

I/O systems

SIMATIC ET 200 systems for the control cabinet

SIMATIC ET 200SP

I/O modules > Digital output modules

Overview (continued)

BaseUnit	PU	Article No.	CC codes for process terminals	CC codes for AUX terminals
BU type A0 - Forwarding of load group (dark) 16 process terminals - Without AUX terminals	1	6ES7193-6BP00-0BA0	CC01 to CC05	--
BU type A0 - Forwarding of load group (dark) 16 process terminals - Without AUX terminals	10	6ES7193-6BP00-2BA0	CC01 to CC05	--
BU type B0 - Forwarding of load group (dark) 12 process terminals - With 4 AUX terminals	1	6ES7193-6BP20-0BB0	CC41	CC81 to CC83
BU type B0 - Forwarding of load group (dark) 12 process terminals - With 4 AUX terminals	10	6ES7193-6BP20-0BB0	CC41	CC81 to CC83
BU type B1 - Forwarding of load group (dark) 12 process terminals 2 x 2 (1L, 2L, 1N, 2N) direct infeed module - Without AUX terminals	1	6ES7193-6BP20-0BB1	CC41	--

Technical specifications

Article number	6ES7132-6BH00-0BA0	6ES7132-6BF60-0AA0	6ES7132-6BF00-0AA0	6ES7132-6BF00-0BA0	6ES7132-6BF00-0CA0
	ET 200SP, DQ 16x24VDC/0,5A ST	ET 200SP, DQ 8x24VDC/0,5A SINK BASIC	ET 200SP, DQ 8x24VDC/0,5A BASIC, PU 1	ET 200SP, DQ 8x24VDC/0,5A ST	ET 200SP, DQ 8x24VDC/0,5A HF
General information					
Product type designation	ET 200SP, DQ 16x 24 V DC/0.5 A ST, PU 1	DQ 8x24VDC/0.5A SNK BA	ET 200SP, DQ 8x 24 V DC/0.5 A BA, PU 1	ET 200SP, DQ 8x 24 V DC/0.5 A ST, PU 1	ET 200SP, DQ 8x 24 V DC/0.5 A HF, PU 1
Product function					
• I&M data	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3
Engineering with					
• STEP 7 TIA Portal configurable/ integrated as of version	V11 SP2 / V13	V13 / V13	V13 SP1 / -	V11 SP2 / V13	V13 SP1 / -
• STEP 7 configurable/integrated as of version	V5.5 SP3 / -	V5.5 SP3 / -	V5.5 SP3 / -	V5.5 SP3 / -	V5.5 / -
• PCS 7 configurable/integrated as of version	V8.1 SP1			V8.1 SP1	V8.1 SP1
• PROFIBUS as of GSD version/ GSD revision	GSD Revision 5	GSD Revision 5	GSD Revision 5	GSD Revision 5	One GSD file each, Revision 3 and 5 and higher
• PROFINET as of GSD version/ GSD revision	GSDML V2.3	GSDML V2.3	GSDML V2.3	GSDML V2.3	GSDML V2.3
Operating mode					
• DQ	Yes	Yes	Yes	Yes	Yes
• DQ with energy-saving function	No	No	No	No	No
• PWM	No	No	No	No	No
• Oversampling	No	No	No	No	No
• MSO	No	No	No	No	Yes
Supply voltage					
Type of supply voltage	DC	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
Reverse polarity protection	Yes		Yes	Yes	Yes

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SIMATIC ET 200SP

I/O modules > Digital output modules

Ordering data

Article No.

Article No.

Digital output modules

Delivery options:

Apart from the standard delivery form in an individual package, selected I/O modules and BaseUnits are also available in a pack of 10 units. The pack of 10 units enables the amount of waste to be reduced considerably, as well as saving the time of unpacking individual modules.

The number of modules required is the number of modules ordered. The type of packaging is chosen by selecting the article number. Packs of 10 can therefore only be ordered in integer multiples of 10.

