Overview

Order no.	Features	Page
CPUs STEP7 programmable, DP master		
214-2BM02	**CPU 214DPM - PLC CPU** DC 24 V, 48/80 kByte work/load memory, MP²I, MMC slot, real-time clock **Interface:** PROFIBUS-DP master	191
215-2BM02	**CPU 215DPM - PLC CPU** DC 24 V, 96/144 kByte work/load memory, MP²I, MMC slot, real-time clock **Interface:** PROFIBUS-DP master	191
216-2BM02	**CPU 216DPM - PLC CPU** DC 24 V, 128/192 kByte work/load memory, MP²I, MMC slot, real-time clock **Interface:** PROFIBUS-DP master	191
CPUs STEP7 programmable, DP slave		
214-2BP02	**CPU 214DP - PLC CPU** DC 24 V, 48/80 kByte work/load memory, MP²I, MMC slot, real-time clock **Interface:** PROFIBUS-DP slave	196
215-2BP02	**CPU 215DP - PLC CPU** DC 24 V, 96/144 kByte work/load memory, MP²I, MMC slot, real-time clock **Interface:** PROFIBUS-DP slave	196
216-2BP02	**CPU 216DP - PLC CPU** DC 24 V, 128/192 kByte work/load memory, MP²I, MMC slot, real-time clock **Interface:** PROFIBUS-DP slave	196
CPUs STEP7 programmable, CAN master		
214-2CM02	**CPU 214CAN - PLC CPU** DC 24 V, 48/80 kByte work/load memory, MP²I, MMC slot, real-time clock **Interface:** CANopen master	201
215-2CM02	**CPU 215CAN - PLC CPU** DC 24 V, 96/144 kByte work/load memory, MP²I, MMC slot, real-time clock **Interface:** CANopen master	201
216-2CM02	**CPU 216CAN - PLC CPU** DC 24 V, 128/192 kByte work/load memory, MP²I, MMC slot, real-time clock **Interface:** CANopen master	201

CPUs STEP7 programmable, standard

CPUs | CPUs STEP7 programmable, standard						
214-1BA02 214-1BC02 215-1BA02 216-1BA02						

Order number	214-1BA02	214-1BC02	215-1BA02	216-1BA02
Figure				
Type	CPU 214	CPU 214C	CPU 215	CPU 216
General information				
Note	-	-	-	-
Features	› 48 kB work memory, › 80 kB load memory	› 32 kB work memory, › 40 kB load memory	› 96 kB work memory, › 144 kB load memory	› 128 kB work memory, › 192 kB load memory
Technical data power supply				
Power supply (rated value)	DC 24 V	DC 24 V	DC 24 V	DC 24 V
Power supply (permitted range)	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V
Reverse polarity protection	✓	✓	✓	✓
Current consumption (no-load operation)	-	-	-	-
Current consumption (rated value)	1.5 A	1.5 A	1.5 A	1.5 A
Inrush current	-	-	-	-
Load and working memory				
Load memory, integrated	80 KB	40 KB	144 KB	192 KB
Load memory, maximum	-	-	-	-
Work memory, integrated	48 KB	32 KB	96 KB	128 KB
Work memory, maximal	-	-	-	-
Memory divided in 50% program / 50% data	-	-	-	-
Memory card slot	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB
Hardware config				
Racks, max.	4	4	4	4
Modules per rack, max.	total max. 32	total max. 32	total max. 32	total max. 32
Number of integrated DP master	-	-	-	-
Number of DP master via CP	8	8	8	8
Operable function modules	32	32	32	32
Operable communication modules PtP	32	32	32	32
Operable communication modules LAN	-	-	-	-
Status information, alarms, diagnostics				
Status display	yes	yes	yes	yes
Interrupts	no	no	no	no
Process alarm	no	no	no	no
Diagnostic interrupt	no	no	no	no
Command processing times				
Bit instructions, min.	0.18 µs	0.18 µs	0.18 µs	0.18 µs
Word instruction, min.	0.78 µs	0.78 µs	0.78 µs	0.78 µs
Double integer arithmetic, min.	-	-	-	-
Floating-point arithmetic, min.	-	-	-	-

CPUs | CPUs STEP7 programmable, standard						
214-1BA02 214-1BC02 215-1BA02 216-1BA02						

Order number	214-1BA02	214-1BC02	215-1BA02	216-1BA02
Timers/Counters and their retentive characteristics				
Number of S7 counters	256	256	256	256
Number of S7 times	256	256	256	256
Data range and retentive characteristic				
Number of flags	8192 Bit	8192 Bit	8192 Bit	8192 Bit
Number of data blocks	2047	2047	2047	2047
Max. data blocks size	16 KB	16 KB	16 KB	16 KB
Max. local data size per execution level	1024 Byte	1024 Byte	1024 Byte	1024 Byte
Blocks				
Number of OBs	14	14	14	14
Number of FBs	1024	1024	1024	1024
Number of FCs	1024	1024	1024	1024
Maximum nesting depth per priority class	8	8	8	8
Maximum nesting depth additional within an error OB	1	1	1	1
Time				
Real-time clock buffered	✓	✓	✓	✓
Clock buffered period (min.)	-	-	-	-
Accuracy (max. deviation per day)	-	-	-	-
Number of operating hours counter	8	8	8	8
Clock synchronization	-	-	-	-
Synchronization via MPI	-	-	-	-
Synchronization via Ethernet (NTP)	-	-	-	-
Address areas (I/O)				
Input I/O address area	1024 Byte	1024 Byte	1024 Byte	1024 Byte
Output I/O address area	1024 Byte	1024 Byte	1024 Byte	1024 Byte
Input process image maximal	128 Byte	128 Byte	128 Byte	128 Byte
Output process image maximal	128 Byte	128 Byte	128 Byte	128 Byte
Digital inputs	8192	8192	8192	8192
Digital outputs	8192	8192	8192	8192
Digital inputs central	512	512	512	512
Digital outputs central	512	512	512	512
Integrated digital inputs	-	-	-	-
Integrated digital outputs	-	-	-	-
Analog inputs	512	512	512	512
Analog outputs	512	512	512	512
Analog inputs, central	128	128	128	128
Analog outputs, central	128	128	128	128
Integrated analog inputs	-	-	-	-
Integrated analog outputs	-	-	-	-
Communication functions				
PG/OP channel	✓	✓	✓	✓
Global data communication	✓	✓	✓	✓
Number of GD circuits, max.	4	4	4	4
Size of GD packets, max	22 Byte	22 Byte	22 Byte	22 Byte

CPUs | CPUs STEP7 programmable, standard						
214-1BA02 214-1BC02 215-1BA02 216-1BA02						

Order number	214-1BA02	214-1BC02	215-1BA02	216-1BA02
S7 basic communication	✓	✓	✓	✓
S7 basic communication, user data per job	76 Byte	76 Byte	76 Byte	76 Byte
S7 communication	✓	✓	✓	✓
S7 communication as server	✓	✓	✓	✓
S7 communication as client	-	-	-	-
S7 communication, user data per job	160 Byte	160 Byte	160 Byte	160 Byte
Number of connections, max.	16	16	16	16
Functionality Sub-D interfaces				
Type	-	-	-	-
Type of interface	RS485	RS485	RS485	RS485
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female
Electrically isolated	-	-	-	-
MPI	✓	✓	✓	✓
MP²I (MPI/RS232)	✓	✓	✓	✓
DP master	-	-	-	-
DP slave	-	-	-	-
Point-to-point interface	-	-	-	-
Mechanical data				
Dimensions (WxHxD)	25.4 mm x 76 mm x 80 mm	25.4 mm x 76 mm x 80 mm	25.4 mm x 76 mm x 80 mm	25.4 mm x 76 mm x 80 mm
Weight	100 g	100 g	100 g	100 g
Environmental conditions				
Operating temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C
Certifications				
UL508 certification	yes	yes	yes	yes

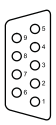
Connections, Interfaces

CPUs | CPUs STEP7 programmable, standard						
214-1BA02 214-1BC02 215-1BA02 216-1BA02						

214-1BA02



MP²I



1 reserved
2 M24V
3 RxD/TxD-P (line B)
4 RTS
5 M5V
6 P5V
7 P24V
8 RxD/TxD-N (line A)
9 n.c.

