

# **SIEMENS**

**MD7000**

**MK7012**

**Data Concentrator**

**Cerban Node**

**Hardware- /Firmware-Installation  
Module**

**Fire & Security Products**

Siemens Building Technologies

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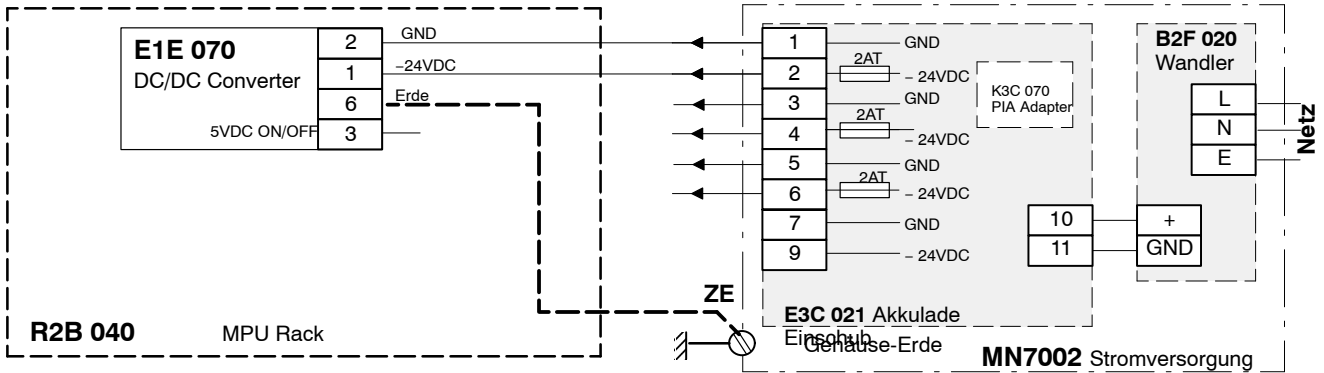
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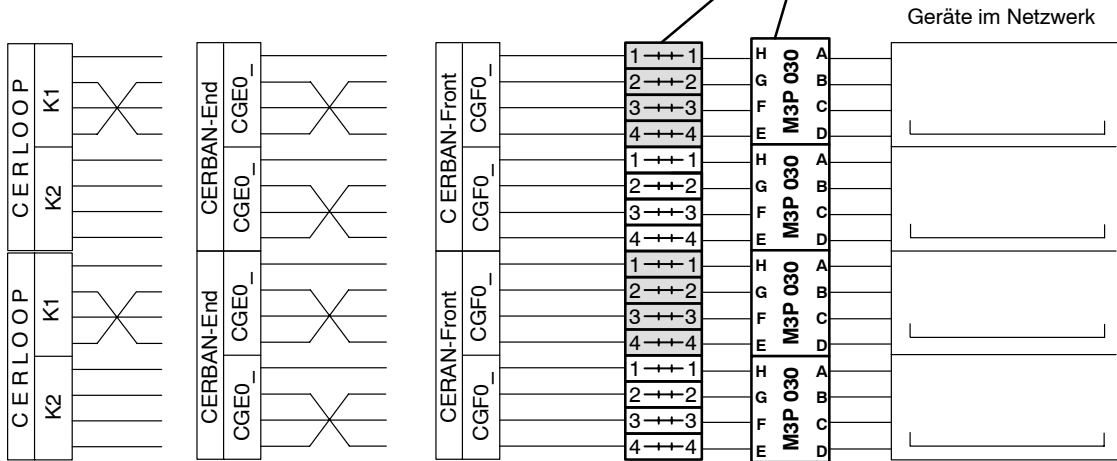


# 1 Equipment Interconnection Diagrams

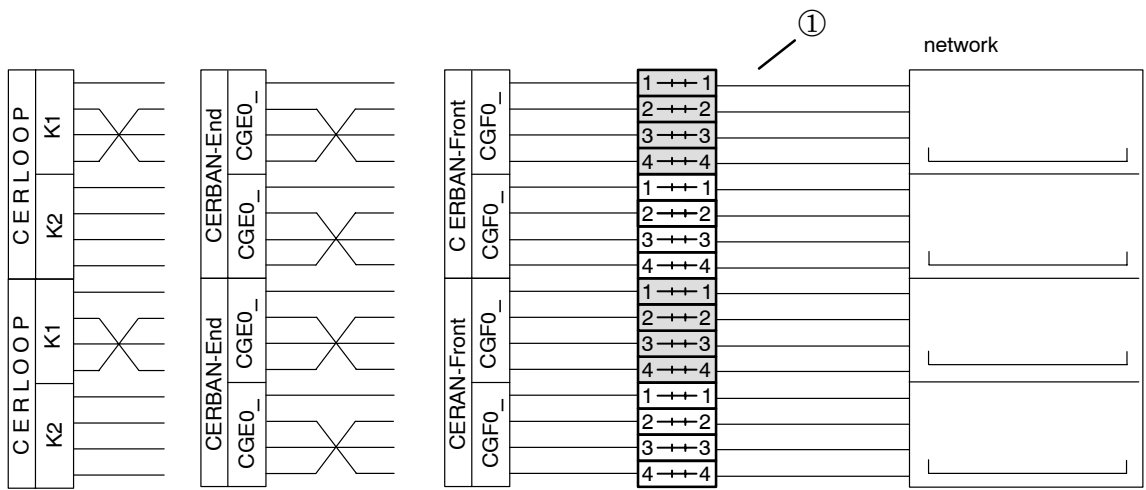
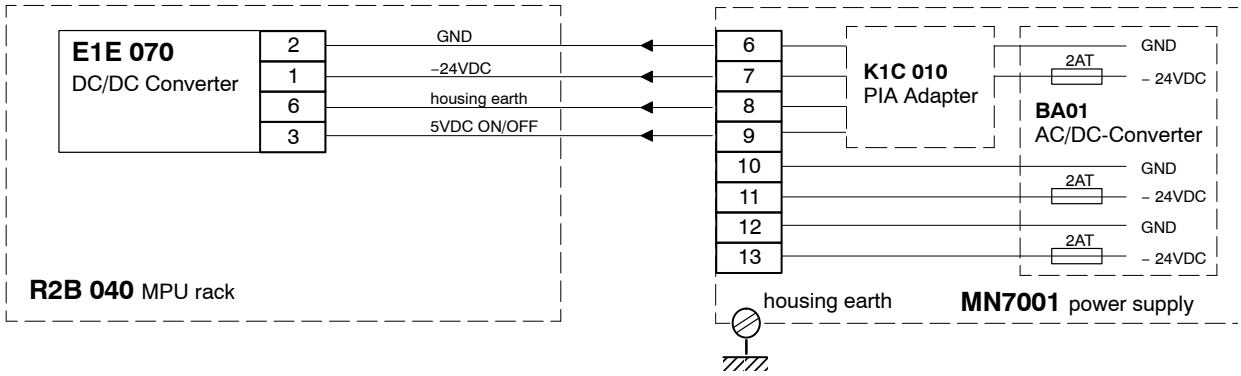
## 1.1 MD7008 using Power Supply Rack R1P 061



- Montage der Trennklemmen und Filter:**
- **Z3I 020** Trennklemmen-Set SachNr. 334 637 und Trennklemmen Sach-Nr. 336 059
  - **Z1I 010** Klemmenschiene 132mm TS32 für Trennklemmen oder Modemfilter
  - **R1K 030** Trennklemmenrack
  - **R1L 040** Universalsrack für Klemmenschiene Z1I 010 und Modemfilter M3P 030



## 1.2 MD7008 using Power Supply Rack R1P 060 (no longer on sale)



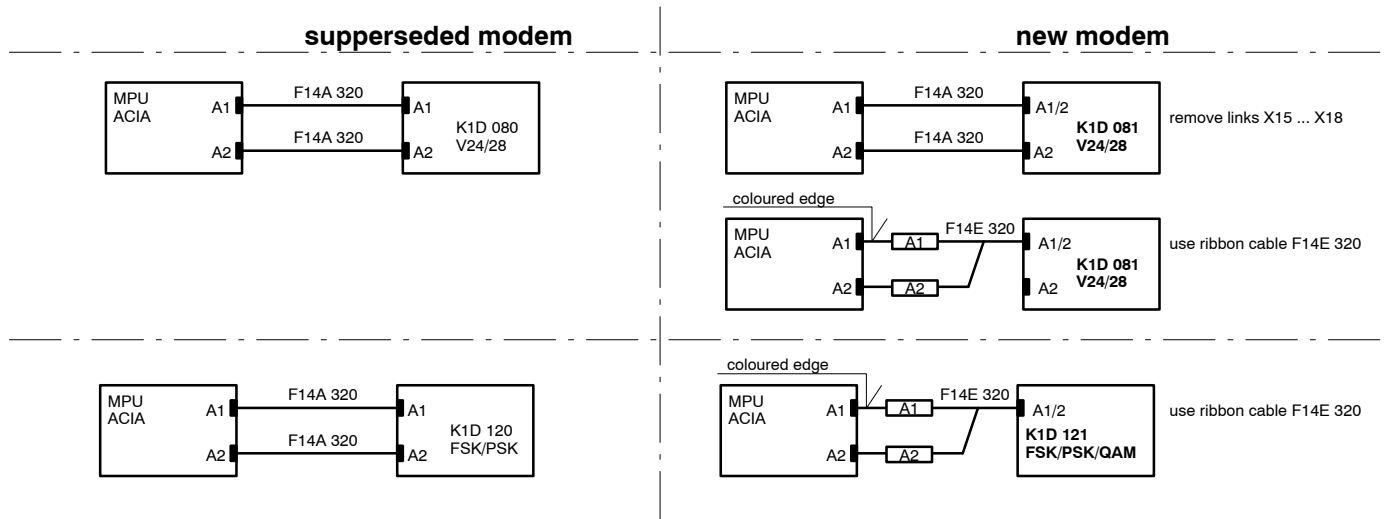
- ① 1 isolating terminal set Z3I 020 part no. 334 637 and
- 12 isolating terminal part no. 336 059



