

Overview (continued)Overview of digital output modules

Digital output	PU	Article No.	CC code	BU type
DQ 16 x 24 V DC/0.5 A BA	1	6ES7132-6BH00-0AA0	CC00	A0
DQ 16 x 24 V DC/0.5 A BA	10	6ES7132-6BH00-2AA0	CC00	A0
DQ 16 x 24 V DC/0.5 A ST	1	6ES7132-6BH01-0BA0	CC00	A0
DQ 16 x 24 V DC/0.5 A ST	10	6ES7132-6BH01-2BA0	CC00	A0
DQ 8 x 24 V DC/0.5 A SNK BA	1	6ES7132-6BF61-0AA0	CC01	A0
DQ 8 x 24 V DC/0.5 A BA	1	6ES7132-6BF01-0AA0	CC02	A0
DQ 8 x 24 V DC/0.5 A BA	10	6ES7132-6BF01-2AA0	CC02	A0
DQ 8 x 24 V DC/0.5 A ST	1	6ES7132-6BF01-0BA0	CC02	A0
DQ 8 x 24 V DC/0.5 A ST	10	6ES7132-6BF01-2BA0	CC02	A0
DQ 8 x 24 V DC/0.5 A HF	1	6ES7132-6BF00-0CA0	CC02	A0
DQ 4 x 24 V DC/2 A ST	1	6ES7132-6BD20-0BA0	CC02	A0
DQ 4 x 24 V DC/2 A ST	10	6ES7132-6BD20-2BA0	CC02	A0
DQ 4 x 24 V DC/2 A HF	1	6ES7132-6BD20-0CA0	CC02	A0
DQ 4 x 24 V DC/2 A HS	1	6ES7132-6BD20-0DA0	CC02	A0
With three operating modes: • Fast isochronous DQ with valve control • Pulse width modulation • Oversampling				
DQ 4 x 24 ... 230 V AC/2 A ST	1	6ES7132-6FD00-0BB1	CC41	B0, B1
DQ 4 x 24 ... 230 V AC/2 A ST	10	6ES7132-6FD00-2BB1	CC41	B0, B1
DQ 4 x 24 ... 230 V AC/2 A HF	1	6ES7132-6FD00-0CU0	CC20	U0
With two operating modes: • DQ • PC: Power control via phase angle, half-wave or full-wave control				
RQ 4 x 24 V UC/2 A CO ST	1	6ES7132-6GD51-0BA0	--	A0
RQ 4 x 120 V DC-230 V AC/5 A NO ST	1	6ES7132-6HD01-0BB1	--	B0, B1
RQ 4 x 120 V DC-230 V AC/5 A NO ST	10	6ES7132-6HD01-2BB1	--	B0, B1
RQ MA 4 x 120 V DC ... 230 V AC/5 A NO ST	1	6ES7132-6MD00-0BB1	--	B0, B1

Overview of BaseUnits

BaseUnit	PU	Article No.	CC codes for process terminals	CC codes for AUX terminals
BU type A0 • New load group (light) • 16 process terminals • With 10 AUX terminals	1	6ES7193-6BP20-0DA0	CC01 to CC05	CC71 to CC73
BU type A0 • New load group (light) • 16 process terminals • With 10 AUX terminals	10	6ES7193-6BP20-2DA0	CC01 to CC05	CC71 to CC73
BU type A0 • New load group (light) • 16 process terminals • Without AUX terminals	1	6ES7193-6BP00-0DA0	CC01 to CC05	--
BU type A0 • New load group (light) • 16 process terminals • Without AUX terminals	10	6ES7193-6BP00-2DA0	CC01 to CC05	--
BU type A0 • Forwarding of load group (dark) • 16 process terminals • With 10 AUX terminals	1	6ES7193-6BP20-0BA0	CC01 to CC05	CC71 to CC73

I/O systems

SIMATIC ET 200 systems for the control cabinet
SIMATIC ET 200SP

I/O modules > Digital output modules

Technical specifications (continued)