X1

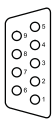


+ 1 + DC 24 V
- 2 - DC 24 V

214-1BC02



MP²I



1 reserved
2 M24V
3 RxD/TxD-P (line B)
4 RTS
5 M5V
6 P5V
7 P24V
8 RxD/TxD-N (line A)
9 n.c.

X1

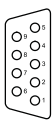


+ 1 + DC 24 V
- 2 - DC 24 V

215-1BA02



MP²I



1 reserved
2 M24V
3 RxD/TxD-P (line B)
4 RTS
5 M5V
6 P5V
7 P24V
8 RxD/TxD-N (line A)
9 n.c.

X1

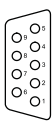


+ 1 + DC 24 V
- 2 - DC 24 V

216-1BA02



MP²I



1 reserved
2 M24V
3 RxD/TxD-P (line B)
4 RTS
5 M5V
6 P5V
7 P24V
8 RxD/TxD-N (line A)
9 n.c.

X1



+ 1 + DC 24 V
- 2 - DC 24 V

CPUs STEP7 programmable, Net-CPUs

CPUs | CPUs STEP7 programmable, Net-CPUs						
214-2BT10 215-2BT10 216-2BT10						

Order number	214-2BT10	215-2BT10	216-2BT10	
Figure				
Type	CPU 214NET	CPU 215NET	CPU 216NET	
General information				
Note	-	-	-	
Features	› Ethernet CP 243, › Twisted pair Ethernet via RJ45, › 48 kB work memory, › 80 kB load memory	› Ethernet CP 243, › Twisted pair Ethernet via RJ45, › 96 kB work memory, › 144 kB load memory	› Ethernet CP 243, › Twisted pair Ethernet via RJ45, › 128 kB work memory, › 192 kB load memory	
Technical data power supply				
Power supply (rated value)	DC 24 V	DC 24 V	DC 24 V	
Power supply (permitted range)	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V	
Reverse polarity protection	✓	✓	✓	
Current consumption (no-load operation)	-	-	-	
Current consumption (rated value)	1.5 A	1.5 A	1.5 A	
Inrush current	-	-	-	
Load and working memory				
Load memory, integrated	80 KB	144 KB	192 KB	
Load memory, maximum	-	-	-	
Work memory, integrated	48 KB	96 KB	128 KB	
Work memory, maximal	-	-	-	
Memory divided in 50% program / 50% data	-	-	-	
Memory card slot	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	
Hardware config				
Racks, max.	4	4	4	
Modules per rack, max.	total max. 32	total max. 32	total max. 32	
Number of integrated DP master	-	-	-	
Number of DP master via CP	8	8	8	
Operable function modules	32	32	32	
Operable communication modules PtP	32	32	32	
Operable communication modules LAN	-	-	-	
Status information, alarms, diagnostics				
Status display	yes	yes	yes	
Interrupts	no	no	no	
Process alarm	no	no	no	
Diagnostic interrupt	no	no	no	
Command processing times				
Bit instructions, min.	0.18 µs	0.18 µs	0.18 µs	
Word instruction, min.	0.78 µs	0.78 µs	0.78 µs	

CPUs | CPUs STEP7 programmable, Net-CPUs						
214-2BT10 215-2BT10 216-2BT10						

Order number	214-2BT10	215-2BT10	216-2BT10	
Double integer arithmetic, min.	-	-	-	
Floating-point arithmetic, min.	-	-	-	
Timers/Counters and their retentive characteristics				
Number of S7 counters	256	256	256	
Number of S7 times	256	256	256	
Data range and retentive characteristic				
Number of flags	8192 Bit	8192 Bit	8192 Bit	
Number of data blocks	2047	2047	2047	
Max. data blocks size	16 KB	16 KB	16 KB	
Max. local data size per execution level	1024 Byte	1024 Byte	1024 Byte	
Blocks				
Number of OBs	14	14	14	
Number of FBs	1024	1024	1024	
Number of FCs	1024	1024	1024	
Maximum nesting depth per priority class	8	8	8	
Maximum nesting depth additional within an error OB	1	1	1	
Time				
Real-time clock buffered	✓	✓	✓	
Clock buffered period (min.)	-	-	-	
Accuracy (max. deviation per day)	-	-	-	
Number of operating hours counter	8	8	8	
Clock synchronization	-	-	-	
Synchronization via MPI	-	-	-	
Synchronization via Ethernet (NTP)	-	-	-	
Address areas (I/O)				
Input I/O address area	1024 Byte	1024 Byte	1024 Byte	
Output I/O address area	1024 Byte	1024 Byte	1024 Byte	
Input process image maximal	128 Byte	128 Byte	128 Byte	
Output process image maximal	128 Byte	128 Byte	128 Byte	
Digital inputs	8192	8192	8192	
Digital outputs	8192	8192	8192	
Digital inputs central	512	512	512	
Digital outputs central	512	512	512	
Integrated digital inputs	-	-	-	
Integrated digital outputs	-	-	-	
Analog inputs	512	512	512	
Analog outputs	512	512	512	
Analog inputs, central	128	128	128	
Analog outputs, central	128	128	128	
Integrated analog inputs	-	-	-	
Integrated analog outputs	-	-	-	
Communication functions				
PG/OP channel	✓	✓	✓	
Global data communication	✓	✓	✓	

CPUs | CPUs STEP7 programmable, Net-CPUs						
214-2BT10 215-2BT10 216-2BT10						

Order number	214-2BT10	215-2BT10	216-2BT10	
Number of GD circuits, max.	4	4	4	
Size of GD packets, max	22 Byte	22 Byte	22 Byte	
S7 basic communication	✓	✓	✓	
S7 basic communication, user data per job	76 Byte	76 Byte	76 Byte	
S7 communication	✓	✓	✓	
S7 communication as server	✓	✓	✓	
S7 communication as client	-	-	-	
S7 communication, user data per job	160 Byte	160 Byte	160 Byte	
Number of connections, max.	16	16	16	
Functionality Sub-D interfaces				
Type	-	-	-	
Type of interface	RS485	RS485	RS485	
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	
Electrically isolated	-	-	-	
MPI	✓	✓	✓	
MP²I (MPI/RS232)	✓	✓	✓	
DP master	-	-	-	
DP slave	-	-	-	
Point-to-point interface	-	-	-	
Functionality RJ45 interfaces				
Type	-	-	-	
Type of interface	Ethernet 10/100 MBit	Ethernet 10/100 MBit	Ethernet 10/100 MBit	
Connector	RJ45	RJ45	RJ45	
Electrically isolated	✓	✓	✓	
PG/OP channel	✓	✓	✓	
Productive connections	✓	✓	✓	
Ethernet communication CP				
Number of productive connections, max.	16	16	16	
Number of productive connections by Siemens NetPro, max.	16	16	16	
S7 connections	-	-	-	
User data per S7-connection, max.	-	-	-	
TCP-connections	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	
User data per TCP-connection, max.	64 KB	64 KB	64 KB	
ISO-connections	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	
User data per ISO-connection, max.	8 KB	8 KB	8 KB	

CPUs | CPUs STEP7 programmable, Net-CPUs						
214-2BT10 215-2BT10 216-2BT10						

Order number	214-2BT10	215-2BT10	216-2BT10	
ISO on TCP connections (RFC 1006)	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	
User data per ISO on TCP-connection, max.	32 KB	32 KB	32 KB	
UDP-connections	SEND and RECEIVE	SEND and RECEIVE	SEND and RECEIVE	
User data per UDP-connection, max.	2 KB	2 KB	2 KB	
UDP-multicast-connections	SEND and RECEIVE (max. 16 multicast cycle)	SEND and RECEIVE (max. 16 multicast cycle)	SEND and RECEIVE (max. 16 multicast cycle)	
UDP-broadcast-connections	SEND	SEND	SEND	
Mechanical data				
Dimensions (WxHxD)	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	
Weight	150 g	150 g	300 g	
Environmental conditions				
Operating temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C	
Storage temperature	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C	
Certifications				
UL508 certification	yes	yes	yes	

Connections, Interfaces

CPUs | CPUs STEP7 programmable, Net-CPUs						
214-2BT10 215-2BT10 216-2BT10						

214-2BT10



MP²I

1	reserved
2	M24V
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	P24V
8	RxD/TxD-N (line A)
9	n.c.