# 2 Block Diagrams

## 2.1 Modem Installation with Ribbon Cable F14A ... or F14E ...

**The serial HEADER pin-outs of the various modules (MPU, ACIA etc.) are not 100% intercompatible. the following diagram provides guidance for selection of the appropriate cable for the required connection.**



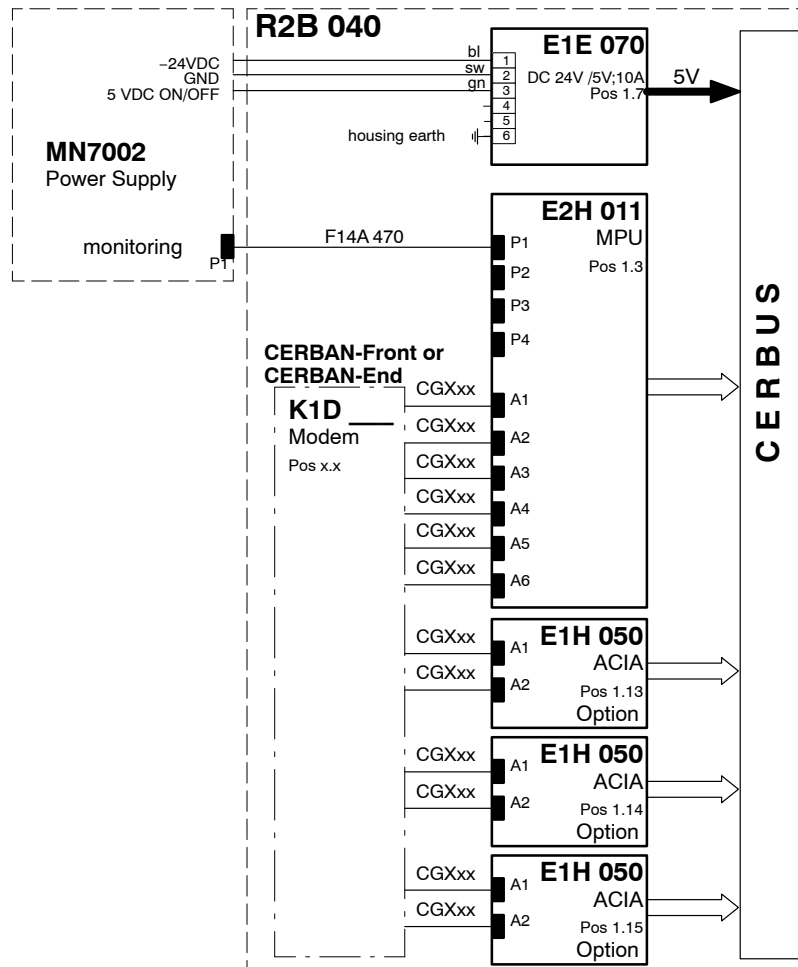
Note: MPU = E2H 010/011  
ACIA = E1H 050



## 2.2 MD7008 Data concentrator for up to 12 interfaces (no longer on sale)

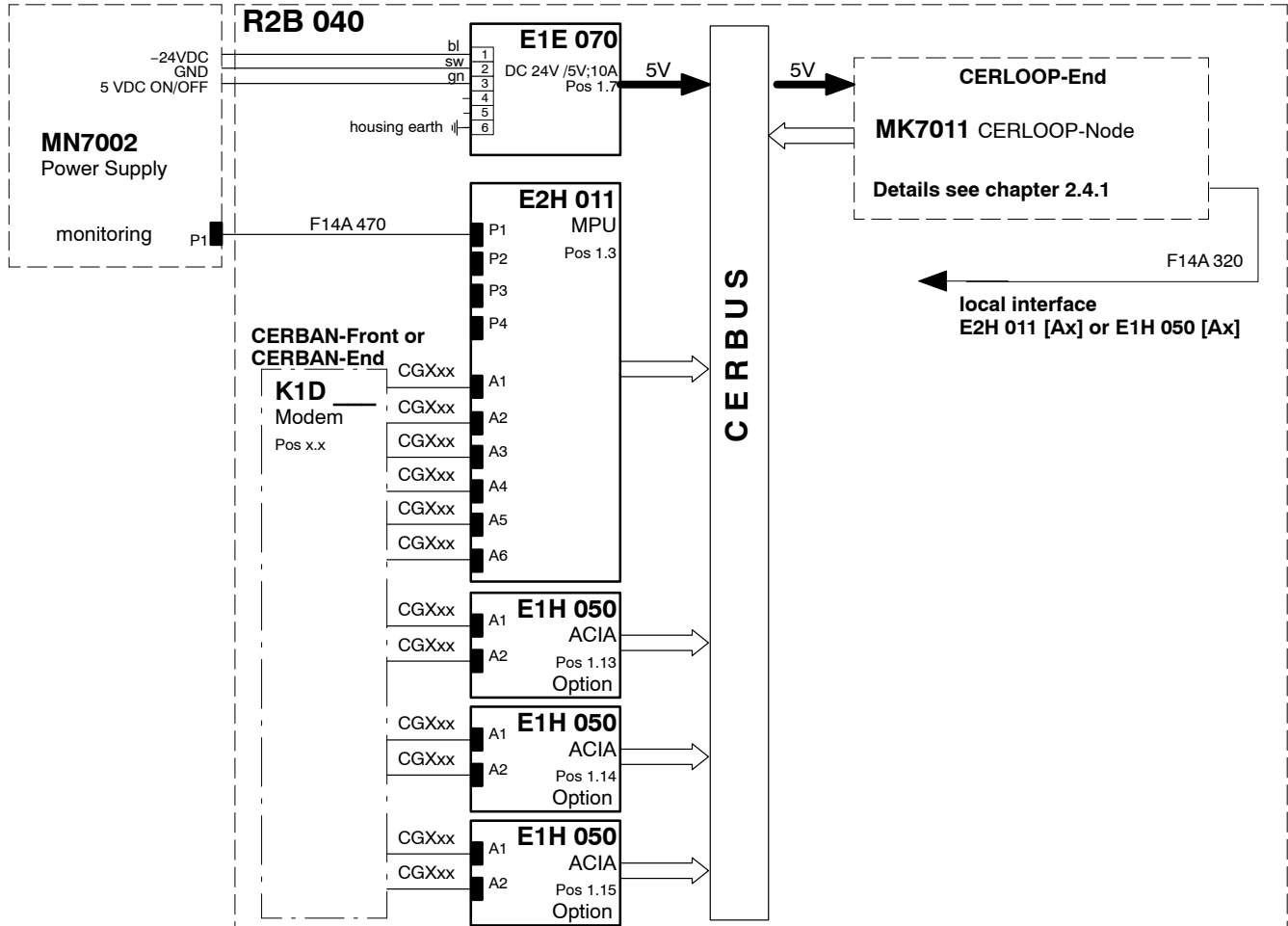
### 2.2.1 MD7008 Variant CERBAN-Front / CERBAN-End

Front-Interfaces CGF0x and End-Interfaces CGE0x on the MPU (E2H 011) and ACIA (E1H 050) may be freely allocated using the SW-Tool SWE100PA. An ACIA E1H050 is only necessary when seven or more interfaces are required.



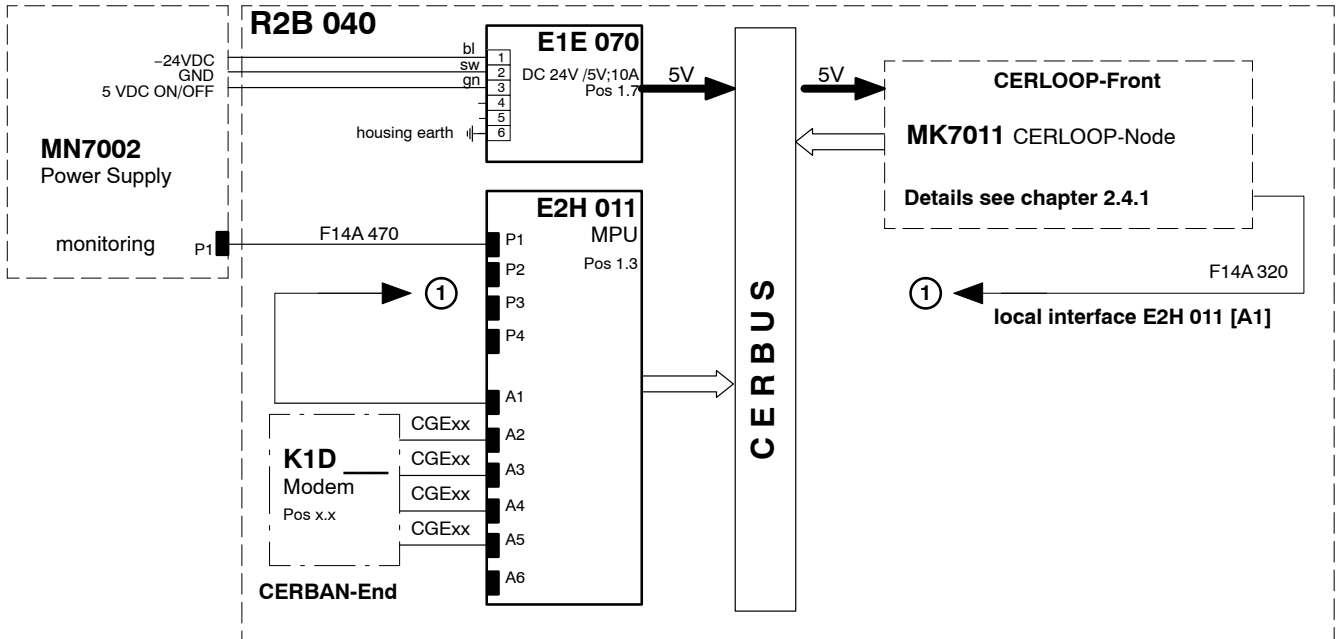
## 2.2.2 MD7008 Variant CERBAN-Front / CERLOOP-End (no longer on sale)

