

SIEMENS

**MM7000, MF7000
MUX/DMX System**

**Hardware/Firmware Installation
Modules**

Fire & Security Products

Siemens Building Technologies

Data and design subject to change without notice. / Supply subject to availability.

© Copyright by
Siemens Building Technologies AG

Wir behalten uns alle Rechte an diesem Dokument und an dem in ihm dargestellten Gegenstand vor. Der Empfänger anerkennt diese Rechte und wird dieses Dokument nicht ohne unsere vorgängige schriftliche Ermächtigung ganz oder teilweise Dritten zugänglich machen oder ausserhalb des Zweckes verwenden, zu dem es ihm übergeben worden ist.

We reserve all rights in this document and in the subject thereof. By acceptance of the document the recipient acknowledges these rights and undertakes not to publish the document nor the subject thereof in full or in part, nor to make them available to any third party without our prior express written authorization, nor to use it for any purpose other than for which it was delivered to him.

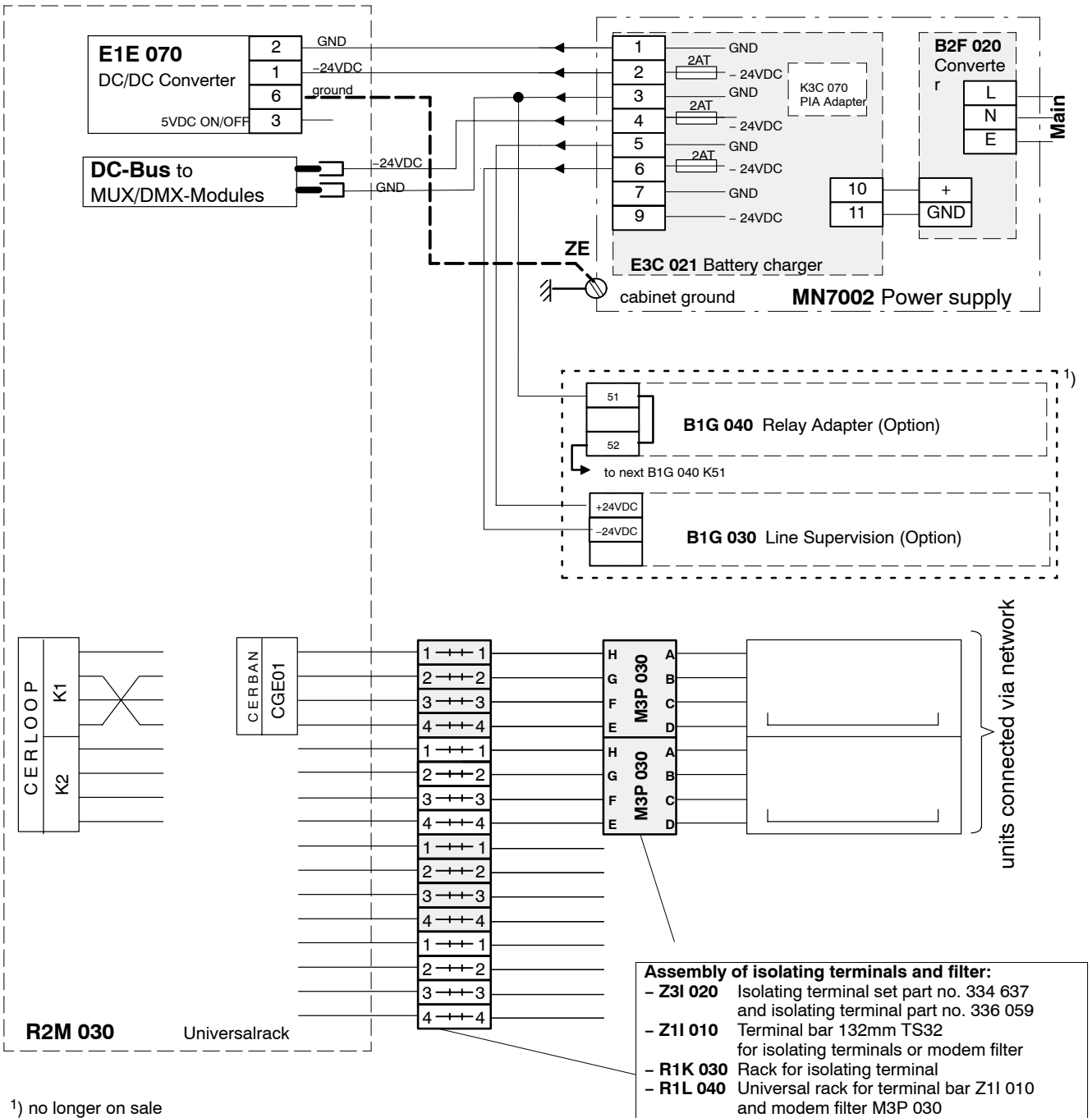
Nous nous réservons tous les droits sur ce document, ainsi que sur l'objet y figurant. La partie recevant ce document reconnaît ces droits et elle s'engage à ne pas le rendre accessible à des tiers, même partiellement, sans notre autorisation écrite préalable et à ne pas l'employer à des fins autres que celles pour lesquelles il lui a été remis.

Ci riserviamo ogni diritto relativo al presente documento e sull'oggetto illustrato in esso. La parte che riceve il documento si impegna a non renderlo accessibile a terzi, né per intero né in parte, senza la nostra previa autorizzazione scritta ed a non usarlo per altri scopi di quello per il quale è stato rilasciato.

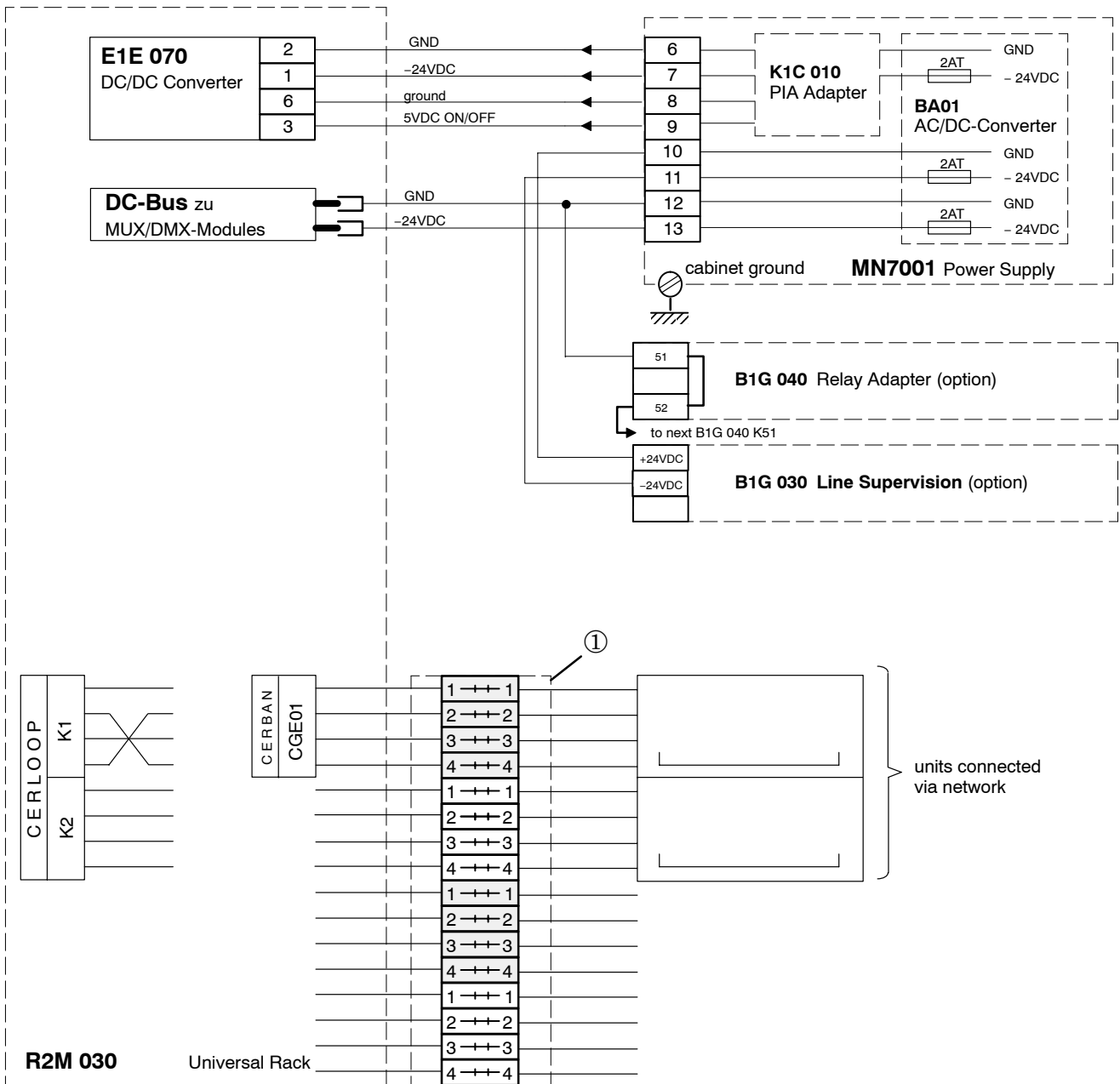
1	Interconnection Diagrams	1
1.1	MM7033 using Power Supply Rack R1P 061	1
1.2	MM7033 using Power Supply Rack R1P 060 (no longer on sale)	2
1.3	MF7033 using Power Supply Rack R1P 061	3
1.4	MF7033 using Power Supply Rack R1P 060 (no longer on sale)	4
1.5	Interconnection between Relay Card K1G 011 and DMX-Module (no longer on sale)	5
1.6	Interconnection Cable V52C 010 to Terminal Strips	6
1.6.1	Connection concept for Terminal Strips 10x4	6
1.6.2	Interconnection Cable V52C 010 to Strips 10x4	7
1.6.3	Interconnection to Terminal Strips 10x4 using Cable V52C 010	8
1.6.4	Interconnection to Terminal Strips 10x4 using Cable V52C 010	9
1.7	Interconnection to Relays Adapter B1G 040	10
1.7.1	Block Diagram B1G 040	10
1.7.2	Interconnection Concept for Relay Adapter B1G 040	11
1.7.3	Interconnection to Relay Adapter B1G 040 using Cable V52C 010	12
1.8	Line Supervision B1G 030 (no longer on sale)	13
1.8.1	Block Diagram	13
1.8.2	Interconnection Concept for Line Supervision B1G 030	14
1.8.3	Interconnection to Line Supervision B1G 030 using Cable V52C 010	15
2	Block diagram MUX/DMX	16
2.1	MUX/DMX Control Unit MM7033 part 1	17
2.2	MUX/DMX Control Unit MM7033 part 2	18
2.3	Digital PLC Unit MF7033 part 1	19
2.4	Digital PLC Unit MF7033 part 2	20
2.5	MK7011 CERLOOP Node	21
2.5.1	MK7011 using Communication Module E1H 130	21
2.5.2	MK7011 using Comm. Module E1H 121 (replace E2H020)	22
2.6	MD7002 Mini Dataconentrator	23
2.6.1	MD7002 using Communication Module E1H 130	23
2.6.2	MD7002 using Communication Module E1H 121 (replace E1H 120)	24
3	Module	25
3.1	B1N 021 Microdisk Drive 3,5"	26
3.2	B1R 050 Display Test Panel	27
3.3	E1E 070 DC/DC-Converter 24V/5V ;10A for CERBUS	28
3.4	E1H 040 PIA Module	29
3.5	MUX/DMX Modules	30
3.5.1	E2A 032 Demultiplex Module	30
3.5.2	E2A 041 Multiplex Module	31
3.6	E2H 081 Microprocessor Module	32
3.7	K1G 011 Relay Card (replacement for K1G 010, E3G 020) (no longer on sale)	33
3.8	E1H ... Kommunikation Module (show Doc. no. e1062 too)	34
3.9	K1D ... Modem Module (show Doc.No e1062)	34

