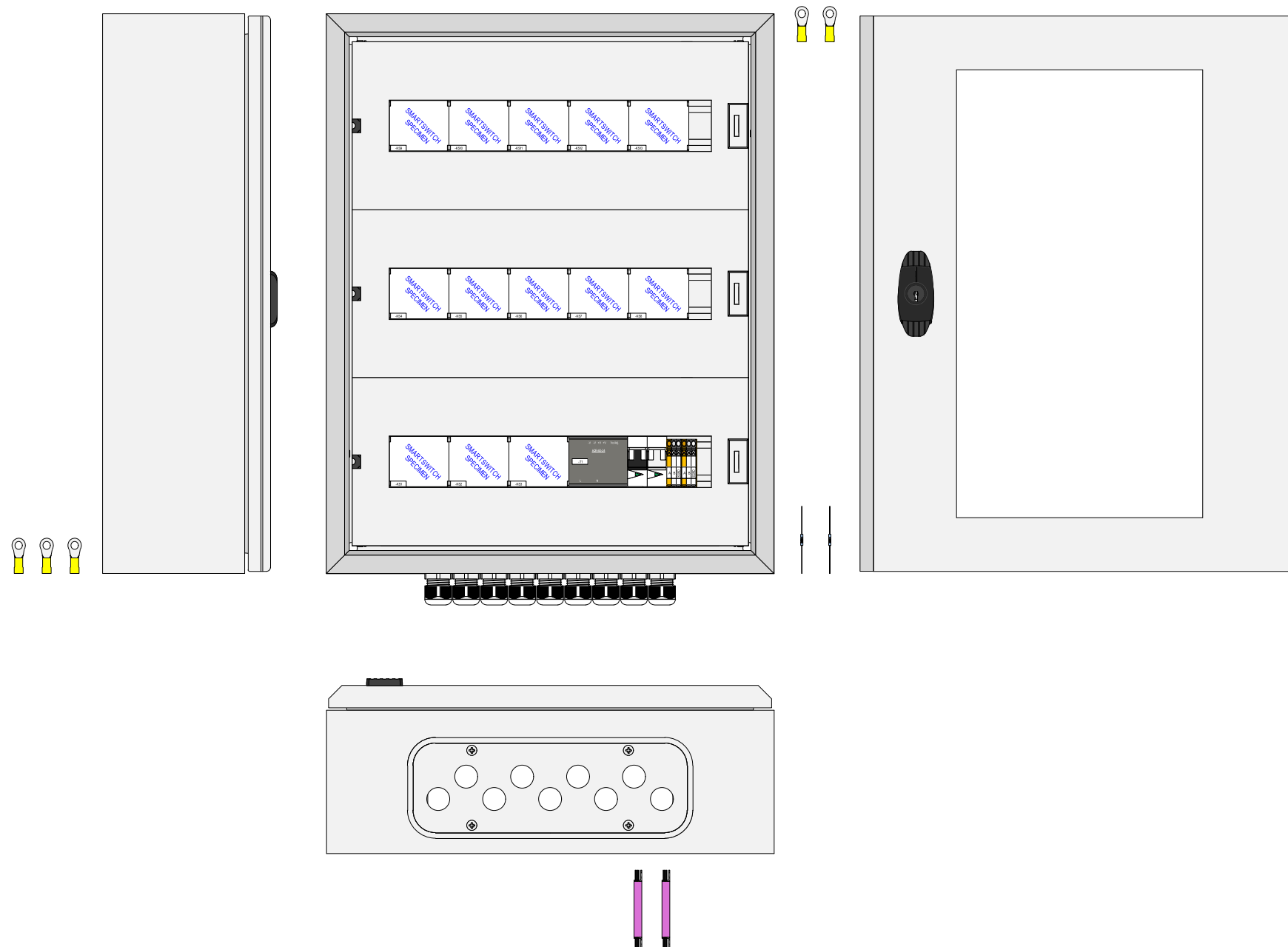
2	Connecting outgoing BUS-cable to Controller cabinet
C	<p>Remove resistor [R2] currently connected to terminals [A2] and [B2].</p> <p>Connect twisted pair [1] wire [WH] to terminal [A2].</p> <p>Connect twisted pair [1] wire [BN] to terminal [B2].</p> <p>Connect twisted pair [2] wire [GN] to terminal [SGND].</p> <p>Connect cable shield to terminal [SH].</p> <p>When there is no outgoing BUS-cable then leave resistor [R2] in place, connected to terminals [A2] and [B2].</p>

2	Connecting incoming BUS-cable to Smartswitch cabinet
D	<p>Remove Resistor [R1] currently connected to terminals [A1] and [B1].</p> <p>Connect twisted pair [1] wire [WH] to terminal [A1].</p> <p>Connect twisted pair [1] wire [BN] to terminal [B1].</p> <p>Connect twisted pair [2] wire [GN] to terminal [SGND].</p> <p>Splice the cable shield of the incoming BUS-cable together with the cable shield of the outgoing BUS-cable (when present) using a splice connector. When there is no outgoing BUS-cable then isolate the shield of the incoming BUS-cable, and leave it unconnected. A BUS-cable shield should only be connected to GND at ONE outer end of that cable; in the Controller cabinet.</p> <p>When there is no incoming BUS-cable then leave resistor [R1] in place, connected to terminals [A1] and [B1].</p>

Network topology



NO	DESCRIPTION	QTY	UNIT
1	SMARTSWITCH SPECIEN	13	PCS
2	SMARTSWITCH SPECIEN	1	PCS
3	SMARTSWITCH SPECIEN	1	PCS
4	SMARTSWITCH SPECIEN	1	PCS
5	SMARTSWITCH SPECIEN	1	PCS
6	SMARTSWITCH SPECIEN	1	PCS
7	SMARTSWITCH SPECIEN	1	PCS
8	SMARTSWITCH SPECIEN	1	PCS
9	SMARTSWITCH SPECIEN	1	PCS
10	SMARTSWITCH SPECIEN	1	PCS
11	SMARTSWITCH SPECIEN	1	PCS
12	SMARTSWITCH SPECIEN	1	PCS
13	SMARTSWITCH SPECIEN	1	PCS



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URL:	http://www.Ridder.com	Location (+):	+Main cabinet	Project designed by:	MBL	Page revision date:		Page index:
Document number:	20820531EAS020	Product (-):	-Cabinet layout	Project status:	[As Build]	Page revision:		