*Front-Interfaces CGF0x and End-Interfaces CGE0x on the MPU (E2H 011) and ACIA (E1H 050) may be freely allocated using the SW-Tool SWE100PA. An ACIA E1H050 is only necessary when seven or more interfaces are required.*



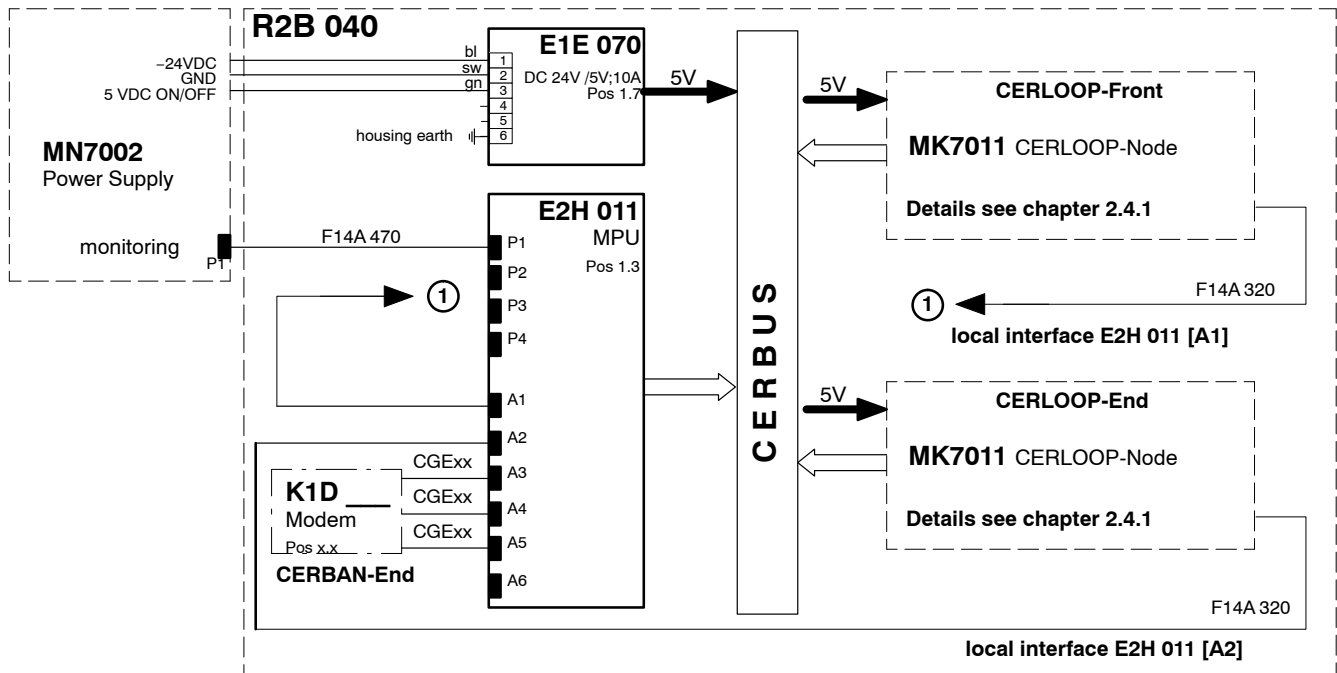
## 2.2.3 MD7008 Variant CERLOOP-Front / CERBAN-End (no longer on sale)

*The End-Interfaces CGE0x on the MPU (E2H 011) may be freely allocated using the SW-Tool SWE100PA.*



## 2.2.4 MD7008 Variant CERLOOP-Front / CERLOOP-End (no longer on sale)

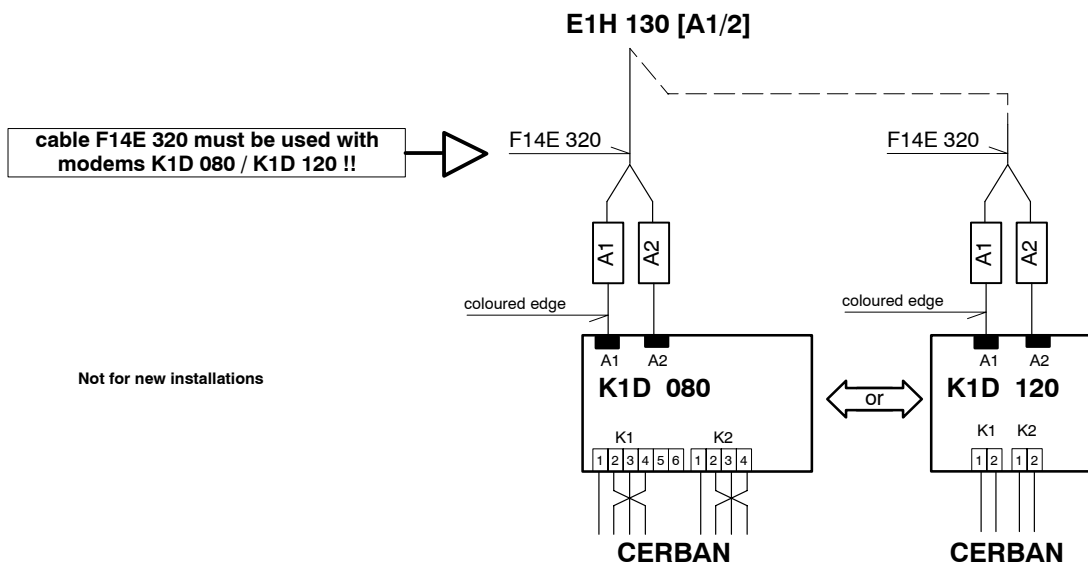
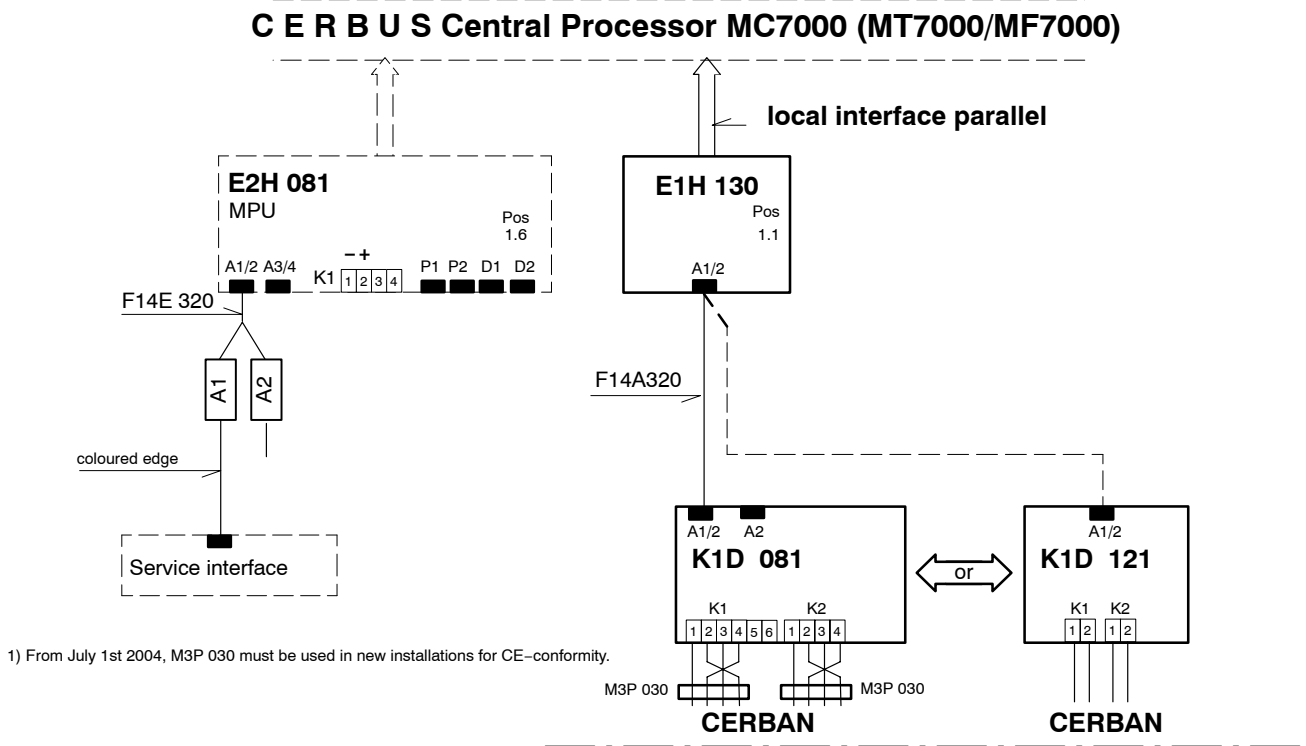
*The End-Interfaces CGE0x on the MPU (E2H 011) may be freely allocated using the SW-Tool SWE100PA.*