RJ45

1	Transmit +
2	Transmit -
3	Receive +
4	n. c.
5	n. c.
6	Receive -
7	n. c.
8	n. c.

X1

+ 1	+ DC 24 V
- 2	- DC 24 V

215-2BT10



MP²I

1	reserved
2	M24V
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	P24V
8	RxD/TxD-N (line A)
9	n.c.

RJ45

1	Transmit +
2	Transmit -
3	Receive +
4	n. c.
5	n. c.
6	Receive -
7	n. c.
8	n. c.

X1

+ 1	+ DC 24 V
- 2	- DC 24 V

216-2BT10



MP²I

1	reserved
2	M24V
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	P24V
8	RxD/TxD-N (line A)
9	n.c.

RJ45

1	Transmit +
2	Transmit -
3	Receive +
4	n. c.
5	n. c.
6	Receive -
7	n. c.
8	n. c.

X1

+ 1	+ DC 24 V
- 2	- DC 24 V

CPUs STEP7 programmable, PtP

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	214-2BS02	214-2BS12	214-2BS32	215-2BS02
Figure				
Type	CPU 214SER	CPU 214SER	CPU 214SER	CPU 215SER
General information				
Note	-	-	-	-
Features	› Serial communication via 2x RS232, › 48 kB work memory, › 80 kB load memory	› Serial communication via RS232, › 48 kB work memory, › 80 kB load memory	› Serial communication via RS485, › 48 kB work memory, › 80 kB load memory	› Serial communication via 2x RS232, › 96 kB work memory, › 144 kB load memory
Technical data power supply				
Power supply (rated value)	DC 24 V	DC 24 V	DC 24 V	DC 24 V
Power supply (permitted range)	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V
Reverse polarity protection	✓	✓	✓	✓
Current consumption (no-load operation)	-	-	-	-
Current consumption (rated value)	1.5 A	1.5 A	1.5 A	1.5 A
Inrush current	-	-	-	-
Load and working memory				
Load memory, integrated	80 KB	80 KB	80 KB	144 KB
Load memory, maximum	-	-	-	-
Work memory, integrated	48 KB	48 KB	48 KB	96 KB
Work memory, maximal	-	-	-	-
Memory divided in 50% program / 50% data	-	-	-	-
Memory card slot	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB
Hardware config				
Racks, max.	4	4	4	4
Modules per rack, max.	total max. 32	total max. 32	total max. 32	total max. 32
Number of integrated DP master	-	-	-	-
Number of DP master via CP	8	8	8	8
Operable function modules	32	32	32	32
Operable communication modules PtP	32	32	32	32
Operable communication modules LAN	-	-	-	-
Status information, alarms, diagnostics				
Status display	yes	yes	yes	yes
Interrupts	no	no	no	no
Process alarm	no	no	no	no
Diagnostic interrupt	no	no	no	no
Command processing times				
Bit instructions, min.	0.18 µs	0.18 µs	0.18 µs	0.18 µs
Word instruction, min.	0.78 µs	0.78 µs	0.78 µs	0.78 µs
Double integer arithmetic, min.	-	-	-	-
Floating-point arithmetic, min.	-	-	-	-

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	214-2BS02	214-2BS12	214-2BS32	215-2BS02
Timers/Counters and their retentive characteristics				
Number of S7 counters	256	256	256	256
Number of S7 times	256	256	256	256
Data range and retentive characteristic				
Number of flags	8192 Bit	8192 Bit	8192 Bit	8192 Bit
Number of data blocks	2047	2047	2047	2047
Max. data blocks size	16 KB	16 KB	16 KB	16 KB
Max. local data size per execution level	1024 Byte	1024 Byte	1024 Byte	1024 Byte
Blocks				
Number of OBs	14	14	14	14
Number of FBs	1024	1024	1024	1024
Number of FCs	1024	1024	1024	1024
Maximum nesting depth per priority class	8	8	8	8
Maximum nesting depth additional within an error OB	1	1	1	1
Time				
Real-time clock buffered	✓	✓	✓	✓
Clock buffered period (min.)	-	-	-	-
Accuracy (max. deviation per day)	-	-	-	-
Number of operating hours counter	8	8	8	8
Clock synchronization	-	-	-	-
Synchronization via MPI	-	-	-	-
Synchronization via Ethernet (NTP)	-	-	-	-
Address areas (I/O)				
Input I/O address area	1024 Byte	1024 Byte	1024 Byte	1024 Byte
Output I/O address area	1024 Byte	1024 Byte	1024 Byte	1024 Byte
Input process image maximal	128 Byte	128 Byte	128 Byte	128 Byte
Output process image maximal	128 Byte	128 Byte	128 Byte	128 Byte
Digital inputs	8192	8192	8192	8192
Digital outputs	8192	8192	8192	8192
Digital inputs central	512	512	512	512
Digital outputs central	512	512	512	512
Integrated digital inputs	-	-	-	-
Integrated digital outputs	-	-	-	-
Analog inputs	512	512	512	512
Analog outputs	512	512	512	512
Analog inputs, central	128	128	128	128
Analog outputs, central	128	128	128	128
Integrated analog inputs	-	-	-	-
Integrated analog outputs	-	-	-	-
Communication functions				
PG/OP channel	✓	✓	✓	✓
Global data communication	✓	✓	✓	✓
Number of GD circuits, max.	4	4	4	4
Size of GD packets, max	22 Byte	22 Byte	22 Byte	22 Byte

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	214-2BS02	214-2BS12	214-2BS32	215-2BS02
S7 basic communication	✓	✓	✓	✓
S7 basic communication, user data per job	76 Byte	76 Byte	76 Byte	76 Byte
S7 communication	✓	✓	✓	✓
S7 communication as server	✓	✓	✓	✓
S7 communication as client	-	-	-	-
S7 communication, user data per job	160 Byte	160 Byte	160 Byte	160 Byte
Number of connections, max.	16	16	16	16
Functionality Sub-D interfaces				
Type	-	-	-	-
Type of interface	RS485	RS485	RS485	RS485
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female
Electrically isolated	-	-	-	-
MPI	✓	✓	✓	✓
MP²I (MPI/RS232)	✓	✓	✓	✓
DP master	-	-	-	-
DP slave	-	-	-	-
Point-to-point interface	-	-	-	-
Type	-	-	-	-
Type of interface	RS232	RS232	RS485	RS232
Connector	Sub-D, 9-pin, male	Sub-D, 9-pin, male	Sub-D, 9-pin, female	Sub-D, 9-pin, male
Electrically isolated	-	-	✓	-
MPI	-	-	-	-
MP²I (MPI/RS232)	-	-	-	-
DP master	-	-	-	-
DP slave	-	-	-	-
Point-to-point interface	✓	✓	✓	✓
CAN	-	-	-	-
Type	-	-	-	-
Type of interface	RS232	-	-	RS232
Connector	Sub-D, 9-pin, male	-	-	Sub-D, 9-pin, male
Electrically isolated	-	-	-	-
MPI	-	-	-	-
MP²I (MPI/RS232)	-	-	-	-
DP master	-	-	-	-
DP slave	-	-	-	-
Point-to-point interface	✓	-	-	✓
Point-to-point communication				
PtP communication	✓	✓	✓	✓
Interface isolated	-	-	✓	-
RS232 interface	✓	✓	-	✓
RS422 interface	-	-	-	-
RS485 interface	-	-	✓	-
Connector	Sub-D, 9-pin, male	Sub-D, 9-pin, male	Sub-D, 9-pin, female	Sub-D, 9-pin, male