1 Interconnection Diagrams

1.1 MM7033 using Power Supply Rack R1P 061

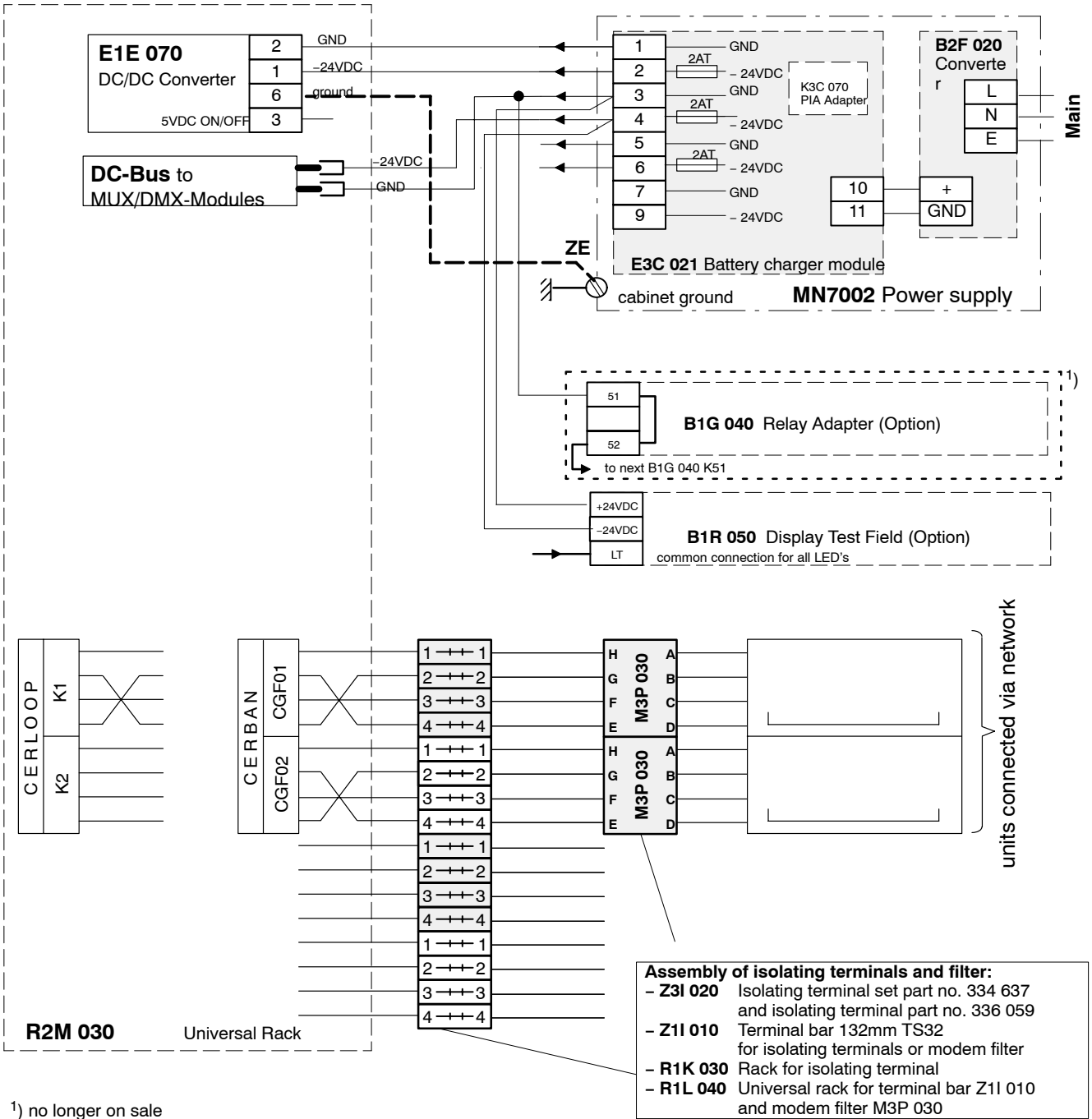


1.2 MM7033 using Power Supply Rack R1P 060 (no longer on sale)

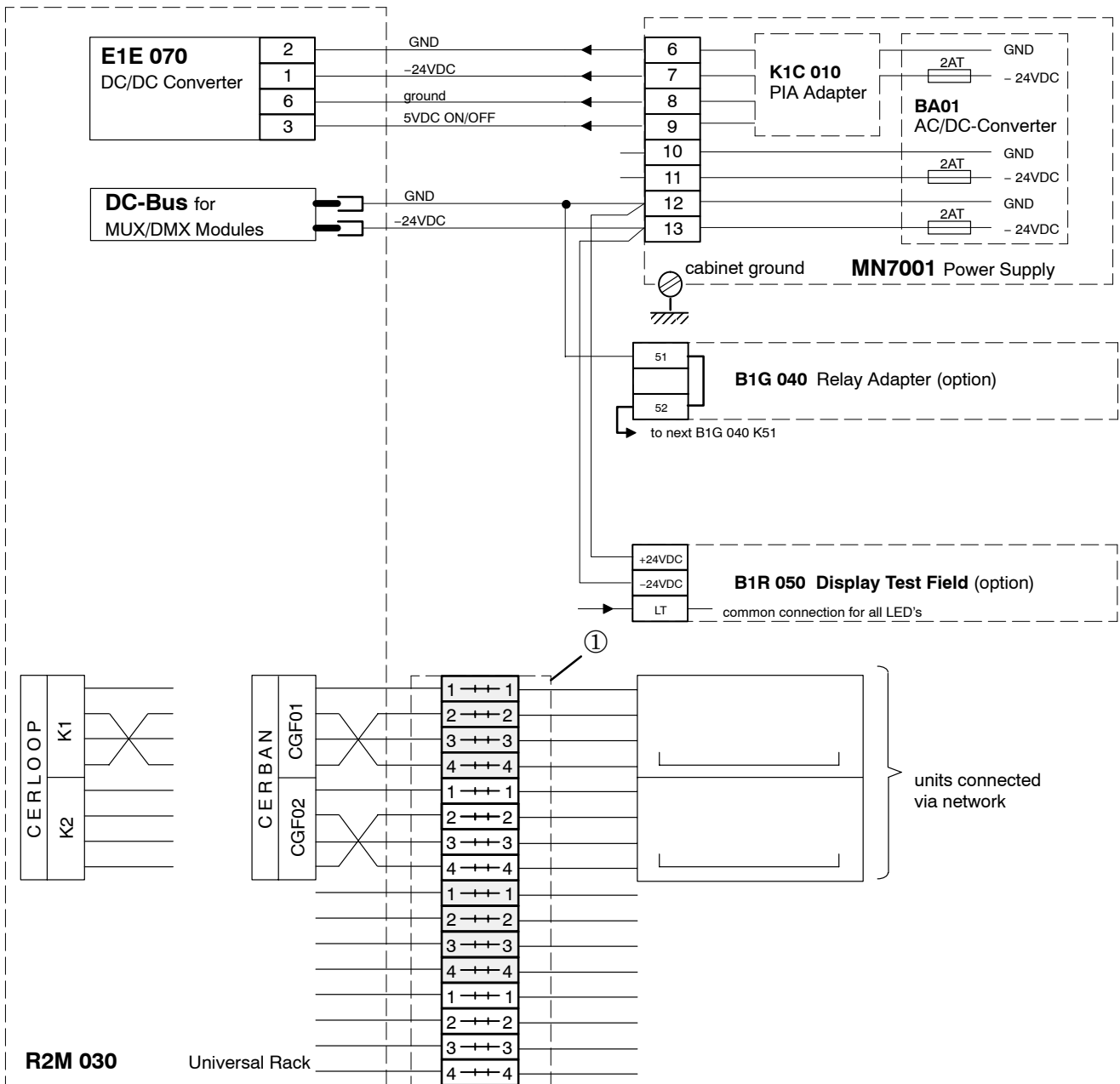


- ① 1 Isolating Terminal Set Z3I 020 part no. 334 637 and
 12 Isolating Terminals part no. 336 059 as required

1.3 MF7033 using Power Supply Rack R1P 061

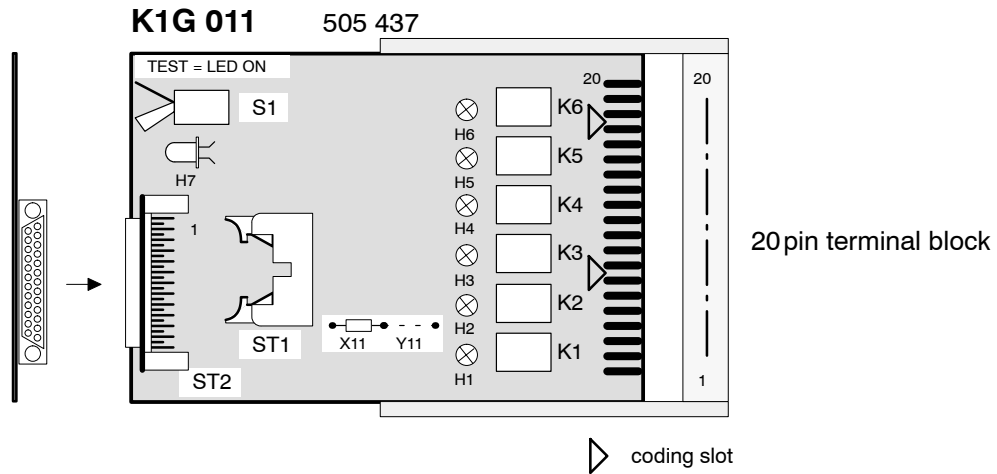


1.4 MF7033 using Power Supply Rack R1P 060 (no longer on sale)



- ① 1 Isolating Terminal Z3I 020 part no. 334 637 and
- 12 Isolating Terminal part no. 336 059 as required

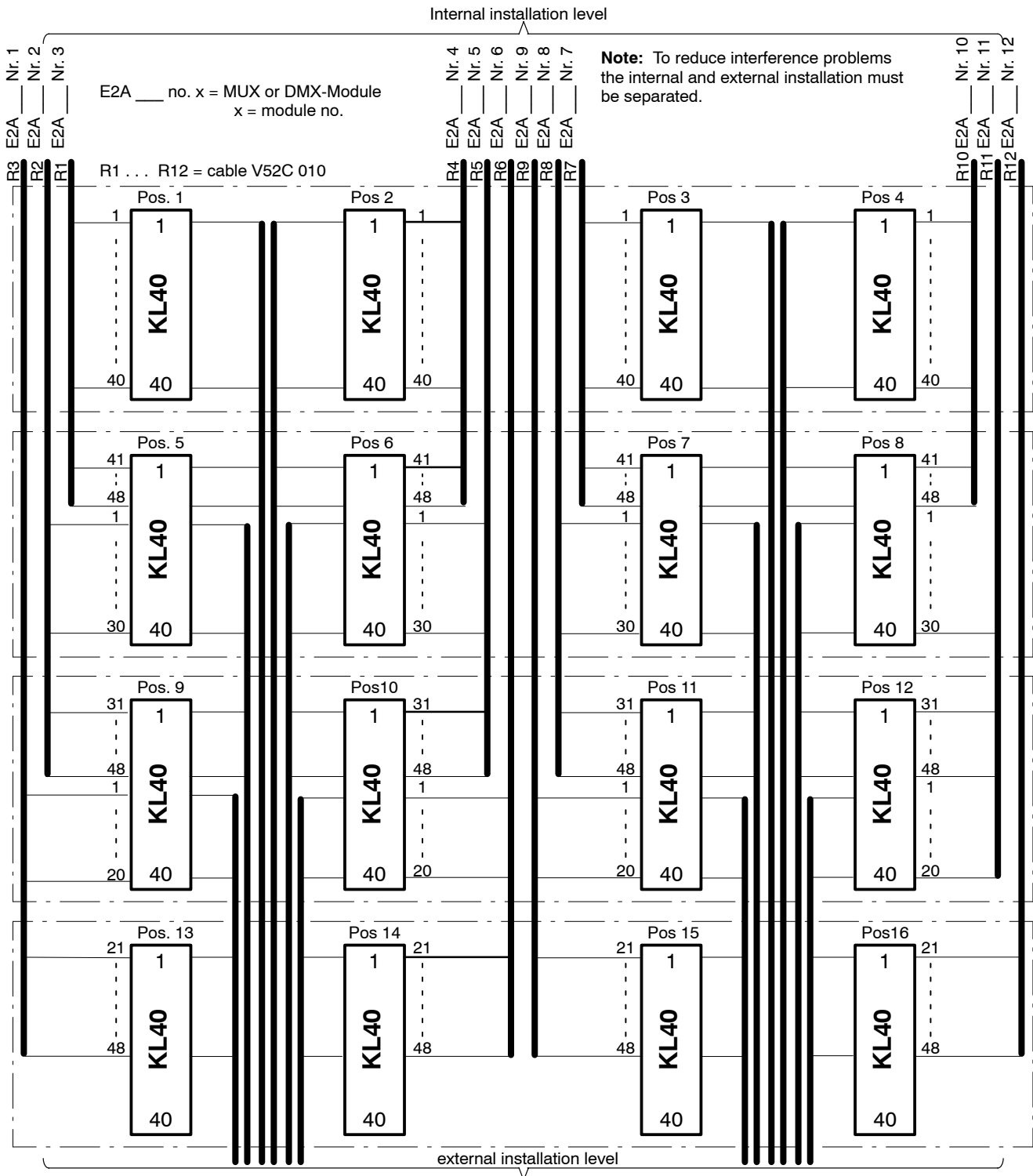
1.5 Interconnection between Relay Card K1G 011 and DMX-Module (no longer on sale)



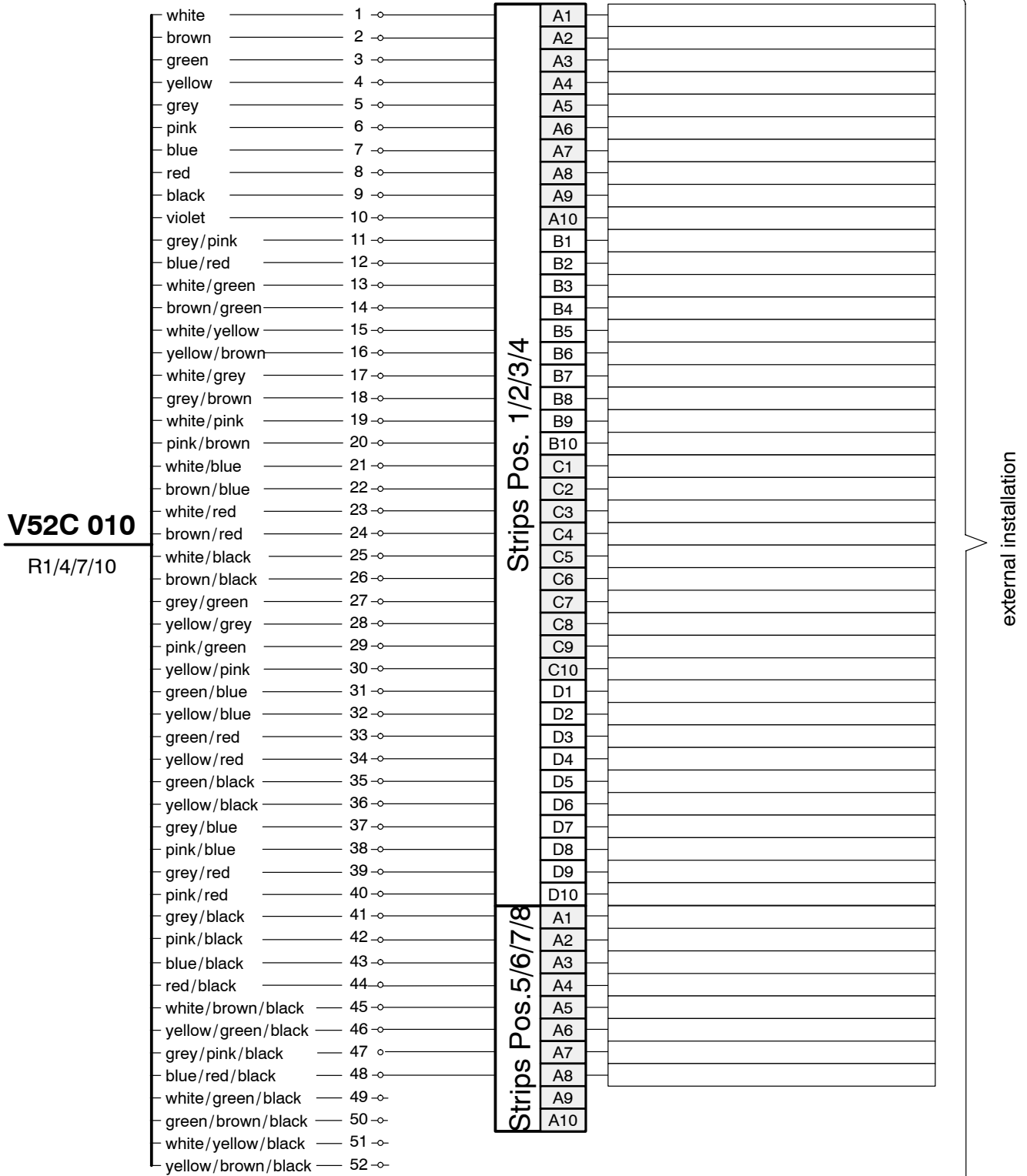
D-SUB X2	Terminal	Rel	Rel	LED	Installation
1	1				
2	2				
3	3	●	K1	H1	
4	4				
5	5				
6	6	●	K2	H2	
7	7				
8	8				
9	9	●	K3	H3	
10	10				
11	11				
12	12	●	K4	H4	
13	13				
14	14				
15	15	●	K5	H5	
16	16				
17	17				
18	18	●	K6	H6	
19	19				
20	20				
21					
22					
23					
24					
25					

