

# **SIEMENS**

## **MF7000 Digital PLC Unit**

**Application, Function, Design  
Technical data  
Function Block Diagram  
Modules**

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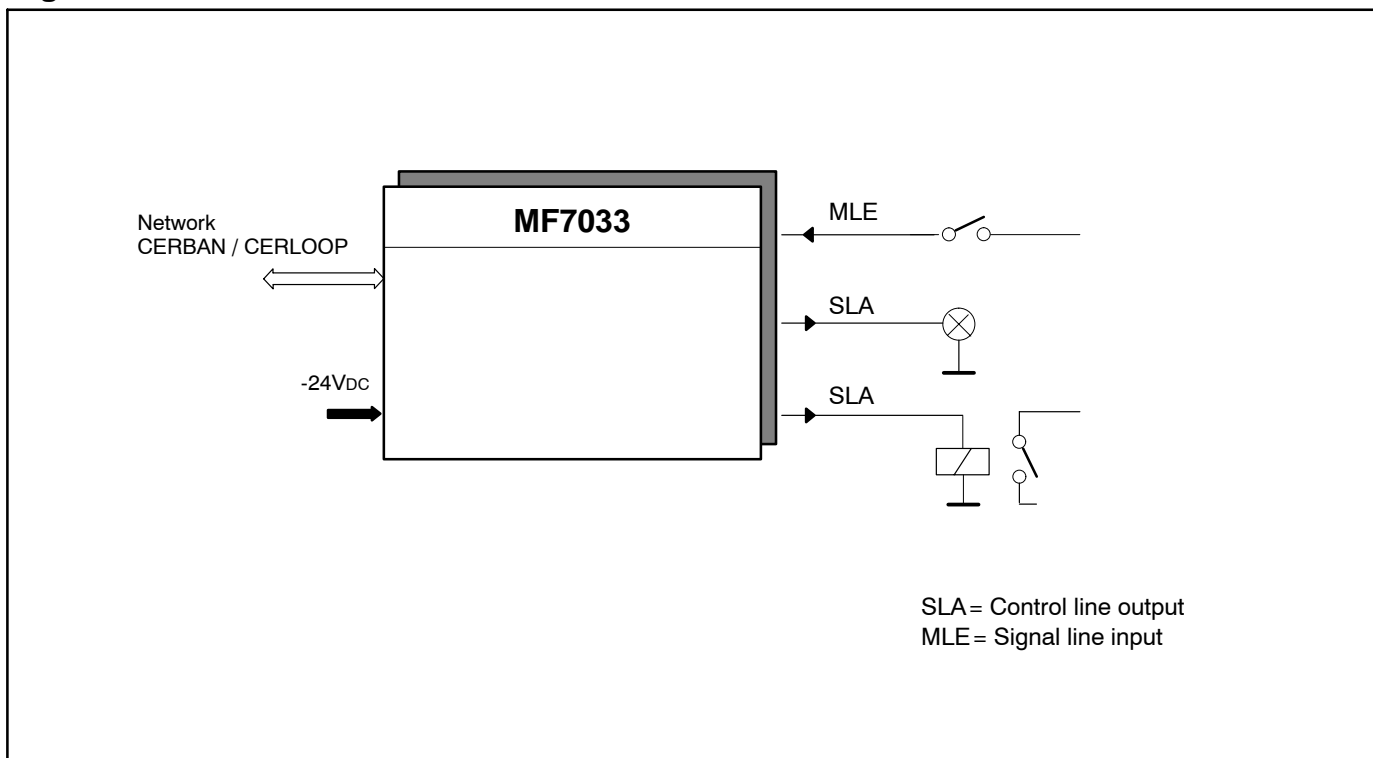
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### Application

- The digital PLC unit **MF7033** is used at data evaluation level and carries out the following tasks:
  - Indication of selected information from the satellite control units on indicating panels.
  - Actuation of selected functions in the satellite control units, e.g. fire control installations, via special control panels.
  - The indication and control functions vary according to application and are freely configurable.
- Interface with potential-free inputs and outputs to other building services installations.

### Function

- The extendable PLC unit controls and monitors at the evaluating level, the connected satellite control units.
- The MF7033 receives the monitoring signals via digital inputs (contacts) and transmits the control signals via digital outputs (relay and/or LED driver).
- The PLC unit transmits and receives the information via the DMS7000 network CERBAN or CERLOOP.
- Stores the process configuration and the system data.
- Monitors all interfaces and functions.
- The PLC unit is microprocessor-controlled and has its own monitored power supply.
- Other PLC functions specifically for safety and security systems are available in addition to logic and time elements.