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

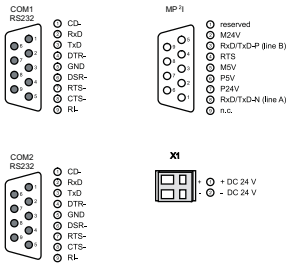
Order number	214-2BS02	214-2BS12	214-2BS32	215-2BS02
Transmission speed, min.	150 bit/s	150 bit/s	150 bit/s	150 bit/s
Transmission speed, max.	115.2 kbit/s	115.2 kbit/s	115.2 kbit/s	115.2 kbit/s
Cable length, max.	15 m	15 m	500 m	15 m
Point-to-point protocol				
ASCII protocol	✓	✓	✓	✓
STX/ETX protocol	✓	✓	✓	✓
3964(R) protocol	✓	✓	✓	✓
RK512 protocol	✓	-	-	✓
USS Master protocol	-	✓	✓	-
Modbus Master protocol	-	✓	✓	-
Modbus Slave protocol	-	✓	✓	-
Special protocolls	-	-	-	-
Mechanical data				
Dimensions (WxHxD)	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm
Weight	150 g	150 g	150 g	150 g
Environmental conditions				
Operating temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C
Certifications				
UL508 certification	yes	yes	yes	yes

Connections, Interfaces

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

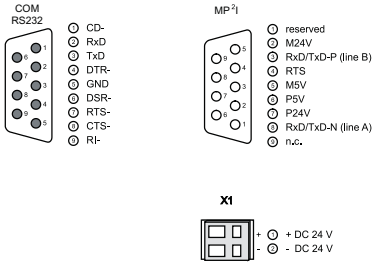
214-2BS02





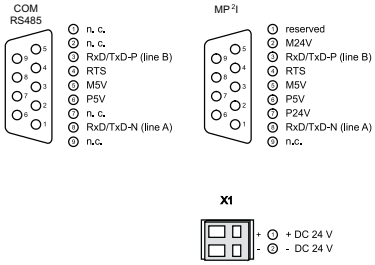
214-2BS12





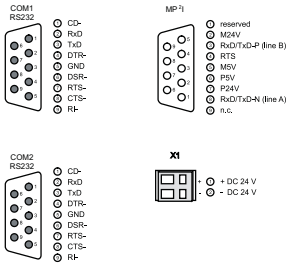
214-2BS32





215-2BS02





CPUs STEP7 programmable, PtP

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	215-2BS12	215-2BS32	216-2BS02	216-2BS12
Figure				
Type	CPU 215SER	CPU 215SER	CPU 216SER	CPU 216SER
General information				
Note	-	-	-	-
Features	› Serial communication via RS232, › 96 kB work memory, › 144 kB load memory	› Serial communication via RS485, › 96 kB work memory, › 144 kB load memory	› Serial communication via 2x RS232, › 128 kB work memory, › 192 kB load memory	› Serial communication via RS232, › 128 kB work memory, › 192 kB load memory
Technical data power supply				
Power supply (rated value)	DC 24 V	DC 24 V	DC 24 V	DC 24 V
Power supply (permitted range)	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V
Reverse polarity protection	✓	✓	✓	✓
Current consumption (no-load operation)	-	-	-	-
Current consumption (rated value)	1.5 A	1.5 A	1.5 A	1.5 A
Inrush current	-	-	-	-
Load and working memory				
Load memory, integrated	144 KB	144 KB	192 KB	192 KB
Load memory, maximum	-	-	-	-
Work memory, integrated	96 KB	96 KB	128 KB	128 KB
Work memory, maximal	-	-	-	-
Memory divided in 50% program / 50% data	-	-	-	-
Memory card slot	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB
Hardware config				
Racks, max.	4	4	4	4
Modules per rack, max.	total max. 32	total max. 32	total max. 32	total max. 32
Number of integrated DP master	-	-	-	-
Number of DP master via CP	8	8	8	8
Operable function modules	32	32	32	32
Operable communication modules PtP	32	32	32	32
Operable communication modules LAN	-	-	-	-
Status information, alarms, diagnostics				
Status display	yes	yes	yes	yes
Interrupts	no	no	no	no
Process alarm	no	no	no	no
Diagnostic interrupt	no	no	no	no
Command processing times				
Bit instructions, min.	0.18 µs	0.18 µs	0.18 µs	0.18 µs
Word instruction, min.	0.78 µs	0.78 µs	0.78 µs	0.78 µs
Double integer arithmetic, min.	-	-	-	-
Floating-point arithmetic, min.	-	-	-	-

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	215-2BS12	215-2BS32	216-2BS02	216-2BS12
Timers/Counters and their retentive characteristics				
Number of S7 counters	256	256	256	256
Number of S7 times	256	256	256	256
Data range and retentive characteristic				
Number of flags	8192 Bit	8192 Bit	8192 Bit	8192 Bit
Number of data blocks	2047	2047	2047	2047
Max. data blocks size	16 KB	16 KB	16 KB	16 KB
Max. local data size per execution level	1024 Byte	1024 Byte	1024 Byte	1024 Byte
Blocks				
Number of OBs	14	14	14	14
Number of FBs	1024	1024	1024	1024
Number of FCs	1024	1024	1024	1024
Maximum nesting depth per priority class	8	8	8	8
Maximum nesting depth additional within an error OB	1	1	1	1
Time				
Real-time clock buffered	✓	✓	✓	✓
Clock buffered period (min.)	-	-	-	-
Accuracy (max. deviation per day)	-	-	-	-
Number of operating hours counter	8	8	8	8
Clock synchronization	-	-	-	-
Synchronization via MPI	-	-	-	-
Synchronization via Ethernet (NTP)	-	-	-	-
Address areas (I/O)				
Input I/O address area	1024 Byte	1024 Byte	1024 Byte	1024 Byte
Output I/O address area	1024 Byte	1024 Byte	1024 Byte	1024 Byte
Input process image maximal	128 Byte	128 Byte	128 Byte	128 Byte
Output process image maximal	128 Byte	128 Byte	128 Byte	128 Byte
Digital inputs	8192	8192	8192	8192
Digital outputs	8192	8192	8192	8192
Digital inputs central	512	512	512	512
Digital outputs central	512	512	512	512
Integrated digital inputs	-	-	-	-
Integrated digital outputs	-	-	-	-
Analog inputs	512	512	512	512
Analog outputs	512	512	512	512
Analog inputs, central	128	128	128	128
Analog outputs, central	128	128	128	128
Integrated analog inputs	-	-	-	-
Integrated analog outputs	-	-	-	-
Communication functions				
PG/OP channel	✓	✓	✓	✓
Global data communication	✓	✓	✓	✓
Number of GD circuits, max.	4	4	4	4
Size of GD packets, max	22 Byte	22 Byte	22 Byte	22 Byte

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	215-2BS12	215-2BS32	216-2BS02	216-2BS12
S7 basic communication	✓	✓	✓	✓
S7 basic communication, user data per job	76 Byte	76 Byte	76 Byte	76 Byte
S7 communication	✓	✓	✓	✓
S7 communication as server	✓	✓	✓	✓
S7 communication as client	-	-	-	-
S7 communication, user data per job	160 Byte	160 Byte	160 Byte	160 Byte
Number of connections, max.	16	16	16	16
Functionality Sub-D interfaces				
Type	-	-	-	-
Type of interface	RS485	RS485	RS485	RS485
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female
Electrically isolated	-	-	-	-
MPI	✓	✓	✓	✓
MP²I (MPI/RS232)	✓	✓	✓	✓
DP master	-	-	-	-
DP slave	-	-	-	-
Point-to-point interface	-	-	-	-
Type	-	-	-	-
Type of interface	RS232	RS485	RS232	RS232
Connector	Sub-D, 9-pin, male	Sub-D, 9-pin, female	Sub-D, 9-pin, male	Sub-D, 9-pin, male
Electrically isolated	-	✓	-	-
MPI	-	-	-	-
MP²I (MPI/RS232)	-	-	-	-
DP master	-	-	-	-
DP slave	-	-	-	-
Point-to-point interface	✓	✓	✓	✓
CAN	-	-	-	-
Type	-	-	-	-
Type of interface	-	-	RS232	-
Connector	-	-	Sub-D, 9-pin, male	-
Electrically isolated	-	-	-	-
MPI	-	-	-	-
MP²I (MPI/RS232)	-	-	-	-
DP master	-	-	-	-
DP slave	-	-	-	-
Point-to-point interface	-	-	✓	-
Point-to-point communication				
PtP communication	✓	✓	✓	✓
Interface isolated	-	✓	-	-
RS232 interface	✓	-	✓	✓
RS422 interface	-	-	-	-
RS485 interface	-	✓	-	-
Connector	Sub-D, 9-pin, male	Sub-D, 9-pin, female	Sub-D, 9-pin, male	Sub-D, 9-pin, male