1.6 Interconnection Cable V52C 010 to Terminal Strips

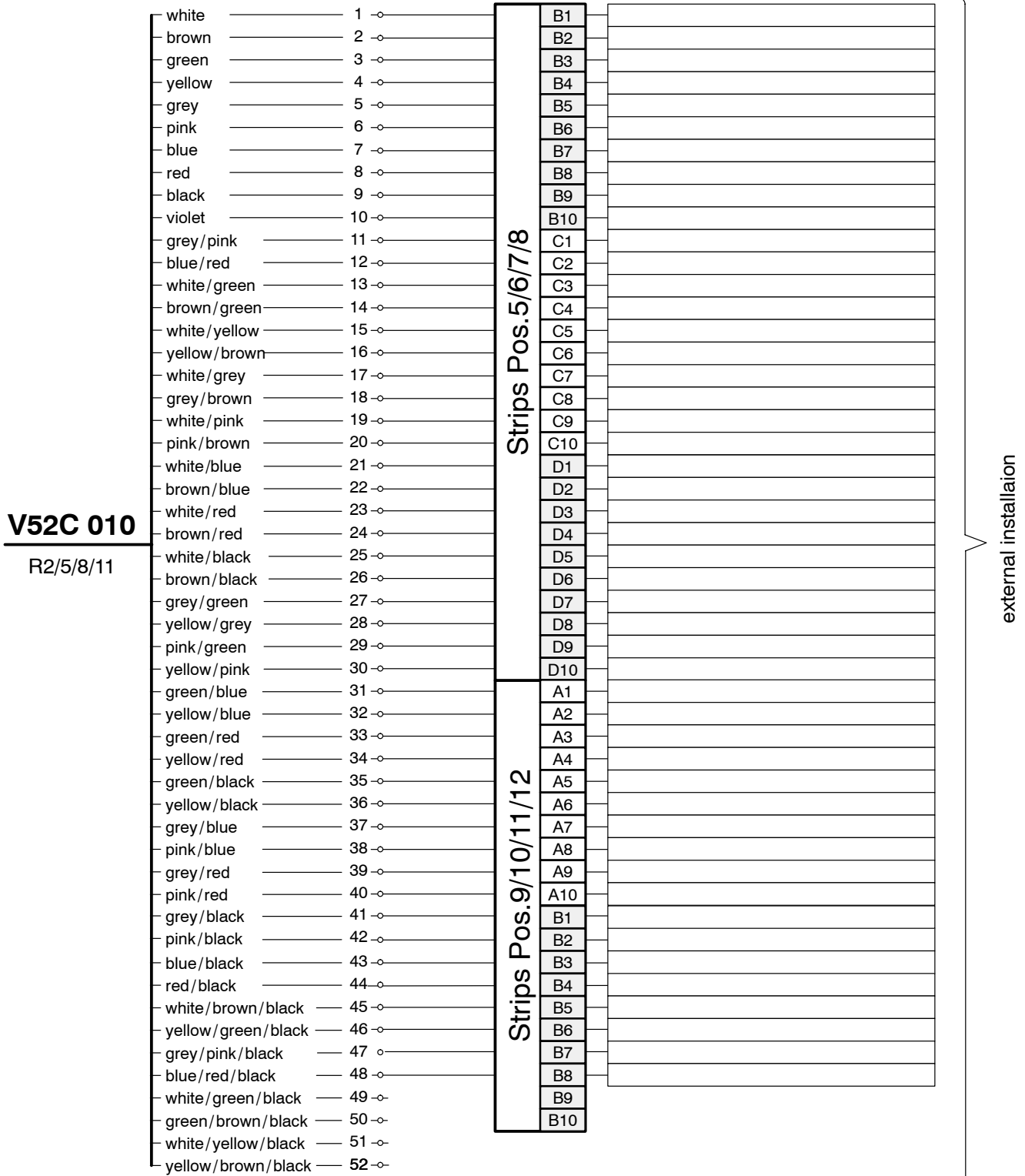
1.6.1 Connection concept for Terminal Strips 10x4



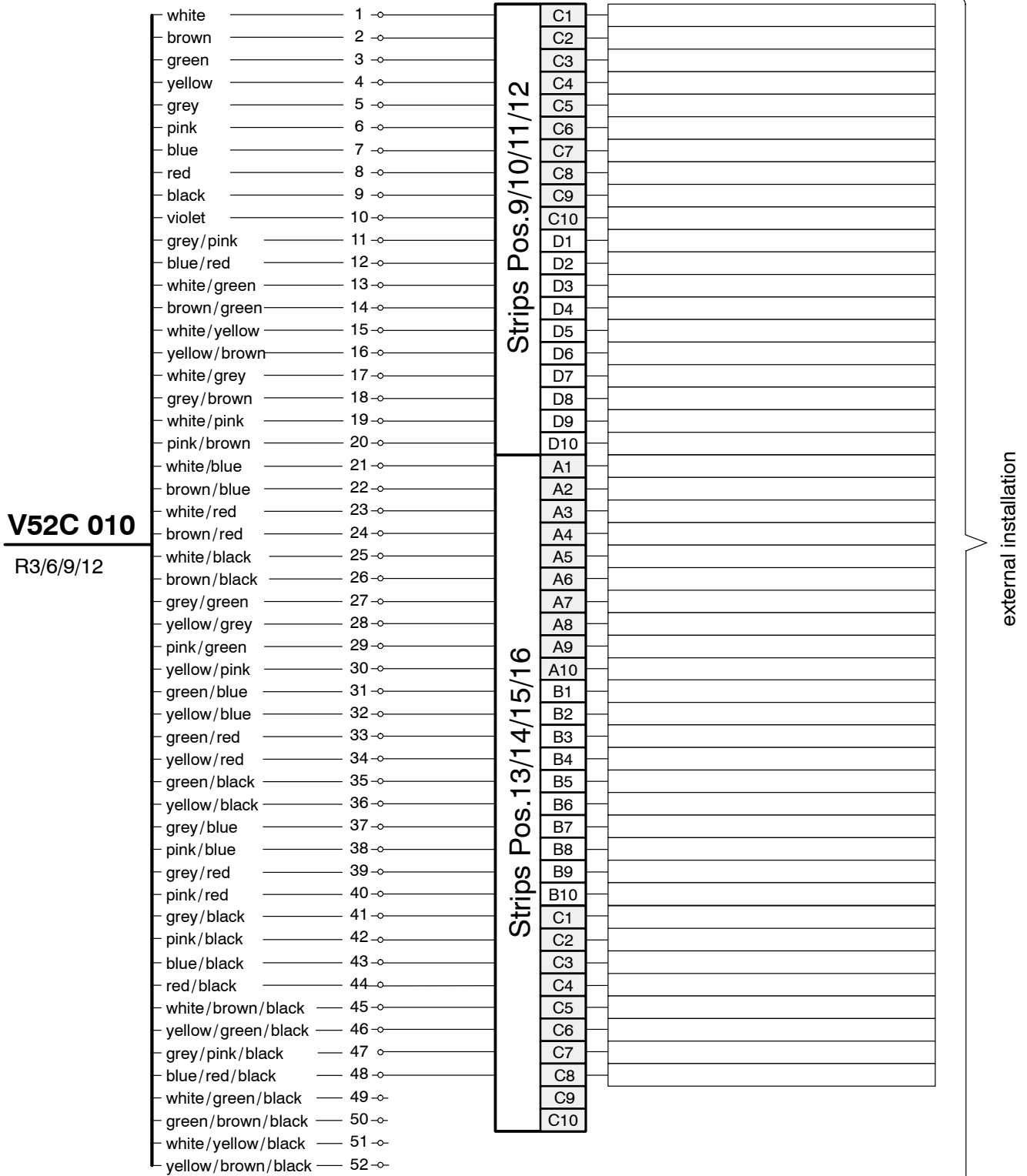
1.6.2 Interconnection Cable V52C 010 to Strips 10x4



1.6.3 Interconnection to Terminal Strips 10x4 using Cable V52C 010

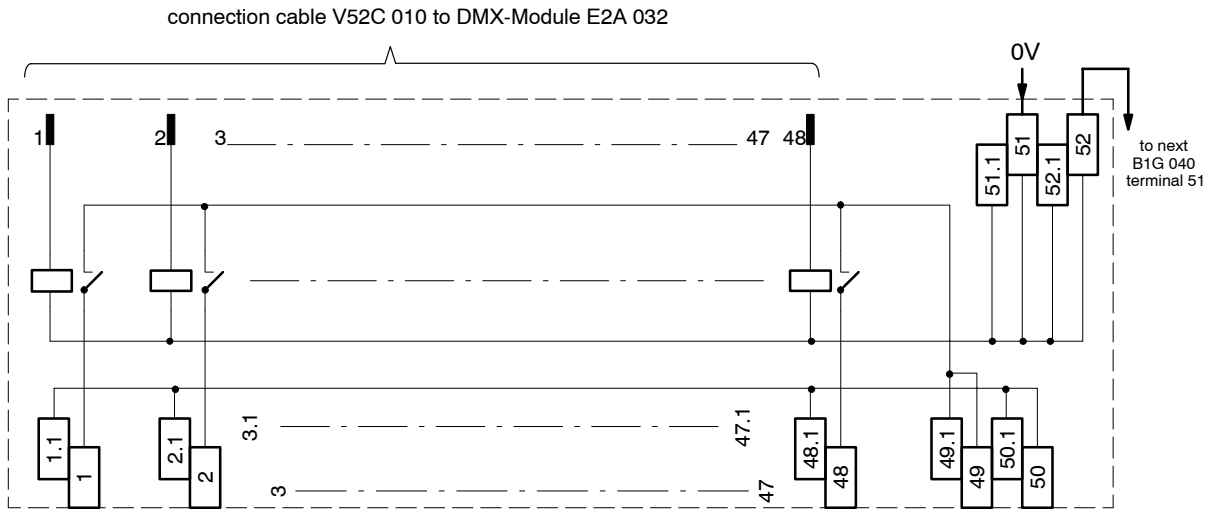


1.6.4 Interconnection to Terminal Strips 10x4 using Cable V52C 010



1.7 Interconnection to Relays Adapter B1G 040 (no longer on sale)

1.7.1 Block Diagram B1G 040



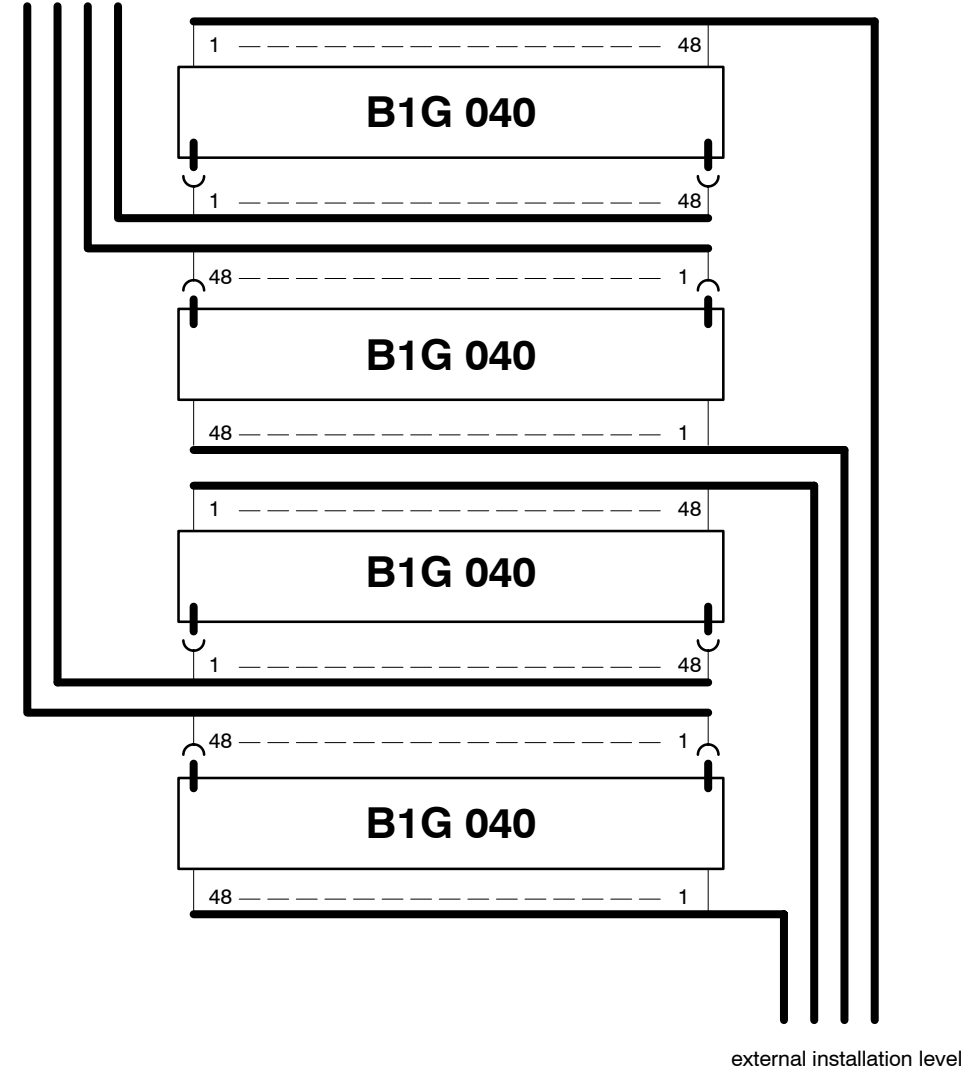
1.7.2 Interconnection Concept for Relay Adapter B1G 040