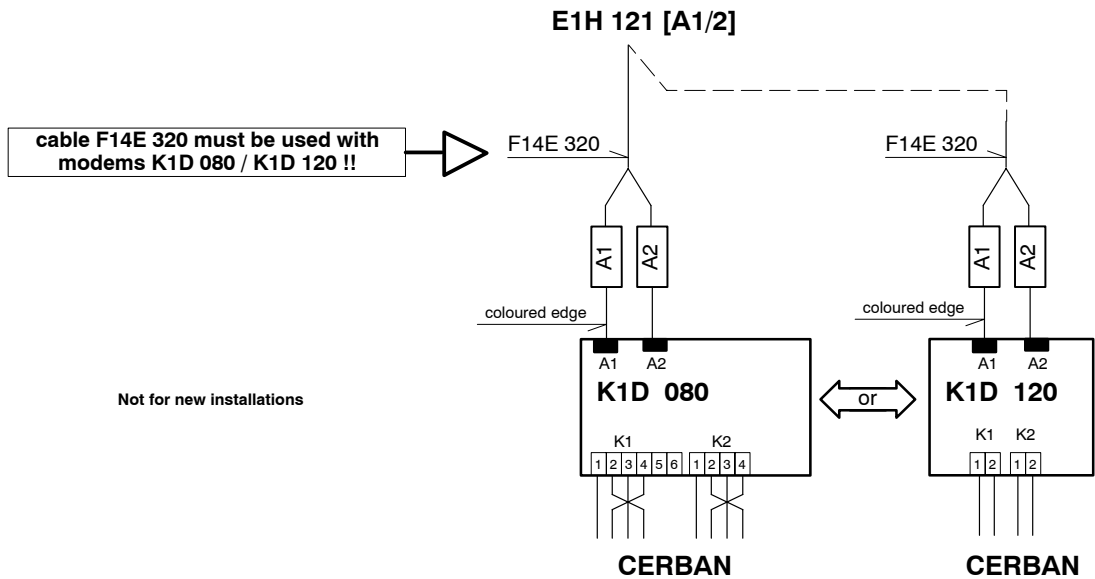
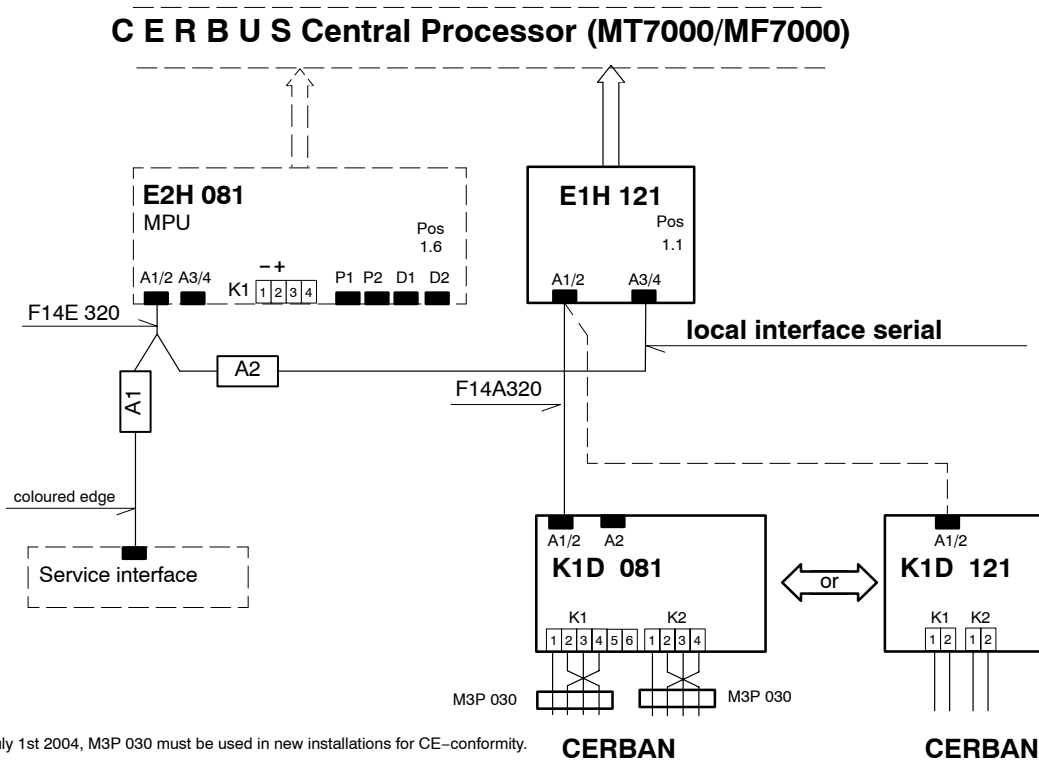
## 2.3 MD7002 Mini Data Concentrator

The MD7002 is normally integrated into an MF/MT7000.

### 2.3.1 MD7002 using Communication Module E1H 130

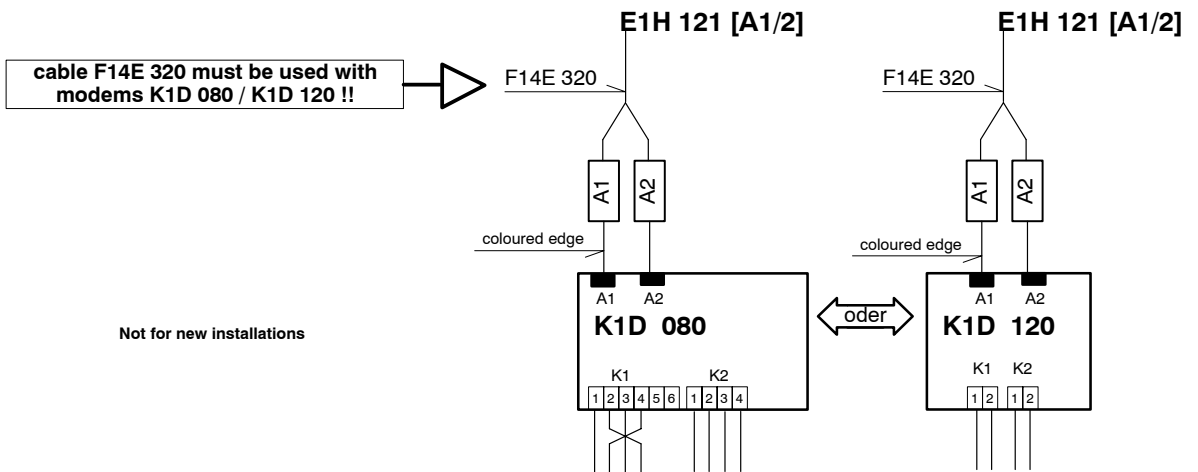
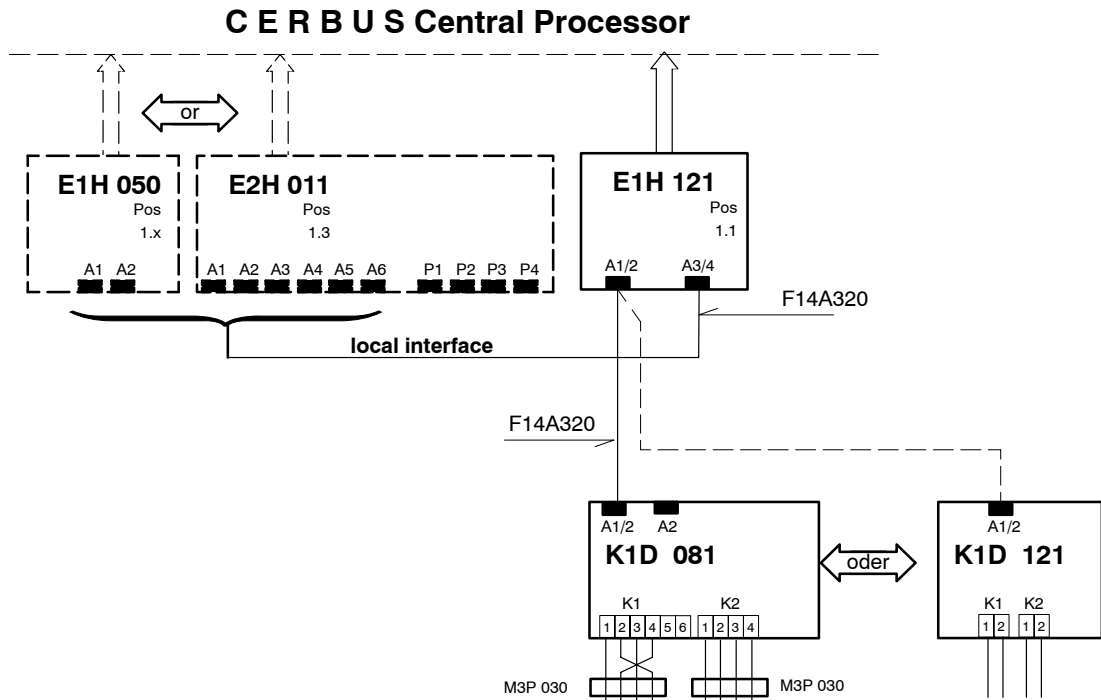