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

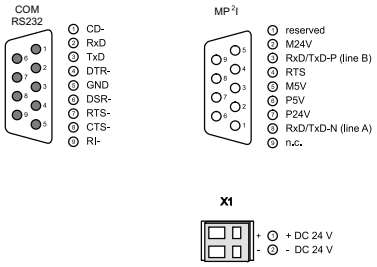
Order number	215-2BS12	215-2BS32	216-2BS02	216-2BS12
Transmission speed, min.	150 bit/s	150 bit/s	150 bit/s	150 bit/s
Transmission speed, max.	115.2 kbit/s	115.2 kbit/s	115.2 kbit/s	115.2 kbit/s
Cable length, max.	15 m	500 m	15 m	15 m
Point-to-point protocol				
ASCII protocol	✓	✓	✓	✓
STX/ETX protocol	✓	✓	✓	✓
3964(R) protocol	✓	✓	✓	✓
RK512 protocol	-	-	✓	-
USS Master protocol	✓	✓	-	✓
Modbus Master protocol	✓	✓	-	✓
Modbus Slave protocol	✓	✓	-	✓
Special protocolls	-	-	-	-
Mechanical data				
Dimensions (WxHxD)	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm
Weight	150 g	150 g	150 g	150 g
Environmental conditions				
Operating temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C
Certifications				
UL508 certification	yes	yes	yes	yes

Connections, Interfaces

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

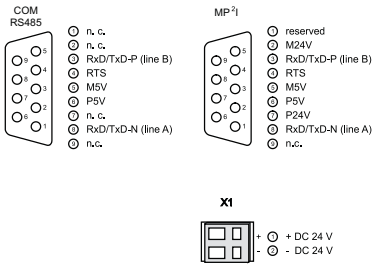
215-2BS12





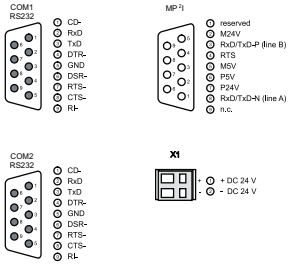
215-2BS32





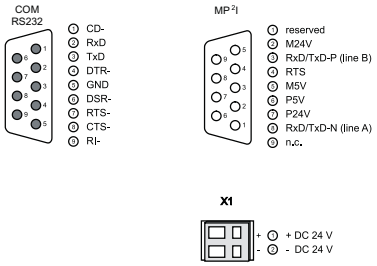
216-2BS02





216-2BS12





CPUs STEP7 programmable, PtP

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	216-2BS32			
Figure				
Type	CPU 216SER			
General information				
Note	-			
Features	› Serial communication via RS485, › 128 kB work memory, › 192 kB load memory			
Technical data power supply				
Power supply (rated value)	DC 24 V			
Power supply (permitted range)	DC 20.4...28.8 V			
Reverse polarity protection	✓			
Current consumption (no-load operation)	-			
Current consumption (rated value)	1.5 A			
Inrush current	-			
Load and working memory				
Load memory, integrated	192 KB			
Load memory, maximum	-			
Work memory, integrated	128 KB			
Work memory, maximal	-			
Memory divided in 50% program / 50% data	-			
Memory card slot	MMC-Card with max. 512 MB			
Hardware config				
Racks, max.	4			
Modules per rack, max.	total max. 32			
Number of integrated DP master	-			
Number of DP master via CP	8			
Operable function modules	32			
Operable communication modules PtP	32			
Operable communication modules LAN	-			
Status information, alarms, diagnostics				
Status display	yes			
Interrupts	no			
Process alarm	no			
Diagnostic interrupt	no			
Command processing times				
Bit instructions, min.	0.18 µs			
Word instruction, min.	0.78 µs			
Double integer arithmetic, min.	-			
Floating-point arithmetic, min.	-			

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	216-2BS32			
Timers/Counters and their retentive characteristics				
Number of S7 counters	256			
Number of S7 times	256			
Data range and retentive characteristic				
Number of flags	8192 Bit			
Number of data blocks	2047			
Max. data blocks size	16 KB			
Max. local data size per execution level	1024 Byte			
Blocks				
Number of OBs	14			
Number of FBs	1024			
Number of FCs	1024			
Maximum nesting depth per priority class	8			
Maximum nesting depth additional within an error OB	1			
Time				
Real-time clock buffered	✓			
Clock buffered period (min.)	-			
Accuracy (max. deviation per day)	-			
Number of operating hours counter	8			
Clock synchronization	-			
Synchronization via MPI	-			
Synchronization via Ethernet (NTP)	-			
Address areas (I/O)				
Input I/O address area	1024 Byte			
Output I/O address area	1024 Byte			
Input process image maximal	128 Byte			
Output process image maximal	128 Byte			
Digital inputs	8192			
Digital outputs	8192			
Digital inputs central	512			
Digital outputs central	512			
Integrated digital inputs	-			
Integrated digital outputs	-			
Analog inputs	512			
Analog outputs	512			
Analog inputs, central	128			
Analog outputs, central	128			
Integrated analog inputs	-			
Integrated analog outputs	-			
Communication functions				
PG/OP channel	✓			
Global data communication	✓			
Number of GD circuits, max.	4			
Size of GD packets, max	22 Byte			

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	216-2BS32			
S7 basic communication	✓			
S7 basic communication, user data per job	76 Byte			
S7 communication	✓			
S7 communication as server	✓			
S7 communication as client	-			
S7 communication, user data per job	160 Byte			
Number of connections, max.	16			
Functionality Sub-D interfaces				
Type	-			
Type of interface	RS485			
Connector	Sub-D, 9-pin, female			
Electrically isolated	-			
MPI	✓			
MP²I (MPI/RS232)	✓			
DP master	-			
DP slave	-			
Point-to-point interface	-			
Type	-			
Type of interface	RS485			
Connector	Sub-D, 9-pin, female			
Electrically isolated	✓			
MPI	-			
MP²I (MPI/RS232)	-			
DP master	-			
DP slave	-			
Point-to-point interface	✓			
CAN	-			
Type	-			
Type of interface	-			
Connector	-			
Electrically isolated	-			
MPI	-			
MP²I (MPI/RS232)	-			
DP master	-			
DP slave	-			
Point-to-point interface	-			
Point-to-point communication				
PtP communication	✓			
Interface isolated	✓			
RS232 interface	-			
RS422 interface	-			
RS485 interface	✓			
Connector	Sub-D, 9-pin, female			

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

Order number	216-2BS32			
Transmission speed, min.	150 bit/s			
Transmission speed, max.	115.2 kbit/s			
Cable length, max.	500 m			
Point-to-point protocol				
ASCII protocol	✓			
STX/ETX protocol	✓			
3964(R) protocol	✓			
RK512 protocol	-			
USS Master protocol	✓			
Modbus Master protocol	✓			
Modbus Slave protocol	✓			
Special protocolls	-			
Mechanical data				
Dimensions (WxHxD)	50.8 mm x 76 mm x 80 mm			
Weight	150 g			
Environmental conditions				
Operating temperature	0 °C to 60 °C			
Storage temperature	-25 °C to 70 °C			
Certifications				
UL508 certification	yes			

Connections, Interfaces

CPUs | CPUs STEP7 programmable, PtP						
214-2BS02 214-2BS12 214-2BS32 215-2BS02	215-2BS12 215-2BS32 216-2BS02 216-2BS12	216-2BS32				

216-2BS32



COM
RS485

1	n. c.
2	n. c.
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	n. c.
8	RxD/TxD-N (line A)
9	n.c.

