SIEMENS

Data sheet

6ES7212-1BB23-0XB0



Figure similar

Spare part SIMATIC S7-200, CPU 222 Compact unit, AC power supply 8 DI DC/6 DO relay 4 KB progr./2 KB data, PROFIBUS DP expandable

Rated value (AC) 120 V AC 120 V AC 230 V AC Yes Load voltage L+ Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, lower limit (AC) permissible range, lower limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC) permissible requency range, lower limit permissible frequency range, upper limit permissible requency permissible requence permissible reque	Supply voltage	
October Supply 24 V	Rated value (AC)	
Load voltage L+ Pated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range, lower limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC) permissible frequency range, lower limit permissible frequency range, upper limit permissible frequency range, upper limit permissible frequency range, upper limit Inrush current Inrush current, max. 20 A; at 264 V Inrush current, max. 140 mA; 20 to 70 mA (240 V); 40 to 140 mA (120 V); output current for expansion modules (5 V DC) 340 mA Encoder supply 24 V encoder supply 24 V Yes; Permissible range: 20.4V to 28.8V Short-circuit protection Output current, max. 180 mA Power loss Power loss Power loss Power loss, typ. 7 W Momory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory integrated (for program) integrated (for fotata) 2 kbyte Backup Present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU, data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	• 120 V AC	Yes
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Rated value (AC) permissible range, lower limit (AC) permissible range, lower limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC) permissible frequency range, upper limit 147 Hz	• 230 V AC	Yes
permissible range, lower limit (DC) permissible range, upper limit (DC) 30 V Load voltage L1 Rated value (AC) permissible range, lower limit (AC) permissible range, lower limit (AC) permissible range, lower limit (AC) permissible frequency range, lower limit permissible frequency range, lower limit permissible frequency range, lower limit permissible frequency range, upper limit put current linush current, max. 20 A; at 264 V Input current, max. 140 mA; 20 to 70 mA (240 V); 40 to 140 mA (120 V); output current for expansion modules (5 V DC) 340 mA Encoder supply 4 V encoder supply 4 V es; Permissible range: 20.4V to 28.8V Short-circuit protection Power loss Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory integrated (for program) integrated (for fodata) Backup present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	Load voltage L+	
permissible range, upper limit (DC) Load voltage L1 Rated value (AC) permissible range, lower limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC) permissible frequency range, lower limit permissible frequency range, upper limit permissible frequency range, upper limit permissible frequency range, upper limit 10 3 Hz Input current Inrush current, max. 20 A; at 264 V from supply voltage L1, max. 20 A; at 264 V 140 mA; 20 to 70 mA (240 V); 40 to 140 mA (120 V); output current for expansion modules (5 V DC) 340 mA Encoder supply 24 V encoder supply 24 V encoder supply 24 V encoder supply 29 Yes; Permissible range: 20 4V to 28.8V Short-circuit protection Output current, max. 180 mA Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory • integrated (for program) • integrated (for data) Backup • present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	 Rated value (DC) 	24 V
Load voltage L1 • Rated value (AC) • permissible range, lower limit (AC) • permissible range, upper limit (AC) • permissible range, upper limit (AC) • permissible frequency range, lower limit • permissible frequency range, lower limit • permissible frequency range, upper limit Inrush current, max. 20 A; at 264 V from supply voltage L1, max. 20 A; at 264 V from supply voltage L1, max. 21 A → (20 to 70 mA (240 V); 40 to 140 mA (120 V); output current for expansion modules (5 V DC) 340 mA Encoder supply 24 V encoder supply • 24 V • Short-circuit protection • Output current, max. Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) • 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory • integrated (for program) • integrated (for data) Backup • present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	 permissible range, lower limit (DC) 	5 V
Rated value (AC) Permissible range, lower limit (AC) Permissible range, lower limit (AC) Permissible range, lower limit (AC) Permissible frequency range, lower limit Permissible frequency range, lower limit Permissible frequency range, upper limit Permissible range: Permissible range: 20 A; at 264 V Pes; Permissible range: 20 AV to 140 mA (120 V); output current for expansion modules (5 V DC) 340 mA Permissible range: 20 AV to 28.8V Pes; Permissible range: 20 AV to 28.8V Pes; Permissible range: 20 AV to 28.8V Power loss Power loss Power loss Power loss, typ. Pumber of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory Persent Persent Pes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering Battery	 permissible range, upper limit (DC) 	30 V
permissible range, lower limit (AC) permissible range, upper limit (AC) permissible frequency range, lower limit permissible frequency range, lower limit permissible frequency range, upper limit permissible frequency range, upper limit permissible frequency range, upper limit start (AC) permissible range, lower limit start (AC) permissible range, lower limit start (AC) permissible requency range, upper limit start (AC) start (AC) permissible requency range, upper limit start (AC) start (AC) start (AC) permissible requency range, upper limit start (AC) star	Load voltage L1	·
permissible range, upper limit (AC) permissible frequency range, lower limit permissible frequency range, lower limit permissible frequency range, upper limit	 Rated value (AC) 	100 V; 100 V AC to 230 V AC
permissible frequency range, lower limit permissible frequency range, upper limit	 permissible range, lower limit (AC) 	5 V
permissible frequency range, upper limit Input current Inrush current, max. from supply voltage L1, max. Encoder supply 24 V encoder supply 24 V encoder supply • 24 V • Short-circuit protection • Output current, max. Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) • integrated (for program) • integrated (for program) • integrated (for program) • integrated (for data) Backup • present Yes; Premissible range: 20.4V to 28.8V Yes; electronic at 600 mA 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory • integrated (for program) • present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	 permissible range, upper limit (AC) 	250 V
Inrush current, max. Inrush current, max (Inrush current) Inrush current, max. Inrush current, max (Inrush current) Inrush current, max. Inrush current, max (Inrush current) Inrush current, max. Inrush current, for max. In	 permissible frequency range, lower limit 	47 Hz
Inrush current, max. from supply voltage L1, max. 20 A; at 264 V 140 mA; 20 to 70 mA (240 V); 40 to 140 mA (120 V); output current for expansion modules (5 V DC) 340 mA Encoder supply 24 V encoder supply • 24 V • Short-circuit protection • Output current, max. Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory • integrated (for program) • integrated (for data) Backup • present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	permissible frequency range, upper limit	63 Hz
from supply voltage L1, max. 140 mA; 20 to 70 mA (240 V); 40 to 140 mA (120 V); output current for expansion modules (5 V DC) 340 mA Encoder supply 24 V encoder supply • 24 V • Short-circuit protection • Output current, max. Power loss Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory • integrated (for program) • integrated (for data) Backup • present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	Input current	
expansion modules (5 V DC) 340 mA Encoder supply 24 V encoder supply • 24 V • Short-circuit protection • Output current, max. Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory • integrated (for program) • integrated (for data) Backup • present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	Inrush current, max.	20 A; at 264 V
24 V encoder supply • 24 V • Short-circuit protection • Output current, max. Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) • integrated (for program) • integrated (for data) Backup • present Yes; Permissible range: 20.4V to 28.8V Yes; electronic at 600 mA 180 mA 7 W Memory 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory • integrated (for program) • present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	from supply voltage L1, max.	
Yes; Permissible range: 20.4V to 28.8V Short-circuit protection Output current, max. Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory integrated (for program) integrated (for data) Backup present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	Encoder supply	
Short-circuit protection Output current, max. Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) integrated (for program) integrated (for data) Backup Present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, cententive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering Short-circuit program 180 mA 7 W A W Power loss 7 W Memory 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory • integrated (for program) • present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	24 V encoder supply	
Output current, max. Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory integrated (for program) integrated (for data) Present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	• 24 V	Yes; Permissible range: 20.4V to 28.8V
Power loss Power loss, typ. 7 W Memory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory integrated (for program) integrated (for data) 2 kbyte Backup present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	Short-circuit protection	Yes; electronic at 600 mA
Power loss, typ. Memory Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory integrated (for program) integrated (for data) 4 kbyte 2 kbyte Backup present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	 Output current, max. 	180 mA
Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory integrated (for program) integrated (for data) Backup present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	Power loss	
Number of memory modules (optional) 1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files Work memory integrated (for program) integrated (for data) Backup present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	Power loss, typ.	7 W
work memory	Memory	
 integrated (for program) integrated (for data) 2 kbyte Backup present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering 	Number of memory modules (optional)	
integrated (for data) Backup Present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering Battery Battery	Work memory	
● present Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering Battery	integrated (for program)	4 kbyte
Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering Battery Messign Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering	integrated (for data)	2 kbyte
programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering Battery	Backup	
	• present	programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-
Backup battery	Battery	
	Backup battery	