### Design

- The digital PLC unit consists of various modules in single and double Europe format mounted in pre-wired 19" racks.
- The unit can be extended in stages up to 48 outputs/inputs and is limited to 12 modules.
- The outputs and inputs are galvanically separated by optocouplers.
- A lamp test facility is available as option.
- Rack, power supply and connections can be accommodated in a 19" cabinet.
- Connection to non-Cerberus installations is via terminal blocks or pluggable cable.

Power supply	<ul style="list-style-type: none"> <li>- Operating voltage</li> <li>- Current consumption</li> </ul>	<ul style="list-style-type: none"> <li>-24VDC</li> <li>approx. 1.6A</li> </ul>	
Output/Input (E2A 032 / E2A 041)	<ul style="list-style-type: none"> <li>- Sum of outputs/inputs</li> <li>- Inputs or outputs per module</li> <li>- Galvanic separation</li> <li>- Operating mode in quiescent condition</li> <li>- Control line output (SLA)                             <ul style="list-style-type: none"> <li>- Open collector output</li> <li>- Operating current</li> </ul> </li> <li>- Output in operating condition</li> <li>- Signal line input (MLE)                             <ul style="list-style-type: none"> <li>- Input voltage U<sub>e</sub></li> <li>- Input current I<sub>e</sub></li> <li>- Input in operating condition                                     <ul style="list-style-type: none"> <li>- pulse duration</li> </ul> </li> </ul> </li> <li>- Freely configurable with PLC functions</li> </ul>	<ul style="list-style-type: none"> <li>max. 576</li> <li>48</li> <li>optocoupler</li> <li>inactive or active 1)</li> <li>max. 40mA</li> <li>continuous/interval 1:1</li> <li>-5 ... -29VDC</li> <li>min. 1mA</li> <li>static/dynamic</li> <li>min. 150ms</li> </ul>	
Option – Output (E1H 040 / K1G 011)	<ul style="list-style-type: none"> <li>- DMX module                             <ul style="list-style-type: none"> <li>- 4x6 control outputs, contact loading</li> <li>- 6 potential free control outputs per module</li> <li>- freely configurable with PLC functions</li> </ul> </li> <li>- Relay adapter with 48 relays, contact loading</li> <li>- Indicator test panel</li> </ul>	<ul style="list-style-type: none"> <li>max. 30VDC/100mA</li> <li>max. 30VDC/100mA</li> <li>LED series resistance 2k2</li> </ul>	2)
PLC-Functions	<ul style="list-style-type: none"> <li>- Load factors</li> </ul>	20'000 elements	
Communication	<ul style="list-style-type: none"> <li>- Transmission speed                             <ul style="list-style-type: none"> <li>- Network CERBAN</li> <li>- Network CERLOOP</li> </ul> </li> <li>- Transmission distance                             <ul style="list-style-type: none"> <li>- V24/V28 (CERBAN, CERLOOP)</li> <li>- FSK/PSK (CERBAN, CERLOOP)</li> </ul> </li> <li>- Front interfaces                             <ul style="list-style-type: none"> <li>- CERBAN (CGF01 ... CGF02)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>300 / 600 Baud</li> <li>1200 / 2400 Baud</li> <li>max. 1km, 4 wire</li> <li>max. 10km, 2 wire</li> <li>max. 2</li> </ul>	
Mechanical design	<ul style="list-style-type: none"> <li>- Enclosure HU42 ALS2000 (standard version) or H98G 600</li> <li>- EMC shielded enclosure 42HE</li> <li>- Module chassis</li> <li>- Modules</li> <li>- DIN 40050 protection category for cabinets</li> </ul>	<ul style="list-style-type: none"> <li>19" construction</li> <li>19" construction</li> <li>19" construction</li> <li>single and double Europe format</li> <li>min. IP20</li> </ul>	3) 4)
Ambient conditions (DIN 40040)	<ul style="list-style-type: none"> <li>- Operating temperature</li> <li>- Storage temperature</li> <li>- Humidity                             <ul style="list-style-type: none"> <li>- Annual mean</li> <li>- Maximum</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>0 ... +30°C</li> <li>-40 ... +60°C</li> <li>75% rel.</li> <li>95% rel. no condensation</li> </ul>	