MP²I

1	reserved
2	M24V
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	P24V
8	RxD/TxD-N (line A)
9	n.c.

X1

+	1	+ DC 24 V
-	2	- DC 24 V

CPUs STEP7 programmable, DP master

CPUs | CPUs STEP7 programmable, DP master						
214-2BM02 215-2BM02 216-2BM02						

Order number	214-2BM02	215-2BM02	216-2BM02	
Figure				
Type	CPU 214DPM	CPU 215DPM	CPU 216DPM	
General information				
Note	-	-	-	
Features	› PROFIBUS-DP master, › 48 kB work memory, › 80 kB load memory	› PROFIBUS-DP master, › 96 kB work memory, › 144 kB load memory	› PROFIBUS-DP master, › 128 kB work memory, › 192 kB load memory	
Technical data power supply				
Power supply (rated value)	DC 24 V	DC 24 V	DC 24 V	
Power supply (permitted range)	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V	
Reverse polarity protection	✓	✓	✓	
Current consumption (no-load operation)	-	-	-	
Current consumption (rated value)	1.5 A	1.5 A	1.5 A	
Inrush current	-	-	-	
Load and working memory				
Load memory, integrated	80 KB	144 KB	192 KB	
Load memory, maximum	-	-	-	
Work memory, integrated	48 KB	96 KB	128 KB	
Work memory, maximal	-	-	-	
Memory divided in 50% program / 50% data	-	-	-	
Memory card slot	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	
Hardware config				
Racks, max.	4	4	4	
Modules per rack, max.	total max. 32	total max. 32	total max. 32	
Number of integrated DP master	1	1	1	
Number of DP master via CP	8	8	8	
Operable function modules	32	32	32	
Operable communication modules PtP	32	32	32	
Operable communication modules LAN	-	-	-	
Status information, alarms, diagnostics				
Status display	yes	yes	yes	
Interrupts	no	no	no	
Process alarm	no	no	no	
Diagnostic interrupt	no	no	no	
Command processing times				
Bit instructions, min.	0.18 µs	0.18 µs	0.18 µs	
Word instruction, min.	0.78 µs	0.78 µs	0.78 µs	
Double integer arithmetic, min.	-	-	-	
Floating-point arithmetic, min.	-	-	-	

CPUs | CPUs STEP7 programmable, DP master						
214-2BM02 215-2BM02 216-2BM02						

Order number	214-2BM02	215-2BM02	216-2BM02	
Timers/Counters and their retentive characteristics				
Number of S7 counters	256	256	256	
Number of S7 times	256	256	256	
Data range and retentive characteristic				
Number of flags	8192 Bit	8192 Bit	8192 Bit	
Number of data blocks	2047	2047	2047	
Max. data blocks size	16 KB	16 KB	16 KB	
Max. local data size per execution level	1024 Byte	1024 Byte	1024 Byte	
Blocks				
Number of OBs	14	14	14	
Number of FBs	1024	1024	1024	
Number of FCs	1024	1024	1024	
Maximum nesting depth per priority class	8	8	8	
Maximum nesting depth additional within an error OB	1	1	1	
Time				
Real-time clock buffered	✓	✓	✓	
Clock buffered period (min.)	-	-	-	
Accuracy (max. deviation per day)	-	-	-	
Number of operating hours counter	8	8	8	
Clock synchronization	-	-	-	
Synchronization via MPI	-	-	-	
Synchronization via Ethernet (NTP)	-	-	-	
Address areas (I/O)				
Input I/O address area	1024 Byte	1024 Byte	1024 Byte	
Output I/O address area	1024 Byte	1024 Byte	1024 Byte	
Input process image maximal	128 Byte	128 Byte	128 Byte	
Output process image maximal	128 Byte	128 Byte	128 Byte	
Digital inputs	8192	8192	8192	
Digital outputs	8192	8192	8192	
Digital inputs central	512	512	512	
Digital outputs central	512	512	512	
Integrated digital inputs	-	-	-	
Integrated digital outputs	-	-	-	
Analog inputs	512	512	512	
Analog outputs	512	512	512	
Analog inputs, central	128	128	128	
Analog outputs, central	128	128	128	
Integrated analog inputs	-	-	-	
Integrated analog outputs	-	-	-	
Communication functions				
PG/OP channel	✓	✓	✓	
Global data communication	✓	✓	✓	
Number of GD circuits, max.	4	4	4	
Size of GD packets, max	22 Byte	22 Byte	22 Byte	

CPUs | CPUs STEP7 programmable, DP master						
214-2BM02 215-2BM02 216-2BM02						

Order number	214-2BM02	215-2BM02	216-2BM02	
S7 basic communication	✓	✓	✓	
S7 basic communication, user data per job	76 Byte	76 Byte	76 Byte	
S7 communication	✓	✓	✓	
S7 communication as server	✓	✓	✓	
S7 communication as client	-	-	-	
S7 communication, user data per job	160 Byte	160 Byte	160 Byte	
Number of connections, max.	16	16	16	
Functionality Sub-D interfaces				
Type	-	-	-	
Type of interface	RS485	RS485	RS485	
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	
Electrically isolated	-	-	-	
MPI	✓	✓	✓	
MP²I (MPI/RS232)	✓	✓	✓	
DP master	-	-	-	
DP slave	-	-	-	
Point-to-point interface	-	-	-	
Type	-	-	-	
Type of interface	RS485	RS485	RS485	
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	
Electrically isolated	✓	✓	✓	
MPI	-	-	-	
MP²I (MPI/RS232)	-	-	-	
DP master	✓	✓	✓	
DP slave	-	-	-	
Point-to-point interface	-	-	-	
CAN	-	-	-	
Functionality PROFIBUS Master				
PG/OP channel	✓	✓	✓	
Routing	-	-	-	
S7 basic communication	-	-	-	
S7 communication	-	-	-	
S7 communication as server	-	-	-	
S7 communication as client	-	-	-	
Equidistance support	-	-	-	
Isochronous mode	-	-	-	
SYNC/FREEZE	-	-	-	
Activation/deactivation of DP slaves	✓	✓	✓	
Direct data exchange (slave-to-slave communication)	-	-	-	
DPV1	-	-	-	
Transmission speed, min.	9.6 kbit/s	9.6 kbit/s	9.6 kbit/s	
Transmission speed, max.	12 Mbit/s	12 Mbit/s	12 Mbit/s	
Number of DP slaves, max.	64	64	64	

CPUs | CPUs STEP7 programmable, DP master						
214-2BM02 215-2BM02 216-2BM02						

Order number	214-2BM02	215-2BM02	216-2BM02	
Address range inputs, max.	1 KB	1 KB	1 KB	
Address range outputs, max.	1 KB	1 KB	1 KB	
User data inputs per slave, max.	244 Byte	244 Byte	244 Byte	
User data outputs per slave, max.	244 Byte	244 Byte	244 Byte	
Mechanical data				
Dimensions (WxHxD)	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	
Weight	150 g	150 g	150 g	
Environmental conditions				
Operating temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C	
Storage temperature	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C	
Certifications				
UL508 certification	yes	yes	yes	

Connections, Interfaces

CPUs | CPUs STEP7 programmable, DP master						
214-2BM02 215-2BM02 216-2BM02						

214-2BM02



DP master

1	shield
2	n. c.
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	n. c.
8	RxD/TxD-N (line A)
9	n.c.

MP²I

1	reserved
2	M24V
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	P24V
8	RxD/TxD-N (line A)
9	n.c.

X1

+ 1	+ DC 24 V
- 2	- DC 24 V

215-2BM02



DP master

1	shield
2	n. c.
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	n. c.
8	RxD/TxD-N (line A)
9	n.c.