Backup time, max.	50 h; (min. 8 h at 40 °C); 200 days (typ.) with optional battery module
CPU processing times	
for bit operations, max.	0.22 µs
Counters, timers and their retentivity	
S7 counter	
Number	256
Retentivity	
— adjustable	Yes; via high-performance capacitor or battery
— lower limit	1
— upper limit	256
Counting range	
— lower limit	0
— upper limit	32 767
S7 times	
Number	256
Retentivity	
— adjustable	Yes; via high-performance capacitor or battery
— upper limit	64
Time range	
— lower limit	1 ms
— upper limit	54 min; 4 timers: 1 ms to 30 s; 16 timers: 10 ms to 5 min; 236 timers: 100 ms to 54 min
Data areas and their retentivity	
Flag	
• Size, max.	32 byte
Retentivity available	Yes; M 0.0 to M 31.7
of which retentive with battery	0 to 255, via high-performance capacitor or battery, adjustable
of which retentive without battery	0 to 112 in EEPROM, adjustable
Hardware configuration	
Number of expansion units, max.	2; Only expansion modules of the S7-22x series can be used. Due to
	the limited output current, the use of expansion modules may be limited.
connectable programming devices/PCs	SIMATIC PG/PC, standard PC
Expansion modules	
Analog inputs/outputs, max.	10; max. 8 inputs and 2 outputs (EM) or max. 0 inputs and 4 outputs (EM)
 Digital inputs/outputs, max. 	78; max. 40 inputs and 38 outputs (CPU + EM)
 AS-Interface inputs/outputs, max. 	62; AS-Interface A/B slaves (CP 243-2)
Digital inputs	
Number of digital inputs	8
Source/sink input	Yes; optionally, per group
Input voltage	
Rated value (DC)	24 V
• for signal "0"	0 to 5 V
● for signal "1"	min. 15 V
Input current	
● for signal "1", typ.	2.5 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; all
— at "0" to "1", min.	0.2 ms
— at "0" to "1", max.	12.8 ms
for interrupt inputs	V10.04-10.0
— parameterizable	Yes; I 0.0 to I 0.3
for technological functions	Very (F 0.0 to F 0.5) 20 kl !-
— parameterizable	Yes; (E 0.0 to E 0.5) 30 kHz
Cable length	500 m; Standard input: 500 m, high around accentage; 50 m
shielded, max. unshielded max.	500 m; Standard input: 500 m, high-speed counters: 50 m
unshielded, max. Digital outputs	300 m; not for high-speed signals
Digital outputs	6: Polove
Number of digital outputs	6; Relays

