









Compact PLC Series CPM1A

CPU Units

 <p>CPM1A-CPU Unit - 6 DC inputs - 4 relay outputs - Not expandable</p>	Supply voltage	100..240 VAC with 24 VDC, 0.2 A output	CPM1A-10CDR-A-V1
		24 VDC	CPM1A-10CDR-D-V1
 <p>CPM1A-CPU Unit - 12 DC inputs - 8 relay outputs - Not expandable</p>	Supply voltage	100..240 VAC with 24 VDC, 0.2 A output	CPM1A-20CDR-A-V1
		24 VDC	CPM1A-20CDR-D-V1
 <p>CPM1A-CPU Unit - 18 DC inputs - 12 relay outputs - Max. 3 Expansion Units</p>	Supply voltage	100..240 VAC with 24 VDC, 0.3 A output	CPM1A-30CDR-A-V1
		24 VDC	CPM1A-30CDR-D-V1
 <p>CPM1A-CPU Unit - 24 DC inputs - 16 relay outputs - Max. 3 Expansion Units</p>	Supply voltage	100..240 VAC with 24 VDC, 0.3 A output	CPM1A-40CDR-A-V1
		24 VDC	CPM1A-40CDR-D-V1
 <p>CPM1A-CPU Unit - 6 DC inputs - 4 transistor outputs - Pulse output - Not expandable</p>	Supply voltage 24 VDC	PNP output	CPM1A-10CDT1-D-V1
		NPN output	CPM1A-10CDT-D-V1
	Supply voltage 100..240 VAC 24 VDC, 0.2 A outp.	PNP output	CPM1A-10CDT1-A-V1
		NPN output	CPM1A-10CDT-A-V1
 <p>CPM1A-CPU Unit - 12 DC inputs - 8 transistor outputs - Pulse output - Not expandable</p>	Supply voltage 24 VDC	PNP output	CPM1A-20CDT1-D-V1
		NPN output	CPM1A-20CDT-D-V1
	Supply voltage 100..240 VAC 24 VDC, 0.2 A outp.	PNP output	CPM1A-20CDT1-A-V1
		NPN output	CPM1A-20CDT-A-V1
 <p>CPM1A-CPU Unit - 18 DC inputs - 12 transistor outputs - Pulse output - Max. 3 Expansion Units</p>	Supply voltage 24 VDC	PNP output	CPM1A-30CDT1-D-V1
		NPN output	CPM1A-30CDT-D-V1
	Supply voltage 100..240 VAC 24 VDC, 0.3 A outp.	PNP output	CPM1A-30CDT1-A-V1
		NPN output	CPM1A-30CDT-A-V1
 <p>CPM1A-CPU Unit - 24 DC inputs - 16 transistor outputs - Pulse output - Max. 3 Expansion Units</p>	Supply voltage 24 VDC	PNP output	CPM1A-40CDT1-D-V1
		NPN output	CPM1A-40CDT-D-V1
	Supply voltage 100..240 VAC 24 VDC, 0.3 A outp.	PNP output	CPM1A-40CDT1-A-V1
		NPN output	CPM1A-40CDT-A-V1

Compact PLC Series CPM1A

Specifications (CPU Units)

		CPM1A-10CDR_	CPM1A-20CDR_	CPM1A-30CDR_	CPM1A-40CDR_
CPU integrated	Inputs	6 DC inp. 1 circuit, 6 inp.	12 DC inp. 1 circuit, 12 inp.	18 DC inp. 1 circuit, 18 inp.	24 DC inp. 1 circuit, 24 inp.
	Outputs	4 relay outputs 2 circuits, 1 outp. each 1 circuit, 2 outp. 4 A per circuit	8 relay outputs 2 circuits, 1 outp. each 1 circuit, 2 outp. 1 circuit, 4 outp. 4 A per circuit	12 relay outputs 2 circuits, 1 outp. each 1 circuit, 2 outp. 2 circuit, 4 outp. 4 A per circuit	16 relay outputs 2 circuits, 1 outp. each 1 circuit, 2 outp. 3 circuit, 4 outp. 4 A per circuit
Max. local	Inputs	6	12	54	60
	Outputs	4	8	36	40
Max. remote I/O		-	-	-	-
Execution time	μs	0.72	0.72	0.72	0.72
Real-time clock		-	-	-	-
Number of special I/O Units		-	-	-	-
Program memory	kwords	2	2	2	2
Data words	kwords	1	1	1	1
Internal relay	bits	768	768	768	768
	(words)	48	48	48	48
Holding relay	bits	320	320	320	320
	(words)	20	20	20	20
Timer/Counter		128	128	128	128
Pulse output		-	-	-	-
Pulse counter		1 (5 kHz)	1 (5 kHz)	1 (5 kHz)	1 (5 kHz)
Input interrupts		2 (0.3 ms)	4 (0.3 ms)	4 (0.3 ms)	4 (0.3 ms)
Counter interrupts		2 (1 kHz)	4 (1 kHz)	4 (1 kHz)	4 (1 kHz)