Digital output module
DQ 16x24 V DC/0.5 A Standard,
BU type A0, color code CC00

- PU: 1 unit
- PU: 10 units

6ES7132-6BH00-0BA0

6ES7132-6BH00-2BA0

6ES7132-6BF60-0AA0

Digital output module
DQ 8x24 V DC/0.5 A sink output,
basic, BU type A0,
color code CC01; PU: 1 unit

Digital output module
DQ 8x24 V DC/0.5 A basic,
BU type A0, color code CC02

- PU: 1 unit
- PU: 10 units

6ES7132-6BF00-0AA0

6ES7132-6BF00-2AA0

Digital output module
DQ 8x24 V DC/0.5 A Standard,
BU type A0, color code CC02

- PU: 1 unit
- PU: 10 units

6ES7132-6BF00-0BA0

6ES7132-6BF00-2BA0

6ES7132-6BF00-0CA0

Digital output module
DQ 8x24 V DC/0.5 A High Feature,
BU type A0, color code CC02;
PU: 1 unit

Digital output module
DQ 4x24 V DC/2 A Standard,
BU type A0, color code CC02

- PU: 1 unit
- PU: 10 units

6ES7132-6BD20-0BA0

6ES7132-6BD20-2BA0

6ES7132-6BD20-0CA0

Digital output module
DQ 4x24 V DC/2 A High Feature,
BU type A0, color code CC02,
channel-precise diagnostics,
isochronous mode,
shared output (MSO); PU: 1 unit

6ES7132-6BD20-0DA0

Digital output module
DQ 4x24 V DC/2 A High Feature,
BU type A0, color code CC02,
3 operating modes
(fast isochronous DQ with valve
control, pulse width modulation,
oversampling); PU: 1 unit

Digital output module
DQ 4x24 V AC...230 V AC/2 A
Standard for BU type B1,
color code CC41

- PU: 1 unit
- PU: 10 units

6ES7132-6FD00-0BB1

6ES7132-6FD00-2BB1

Digital output modules (continued)

Signal relay module
RQ CO 4x24 V UC/2 A Standard,
changeover contact, BU type A0,
color code CC00; PU: 1 unit

6ES7132-6GD50-0BA0

Relay module
RQ NO 4x120 V DC-230 V AC/5 A
Standard, NO contact,
BU type B0, B1

- PU: 1 unit
- PU: 10 units

6ES7132-6HD00-0BB1

6ES7132-6HD00-2BB1

6ES7132-6MD00-0BB1

Relay module
RQ NO 4x120 V DC-230 V AC/5 A
Standard, NO contact, with manual
operation, BU type B0, B1

Usable BaseUnits

BU15-P16+A10+2D

BU type A0; BaseUnit (light) with
16 process terminals (1...16) to the
module and an additional 10 inter-
nally jumpered AUX terminals
(1 A to 10 A); for starting a new load
group (max. 10 A)

- PU: 1 unit
- PU: 10 units

6ES7193-6BP20-0DA0

6ES7193-6BP20-2DA0

BU15-P16+A0+2D

BU type A0; BaseUnit (light) with
16 process terminals to the module;
for starting a new load group
(max. 10 A)

- PU: 1 unit
- PU: 10 units

6ES7193-6BP00-0DA0

6ES7193-6BP00-2DA0

BU15-P16+A10+2B

BU type A0; BaseUnit (dark) with
16 process terminals (1...16) to
the module and an additional
10 internally jumpered AUX termi-
nals (1 A to 10 A); for continuing
the load group

- PU: 1 unit
- PU: 10 units

6ES7193-6BP20-0BA0

6ES7193-6BP20-2BA0

BU15-P16+A0+2B

BU type A0; BaseUnit (dark) with
16 process terminals to the module;
for continuing the load group

- PU: 1 unit
- PU: 10 units

6ES7193-6BP00-0BA0

6ES7193-6BP00-2BA0

BU20-P12+A4+0B

BU type B0; BaseUnit (dark) with
12 process terminals (1...12) to the
module and an additional 4 inter-
nally jumpered AUX terminals
(1 A to 4 A); for continuing the load
group

- PU: 1 unit
- PU: 10 units

6ES7193-6BP20-0BB0

6ES7193-6BP20-2BB0

BU20-P12+A0+4B

6ES7193-6BP20-0BB1

BU type B1; BaseUnit (dark) with
12 process terminals to the module;
for continuing the load group;
PU: 1 unit