MP²I

1	reserved
2	M24V
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	P24V
8	RxD/TxD-N (line A)
9	n.c.

X1

+ 1	+ DC 24 V
- 2	- DC 24 V

216-2BM02



DP master

1	shield
2	n. c.
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	n. c.
8	RxD/TxD-N (line A)
9	n.c.

MP²I

1	reserved
2	M24V
3	RxD/TxD-P (line B)
4	RTS
5	M5V
6	P5V
7	P24V
8	RxD/TxD-N (line A)
9	n.c.

X1

+ 1	+ DC 24 V
- 2	- DC 24 V

CPUs STEP7 programmable, DP slave

CPUs | CPUs STEP7 programmable, DP slave						
214-2BP02 215-2BP02 216-2BP02						

Order number	214-2BP02	215-2BP02	216-2BP02	
Figure				
Type	CPU 214DP	CPU 215DP	CPU 216DP	
General information				
Note	-	-	-	
Features	› PROFIBUS-DP slave, › 48 kB work memory, › 80 kB load memory	› PROFIBUS-DP slave, › 96 kB work memory, › 144 kB load memory	› PROFIBUS-DP slave, › 128 kB work memory, › 192 kB load memory	
Technical data power supply				
Power supply (rated value)	DC 24 V	DC 24 V	DC 24 V	
Power supply (permitted range)	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V	
Reverse polarity protection	✓	✓	✓	
Current consumption (no-load operation)	-	-	-	
Current consumption (rated value)	1.5 A	1.5 A	1.5 A	
Inrush current	-	-	-	
Load and working memory				
Load memory, integrated	80 KB	144 KB	192 KB	
Load memory, maximum	-	-	-	
Work memory, integrated	48 KB	96 KB	128 KB	
Work memory, maximal	-	-	-	
Memory divided in 50% program / 50% data	-	-	-	
Memory card slot	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	
Hardware config				
Racks, max.	4	4	4	
Modules per rack, max.	total max. 32	total max. 32	total max. 32	
Number of integrated DP master	-	-	-	
Number of DP master via CP	8	8	8	
Operable function modules	32	32	32	
Operable communication modules PtP	32	32	32	
Operable communication modules LAN	-	-	-	
Status information, alarms, diagnostics				
Status display	yes	yes	yes	
Interrupts	no	no	no	
Process alarm	no	no	no	
Diagnostic interrupt	no	no	no	
Command processing times				
Bit instructions, min.	0.18 µs	0.18 µs	0.18 µs	
Word instruction, min.	0.78 µs	0.78 µs	0.78 µs	
Double integer arithmetic, min.	-	-	-	
Floating-point arithmetic, min.	-	-	-	

CPUs | CPUs STEP7 programmable, DP slave						
214-2BP02 215-2BP02 216-2BP02						

Order number	214-2BP02	215-2BP02	216-2BP02	
Timers/Counters and their retentive characteristics				
Number of S7 counters	256	256	256	
Number of S7 times	256	256	256	
Data range and retentive characteristic				
Number of flags	8192 Bit	8192 Bit	8192 Bit	
Number of data blocks	2047	2047	2047	
Max. data blocks size	16 KB	16 KB	16 KB	
Max. local data size per execution level	1024 Byte	1024 Byte	1024 Byte	
Blocks				
Number of OBs	14	14	14	
Number of FBs	1024	1024	1024	
Number of FCs	1024	1024	1024	
Maximum nesting depth per priority class	8	8	8	
Maximum nesting depth additional within an error OB	1	1	1	
Time				
Real-time clock buffered	✓	✓	✓	
Clock buffered period (min.)	-	-	-	
Accuracy (max. deviation per day)	-	-	-	
Number of operating hours counter	8	8	8	
Clock synchronization	-	-	-	
Synchronization via MPI	-	-	-	
Synchronization via Ethernet (NTP)	-	-	-	
Address areas (I/O)				
Input I/O address area	1024 Byte	1024 Byte	1024 Byte	
Output I/O address area	1024 Byte	1024 Byte	1024 Byte	
Input process image maximal	128 Byte	128 Byte	128 Byte	
Output process image maximal	128 Byte	128 Byte	128 Byte	
Digital inputs	8192	8192	8192	
Digital outputs	8192	8192	8192	
Digital inputs central	512	512	512	
Digital outputs central	512	512	512	
Integrated digital inputs	-	-	-	
Integrated digital outputs	-	-	-	
Analog inputs	512	512	512	
Analog outputs	512	512	512	
Analog inputs, central	128	128	128	
Analog outputs, central	128	128	128	
Integrated analog inputs	-	-	-	
Integrated analog outputs	-	-	-	
Communication functions				
PG/OP channel	✓	✓	✓	
Global data communication	✓	✓	✓	
Number of GD circuits, max.	4	4	4	
Size of GD packets, max	22 Byte	22 Byte	22 Byte	

CPUs | CPUs STEP7 programmable, DP slave						
214-2BP02 215-2BP02 216-2BP02						

Order number	214-2BP02	215-2BP02	216-2BP02	
S7 basic communication	✓	✓	✓	
S7 basic communication, user data per job	76 Byte	76 Byte	76 Byte	
S7 communication	✓	✓	✓	
S7 communication as server	✓	✓	✓	
S7 communication as client	-	-	-	
S7 communication, user data per job	160 Byte	160 Byte	160 Byte	
Number of connections, max.	16	16	16	
Functionality Sub-D interfaces				
Type	-	-	-	
Type of interface	RS485	RS485	RS485	
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	
Electrically isolated	-	-	-	
MPI	✓	✓	✓	
MP²I (MPI/RS232)	✓	✓	✓	
DP master	-	-	-	
DP slave	-	-	-	
Point-to-point interface	-	-	-	
Type	-	-	-	
Type of interface	RS485	RS485	RS485	
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	
Electrically isolated	✓	✓	✓	
MPI	-	-	-	
MP²I (MPI/RS232)	-	-	-	
DP master	-	-	-	
DP slave	✓	✓	✓	
Point-to-point interface	-	-	-	
CAN	-	-	-	
Functionality PROFIBUS Slave				
PG/OP channel	-	-	-	
Routing	-	-	-	
S7 communication	-	-	-	
S7 communication as server	-	-	-	
S7 communication as client	-	-	-	
Direct data exchange (slave-to-slave communication)	-	-	-	
DPV1	-	-	-	
Transmission speed, min.	9.6 kbit/s	9.6 kbit/s	9.6 kbit/s	
Transmission speed, max.	12 Mbit/s	12 Mbit/s	12 Mbit/s	
Automatic detection of transmission speed	-	-	-	
Transfer memory inputs, max.	64 Byte	64 Byte	64 Byte	
Transfer memory outputs, max.	64 Byte	64 Byte	64 Byte	
Address areas, max.	1	1	1	
User data per address area, max.	64 Byte	64 Byte	64 Byte	

CPUs | CPUs STEP7 programmable, DP slave						
214-2BP02 215-2BP02 216-2BP02						

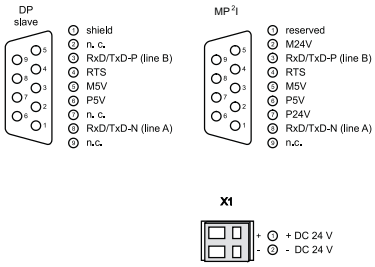
Order number	214-2BP02	215-2BP02	216-2BP02	
Mechanical data				
Dimensions (WxHxD)	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	
Weight	150 g	150 g	150 g	
Environmental conditions				
Operating temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C	
Storage temperature	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C	
Certifications				
UL508 certification	yes	yes	yes	