internal installation level

E2A 032 Nr. 4
 R4
 E2A 032 Nr. 3
 R3
 E2A 032 Nr. 2
 R2
 E2A 032 Nr. 1
 R1

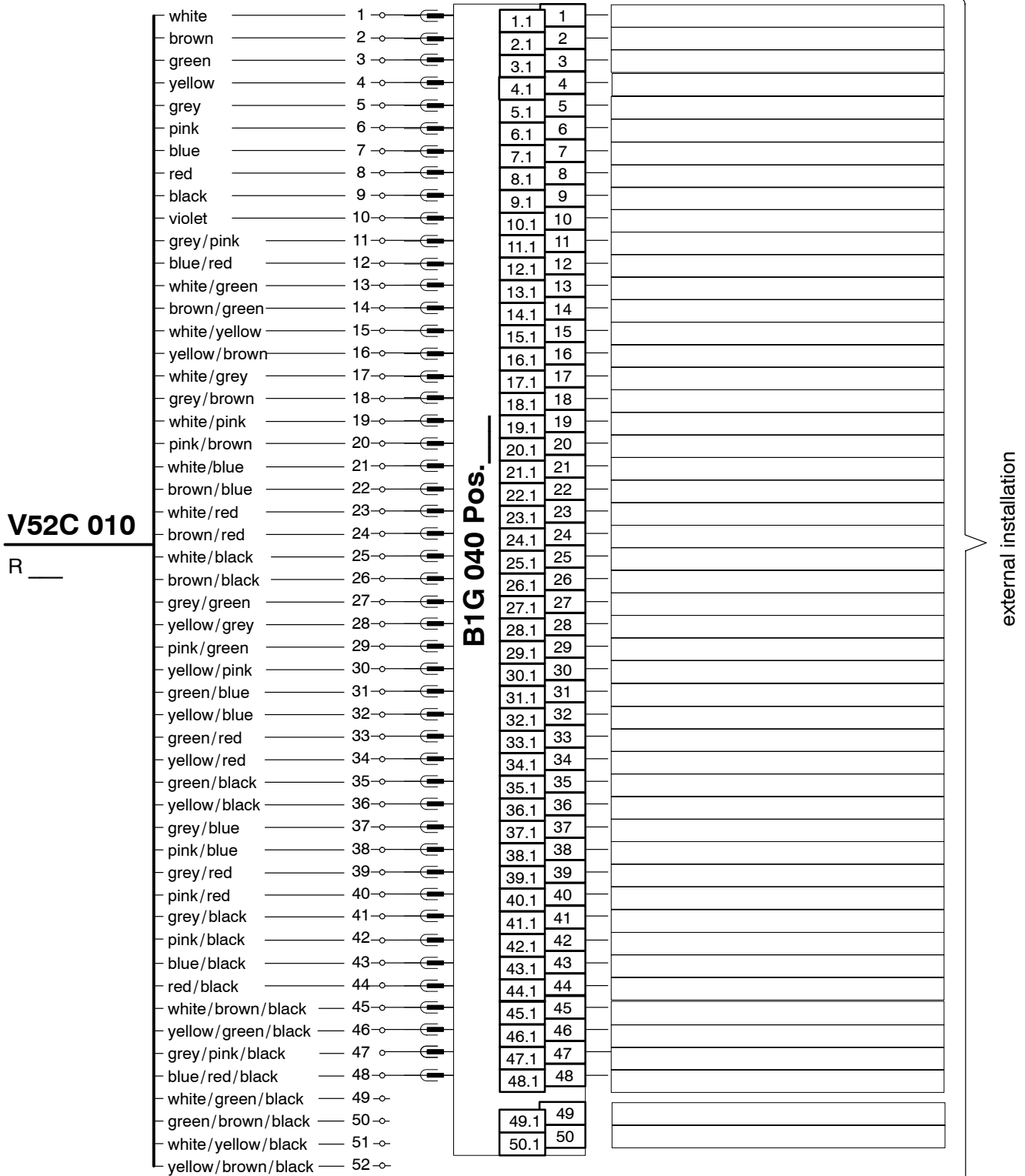
E2A ___ No. x = MUX or DMX-Module
 x = module no.x
 cable V52C 050

Note: To minimise the influence of external interference the internal and external installation wiring must be separated.



external installation level

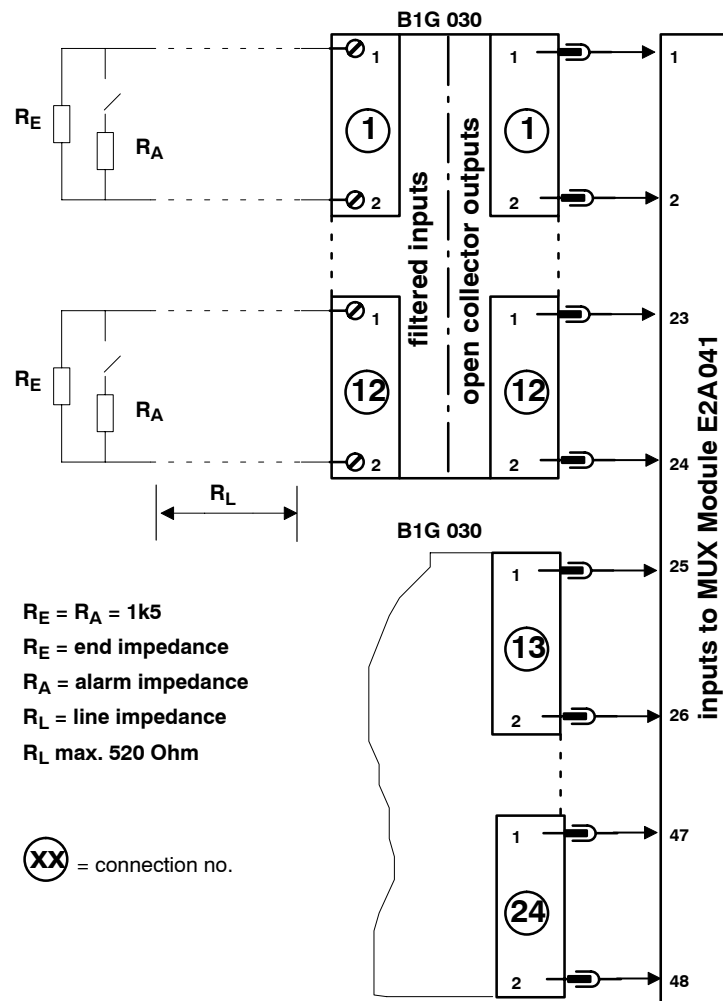
1.7.3 Interconnection to Relay Adapter B1G 040 using Cable V52C 010



terminals 1.1 ... 48.1 connected together

1.8 Line Supervision B1G 030 (no longer on sale)

1.8.1 Block Diagram



Inputs:

- even number active on alarm (-24V DC)
- odd number active on line trouble (-24V DC) <open/short circuit>

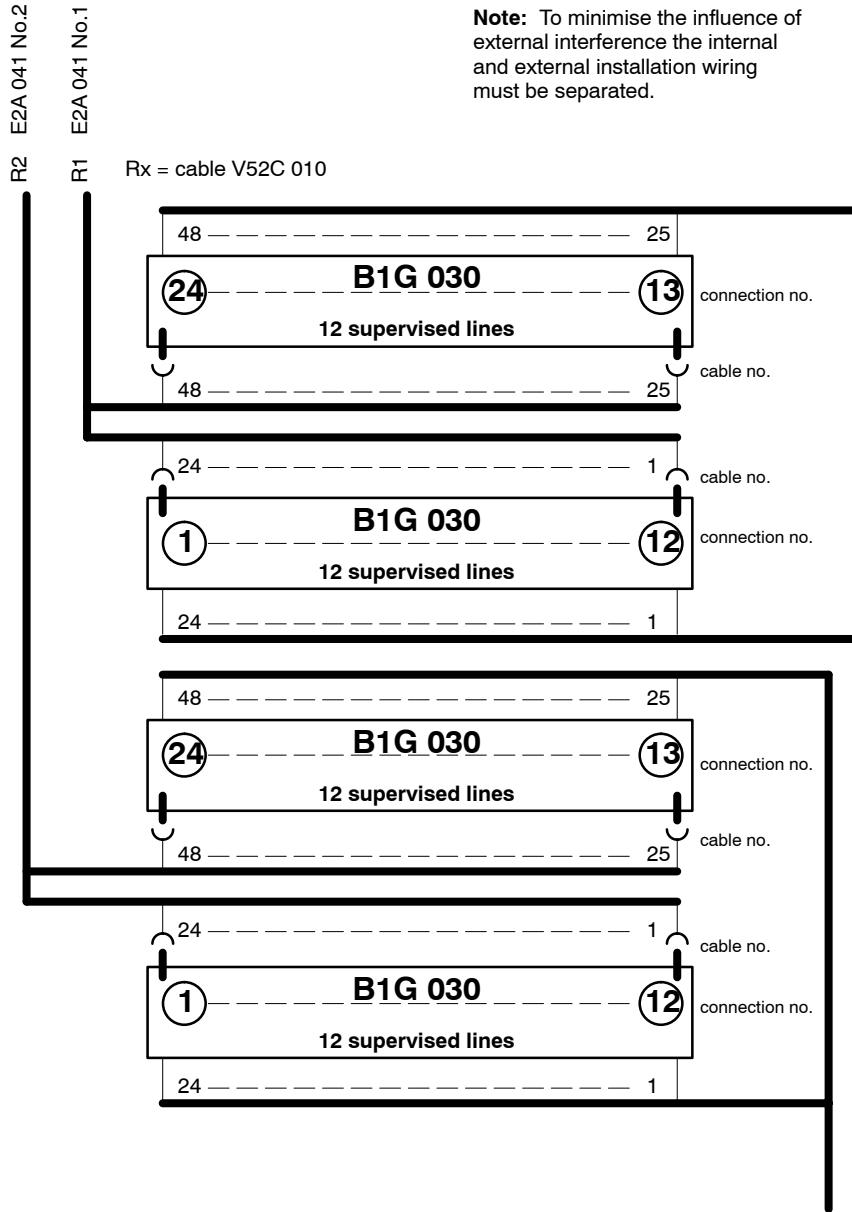
Outputs: B1G 030

- even number active on alarm
 - odd number active on line trouble
- on trouble/alarm output 1 (or 2) on B1G 030 goes "high": positive logic for MM/MF

1.8.2 Interconnection Concept for Line Supervision B1G 030

internal installation level

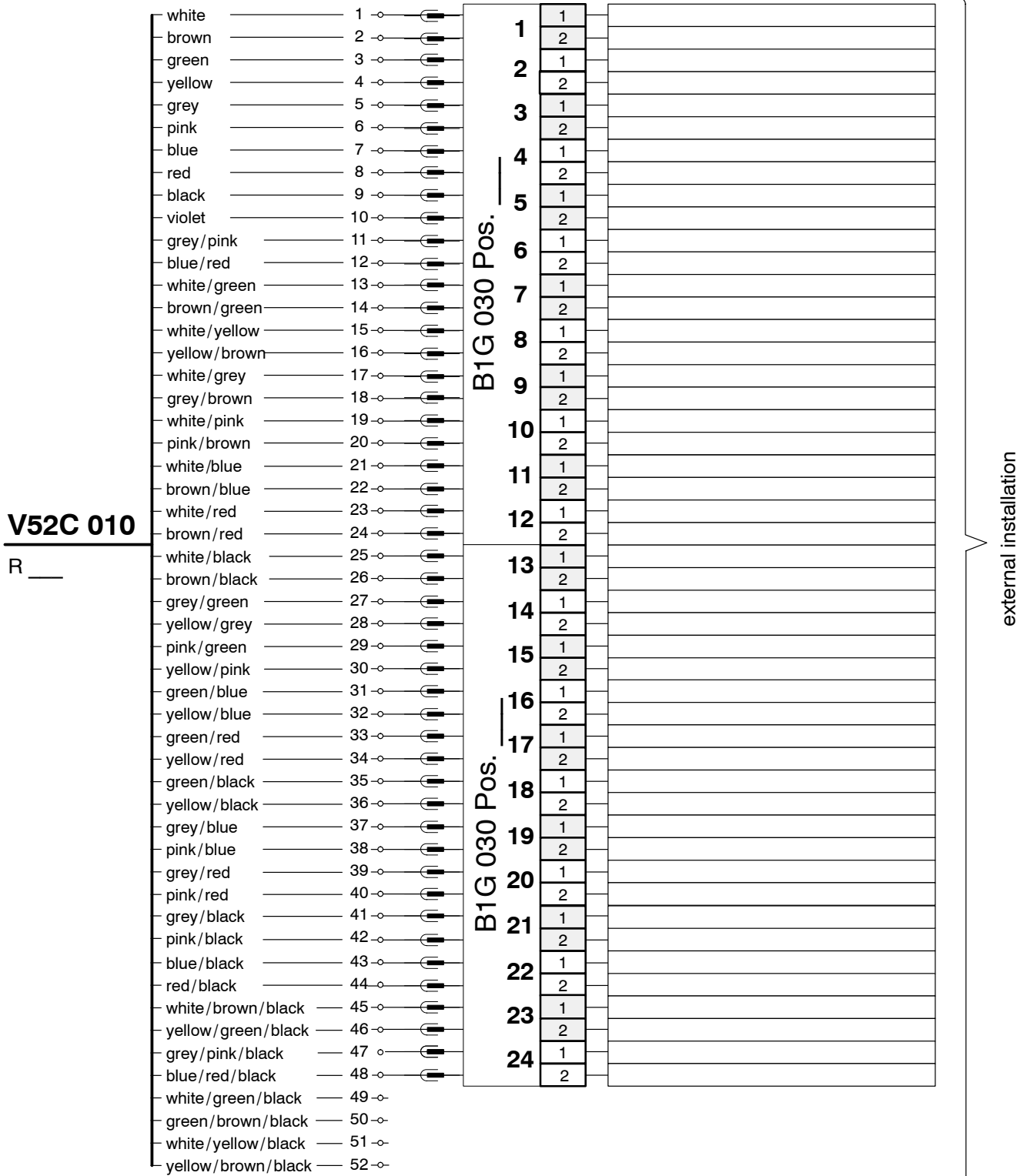
Note: To minimise the influence of external interference the internal and external installation wiring must be separated.



ⓧ = connection no.