I/O systems

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SIMATIC ET 200SP

Fail-safe I/O modules > Digital F output modules

Technical specifications (continued)

Article number	6ES7136-6DB00-0CA0 ET 200SP, EL-MOD., F-DQ 4XDC 24V/2A
Interrupts/diagnostics/ status information	
Diagnostics function	Yes, "Alarms/diagnostic messages" section in the manual
Substitute values connectable	No
Alarms	
• Diagnostic alarm	Yes
Diagnostics indication LED	
• RUN LED	Yes; Green LED
• ERROR LED	Yes; Red LED
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• Channel status display	Yes; Green LED
• for channel diagnostics	Yes; Red LED
• for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels and backplane bus	Yes
Isolation	
Isolation tested with	707 V DC (type test)

Article number	6ES7136-6DB00-0CA0 ET 200SP, EL-MOD., F-DQ 4XDC 24V/2A
Standards, approvals, certificates	
Suitable for safety functions	Yes
Highest safety class achievable in safety mode	
• Performance level according to ISO 13849-1	PLe
• SIL acc. to IEC 61508	SIL 3
Probability of failure (for service life of 20 years and repair time of 100 hours)	
- Low demand mode: PFDavg in accordance with SIL3	< 2.00E-05 1/h
- High demand/continuous mode: PFH in accordance with SIL3	< 1.00E-09 1/h
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	0 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	0 °C
• vertical installation, max.	50 °C
Dimensions	
Width	15 mm
Weights	
Weight, approx.	57 g

Ordering data

Article No.

Digital F output modules

F-DQ 4x24 V DC High Feature,
BU type A0, color code CC01

6ES7136-6DB00-0CA0

Usable BaseUnits

BU15-P16+A0+2D

BU type A0; BaseUnit (light) with
16 process terminals to the module;
for starting a new load group
(max. 10 A)

- 1 unit
- 10 units

6ES7193-6BP00-0DA0
6ES7193-6BP00-2DA0

BU15-P16+A0+2B

BU type A0; BaseUnit (dark) with
16 process terminals to the module;
for continuing the load group

- 1 unit
- 10 units

6ES7193-6BP00-0BA0
6ES7193-6BP00-2BA0

BU15-P16+A10+2D

BU type A0; BaseUnit (light) with
16 process terminals (1...16) to the
module and an additional 10 inter-
nally jumpered AUX terminals
(1 A to 10 A); for starting a new
load group (max. 10 A)

- 1 unit
- 10 units

6ES7193-6BP20-0DA0
6ES7193-6BP20-2DA0

BU15-P16+A10+2B

BU type A0; BaseUnit (dark) with
16 process terminals (1...16) to the
module and an additional 10 inter-
nally jumpered AUX terminals
(1 A to 10 A); for continuing the
load group

- 1 unit
- 10 units

6ES7193-6BP20-0BA0
6ES7193-6BP20-2BA0

Article No.

BU20-P12+A4+0B

BU type B0; BaseUnit (dark) with
12 process terminals (1...12) to the
module and an additional 4 inter-
nally jumpered AUX terminals
(1 A to 4 A); for continuing the
load group

6ES7193-6BP20-0BB0

Accessories

S7 Distributed Safety programming tool V5.4

Task:

Engineering tool for configuring
fail-safe user programs for
SIMATIC S7-300F, S7-400F,
WinAC RTX F, ET 200S, ET 200M,
ET 200iSP, ET 200pro, ET 200eco

Requirement:

STEP 7 V5.3 SP3 and higher

Floating license for 1 user

Floating license for 1 user,
license key download without
software or documentation¹⁾;
email address required for delivery

6ES7833-1FC02-0YA5

6ES7833-1FC02-0YH5

I/O systems

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SIMATIC ET 200SP

BaseUnits

Overview



With the BaseUnits, the ET 200SP offers a rugged and service-friendly design with permanent wiring:

- No tools needed for one-handed wiring using push-in terminals
- Actuation of the spring NC contacts with a standard screwdriver, with a blade width up to 3.5 mm
- Outstanding access due to arrangement of measuring tap, spring NC contacts and cable entry in columns, while at the same time reducing the space required by 64%
- Fault-proof color coding of the spring NC contacts for better orientation in the terminal panel

- Replacement of I/O modules during operation without affecting the wiring
- Operation with module gaps (gaps without I/O module)
- Automatic coding of the I/O modules prevents destruction of the electronics if a module is accidentally inserted in the wrong slot during replacement
- High EMC interference immunity:
 - self-assembling shielded backplane bus
 - multi-layer conductor plate with shield levels for interference-free signal transmission from the terminal to the I/O module
 - system-integrated, space-saving shield connection for quick installation
- Self-assembling potential groups without external wiring or jumpers
- Replaceable terminal box
- Side-by-side latching of the BUs for high mechanical and EMC loads
- Optional module-specific color identification of the terminals according to the color code (CC)
- Optional equipment marking using slide-in equipment labeling plates

An ET 200SP station can be expanded via one BU-Send BaseUnit with a BA-Send BusAdapter plugged onto it with up to 16 modules from the ET 200AL series of I/O devices with IP67 protection.

Technical specifications

Article number	6ES7193-6BP20-0DA0 BASEUNIT TYPE A0, BU15-P16+A10+2D	6ES7193-6BP00-0DA0 BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP20-0BA0 BASEUNIT TYPE A0, BU15-P16+A10+2B	6ES7193-6BP00-0BA0 BASEUNIT TYPE A0, BU15-P16+A0+2B
General information				
Product type designation	ET 200SP, BaseUnit BU type A0, BU15-P16+A10+2D, PU 1	BU Type A0, BU15-P16+A0+2D, PU 1	ET 200SP, BaseUnit BU type A0, BU15-P16+A10+2B, PU 1	BU Type A0, BU15-P16+A0+2B, PU 1
Dimensions				
Width	15 mm	15 mm	15 mm	15 mm
Height	141 mm	117 mm	141 mm	117 mm
Depth	35 mm	35 mm	35 mm	35 mm
Weights				
Weight, approx.	50 g	40 g	50 g	40 g

Article number	6ES7193-6BP20-0BB0 BASEUNIT TYP B0, BU20-P12+A4+0B	6ES7193-6BP20-0BB1 BASEUNIT TYPE B1, BU20-P12+A0+4B	6ES7193-6BP20-0DC0 BASEUNIT TYP C0, BU20-P6+A2+4D	6ES7193-6BP00-0BD0 BASEUNIT TYPE D0, BU20-P12+A0+0B	6ES7193-6BP20-0BF0 BASEUNIT TYPE F0, BU20-P8+A4+0B
General information					
Product type designation	ET 200SP, BaseUnit BU-Type B0, PU 1	ET 200SP, BaseUnit BU type B1, BU20-P12+A0+4B, PU 1	ET 200SP, BaseUnit type C0, BU20-P6+A2+4D, PU 1	ET 200SP, BaseUnit BU type D0, PU 1	ET 200SP, BaseUnit BU type F0, BU20-P8+A4+0B, PU 1
Dimensions					
Width	20 mm	20 mm	20 mm	20 mm	20 mm
Height	117 mm	117 mm	117 mm	117 mm	117 mm
Depth	35 mm	35 mm	35 mm	35 mm	35 mm
Weights					
Weight, approx.	48 g	48 g	47 g	47 g	48 g

Technical specifications (continued)

Article number	6ES7193-6BP40-0DA1 BASEUNIT TYPE A1, BU15-P16+A0+12D/T	6ES7193-6BP00-0DA1 BASEUNIT TYPE A1, BU15-P16+A0+2D/T	6ES7193-6BP40-0BA1 BASEUNIT TYPE A1, BU15-P16+A0+12B/T	6ES7193-6BP00-0BA1 BASEUNIT TYPE A1, BU15-P16+A0+2B/T
General information				
Product type designation	ET 200SP, BaseUnit BU type A1, BU15-P16+A0+12D/T, PU 1	ET 200SP, BaseUnit BU type A1, BU15-P16+A0+2D/T, PU 1	ET 200SP, BaseUnit BU type A1, BU15-P16+A0+12B/T, PU 1	BU type A1, BU15-P16+A0+2B/T, PU 1
Dimensions				
Width	15 mm	15 mm	15 mm	15 mm
Height	141 mm	117 mm	141 mm	117 mm
Depth	35 mm	35 mm	35 mm	35 mm
Weights				
Weight, approx.	50 g	40 g	50 g	40 g