Connections, Interfaces

CPUs | CPUs STEP7 programmable, DP slave						
214-2BP02 215-2BP02 216-2BP02						

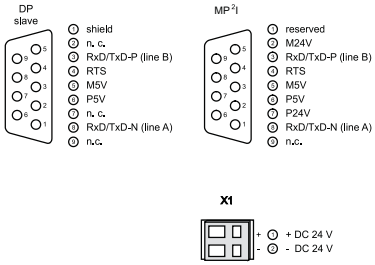
214-2BP02





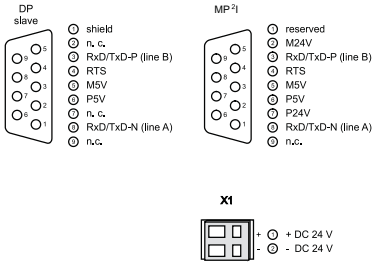
215-2BP02





216-2BP02





CPUs STEP7 programmable, CAN master

CPUs | CPUs STEP7 programmable, CAN master						
214-2CM02 215-2CM02 216-2CM02						

Order number	214-2CM02	215-2CM02	216-2CM02	
Figure				
Type	CPU 214CAN	CPU 215CAN	CPU 216CAN	
General information				
Note	-	-	-	
Features	› CANopen master, › 48 kB work memory, › 80 kB load memory	› CANopen master, › 96 kB work memory, › 144 kB load memory	› CANopen master, › 128 kB work memory, › 192 kB load memory	
Technical data power supply				
Power supply (rated value)	DC 24 V	DC 24 V	DC 24 V	
Power supply (permitted range)	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V	
Reverse polarity protection	✓	✓	✓	
Current consumption (no-load operation)	-	-	-	
Current consumption (rated value)	1.5 A	1.5 A	1.5 A	
Inrush current	-	-	-	
Load and working memory				
Load memory, integrated	80 KB	144 KB	192 KB	
Load memory, maximum	-	-	-	
Work memory, integrated	48 KB	96 KB	128 KB	
Work memory, maximal	-	-	-	
Memory divided in 50% program / 50% data	-	-	-	
Memory card slot	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	MMC-Card with max. 512 MB	
Hardware config				
Racks, max.	4	4	4	
Modules per rack, max.	total max. 32	total max. 32	total max. 32	
Number of integrated DP master	-	-	-	
Number of DP master via CP	8	8	8	
Operable function modules	32	32	32	
Operable communication modules PtP	32	32	32	
Operable communication modules LAN	-	-	-	
Status information, alarms, diagnostics				
Status display	yes	yes	yes	
Interrupts	no	no	no	
Process alarm	no	no	no	
Diagnostic interrupt	no	no	no	
Command processing times				
Bit instructions, min.	0.18 µs	0.18 µs	0.18 µs	
Word instruction, min.	0.78 µs	0.78 µs	0.78 µs	
Double integer arithmetic, min.	-	-	-	
Floating-point arithmetic, min.	-	-	-	

CPUs | CPUs STEP7 programmable, CAN master						
214-2CM02 215-2CM02 216-2CM02						

Order number	214-2CM02	215-2CM02	216-2CM02	
Timers/Counters and their retentive characteristics				
Number of S7 counters	256	256	256	
Number of S7 times	256	256	256	
Data range and retentive characteristic				
Number of flags	8192 Bit	8192 Bit	8192 Bit	
Number of data blocks	2047	2047	2047	
Max. data blocks size	16 KB	16 KB	16 KB	
Max. local data size per execution level	1024 Byte	1024 Byte	1024 Byte	
Blocks				
Number of OBs	14	14	14	
Number of FBs	1024	1024	1024	
Number of FCs	1024	1024	1024	
Maximum nesting depth per priority class	8	8	8	
Maximum nesting depth additional within an error OB	1	1	1	
Time				
Real-time clock buffered	✓	✓	✓	
Clock buffered period (min.)	-	-	-	
Accuracy (max. deviation per day)	-	-	-	
Number of operating hours counter	8	8	8	
Clock synchronization	-	-	-	
Synchronization via MPI	-	-	-	
Synchronization via Ethernet (NTP)	-	-	-	
Address areas (I/O)				
Input I/O address area	1024 Byte	1024 Byte	1024 Byte	
Output I/O address area	1024 Byte	1024 Byte	1024 Byte	
Input process image maximal	128 Byte	128 Byte	128 Byte	
Output process image maximal	128 Byte	128 Byte	128 Byte	
Digital inputs	8192	8192	8192	
Digital outputs	8192	8192	8192	
Digital inputs central	512	512	512	
Digital outputs central	512	512	512	
Integrated digital inputs	-	-	-	
Integrated digital outputs	-	-	-	
Analog inputs	512	512	512	
Analog outputs	512	512	512	
Analog inputs, central	128	128	128	
Analog outputs, central	128	128	128	
Integrated analog inputs	-	-	-	
Integrated analog outputs	-	-	-	
Communication functions				
PG/OP channel	✓	✓	✓	
Global data communication	✓	✓	✓	
Number of GD circuits, max.	4	4	4	
Size of GD packets, max	22 Byte	22 Byte	22 Byte	

CPUs | CPUs STEP7 programmable, CAN master						
214-2CM02 215-2CM02 216-2CM02						

Order number	214-2CM02	215-2CM02	216-2CM02	
S7 basic communication	✓	✓	✓	
S7 basic communication, user data per job	76 Byte	76 Byte	76 Byte	
S7 communication	✓	✓	✓	
S7 communication as server	✓	✓	✓	
S7 communication as client	-	-	-	
S7 communication, user data per job	160 Byte	160 Byte	160 Byte	
Number of connections, max.	16	16	16	
Functionality Sub-D interfaces				
Type	-	-	-	
Type of interface	RS485	RS485	RS485	
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	
Electrically isolated	-	-	-	
MPI	✓	✓	✓	
MP²I (MPI/RS232)	✓	✓	✓	
DP master	-	-	-	
DP slave	-	-	-	
Point-to-point interface	-	-	-	
Type	-	-	-	
Type of interface	CAN	CAN	CAN	
Connector	Sub-D, 9-pin, male	Sub-D, 9-pin, male	Sub-D, 9-pin, male	
Electrically isolated	✓	✓	✓	
MPI	-	-	-	
MP²I (MPI/RS232)	-	-	-	
DP master	-	-	-	
DP slave	-	-	-	
Point-to-point interface	-	-	-	
CAN	✓	✓	✓	
Mechanical data				
Dimensions (WxHxD)	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	50.8 mm x 76 mm x 80 mm	
Weight	150 g	150 g	150 g	
Environmental conditions				
Operating temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C	
Storage temperature	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C	
Certifications				
UL508 certification	yes	yes	yes	

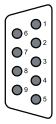
Connections, Interfaces

CPUs | CPUs STEP7 programmable, CAN master						
214-2CM02 215-2CM02 216-2CM02						

214-2CM02

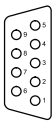


CAN



1 n. c.
2 CAN low
3 CAN Ground
4 n. c.
5 shield
6 Ground
7 CAN high
8 n. c.
9 n. c.

MP²I



1 reserved
2 M24V
3 RxD/TxD-P (line B)
4 RTS
5 M5V
6 P5V
7 P24V
8 RxD/TxD-N (line A)
9 n.c.

X1

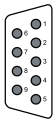


+ 1 + DC 24 V
- 2 - DC 24 V

215-2CM02

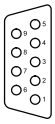


CAN



1 n. c.
2 CAN low
3 CAN Ground
4 n. c.
5 shield
6 Ground
7 CAN high
8 n. c.
9 n. c.

MP²I



1 reserved
2 M24V
3 RxD/TxD-P (line B)
4 RTS
5 M5V
6 P5V
7 P24V
8 RxD/TxD-N (line A)
9 n.c.

X1

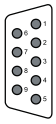


+ 1 + DC 24 V
- 2 - DC 24 V

216-2CM02

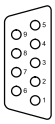


CAN



1 n. c.
2 CAN low
3 CAN Ground
4 n. c.
5 shield
6 Ground
7 CAN high
8 n. c.
9 n. c.

MP²I



1 reserved
2 M24V
3 RxD/TxD-P (line B)
4 RTS
5 M5V
6 P5V
7 P24V
8 RxD/TxD-N (line A)
9 n.c.

X1



+ 1 + DC 24 V
- 2 - DC 24 V