## 2.3.2 MD7002 using Communication Module E1H 121 (replace E1H 120)



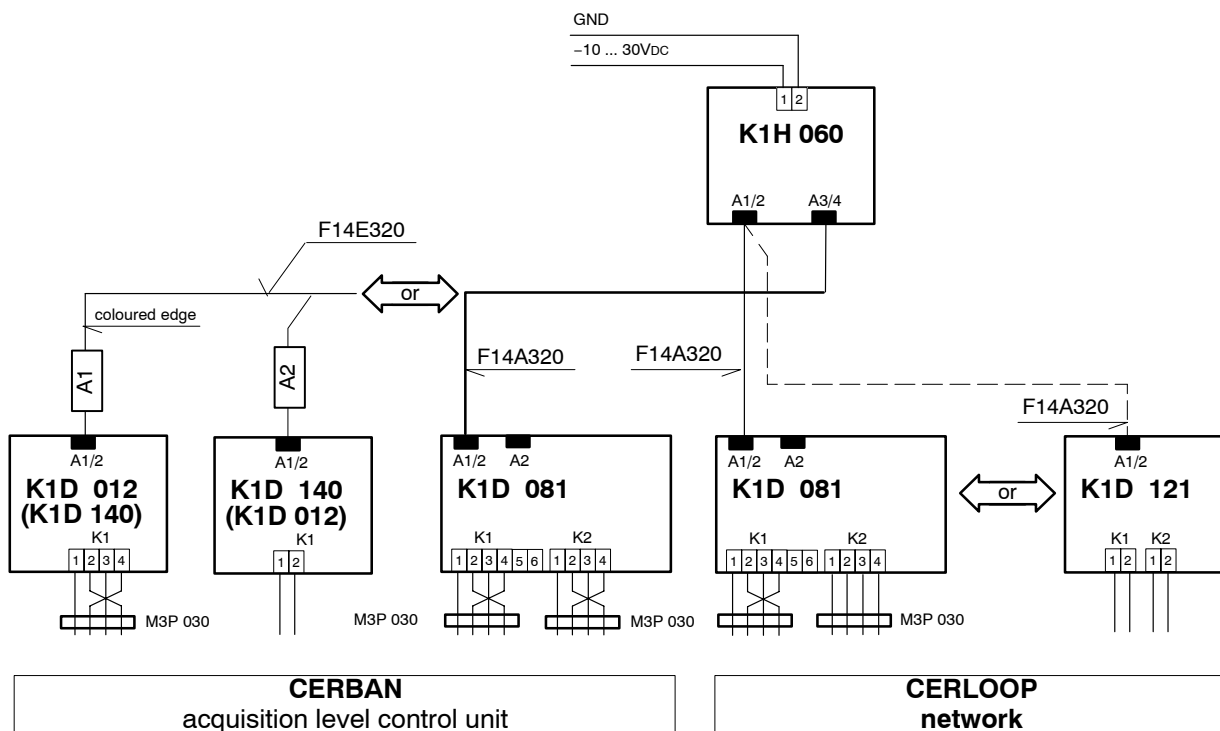
## 2.4 MK7011 CERLOOP-Node

### 2.4.1 MK7011 using Communication Module E1H 121 (replace E1H 120)



## 2.5 MK7012 CERBAN-Node

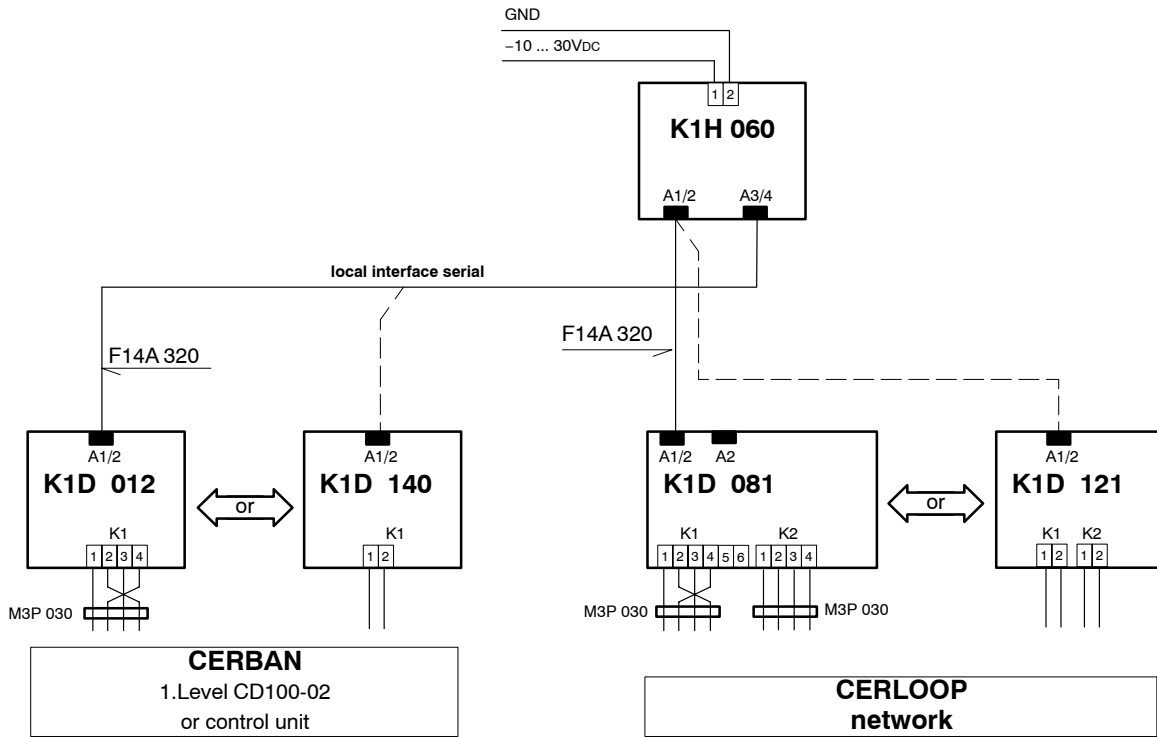
### 2.5.1 MK7012 for 2 interface with CD-Function using Comm. Module K1H 060



1) From July 1st 2004, M3P 030 must be used in new installations for CE-conformity.



## 2.5.2 MK7012 for one interface using Communication Module K1H 060

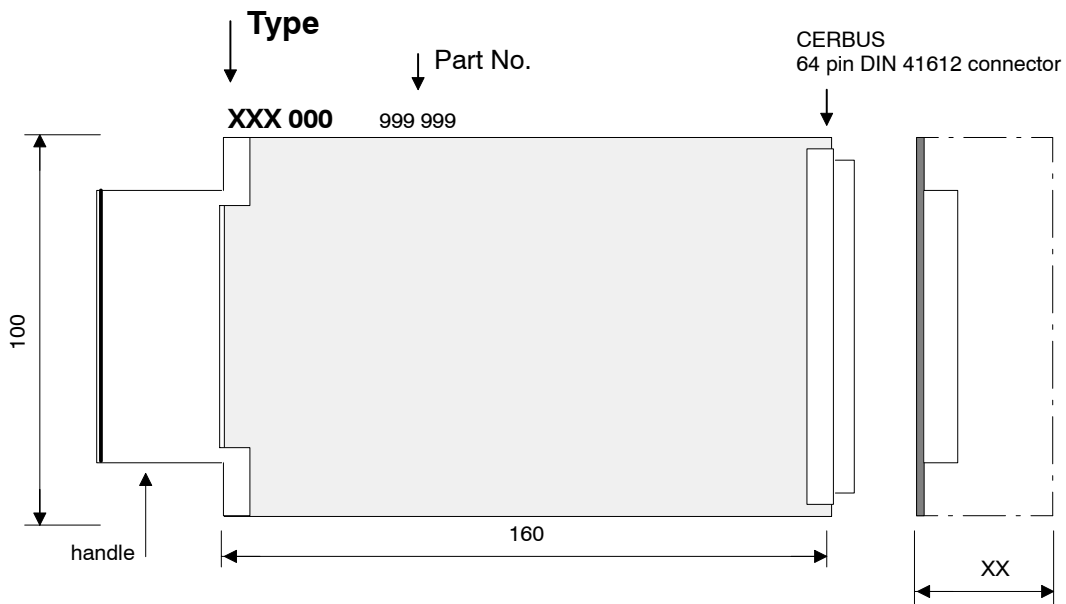


1) From July 1st 2004, M3P 030 must be used in new installations for CE-conformity.