Article number	6ES7193-6BN00-0NE0 ET 200SP, BASEUNIT BU-SEND
General information	
Product type designation	BaseUnit BU-Send
Dimensions	
Width	20 mm
Height	117 mm
Depth	35 mm
Weights	
Weight, approx.	30 g

Ordering data**Article No.****Article No.****Type A0 BaseUnits****BU15-P16+A10+2D**

BU type A0; BaseUnit (light) with 16 process terminals (1...16) to the module and an additional 10 internally jumpered AUX terminals (1 A to 10 A); for starting a new load group (max. 10 A)

- 1 unit
- 10 units

6ES7193-6BP20-0DA0
6ES7193-6BP20-2DA0

BU15-P16+A0+2D

BU type A0; BaseUnit (light) with 16 process terminals to the module; for starting a new load group (max. 10 A)

- 1 unit
- 10 units

6ES7193-6BP00-0DA0
6ES7193-6BP00-2DA0

BU15-P16+A10+2B

BU type A0; BaseUnit (dark) with 16 process terminals (1...16) to the module and an additional 10 internally jumpered AUX terminals (1 A to 10 A); for continuing the load group

- 1 unit
- 10 units

6ES7193-6BP20-0BA0
6ES7193-6BP20-2BA0

BU15-P16+A0+2B

BU type A0; BaseUnit (dark) with 16 process terminals to the module; for continuing the load group

- 1 unit
- 10 units

6ES7193-6BP00-0BA0
6ES7193-6BP00-2BA0

Type B0 BaseUnits**BU20-P12+A4+0B**

BU type B0; BaseUnit (dark) with 12 process terminals (1...12) to the module and an additional 4 internally jumpered AUX terminals (1 A to 4 A); for continuing the load group; 1 unit

- 1 unit
- 10 units

6ES7193-6BP20-0BB0
6ES7193-6BP20-2BB0

Type B1 BaseUnits**BU20-P12+A0+4B**

BU type B1; BaseUnit (dark) with 12 process terminals to the module; for continuing the load group; 1 unit

6ES7193-6BP20-0BB1

Type C0 BaseUnits**BU20-P6+A2+4D**

BU type C0; BaseUnit (light) with 6 push-in terminals (1...6) to the module and an additional 2 AUX terminals; new load group

6ES7193-6BP20-0DC0

Type D0 BaseUnits**BU20-P12+A0+0B**

BU type D0; BaseUnit (dark) with 12 push-in terminals, without AUX terminals, bridged to the left

6ES7193-6BP00-0BD0

Technical specifications (continued)

Article number	6AG1193-6BP20-7BB0	6AG1193-6BP20-7BB1	6AG1193-6BP20-7DC0	6AG1193-6BP00-7BD0
Based on	6ES7193-6BP20-0BB0	6ES7193-6BP20-0BB1	6ES7193-6BP20-0DC0	6ES7193-6BP00-0BD0
	SIPLUS ET 200SP BU20-P12+A4+0B	SIPLUS ET 200SP BU20-P12+A0+4B TYP B1	SIPLUS ET 200SP BU20-P6+A2+4D	SIPLUS ET 200SP BU20-P12+A0+0B
Ambient conditions				
Ambient temperature during operation				
• horizontal installation, min.	-40 °C; = Tmin	-40 °C; = Tmin; Startup @ -25 °C	-25 °C; = Tmin	-40 °C; = Tmin
• horizontal installation, max.	70 °C; = Tmax	70 °C; = Tmax	60 °C; = Tmax	70 °C; = Tmax
• vertical installation, min.	-40 °C		-25 °C	-40 °C
• vertical installation, max.	50 °C		50 °C	50 °C
Extended ambient conditions				
• relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m)	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)
Relative humidity				
- With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance				
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!