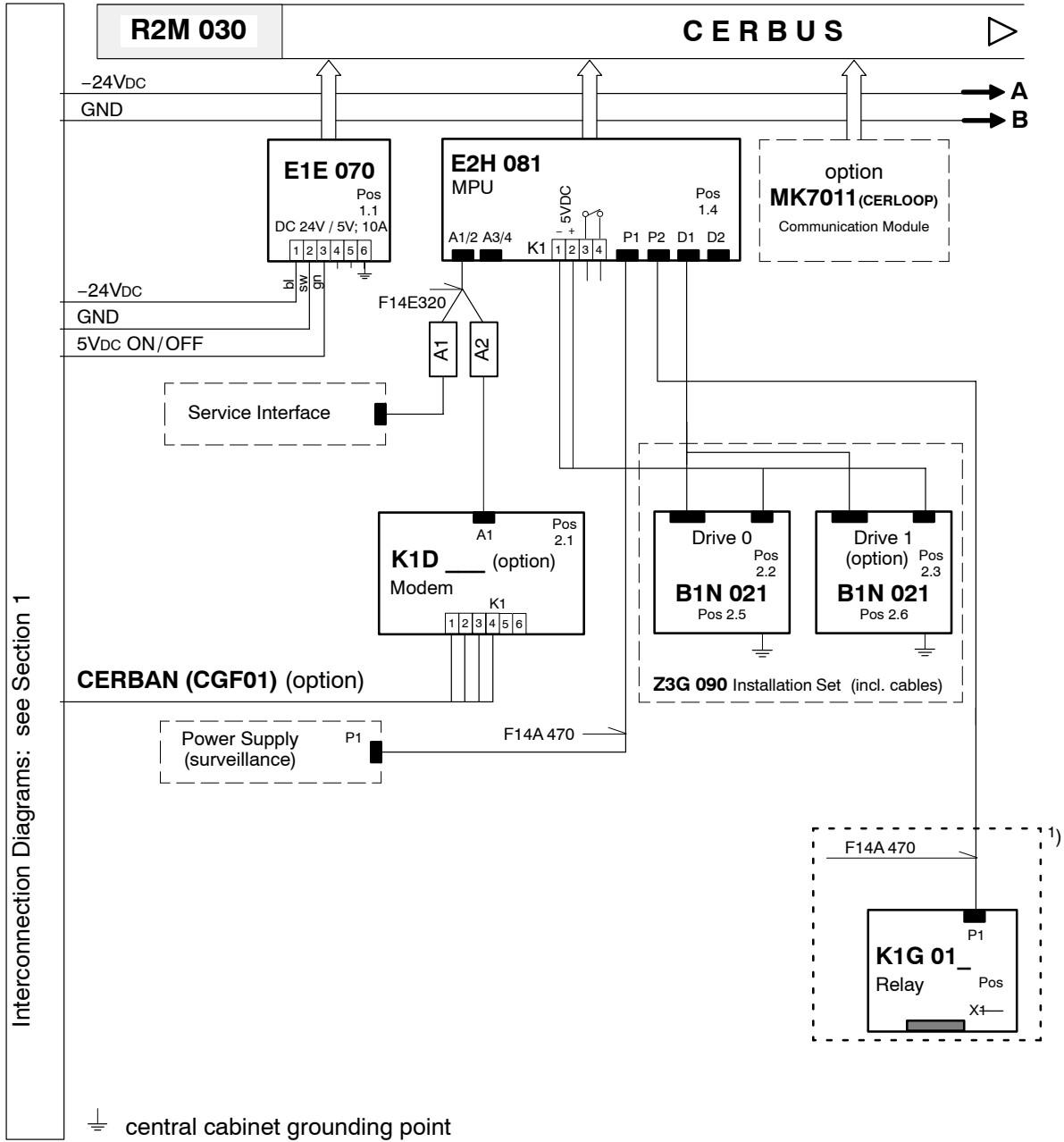
external installation level

1.8.3 Interconnection to Line Supervision B1G 030 using Cable V52C 010

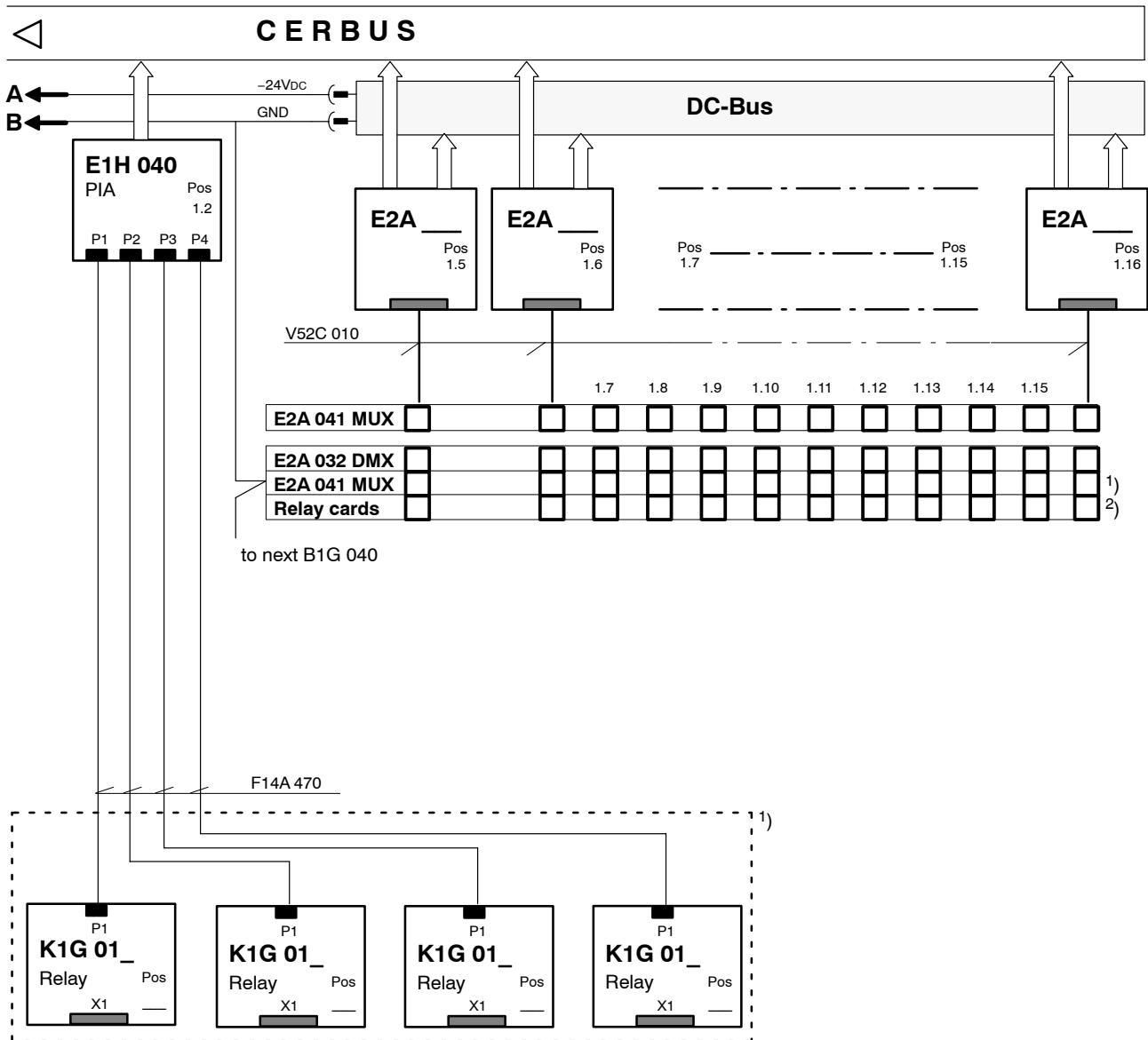


2 Block diagram MUX/DMX

2.1 MUX/DMX Control Unit MM7033 part 1



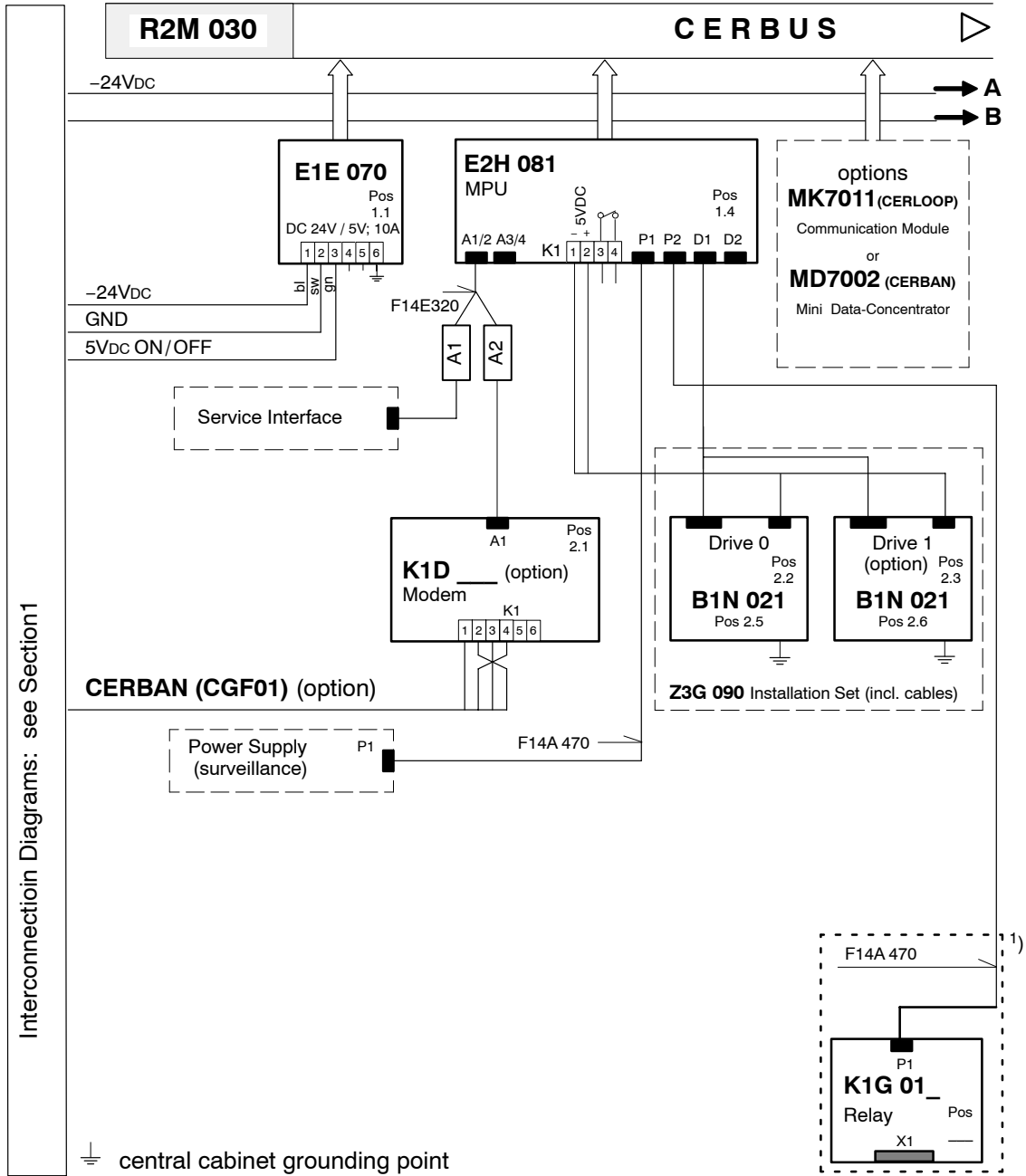
2.2 MUX/DMX Control Unit MM7033 part 2



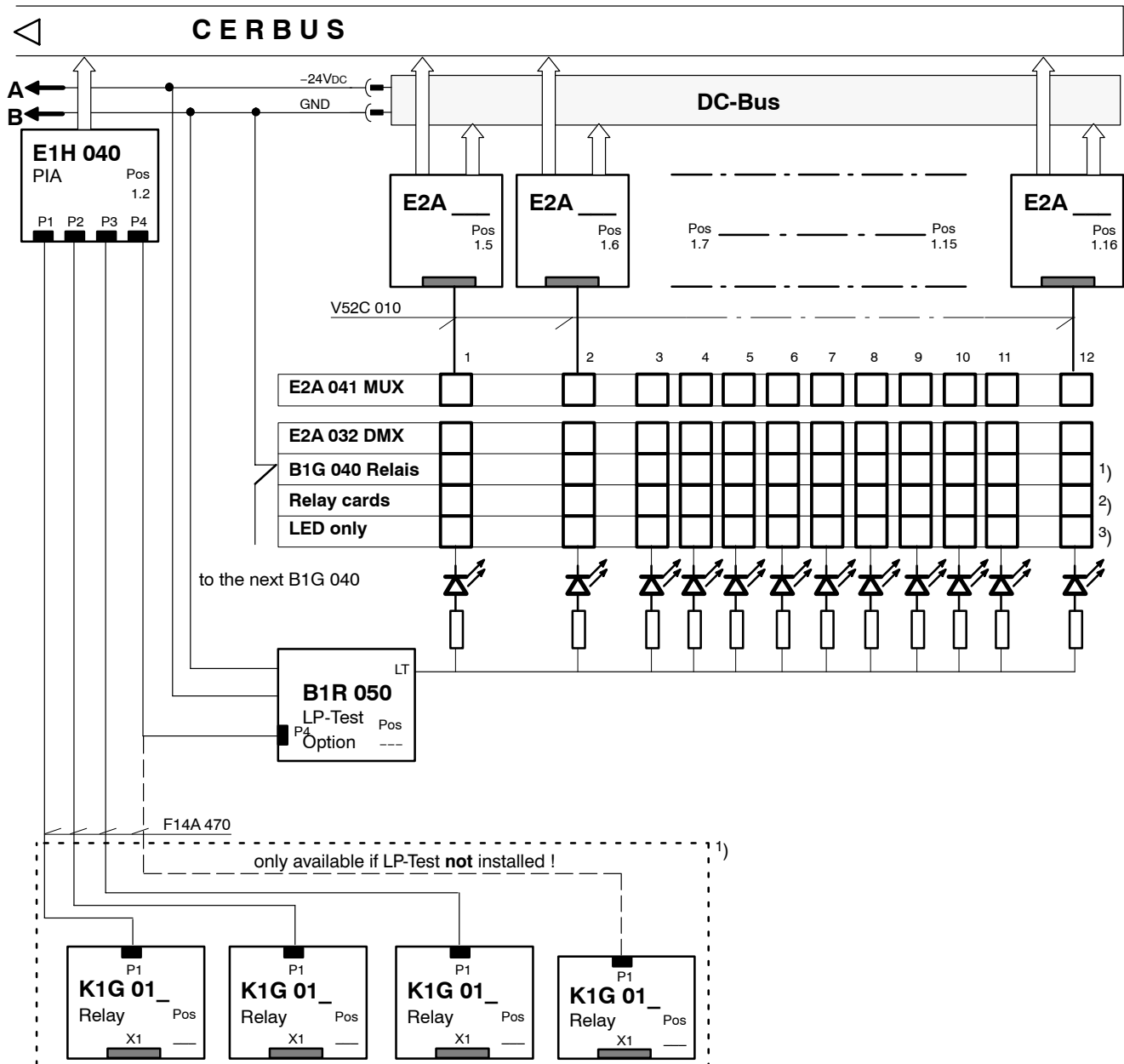
1) no longer on sale

2) B1G040 can be replaced by GFR006 (275893), GFR008 (319720) or GFR011 (399630) type relay cards. Relay cards must be used for CE conformity of MM7033 (immunity of inputs and outputs).