1) Active: note current consumption

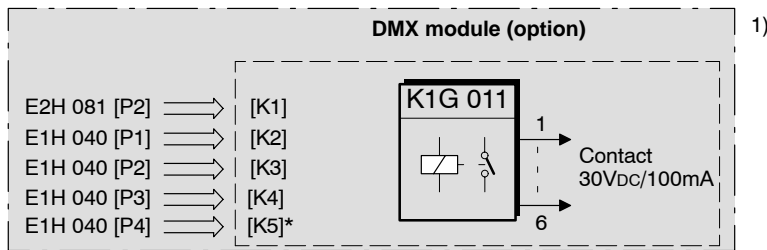
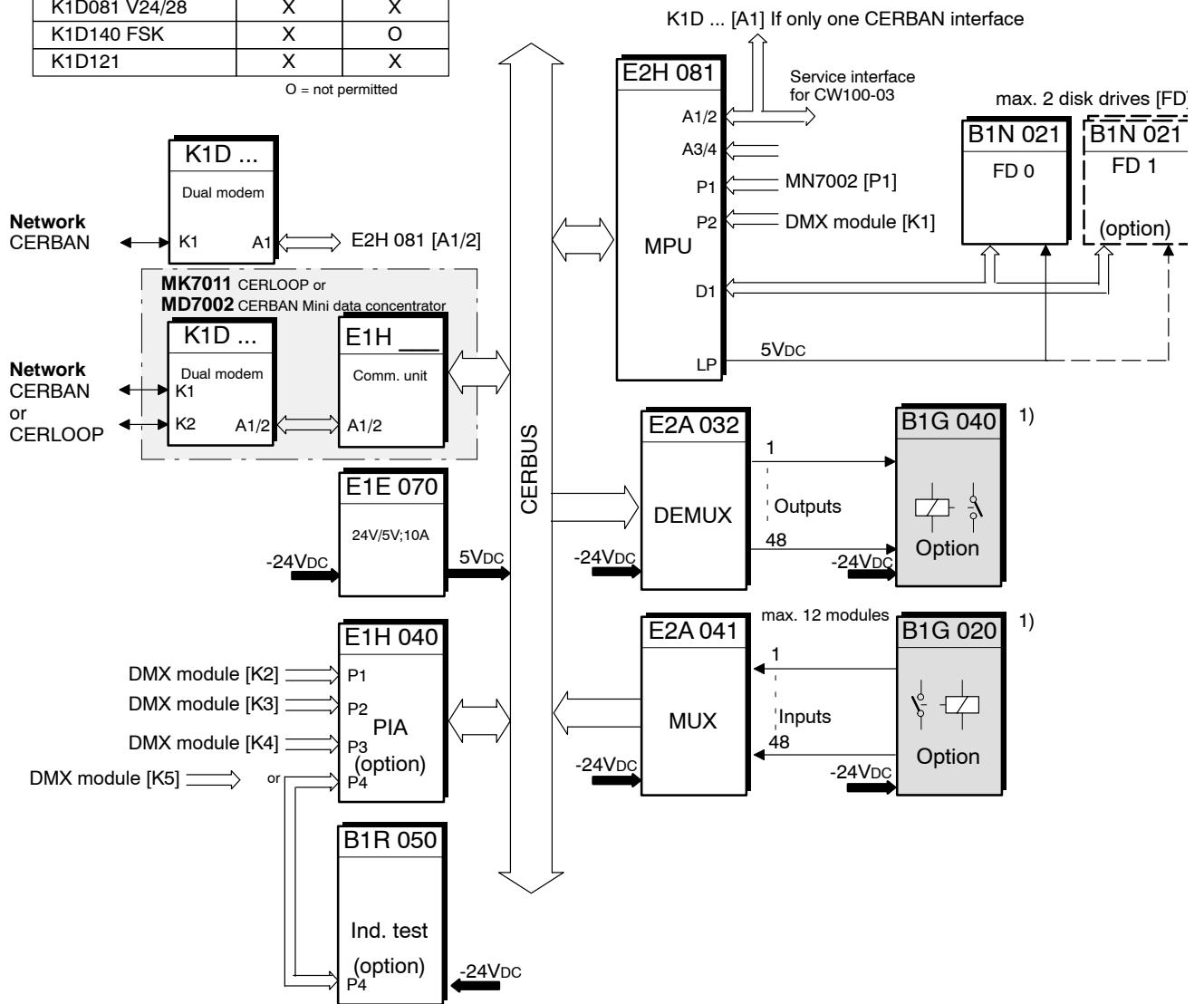
2) No longer available

3) CE conformity for industrial environment. (EN 61000-6-4, EN 50130-4, EN 60950-1)

4) CE conformity for residential, commercial or light-industrial environment (EN 61000-6-3, EN 50130-4, EN 60950-1)

Modem	Network	
	CERBAN	CERLOOP
Type		
K1D012 V24/28	X	O
K1D081 V24/28	X	X
K1D140 FSK	X	O
K1D121	X	X

O = not permitted



\* [K5] Option if no indicator test

Legend:

**-24Vdc** → -24Vdc System voltage from separate power supply

↔ Flat cable connections

E1H 040 [P3] Module (connector)

1) No longer available. B16040 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).