01 1 1 1 1 1	N () "
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
with resistive load, max.	2 A
on lamp load, max.	30 W with DC, 200 W with AC
Output voltage	
● for signal "1", min.	L+/L1
Output current	
for signal "1" rated value	2 A
• for signal "0" residual current, max.	0 mA
Output delay with resistive load	
• "0" to "1", max.	10 ms; all outputs
• "1" to "0", max.	10 ms; all outputs
Parallel switching of two outputs	
• for uprating	No
Total current of the outputs (per group)	
all mounting positions	
— up to 40 °C, max.	6 A
horizontal installation	
— up to 55 °C, max.	6 A
Relay outputs	
Number of relay outputs	6
Number of relay outputs Number of operating cycles, max.	10 000 000; mechanically 10 million, at rated load voltage 100 000
Cable length	10 000 000, moonamoung to million, actated load voltage 100 000
• shielded, max.	500 m
unshielded, max. unshielded, max.	150 m
·	100 III
Analog inputs	
Number of analog potentiometers	1; Analog potentiometer; resolution 8 bit
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
 permissible quiescent current (2-wire sensor), 	1 mA
max.	
1. Interface	
Interface type	Integrated RS 485 interface
91	
Protocols	
Protocols • MPI	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s
Protocols	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions;
Protocols • MPI	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates
Protocols • MPI • PPI	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI
Protocols MPI PPI serial data exchange	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI
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Protocols MPI Protocols PPI Serial data exchange MPI Transmission rate, min. Transmission rate, max.	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter
Protocols • MPI • PPI • serial data exchange MPI • Transmission rate, min. • Transmission rate, max. Integrated Functions	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter
Protocols MPI Protocols PPI Serial data exchange MPI Transmission rate, min. Transmission rate, max.	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter 4; High-speed counters (30 kHz each), 32 bit (incl. sign), can be used as up/down counters or for connecting 2 incremental encoders with 2 pulse trains offset by 90° (max. 20 kHz (A/B counters)); parameterizable enable and reset input; interrupt facilities (incl. call of subroutine with any content) when the setpoint is reached; reversal in counting direction, etc.
Protocols MPI Protocols Protoc	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter 19.2 kbit/s 19.2 kbit/s 4; High-speed counters (30 kHz each), 32 bit (incl. sign), can be used as up/down counters or for connecting 2 incremental encoders with 2 pulse trains offset by 90° (max. 20 kHz (A/B counters)); parameterizable enable and reset input; interrupt facilities (incl. call of subroutine with any content) when the setpoint is reached; reversal in counting
Protocols MPI Protocols Protoc	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter 4; High-speed counters (30 kHz each), 32 bit (incl. sign), can be used as up/down counters or for connecting 2 incremental encoders with 2 pulse trains offset by 90° (max. 20 kHz (A/B counters)); parameterizable enable and reset input; interrupt facilities (incl. call of subroutine with any content) when the setpoint is reached; reversal in counting direction, etc.
Protocols MPI PPI Serial data exchange MPI Transmission rate, min. Transmission rate, max. Integrated Functions Counter Number of counters Counting frequency, max.	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter 4; High-speed counters (30 kHz each), 32 bit (incl. sign), can be used as up/down counters or for connecting 2 incremental encoders with 2 pulse trains offset by 90° (max. 20 kHz (A/B counters)); parameterizable enable and reset input; interrupt facilities (incl. call of subroutine with any content) when the setpoint is reached; reversal in counting direction, etc. 30 kHz
Protocols MPI PPI Serial data exchange MPI Transmission rate, min. Transmission rate, max. Integrated Functions Counter Number of counters Counting frequency, max. Number of alarm inputs	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter 4; High-speed counters (30 kHz each), 32 bit (incl. sign), can be used as up/down counters or for connecting 2 incremental encoders with 2 pulse trains offset by 90° (max. 20 kHz (A/B counters)); parameterizable enable and reset input; interrupt facilities (incl. call of subroutine with any content) when the setpoint is reached; reversal in counting direction, etc. 30 kHz
Protocols • MPI • PPI • serial data exchange MPI • Transmission rate, min. • Transmission rate, max. Integrated Functions Counter • Number of counters • Counting frequency, max. Number of alarm inputs Potential separation	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter 4; High-speed counters (30 kHz each), 32 bit (incl. sign), can be used as up/down counters or for connecting 2 incremental encoders with 2 pulse trains offset by 90° (max. 20 kHz (A/B counters)); parameterizable enable and reset input; interrupt facilities (incl. call of subroutine with any content) when the setpoint is reached; reversal in counting direction, etc. 30 kHz
Protocols MPI Protocols Protoc	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter 4; High-speed counters (30 kHz each), 32 bit (incl. sign), can be used as up/down counters or for connecting 2 incremental encoders with 2 pulse trains offset by 90° (max. 20 kHz (A/B counters)); parameterizable enable and reset input; interrupt facilities (incl. call of subroutine with any content) when the setpoint is reached; reversal in counting direction, etc. 30 kHz 4; 4 rising edges and/or 4 falling edges