2.3 Digital PLC Unit MF7033 part 1



2.4 Digital PLC Unit MF7033 part 2



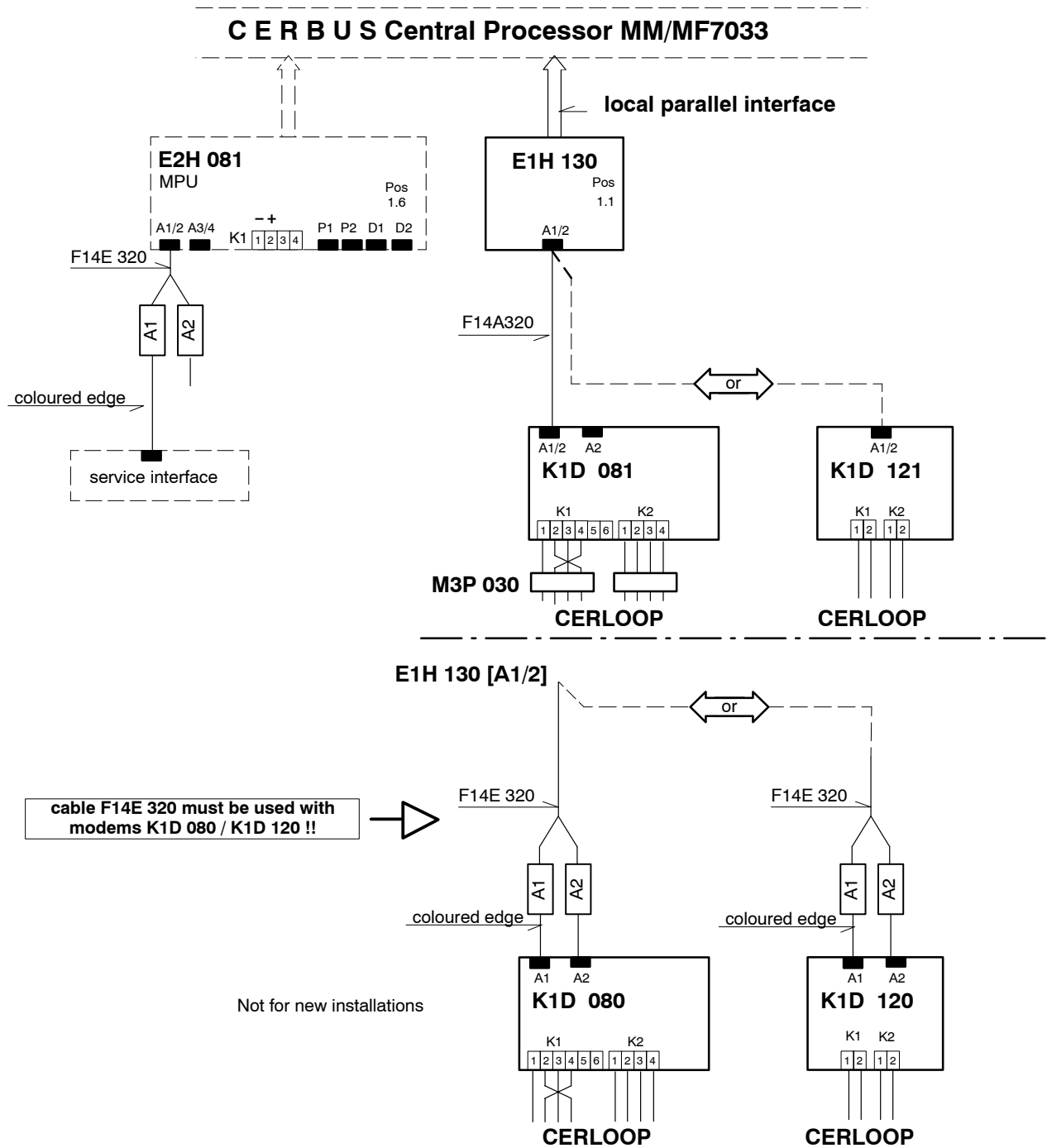
1) no longer on sale

2) B1G040 can be replaced by GFR006 (275893), GFR008 (319720) or GFR011 (399630) type relay cards. Relay cards must be used for CE conformity of MM7033 (immunity of inputs and outputs).

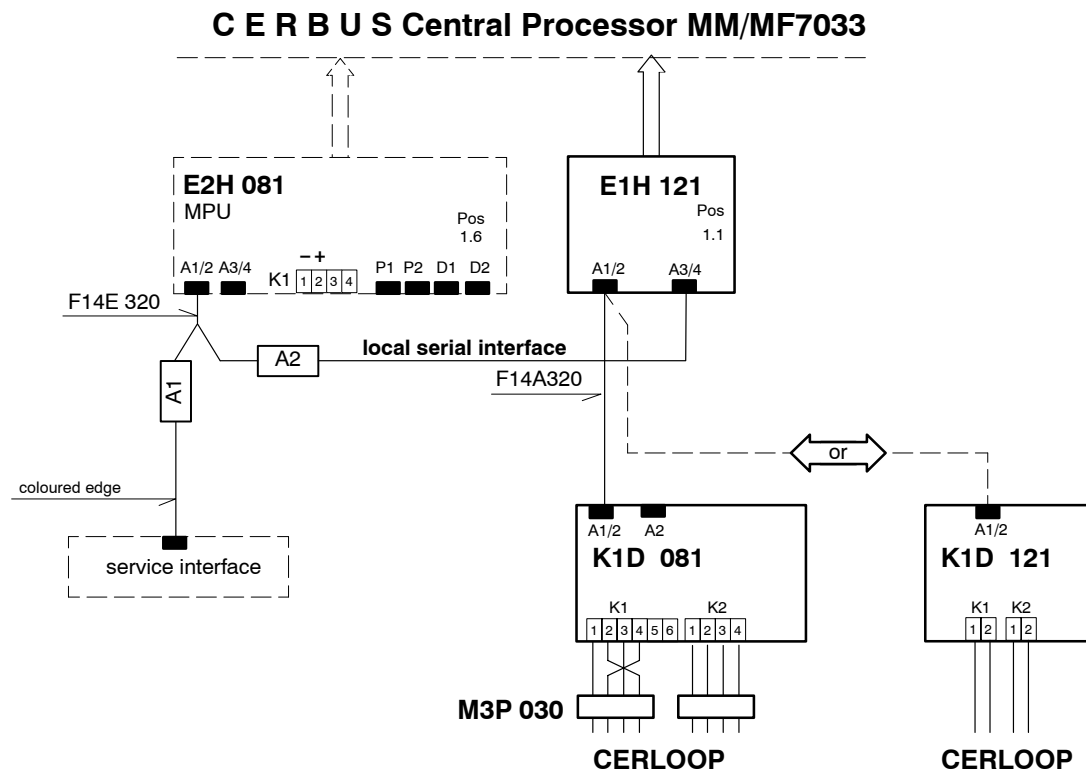
3) LED application without using relay cards is not CE conform.

2.5 MK7011 CERLOOP Node

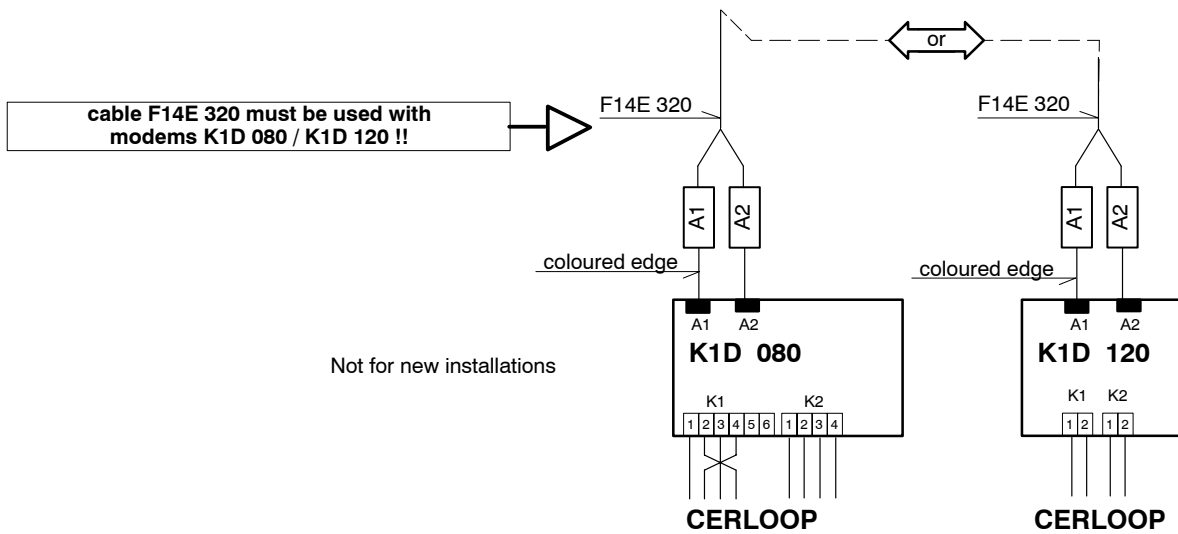
2.5.1 MK7011 using Communication Module E1H 130



2.5.2 MK7011 using Comm. Module E1H 121 (replace E2H020)



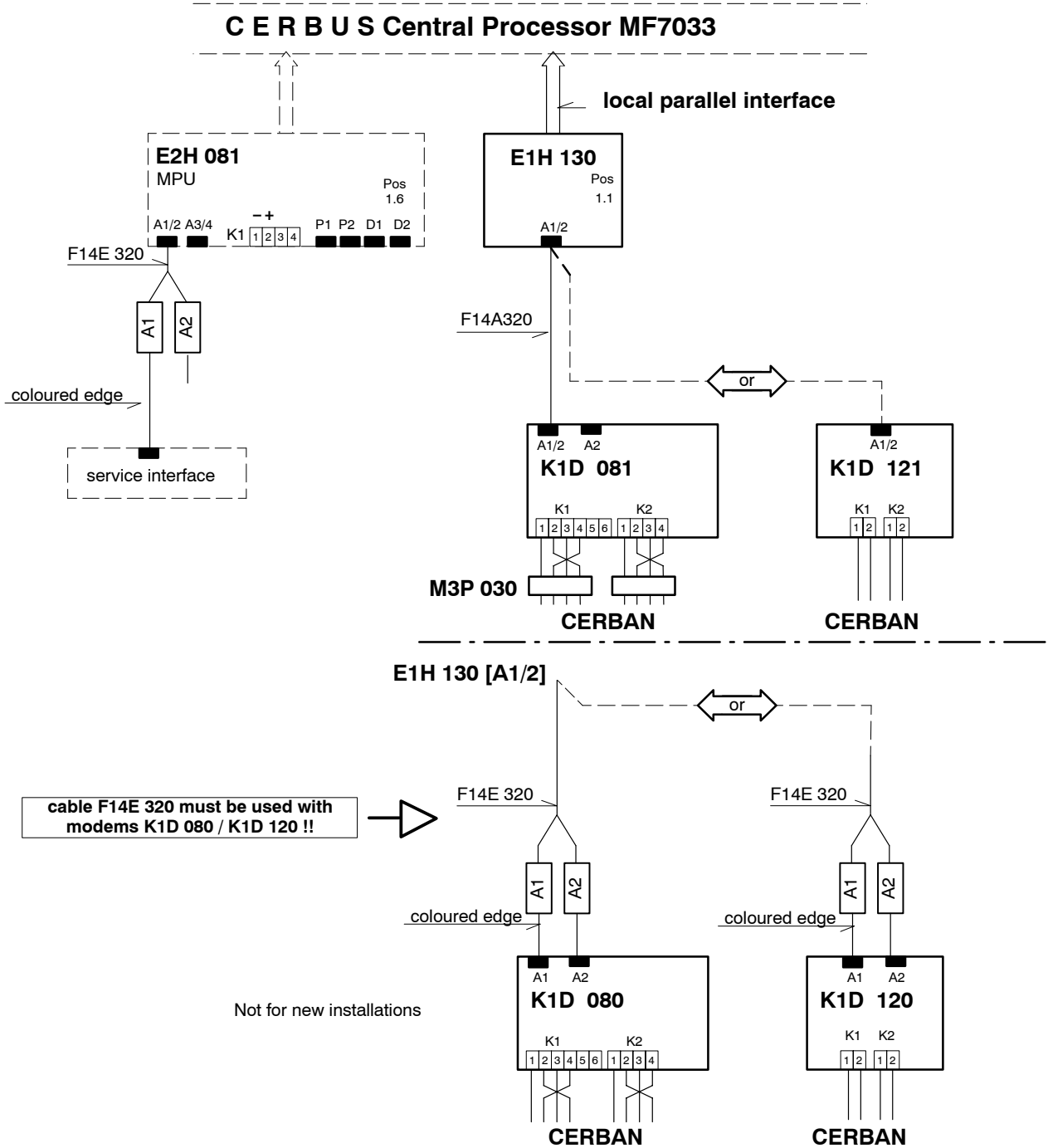
to E1H 121 [A1/2]