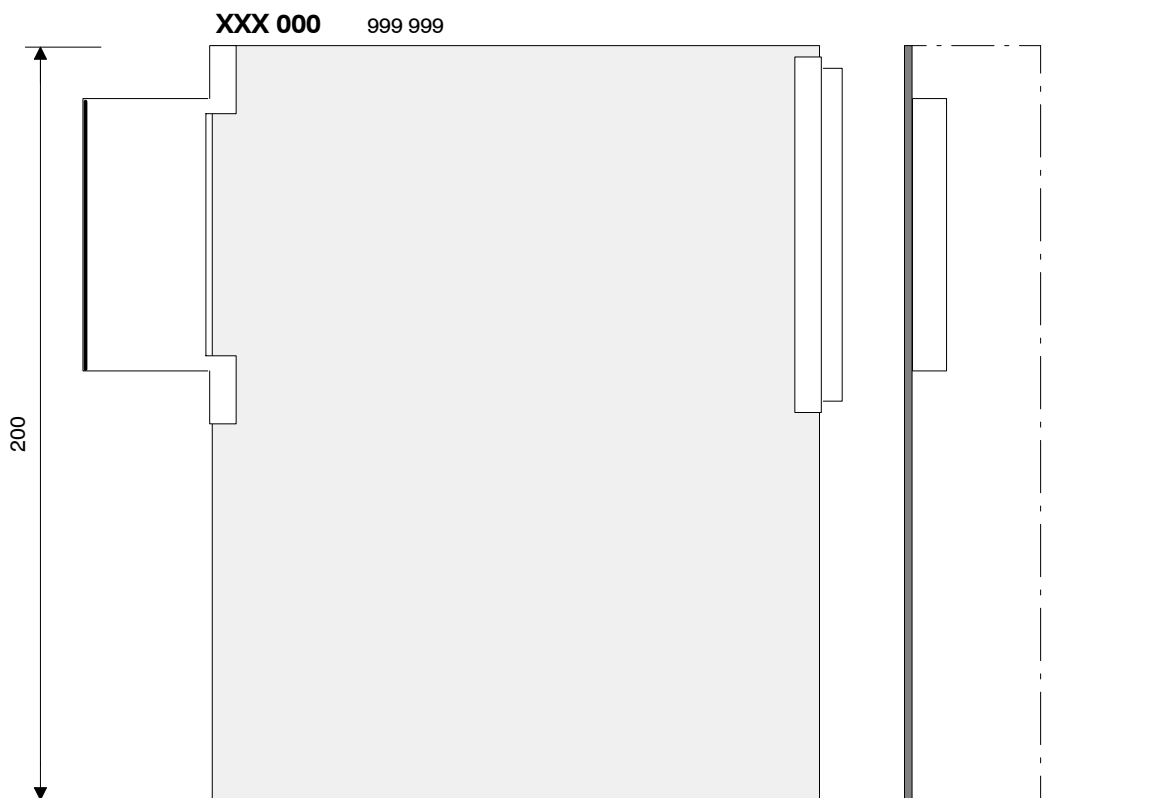
# 3 Modules

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

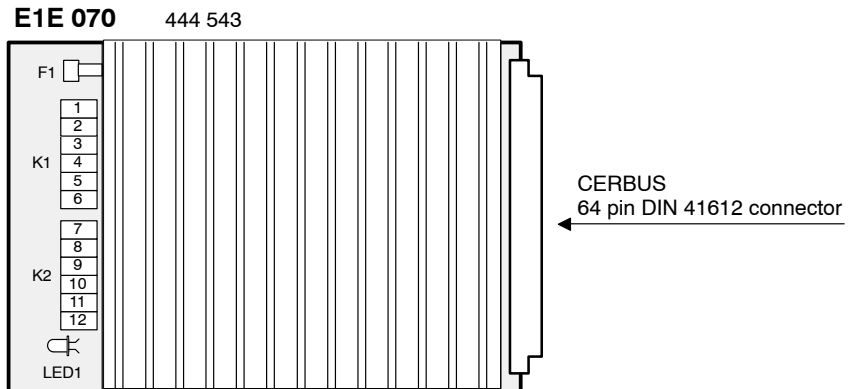
## European format





## Double European format

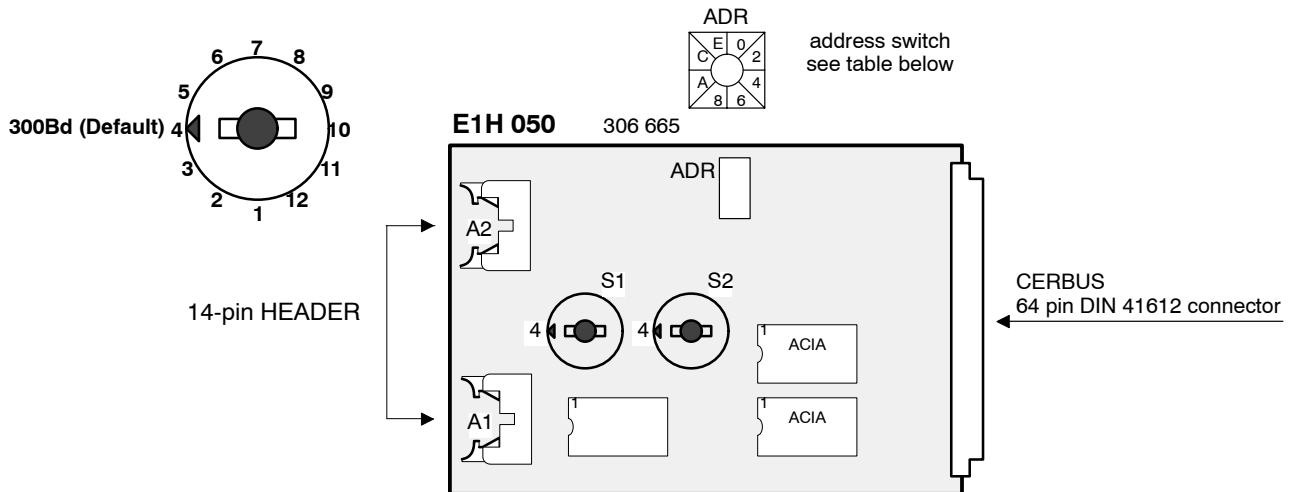


### 3.1 E1E 070 DC Converter 24/5V DC;10A (for CERBUS connection)



Pos.		Function	
Terminal <b>K1</b>	1	-24VDC	
	2	GND	
	3	5V ON/OFF	disable 5Vdc output (activ = -24Vdc)
	4		contact closed      normal operation (5Vdc present)
	5		contact open      DC converter fault
	6		equipment earthing point
Terminal <b>K2</b>	7, 8, 9	0V	
	10,11,12	5VDC	
<b>LED1</b>		ON:      DC-Converter in operation	a) no input voltage b) fuse blown c) converter switched off via terminal 3
		OFF:     DC-Converter out of order	
<b>F1</b>		fuse:    5AT (part. no. 338 879)	

### 3.2 E1H 050 ACIA Module (no longer on sale)

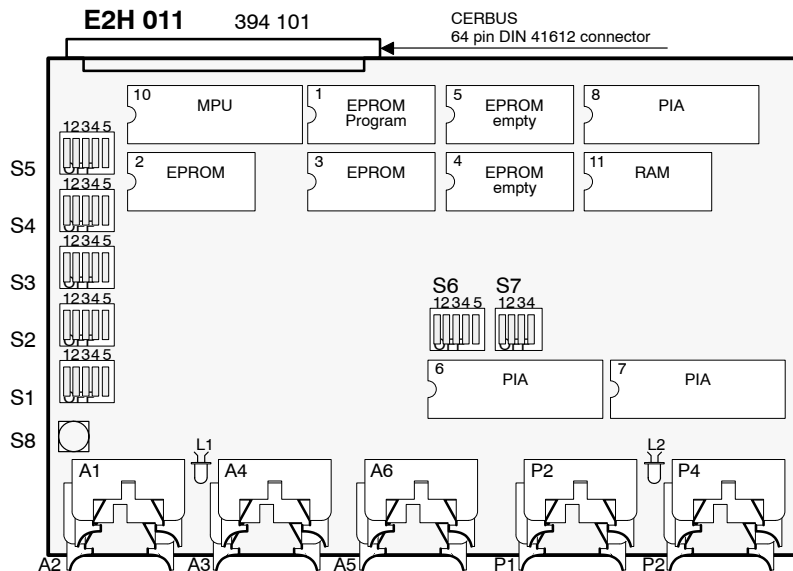


Pos.	Function	Note
HEADER A1	seriale interface 1	
HEADER A2	seriale interface 2	

Position of switches				
address switch ADR		switch S1 / S2 for baudrate		
Position	see DocNo d/e972 SWE100PA	Position	S1	S2
0	1 / 2 ACIA	1	110	110
1	3 / 4 ACIA	2	150	150
2	5 / 6 ACIA	3	200	200
3	7 / 8 ACIA	4	<b>300 (Default)</b>	<b>300 (Default)</b>
4	9 / 10 ACIA	5	600 (Option) 1)	600 (Option) 1)
5	11 / 12 ACIA	6	1200	1200
6		7	2400	2400
7		8	4800	4800
8		9	9600	9600
9		10	Ext	Ext
A ... F		11 ... 12	--	--

1) MD7008 (CD100-02) up SW-Version CD2000.06  
MD7002 only for SW-Version CD7001.01

### 3.3 E2H 011 Microprocessor Module (no longer on sale)



Pos.	Function HEADER, LED's	Note
A1 ... A6	serial front interface or end interface	
P1	power supply monitoring	
P2 ... P4	no function	
L1	LED activ: fault watchdog	
L2	no function	

Switch S1 ... S6	Position of switch = Baudrate x = Switch No. = serial interface A1 ... A6						Note
Baudrate	Sx-1	Sx-2	Sx-3	Sx-4	Sx-5		
300	ON	OFF	OFF	OFF	OFF	Default	
600	OFF	ON	OFF	OFF	OFF	Option	

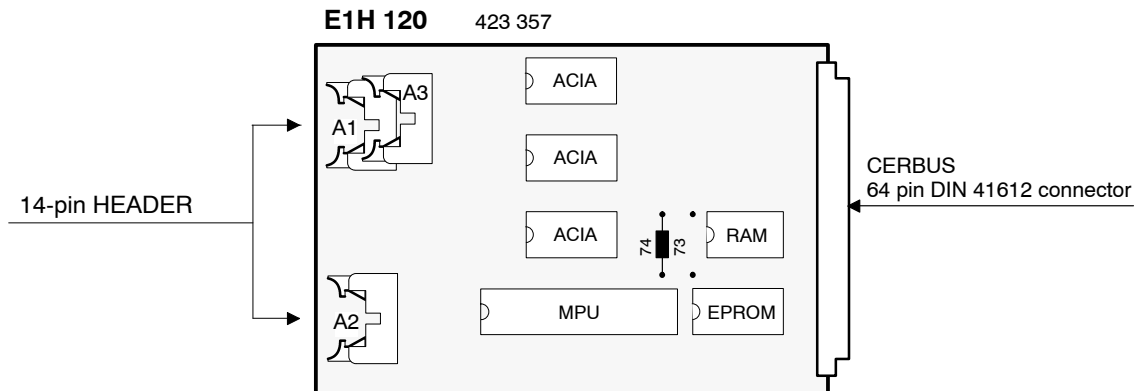
Pos.	Position of switch				Note	
Switch	ON		OFF		Default	Function
S7 - 1	ON		OFF		ON	NMI
S7 - 2	ON	10ms	OFF	5ms	OFF	up SW Version CD2000.06 Interrupt = 5ms
S7 - 3	OFF		ON		ON	
S7 - 4	OFF		ON		OFF	Watchdog OFF = Watchdog active
S8	Reset					