		CPM1A-10CDT(1)	CPM1A-20CDT(1)	CPM1A-30CDT(1)	CPM1A-40CDT(1)
CPU integrated	Inputs	6 DC inp. 1 circuit, 6 inp.	12 DC inp. 1 circuit, 12 inp.	18 DC inp. 1 circuit, 18 inp.	24 DC inp. 1 circuit, 24 inp.
	Outputs	4 transistor outputs 2 circuits, 1 outp. each 1 circuit, 2 outp. 0.9 A per circuit	8 transistor outputs 2 circuits, 1 outp. each 1 circuit, 2 outp. 1 circuit, 4 outp. 0.9 A per circuit	12 transistor outputs 2 circuits, 1 outp. each 1 circuit, 2 outp. 2 circuit, 4 outp. 0.9 A per circuit	16 transistor outputs 2 circuits, 1 outp. each 1 circuit, 2 outp. 3 circuit, 4 outp. 0.9 A per circuit
Max. local	Inputs	6	12	54	60
	Outputs	4	8	36	40
Max. remote I/O		-	-	-	-
Execution time	μs	0.72	0.72	0.72	0.72
Real-time clock		-	-	-	-
Number of special I/O Units		-	-	-	-
Program memory	kwords	2	2	2	2
Data words	kwords	1	1	1	1
Internal relay	bits	768	768	768	768
	(words)	48	48	48	48
Holding relay	bits	320	320	320	320
	(words)	20	20	20	20
Timer/Counter		128	128	128	128
Pulse output		1 (2 kHz)	1 (2 kHz)	1 (2 kHz)	1 (2 kHz)
Pulse counter		1 (5 kHz)	1 (5 kHz)	1 (5 kHz)	1 (5 kHz)
Input interrupts		2 (0.3 ms)	4 (0.3 ms)	4 (0.3 ms)	4 (0.3 ms)
Counter interrupts		2 (1 kHz)	4 (1 kHz)	4 (1 kHz)	4 (1 kHz)

Data words, Holding relays, Auxiliary relays and counter values are backed up for up to 20 days by a built-in capacitor.

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Specifications (CPU Units, Continued)

CPU ports	Peripheral, RS-232C/RS-422 via converter
I/O processing	Combination of cyclic scan and immediate refresh processing methods
Number of instructions	14 basic instructions, 139 special instructions all with level- or edge-triggered execution
Special instructions	<ul style="list-style-type: none"> - Macro - 7 segment decoder - Subroutine - ASCII/HEX - I/O refresh - Table comparison - Arithmetic - Indirect addressing - Pulse output
Data backup	Capacitor (20 days at 25°C)
Program backup	Flash EEPROM
Program protection	Password
Time-controlled interrupts	1 (0.5 ms..5 min)
Analogue setting potentiometers	2
Range (BCD)	0..200
Power supply	AC 100..240 VAC, 50/60 Hz DC 24 VDC
Operating voltage limits	AC 85..264 VAC DC 20.4..26.4 VDC
Power consumption	AC 60 VA (30 VA for CPM1A-10CDT_ and CPM1A-20CDT_) DC 3.5..6.5 W (Relay versions), 3..4.5 W (Transistor versions)
Auxiliary voltage output	24 VDC, 300 mA (200 mA on 10- and 20-point models), provided on AC models only
Insulation resistance	Min. 20 MΩ at 500 VDC, measured between AC and PE terminal
Dielectric strength	2300 VAC at 50/60 Hz for one minute with a leakage current of max. 10 mA between AC and PE terminals
Noise immunity	1500 Vss with a pulse width of 0.1..1 μs, and with a rise time of 1 ns
Fast transients	2 kV (power lines), conforms to IEC 61000-4-4
Vibration resistance	10..57 Hz; 0.075 mm amplitude; 57..150 Hz with an acceleration of 1 G in X, Y and Z directions each 10 sweeps of 8 minutes
Shock resistance	147 m/s ² (15 G) 3 times each in X, Y and Z directions
Temperature	Operation 0 °C..55 °C Storage -20 °C..75 °C
Ambient humidity	10%..90% (without condensation)
Atmosphere	The controller must not be exposed to the following conditions: <ul style="list-style-type: none"> - Corrosive gases - Severe temperature fluctuations - Air with an extreme dust or salt content - Metal filings or metallic dust - Splash water - Other chemicals
Degree of protection	IEC IP30 (Control cabinet mounting)
Grounding	According to EN60204
Size of terminal screws	M3

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Specifications (CPU Units, Continued)

DC inputs of CPU Units

Inputs IN0000..IN0002 are fast counter inputs (A, B and Z; e.g. for encoder)

Input voltage		24 VDC (20.4..26.4 VDC) Min 14.4 VDC Max. 5.0 VDC
	ON level OFF level	
Input impedance		4.7 k Ω (IN0000..IN0002: 2 k Ω)
Input current		5 mA (IN0000..IN0002: 12 mA)
ON/OFF delay		8 ms (selectable in 8 steps from 1..128 ms)

Relay outputs of CPU Units

Type of output		Relay
Max. switching capacity		250 VAC, 2 A (cos ϕ =1); 24 VDC, 2 A (4 A per common)
Min. switching capacity		5 VDC, 10 mA
Relay life	electrical	150,000 operations at R load, 100,000 operations at L load
	mechanical	20,000,000 operations
ON/OFF delay		Max. 15 ms

Transistor outputs of CPU Units

Type of output		Transistor
Switching capacity		24 V (20.4..26.4 V), 0.3 A (0.9 A per common)
Leakage current		Max. 0.1 mA
Residual voltage		Max. 1.5 V
ON delay		Max. 0.1 ms
OFF delay		Max. 1 ms

Port Adapters



	Description	Cable length	Model code
RS-232C port adapter	- Adapter unit for connection to the CPM1A peripheral port - For DIN track mounting	15 cm	CPM1-CIF01



RS-422 port adapter	- Adapter unit for connection to the CPM1A peripheral port - For DIN track mounting	15 cm	CPM1-CIF11
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RS-232C cable adapter	- Converter cable (peripheral port/RS-232C PC-AT port)	2 m	CQM1-CIF02
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