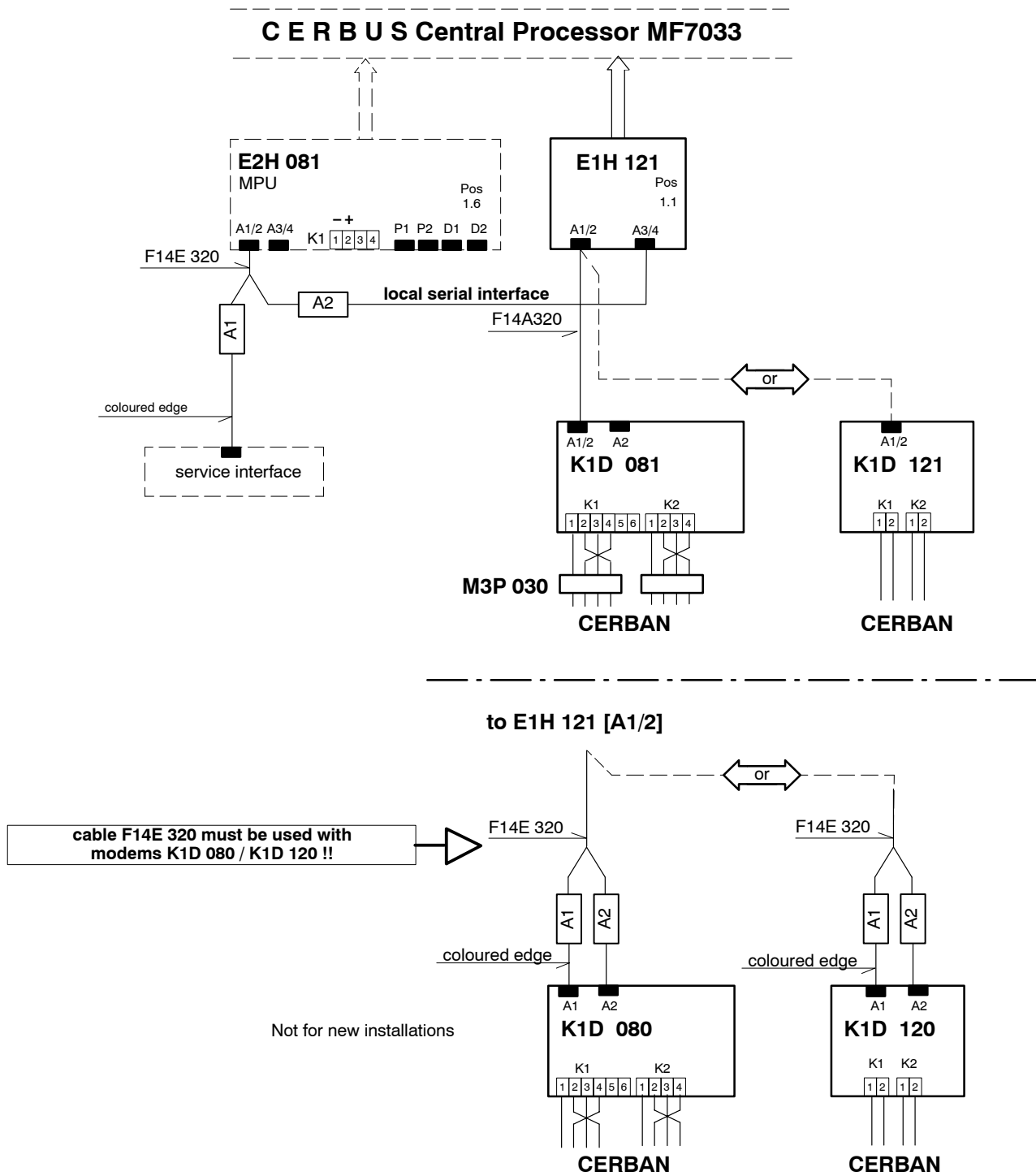
2.6 MD7002 Mini Dataconentrator

Application only possible for MF7033

2.6.1 MD7002 using Communication Module E1H 130



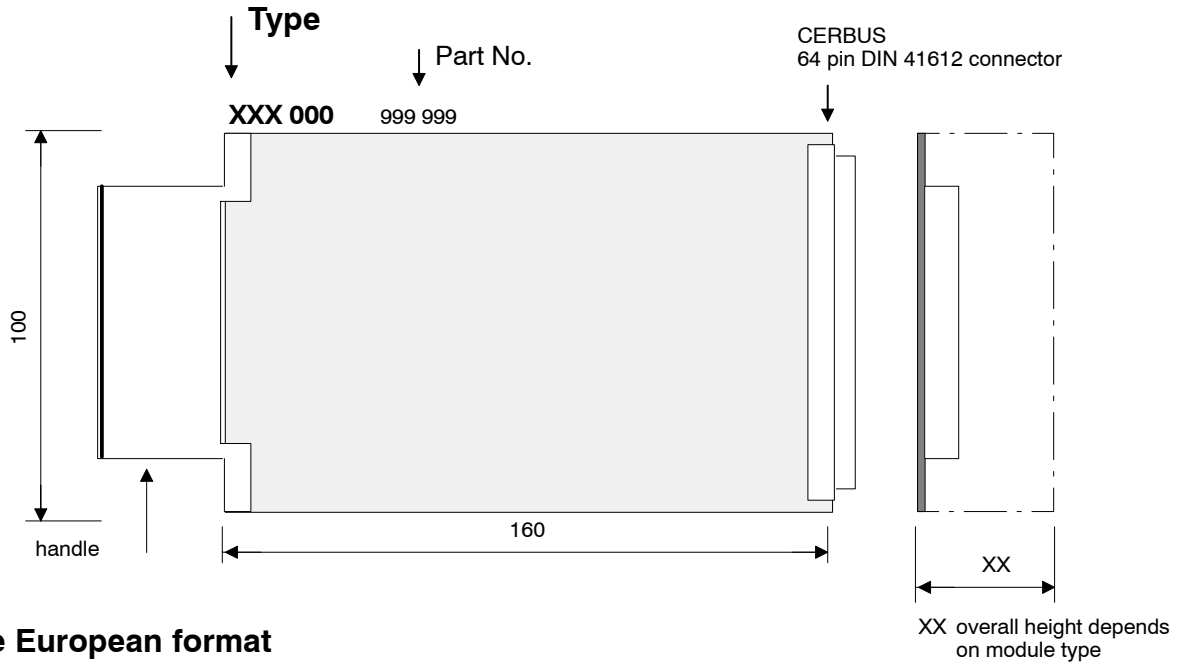
2.6.2 MD7002 using Communication Module E1H 121 (replace E1H 120)



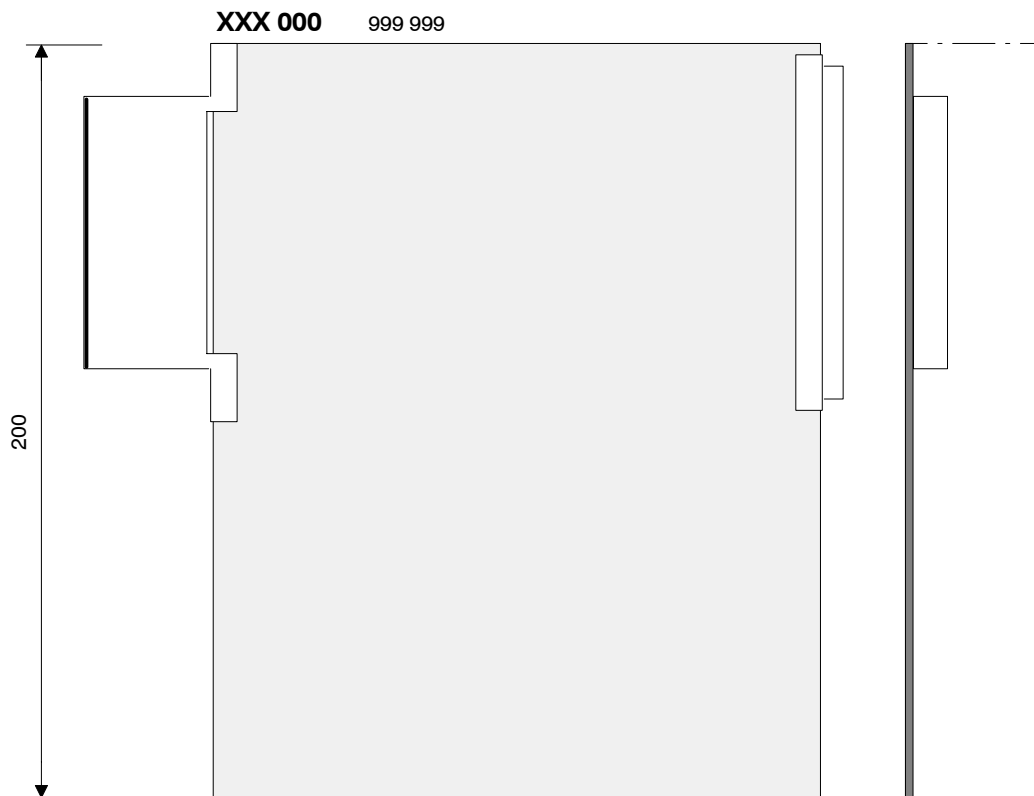
3 Module

- Each module is documented once only (even if used in several applications). Application specific features and adjustments are indicated on the corresponding pages.

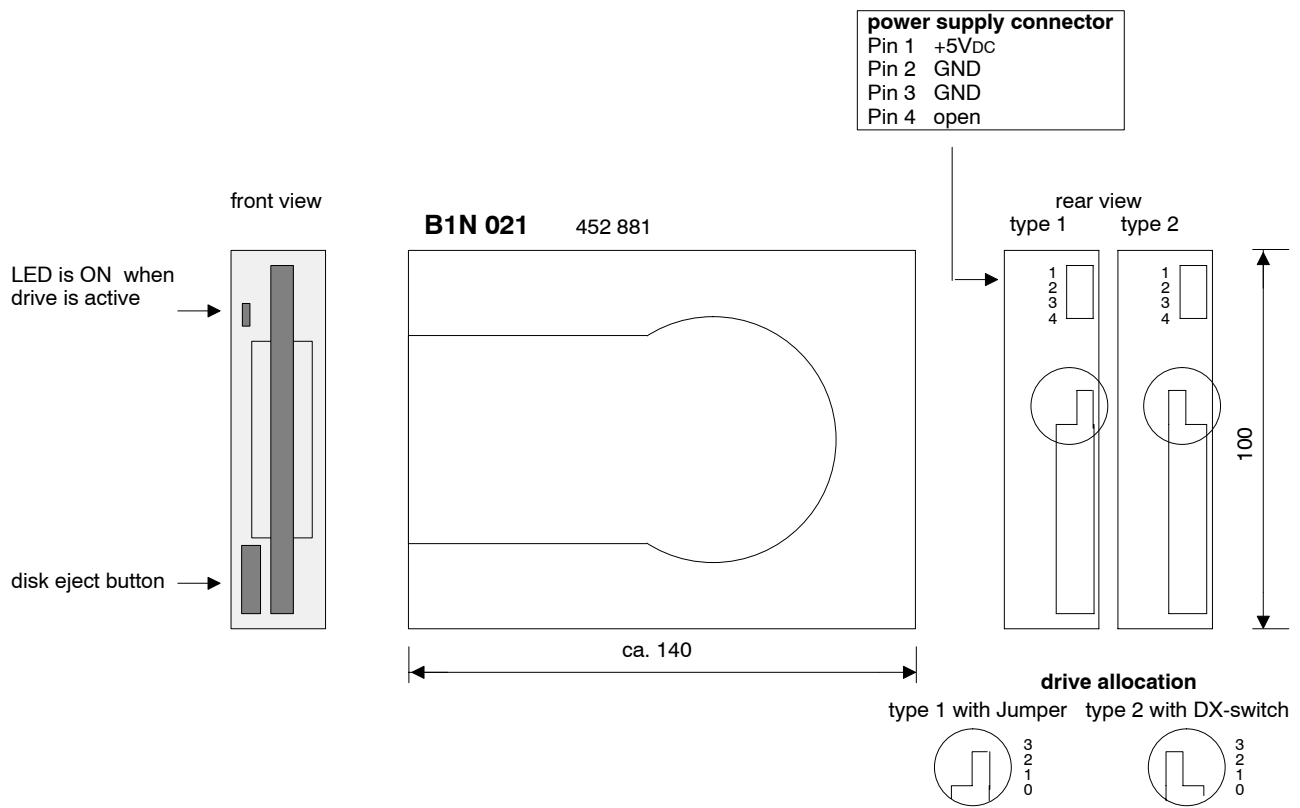
European format



Double European format



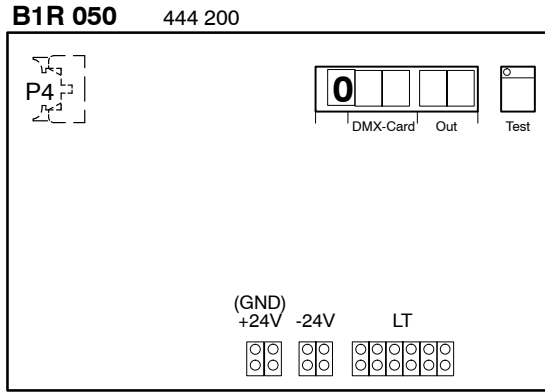
3.1 B1N 021 Microdisk Drive 3,5"



Drive Allocation	Drive No.
equipment program, System Data	0
MF-data file (.Q00)	0 or 1 1)

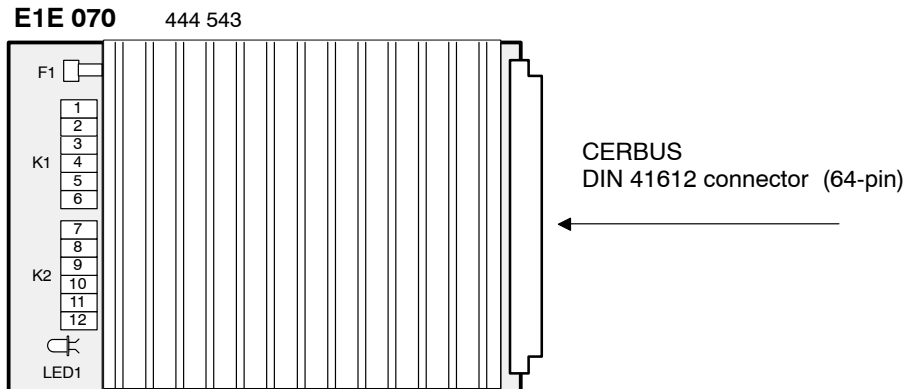
1) selectable in System Data (SYSEEDIT)



3.2 B1R 050 Display Test Panel



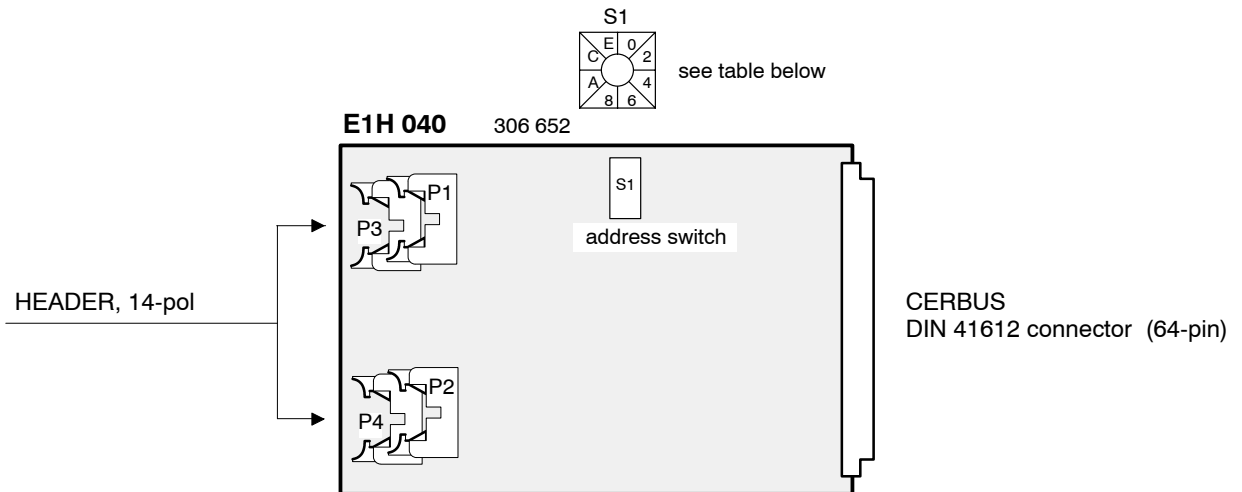
Pos.	Function	Note
HEADER P4	control signals : lamp test	
Terminals +24V	GND	
-24V	-24VDC	
LT	LED with lamp test	GND via 2k2 Ohm / 0,5 Watt per LED