Article number	6ES7132-6BF00-OCA0 ET 200SP, DQ 8X24VDC/0.5A HF	6ES7132-6BD20-OBA0 ET 200SP, DQ 4X24VDC/2A ST	6ES7132-6BD20-OCA0 ET 200SP, DQ 4X24VDC/2A HF	6ES7132-6BD20-ODA0 ET 200SP, DQ 4X24VDC/2A HIGH SPEED, PU 1	6ES7132-6FD00-0BB1 ET 200SP, DQ 4X24...230VAC/2A ST
General information					
Product type designation	DQ 8x24 V DC/0.5 A HF	DQ 4x24 V DC/2 A ST	DQ 4x24 V DC/2 A HF	DQ 4x24 V DC/2 A HS	DQ 4x24 ... 230 V AC/2 A ST
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	V13 SP1 / -	V11 SP2 / V13	V13 / V13	V13 SP1	V13 / V13
• STEP 7 configurable/integrated as of version	V5.5 / -	V5.5 SP3 / -	V5.5 SP3 / -	V5.5 SP3 / -	V5.5 SP3 / -
• PCS 7 configurable/integrated as of version	V8.1 SP1	V8.1 SP1			
• PROFIBUS as of GSD version/GSD revision	One GSD file each, Revision 3 and 5 and higher	GSD Revision 5	GSD Revision 5	GSD Revision 5	GSD Revision 5
• 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	Yes; Valve control	No
• PWM	No	No	No	Yes	No
• Oversampling	No	No	No	Yes	No
• MSO	Yes	No	Yes	No	No
Supply voltage					
Type of supply voltage	DC	DC	DC	DC	24V AC to 230V AC
Rated value (DC)	24 V	24 V	24 V	24 V	
Rated value (AC)					230 V
Reverse polarity protection	Yes	Yes	Yes	Yes	
Digital outputs					
Type of digital output	Source output (PNP, current-sourcing)	Source output (PNP, current-sourcing)	Source output (PNP, current-sourcing)	Source output (PNP, current-sourcing)	Triac with zero point detection
Number of digital outputs	8	4	4	4	4
Current-sinking	No	No	No	No	No
Current-sourcing	Yes	Yes	Yes	Yes; Push-pull output	Yes
Digital outputs, parameterizable	Yes	Yes	Yes	Yes	No
Short-circuit protection	Yes	Yes	Yes	Yes	No; When using BU type B1, a miniature, quick-response fuse with 10 A tripping current must be provided
Limitation of inductive shutdown voltage to	Typ. L+ (-50 V)	Typ. L+ (-50 V)	L+ (-37 to 41V)	M (-1 V)	
Controlling a digital input	Yes	Yes	Yes; Minimum current consumption 7 mA	No	Yes
Digital output functions, parameterizable					
• PWM output				Yes	
- Number, max.				4	
- Cycle duration, parameterizable				Yes; 0 ms, 0.2 ms, 0.4 ms, 0.93 ms, 1.33 ms, 4.27 ms, 10.67 ms, 21.33 ms, 34.13 ms, 59.73 ms	
• Digital output with oversampling				Yes	
- Number, max.				4	
- Values per cycle, max.				32	
- Resolution, min.				100 µs	
Switching capacity of the outputs					
• with resistive load, max.	0.5 A	2 A	2 A	2 A	2 A
• on lamp load, max.	5 W	10 W	10 W	10 W	100 W

Technical specifications (continued)