Detential congration digital systems	
Potential separation digital outputs	V. D.I.
between the channels	Yes; Relays
between the channels, in groups of	3
Permissible potential difference	FOR VIDOL 1 CANADO A FINANCIA CON CONTROL
between different circuits	500 V DC between 24 V DC and 5 V DC; 1500 V AC between 24 V DC and 230 V AC
Degree and class of protection	
IP degree of protection	IP20
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	0 °C
 horizontal installation, max. 	55 °C
 vertical installation, min. 	0 °C
 vertical installation, max. 	45 °C
Air pressure acc. to IEC 60068-2-13	
 permissible range, lower limit 	860 hPa
 permissible range, upper limit 	1 080 hPa
Relative humidity	
 Operation, min. 	5 %
 Operation, max. 	95 %; RH class 2 in accordance with IEC 1131-2
configuration / header	
configuration / programming / header	
Command set	Bit logic instructions, compare instructions, timer instructions, counter instructions, clock instructions, transmissions instructions, table instructions, logic instructions, shift and rotate instructions, conversion instructions, program control instructions, interrupt and communications instructions, logic stack instructions, integer maths, floating-point math instructions, numerical functions
 Program processing 	free cycle (OB 1), interrupt-controller, time-controlled (1 to 255 ms)
 Program organization 	1 OB, 1 DB, 1 SDB subroutines with/without parameter transfer
 Number of subroutines, max. 	64
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
Know-how protection	
 User program protection/password protection 	Yes; 3-stage password protection
connection method / header	
Plug-in I/O terminals	No
Dimensions	
Width	90 mm
Height	80 mm
Depth	62 mm
Weights	
Weight, approx.	310 g
last modified:	3/12/2021 🗗