3.3 E1E 070 DC/DC-Converter 24V/5V ;10A for CERBUS



Pos.	Function	
terminal K1	1	-24VDC
	2	GND
	3	5V ON/OFF disable 5VDC output (active = -24VDC)
	4	 contact closed normal operation (5VDC available) contact open converter fault condition
	5	
	6	 cabinet ground
terminal K2	7, 8, 9	0V
	10,11,12	5VDC
LED1	ON converter in operation	a) no input voltage b) fuse blown c) converter switched OFF via pin 3
	OFF: converter out of service	
F1	Fuse 5AT (part no. 338 879)	

3.4 E1H 040 PIA Module

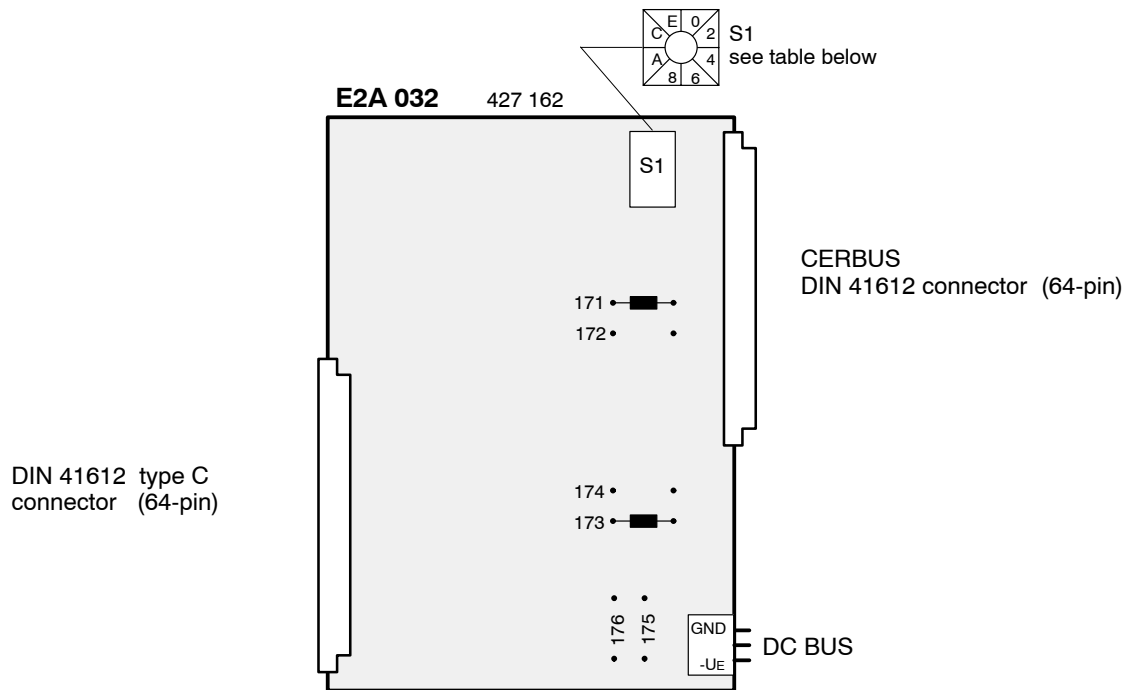


Pos.	Function	Comment
HEADER P1	control signals for Relay Module	see block diagram for ribbon cable connections to P1 ... P4
P2	control signals for Relay Module	
P3	control signals for Relay Module	
P4	control signals for Relay Module or control signals for Lamp Test (option)	

Pos.	Programming
switch S1	address switch in position 0

3.5 MUX/DMX Modules

3.5.1 E2A 032 Demultiplex Module

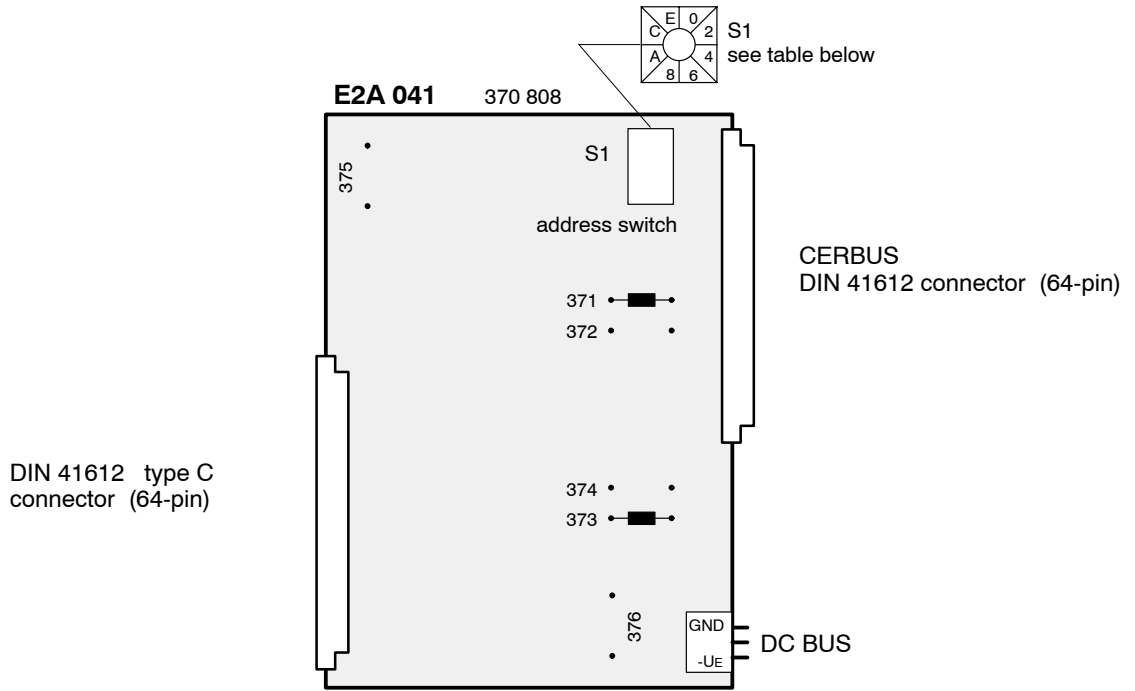


Programming	
address switch S1	module no. (in Editor)
0	01
1	02
2	03
3	04
4	05
5	06
6	07
7	08
8	09
9	10
A	11
B	12

Programming (factory settings)	
jumper 171 / 173	—■—
172 / 174 / 175 / 176	••••

"DMX" output characteristics $-U_A = -U_E = 5..29V_{DC}$, $-I_A = \max.40mA$
($-U_E = 17..29V_{DC}$ for E2A031)

3.5.2 E2A 041 Multiplex Module

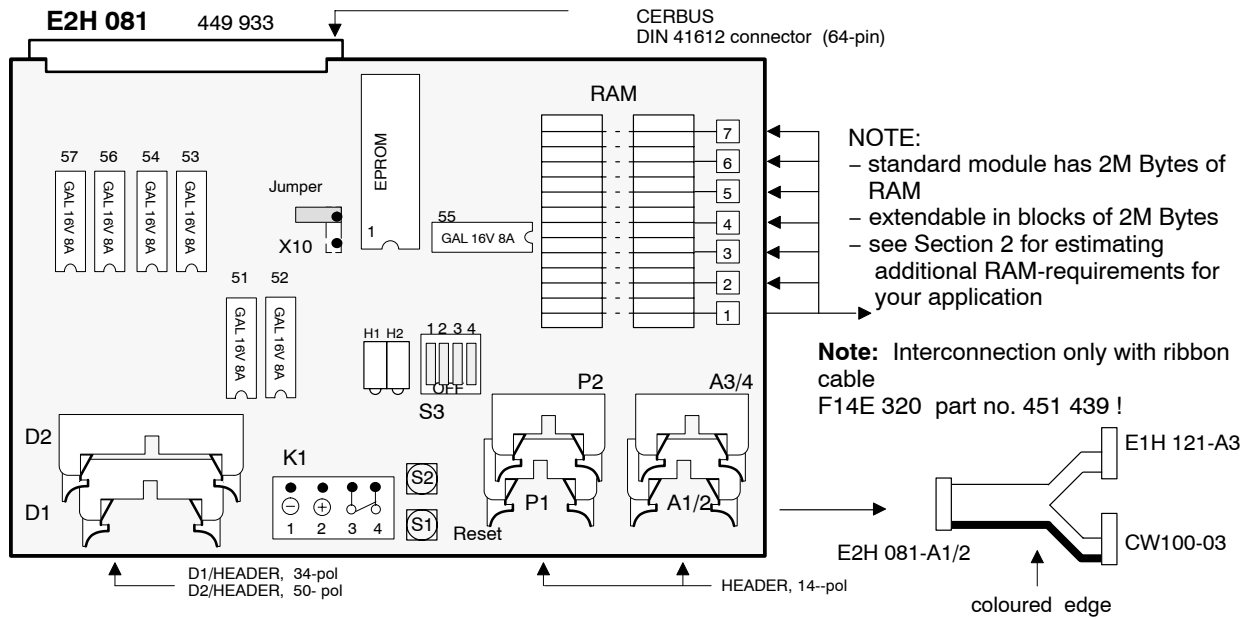


Programming	
address switch S1	module no. (in Editor)
0	01
1	02
2	03
3	04
4	05
5	06
6	07
7	08
8	09
9	10
A	11
B	12

Programming (factory settings)	
jumper 371 / 373	
372 / 374 / 375	

"MUX" input characteristics: -UE = 17..29VDC, -IE = 1mA

3.6 E2H 081 Microprocessor Module



NOTE:
 - standard module has 2M Bytes of RAM
 - extendable in blocks of 2M Bytes
 - see Section 2 for estimating additional RAM-requirements for your application

Note: Interconnection only with ribbon cable
 F14E 320 part no. 451 439 !

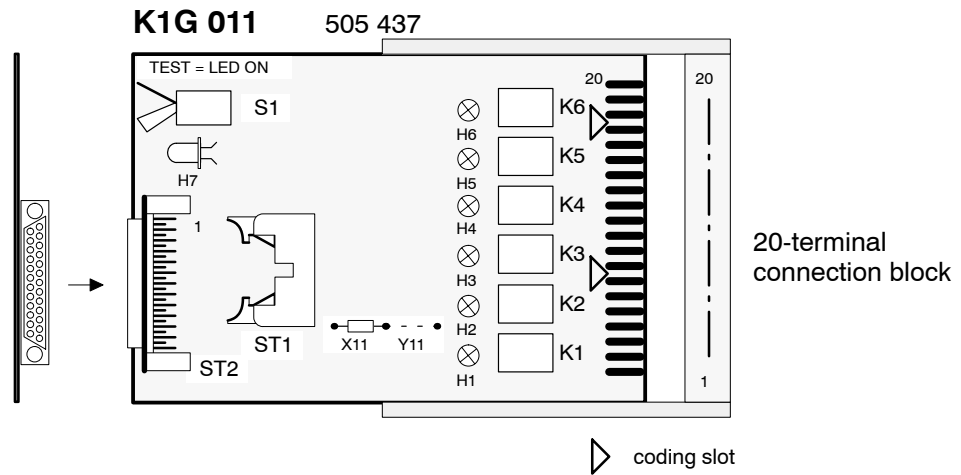
Pos.	Commissioning Function	Comments
D1	FD-Bus	FD-drives 0 . . . 3
D2	SCSI-Bus	HD/DC-Bus [D2]
P1	power supply surveillance	
P2	control of DMX-Module	K1G 010 [P1]
A1/2	service interface	to service-PC CW100-03
	local serial interface	see block diagram
A3/4		
S1	reset button	restart MPU
K1	1 ⊖ 0V	power supply for floppy disk drives
	2 ⊕ 5VDC	
	3	see block diagram
	4 HD/DC-Bus ON/OFF	
H1	L1 Monitor in operation	<div style="text-align: center;"> LED </div>
	L2 CERTOS + application in operation	
H2	L3 not used	
	L4 not used	
X10 Jumper	EPROM size selection (via address lines)	OFF = 64k x 16Bit / 128k x 16Bit ON = 256k x 16Bit

Pos.	Service Function
S2	abort button : processor service-mode
S3	operating mode: default = OFF
	1 OFF = boot CERTOS and application ON = boot Monitor
	2 OFF = not used ON = not used
	2 OFF = not used ON = not used

Pos.	Function	Comments
1	EPROM : 64k x 16Bit file name: BS7010 _____	CERTOS + Monitor
	file name:	
51	PS 3001.xx	Decoder + Logic
52	PS 3002.xx	
53	PS 3003.xx	
54	PS 3004.xx	
55	PS 3005.xx	
56	PS 3006.xx	
57	PS 3007.xx	

1) during normal operation LED 2 is ON

3.7 K1G 011 Relay Card (replacement for K1G 010, E3G 020) (no longer on sale)



Pos	Function	Note
HEADER ST1	control lines	
Connector ST2	25-pin D-SUB connector (male)	to connection box B3X 010
Connector S1	test switch	
LED H7	ON in test mode (relays remain inactive)	
H1 ... H6	ON when output is activated (in test mode LED's function normally)	
Relay K1 ... K6	relays with electrically isolated switch-over contact	contact loading: (ohmic load) 30V/ 100mA

3.8 E1H ... Kommunikation Module (show Doc. no. e1062 too)

————— *Modules in used show Document. no. e1062 Network*

3.9 K1D ... Modem Module (show Doc.No e1062)

————— *Modems' in used show Document no. e1062 Network*

Siemens Building Technologies AG
Alte Landstrasse 411
CH-8708 Männedorf
Phone +41 1 - 922 61 11
Fax +41 1 - 922 64 50
www.cerberus.ch