Article number	6ES7132-6BF00-0CA0 ET 200SP, DQ 8X24VDC/0.5A HF	6ES7132-6BD20-0BA0 ET 200SP, DQ 4X24VDC/2A ST	6ES7132-6BD20-0CA0 ET 200SP, DQ 4X24VDC/2A HF	6ES7132-6BD20-0DA0 ET 200SP, DQ 4X24VDC/2A HIGH SPEED, PU 1	6ES7132-6FD00-0BB1 ET 200SP, DQ 4X24...230VAC/2A ST
Load resistance range					
• lower limit	48 Ω	12 Ω	12 Ω	12 Ω	
• upper limit	12 kΩ	3 400 Ω	3 400 Ω	3 400 Ω	
Output voltage					
• Type of output voltage	DC	DC	DC	DC	24V AC to 230V AC
• for signal "1", min.					20.4 V
Output current					
• for signal "1" rated value	0.5 A	2 A	2 A	2 A	2 A
• for signal "0" residual current, max.	0.1 mA	0.1 mA	0.1 mA	0.1 mA	460 μA
Output delay with resistive load					
• "0" to "1", typ.	50 μs	50 μs	50 μs		
• "0" to "1", max.		50 μs		1 μs	10 ms
• "1" to "0", typ.	100 μs	100 μs	100 μs		
• "1" to "0", max.		100 μs		1 μs	10 ms
Parallel switching of two outputs					
• for logic links					No
• for uprating	No	No	No	No	No
• for redundant control of a load	Yes	Yes			Yes
Switching frequency					
• with resistive load, max.	100 Hz	100 Hz	100 Hz	5 kHz	10 Hz
• with inductive load, max.	2 Hz	2 Hz	2 Hz	5 kHz	0.5 Hz; Higher frequencies are possible, see Equipment Manual / Product Information
• on lamp load, max.	10 Hz	10 Hz	10 Hz	5 kHz	1 Hz
Total current of the outputs					
• Current per channel, max.	0.5 A	2 A	2 A	2 A	2 A
• Current per module, max.	4 A	8 A	8 A	8 A	8 A
Total current of the outputs (per module)					
horizontal installation					
- up to 30 °C, max.		8 A	8 A	8 A; DQ mode	
- up to 40 °C, max.		8 A	8 A	6.9 A; DQ mode	8 A
- up to 50 °C, max.		6 A	6 A	4.7 A; DQ mode	6 A
- up to 60 °C, max.	4 A	4 A	4 A	2.5 A; DQ mode	4 A
vertical installation					
- up to 30 °C, max.		8 A	8 A	7.2 A; DQ mode	8 A
- up to 40 °C, max.		6 A	6 A	5.6 A; DQ mode	6 A
- up to 50 °C, max.	4 A; in all other mounting positions	4 A	4 A	4 A; DQ mode	4 A
- up to 60 °C, max.		4 A	4 A	4 A; DQ mode	
Triac outputs					
• Size of motor starters according to NEMA, max.					5
Cable length					
• shielded, max.	1 000 m	1 000 m	1 000 m	50 m	1 000 m
• unshielded, max.	600 m	600 m	600 m	50 m	600 m
Isochronous mode					
Isochronous operation (application synchronized up to terminal)	Yes	No	Yes	Yes; Operating modes DQ and OVS only	No
Execution and activation time (TCO), min.	48 μs				
Bus cycle time (TDP), min.	500 μs		500 μs	125 μs	

I/O systemsSIMATIC ET 200 systems for the control cabinet
SIMATIC ET 200SP**I/O modules > Digital output modules****Technical specifications (continued)**

Article number	6ES7132-6BF00-0CA0 ET 200SP, DQ 8X24VDC/0.5A HF	6ES7132-6BD20-0BA0 ET 200SP, DQ 4X24VDC/2A ST	6ES7132-6BD20-0CA0 ET 200SP, DQ 4X24VDC/2A HF	6ES7132-6BD20-0DA0 ET 200SP, DQ 4X24VDC/2A HIGH SPEED, PU 1	6ES7132-6FD00-0BB1 ET 200SP, DQ 4X24...230VAC/2A ST
Interrupts/diagnostics/ status information					
Diagnostics function	Yes	Yes	Yes	Yes	No
Substitute values connectable	Yes	Yes	Yes	Yes	Yes
Alarms					
• Diagnostic alarm	Yes	Yes	Yes	Yes	No
Diagnostic messages					
• Monitoring the supply voltage	Yes	Yes	Yes	Yes	No
• Wire-break	Yes; channel by channel	Yes; Module-wise	Yes; channel by channel	No	No
• Short-circuit	Yes; channel by channel	Yes; Module-wise	Yes; channel by channel	Yes; Module-wise	No
• Group error	Yes	Yes	Yes	Yes	Yes
Diagnostics indication LED					
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED	Yes; green PWR LED	Yes; green PWR LED	Yes; green PWR LED	Yes; green PWR LED
• Channel status display	Yes; green LED	Yes; green LED	Yes; green LED	Yes; green LED	Yes; green LED
• for channel diagnostics	Yes; red LED	No	Yes; red LED	No	No
• for module diagnostics	Yes; green/red DIAG LED	Yes; green/red DIAG LED	Yes; green/red DIAG LED	Yes; green/red DIAG LED	Yes; green/red DIAG LED
Potential separation					
Potential separation channels					
• between the channels and backplane bus	Yes	Yes	Yes	Yes	Yes
Isolation					
Isolation tested with	707 V DC (type test)	707 V DC (type test)	707 V DC (type test)	707 V DC (type test)	2 545 V DC/2 s (routine test)
Standards, approvals, certificates					
Suitable for safety functions	No	No	No	No	No
Dimensions					
Width	15 mm	15 mm	15 mm	15 mm	20 mm
Height	73 mm	73 mm	73 mm	73 mm	73 mm
Depth	58 mm	58 mm	58 mm	58 mm	58 mm
Weights					
Weight, approx.	30 g	30 g	30 g	31 g	50 g