Type	Part No.	Designation	Nbr.	Application
<b>Base equipment</b>				
R1P 061	486 711	Power supply rack	1	
F14A 410	316 273	Flat cable 1m	1	Monitoring power supply
R2M 030	362 395	Universal rack	1	
G1S 510	306 283	Cable compartment	1	
E1E 070	444 543	DC/DC converter module 24V/5V,10A	1	
E2H 081	449 933	MPU module	1	
Z3G 090	452 108	Accessory set for disk drive 3.5"	1	for max. 2 disk drives
B1N 021	452 881	Disk drive 3,5"	1 ... 2	
-	412 915	Disk 3.5" type MF2-HD	1 ... 2	max. 1.4 MB
F14E 320	451 439	Flat cable 0.5m with 3 plugs	1	
-	505 013	DRAM 1M x 4Bit for E2H 081	(4)	equipped at factory
-	450 087	EPROM 64K x 16Bit for E2H 081	(1)	equipped with blank EPROM at factory
-	496232	CE Type label MF7033 / MM7033	1	CE type label
<b>Network CERLOP MK7011 or network CERBAN with/witout MD7002 mini data concentrator</b>				
E1H 130	451 620	Communication module	1	CERLOOP MK7011
E1H 121	452 292	Communication module	1	CERBAN MD7002 mini data concentrator
-	390 477	EPROM 32K x 8Bit for E1H 130 / E1H 121	1	
K1D 081	463 773	Dual modem p.c.b. V24/28	1	CERLOOP or CERBAN with MD7002 1)
K1D 121	470 601	Dual modem p.c.b. FSK/PSK	1	CERLOOP or CERBAN with MD7002 1)
-	463 498	Relay for K1D 081 / K1D 121	4 / 2	for CERLOOP
F14A 230	402 967	Flat cable 0.25m	1	per modem p.c.b.
K1D 012	463 760	Modem p.c.b. V24/28	1 ... 2	CERBAN with/without MD7002 1)
K1D 140	470 614	Modem p.c.b. FSK	1 ... 2	CERBAN with/without MD7002 1)
M3P 030	378 774	Modem filter module	1	per interface with modem V28
<b>Outputs/Inputs</b>				
E2A 032	427 162	Demultiplexer module	1	per 48 outputs
E2A 041	370 808	Multiplexer module	1	per 48 inputs
V52C 010	362 379	Connecting cable	1	per module
<b>Output option (DMX module) 2)</b>				
K1G 011	505 437	Relay p.c.b.	1	per 6 outputs
E1H 040	306 652	PIA module	1	from 2 <sup>nd</sup> relay p.c.b. or indicator test
R1L 040	433 648	Assembly bracket	1	from 2 <sup>nd</sup> relay p.c.b.
F14A 320	319 652	Flat cable 0.5m	1	per p.c.b.
<b>Indicator test panel</b>				
B1R 050	444 200	Indicator test panel type 24Vdc	1	
R1F 010	316 820	Rack with guide	1	3)
F14A 320	319 652	Flat cable 0.5m	1	
E1H 040	306 652	PIA module	1	not required if a DMX module is used
<b>Option 2)</b>				
B1G 040	443 515	Relay adapter DMX	1	per DMX module E2A 032
B1G 020	344 643	Relay adapter MUX	1	per MUX module E2A 041

- 1) Modules selected according to application
- 2) No longer available. B1G040 can be replaced by GFR006 (275893), GFR008 (319720) oder GFR011 (399630) type relais cards. Relais cards must be used for CE conformity of MM7033 (Immunity of inputs and outputs).
- 3) No longer available. R1F010 can be replaced by a commercial 19" rack (3HU / 84HP), e.g. ELMA Electronic AG ([www.elma.ch](http://www.elma.ch)): Economic 3HU / 84HP, Art. no. 11-11312-.0 Distrelec ([www.distrelec.com](http://www.distrelec.com)) and Schroff ([www.schroff.de](http://www.schroff.de)): Europac Spezial 3HU / 84HP, Art. no. 30732, Type 20824-006



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