Pos	Programming	Note
EPROM 1	file name: <b>HD2xxx.</b> __ EPROM 32k x 8Bit xxx = local address	equipment and system date <b>EDIT: SWE100D2</b>
EPROM 2	file name: <b>RS2003.</b> __ EPROM 8k x 8Bit	decoder: peripheral-address configuration <b>EDIT: SWE100PA</b>
EPROM 3	file name: <b>RS2004.</b> __ EPROM 8k x 8Bit	decoder: address <b>Firmware</b> fitted at factory
EPROM 4	file name: <b>empty</b> EPROM 8k x 8Bit	
EPROM 5	file name: <b>empty</b> EPROM 8k x 8Bit	
SRAM 11	working memory SRAM 32k x 8Bit	fitted at factory

### 3.4 E1H ... / K1H ... Communications Modules

#### 3.4.1 E1H 120 Communication Module to CD100-02 Mini Data concentrator

**Not to be used for new systems.**

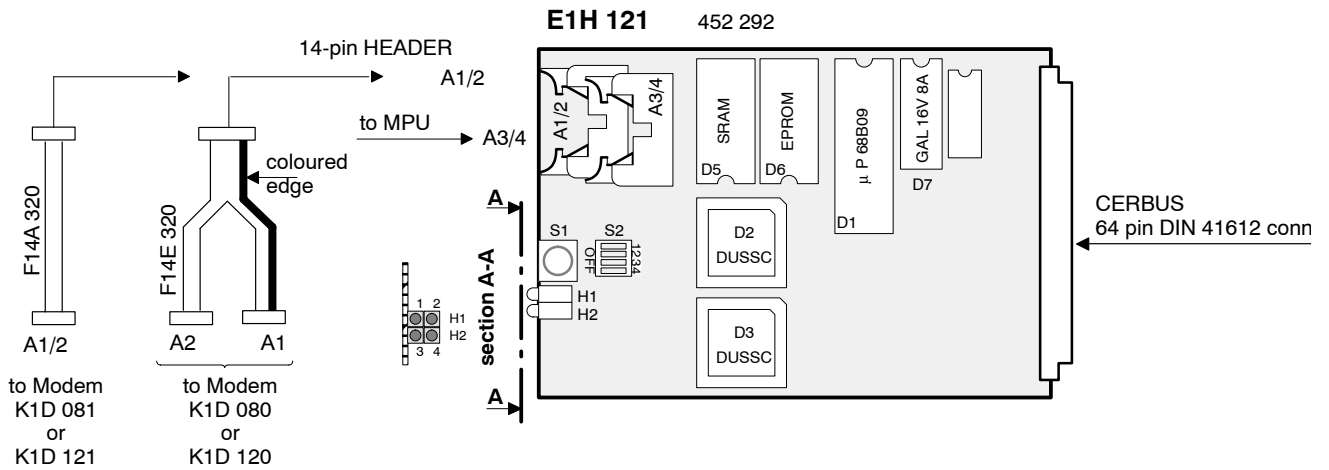


Application	CD100-02 Mini Data Concentrator	Note
Pos.	Function HEADER	
A1	Front-Interface CGF01 network: CERBAN	
A2	Front-Interface CGF02 network: CERBAN	
A3	End-Interface CGE01	data transfer

Application	CD100-02 Mini Data Concentrator	Note
Pos.	Function EPROM, RAM, links	
EPROM	file name: <b>HD2xxx.</b> EPROM 32k x 8Bit 1) xxx = local address CD100-02	program memory
RAM	working memory 8k x 8Bit	fitted at factory
links 73		factory setting
74		

1) Configuration with SWE100D2 (or CDEDT Flex)

### 3.4.2 E1H 121 Communication Module to MK7011 / MD7002 (no longer on sale)

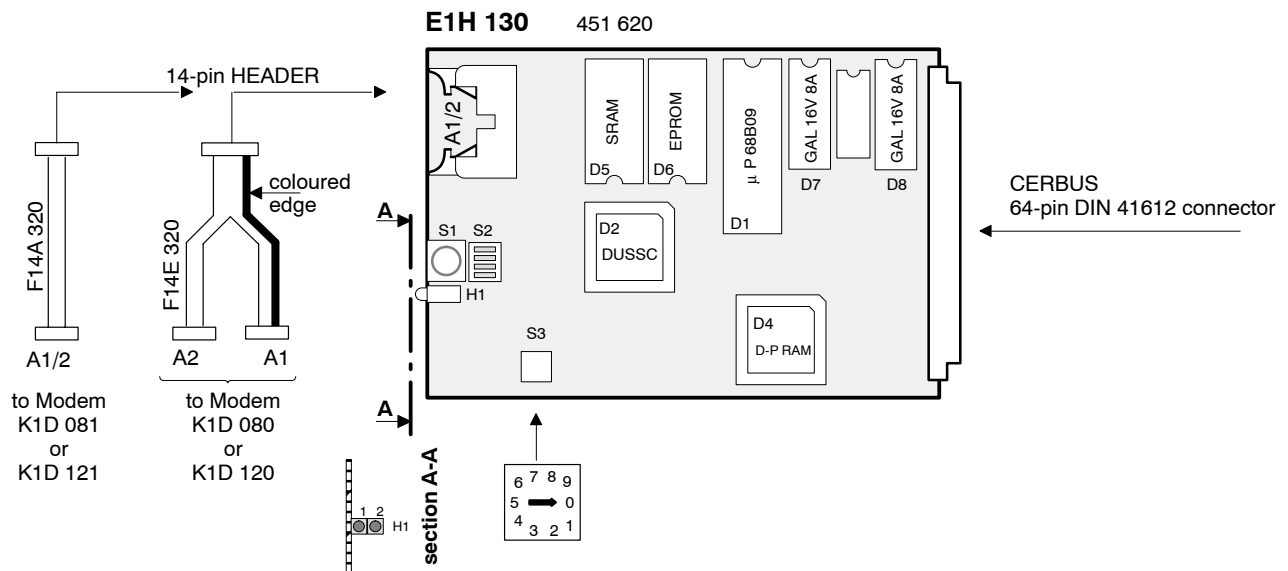


Application	MK7011 CERLOOP Node	MD7002 Mini Data Concentrator	Note
<b>Pos.</b>	<b>Function connector, LED's</b>	<b>Function connector, LED's</b>	
<b>A1/2</b>	CERLOOP	CERBAN A1: CGF01 A2: CGF02	network
<b>A3/4</b>	A3: local interface A4: not used	A3: End-Interface (CGE01) A4: not used	data transfer
<b>H1</b>	1 fault LOOP K1 [A1]	fault [A1] (CGF01)	
	2 fault LOOP K2 [A2]	fault [A2] (CGF02)	
<b>H2</b>	3 fault local interface [A3]	fault [A3] (CGE0C)	
	4 no function	no function	

Application	MK7011 CERLOOP Node	MD7002 Mini Data Concentrator	Note
<b>Pos.</b>	<b>Function switches</b>	<b>Function switches</b>	
<b>Switch S1</b>	Reset	Reset	
<b>Switch S2</b>	<b>ON</b> <b>OFF</b> <b>Default</b> <b>Function</b>	<b>ON</b> <b>OFF</b> <b>Default</b> <b>Function</b>	
<b>S2 - 1</b>	2400   1200 <b>1200</b> CERLOOP [A1/2]	600   300 <b>300</b> Baudrate CGE01 [A3]	
<b>S2 - 2</b>	NO   NO <b>NO</b> no function	600   300 <b>300</b> Baudrate CGF01 [A1]	
<b>S2 - 3</b>	600   300 <b>300</b> local interface [A3]	600   300 <b>300</b> Baudrate CGF02 [A2]	
<b>S2 - 4</b>	Test   Normal <b>Normal</b> factory test	Test   Normal <b>Normal</b> factory test	

Application	MK7011 CERLOOP Node	MD7002 Mini Data Concentrator	Note
<b>Pos.</b>	<b>Function RAM, EPROM</b>	<b>Function RAM, EPROM</b>	
<b>D5</b>	SRAM 32k x 8Bit	SRAM 32k x 8Bit	working memory
<b>D6</b>	file name: <b>CK7001.</b> __   EPROM 32k x 8Bit	file name: <b>HD7xxx.</b> __   EPROM 32k x 8Bit xxx = local address	program memory
<b>D7</b>	file name: <b>PK7001.</b> __   GAL16V8A	file name: <b>PK7001.</b> __   GAL16V8A	decoder

### 3.4.3 Communication Module E1H 130 to MK7011



Application	MK7011 CERLOOP Node	MD7002 Mini Dataconcentrator	Note
Pos.	Function connector, LED's	Function connector, LED's	
A1/2	CERLOOP	CERBAN A1: CGF01 A2: CGF02	network
H1	1 fault LOOP K1 [A1]	fault [A1] (CGF01)	
	2 fault LOOP K2 [A2]	fault [A2] (CGF02)	

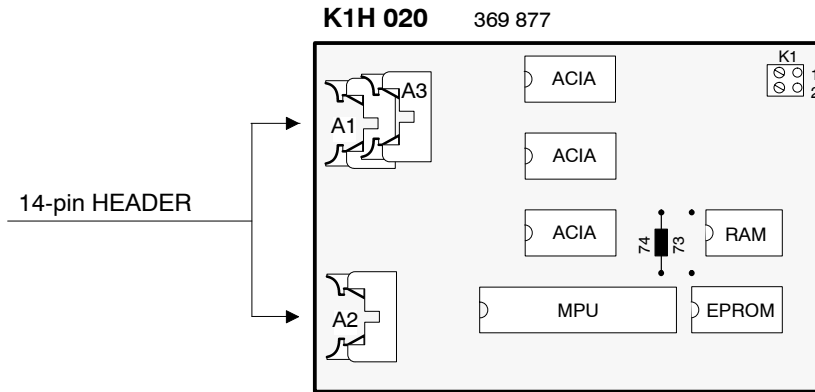
Application	MK7011 CERLOOP Node	MD7002 Mini Dataconcentrator	Note
Pos.	Funktion switches	Funktion switches	
Switch S1	Reset	Reset	
Switch S2	ON OFF Default Function	ON OFF Default Function	
S2 - 1	2400 1200 1200 CERLOOP [A1/2]	--- --- --- no function	
S2 - 2	NO NO NO no function	600 300 300 CGF01 [A1]	
S2 - 3	600 300 300 local interface [A3]	600 300 300 CGF02 [A2]	
S2 - 4	Test Normal Normal factory test	Test Normal Normal factory test	
S3	address switch: address 0	address switch: address 0	