Article number	6ES7132-6FD00-0CU0 ET 200SP, DQ 4X24...230VAC/ 2A HF, PU 1	6ES7132-6GD51-0BA0 ET 200SP, RQ CO 4x 24V DC/ 2A ST, PU 1	6ES7132-6HD01-0BB1 ET 200SP, RQ NO 4x 120VDC...230VAC/ 5A, PU 1	6ES7132-6MD00-0BB1 ET 200SP, RQ NO-MA 4X120VDC...230VAC/5A ST
General information				
Product type designation	DQ 4x24 ... 230 V AC/ 2 A HF, PU 1	RQ CO 4x 24 V DC/ 2 A ST, PU 1	RQ 4x120 VDC ... 230 VAC/ 5 A NO ST	RQ 4x120 V DC ... 230 V AC/ 5 A NO MA ST
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
Engineering with				
• STEP 7 TIA Portal configurable/ integrated as of version	V14	V14	V14	V13 SP1
• STEP 7 configurable/integrated as of version	STEP 7 V5.5 or higher	V5.5 SP3	V5.5 SP3	V5.5 SP3 / -
• PCS 7 configurable/integrated as of version			V8.1 SP1	
• PROFIBUS as of GSD version/ GSD revision	GSD as of Revision 5	One GSD file each, Revision 3 and 5 and higher	One GSD file each, Revision 3 and 5 and higher	GSD Revision 5
• PROFINET as of GSD version/ GSD revision	GSDML V2.3	GSDML V2.3	GSDML V2.3	GSDML V2.3

I/O systemsSIMATIC ET 200 systems for the control cabinet
SIMATIC ET 200SP**I/O modules > Digital output modules****Technical specifications** (continued)

Article number	6ES7132-6FD00-0CU0 ET 200SP, DQ 4x24...230VAC/ 2A HF, PU 1	6ES7132-6GD51-0BA0 ET 200SP, RQ CO 4x 24V DC/ 2A ST, PU 1	6ES7132-6HD01-0BB1 ET 200SP, RQ NO 4x 120VDC...230VAC/ 5A, PU 1	6ES7132-6MD00-0BB1 ET 200SP, RQ NO-MA 4x120VDC...230VAC/5A ST
Ambient conditions				
Ambient temperature during operation				
<ul style="list-style-type: none"> horizontal installation, min. horizontal installation, max. vertical installation, min. 			0 °C 60 °C	
<ul style="list-style-type: none"> vertical installation, max. 			0 °C; in all other mounting positions 50 °C; in all other mounting positions	
Altitude during operation relating to sea level				
<ul style="list-style-type: none"> Ambient air temperature-barometric pressure-altitude 		On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m	On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m	
Dimensions				
Width	20 mm	15 mm	20 mm	20 mm
Height	73 mm	73 mm	73 mm	73 mm
Depth	58 mm	58 mm	58 mm	58 mm
Weights				
Weight, approx.	50 g	30 g	40 g	45 g

Ordering data**Article No.****Article No.****Digital output modules**

Type of delivery:
Apart from the standard type of delivery 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 Basic,
BU type A0, color code CC00

- PU: 1 unit
- PU: 10 units

6ES7132-6BH00-0AA0
6ES7132-6BH00-2AA0

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

- PU: 1 unit
- PU: 10 units

6ES7132-6BH01-0BA0
6ES7132-6BH01-2BA0

Digital output module
DQ 8x24 V DC/0.5 A Sink Output,
Basic, BU type A0,
color code CC01

- PU: 1 unit

6ES7132-6BF61-0AA0

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

- PU: 1 unit
- PU: 10 units

6ES7132-6BF01-0AA0
6ES7132-6BF01-2AA0

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

- PU: 1 unit
- PU: 10 units

6ES7132-6BF01-0BA0
6ES7132-6BF01-2BA0

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

- PU: 1 unit

6ES7132-6BF00-0CA0

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

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

6ES7132-6BD20-0CA0

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

- PU: 1 unit

6ES7132-6BD20-0DA0

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