Application	MK7011 CERLOOP Node	MD7002 Mini Dataconcentrator	Note
Pos.	Function RAM, EPROM	Function RAM, EPROM	
D5	SRAM 32k x 8Bit	SRAM 32k x 8Bit	working memory
D6	file name: CK7001. __ EPROM 32k x 8Bit	file name: HD7xxx. __ EPROM 32k x 8Bit	program memory
D7	file name: PK7001. __ GAL16V8A	file name: PK7001. __ GAL16V8A	decoder
D8	file name: PK7002. __ GAL16V8A	file name: PK7002. __ GAL16V8A	decoder



### 3.4.4 K1H 020 Communications Module to CD100-02 Mini Data concentrator

**Not to be used for new systems**

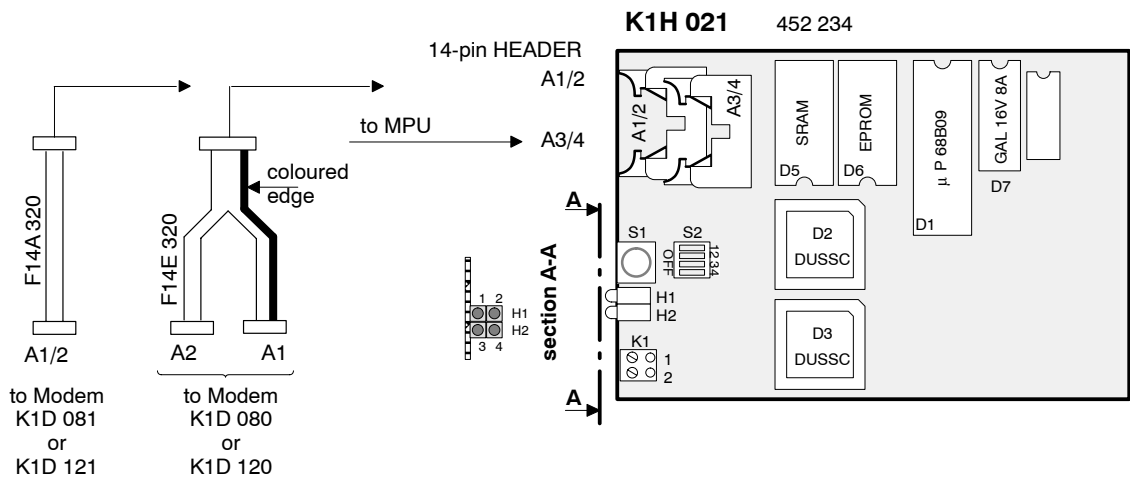


Application	CD100-02 Mini Data concentrator		Note
<b>Pos.</b>	<b>Function connector, terminals</b>		
<b>A1</b>	Front-Interface	CGF01 network: CERBAN	
<b>A2</b>	Front-Interface	CGF02 network: CERBAN	
<b>A3</b>	End-Interface	CGE01	data transfer
<b>K1</b>	1	-24Vdc	voltage range 10 ... 30VDC
	2	GND	

Application	CD100-02 Mini Data concentrator		Note
<b>Pos.</b>	<b>Function RAM, EPROM, Links</b>		
<b>EPROM</b>	file name: <b>HD2xxx.</b> EPROM 32k x 8Bit	1)	program memory
<b>RAM</b>	working memory 8k x 8Bit		factory fitted
Links <b>73</b>			factory settings
<b>74</b>			

1) Configuration with SWE100D2 (or CDEDT Flex)

### 3.4.5 K1H 021 Communication Module to MK7011 / MD7002

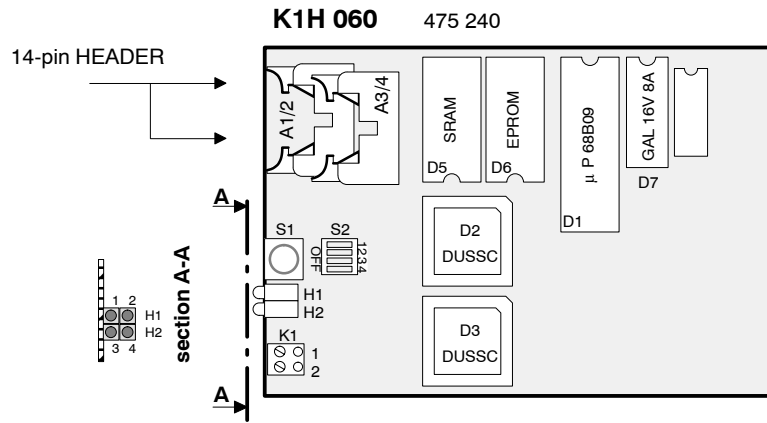


Application	MK7011 CERLOOP Node	MD7002 Mini Data Concentrator	Note
<b>Pos.</b>	<b>Function connector, LED's, terminals</b>	<b>Function connector, LED's, terminals</b>	
<b>A1/2</b>	CERLOOP	CERBAN A1: CGF01 A2: CGF02	network
<b>A3/4</b>	A3: local interface A4: not used	A3: End-Interface (CGE01) A4: not used	data transfer
<b>H1</b>	1 fault LOOP K1 [A1]	fault [A1] (CGF01)	
	2 fault LOOP K2 [A2]	fault [A2] (CGF02)	
<b>H2</b>	3 fault local interface [A3]	fault [A3] (CGE0C)	
	4 no function	no function	
<b>K1</b>	1 -24Vdc	-24Vdc	voltage range 10 ... 30Vdc
	2 GND	GND	

Application	MK7011 CERLOOP Node	MD7002 Mini Data Concentrator	Note
<b>Pos.</b>	<b>Function switches</b>	<b>Function switches</b>	
<b>Switch S1</b>	Reset	Reset	
<b>Switch S2</b>	<b>ON</b> <b>OFF</b> <b>Default</b> <b>Function</b>	<b>ON</b> <b>OFF</b> <b>Default</b> <b>Function</b>	
<b>S2 - 1</b>	2400   1200 <b>1200</b> CERLOOP [A1/2]	600   300 <b>300</b> Baudrate CGE01 [A3]	
<b>S2 - 2</b>	NO   NO <b>NO</b> no Function	600   300 <b>300</b> Baudrate CGF01 [A1]	
<b>S2 - 3</b>	600   300 <b>300</b> local interface [A3]	600   300 <b>300</b> Baudrate CGF02 [A2]	
<b>S2 - 4</b>	Test   Normal <b>Normal</b> factory test	Test   Normal <b>Normal</b> factory test	

Application	MK7011 CERLOOP Node	MD7002 Mini Data Concentrator	Note
<b>Pos.</b>	<b>Function RAM, EPROM</b>	<b>Function RAM, EPROM</b>	
<b>D5</b>	SRAM 32k x 8Bit	SRAM 32k x 8Bit	working memory
<b>D6</b>	file name: <b>CK7001.</b> __   EPROM 32k x 8Bit	file name: <b>HD7xxx.</b> __   EPROM 32k x 8Bit xxx = local address	program memory
<b>D7</b>	file name: <b>PK7001.</b> __   GAL16V8A	file name: <b>PK7001.</b> __   GAL16V8A	decoder

### 3.4.6 K1H 060 Communication Module to MK7012



Application	MK7012 CERBAN Node with CD-Function		MK7012 CERBAN Node		Note
Pos.	Function connector, LED's, terminals		Function connector, LED's, terminals		
A1/2	CERLOOP		CERLOOP		network
A3/4	A3: Front-Interface CGF01 A4: Front-Interface CGF02		A3: Front-Interface CGF01 A4: not used		data transfer
H1	1	fault LOOP K1 [A1]	fault LOOP K1 [A1]		
	2	fault LOOP K2 [A2]	fault LOOP K2 [A2]		
H2	3	fault CGF01 [A3]	fault CGF01 [A3]		
	4	fault CGF02 [A4]	no function		
K1	1	-24Vdc	-24Vdc		voltage range 10 ... 30Vdc
	2	GND	GND		

Application	MK7012 CERBAN Node with CD-Function				MK7012 CERBAN Node				Note
Pos.	Function switches				Function switches				
Switch S1	Reset				Reset				
Switch S2	ON	OFF	Default	Function	ON	OFF	Default	Function	
S2 - 1	2400	1200	1200	Baudrate CERLOOP	2400	1200	1200	Baudrate CERLOOP	
S2 - 2	600	300	300	Baudrate CGF01 [A3]	600	300	300	Baudrate CGF01 [A3]	
S2 - 3	600	300	300	Baudrate CGF02 [A4]					
S2 - 4	Test	Normal	Normal	factory test	Test	Normal	Normal	factory test	

Application	MK7012 CERBAN Node with CD-Function		MK7012 CERBAN Node		Note
Pos.	Function RAM, EPROM		Function RAM, EPROM		
D5	SRAM 32k x 8Bit		SRAM 32k x 8Bit		working memory
D6	file name: <b>HK7xxx.</b> __ EPROM 32k x 8Bit xxx = local address		file name: <b>HK7xxx.</b> __ EPROM 32k x 8Bit xxx = local address		program memory
D7	file name: <b>PK7001.</b> __ GAL16V8A		file name: <b>PK7001.</b> __ GAL16V8A		decoder

### 3.5 Modem cards see Doc No d/e1062



*Modem's in used show Doc No. e1062*



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