Technical specifications (continued)

Article number	6ES7131-4CD02-0AB0	6ES7131-4EB00-0AB0	6ES7131-4FB00-0AB0	6ES7131-4RD02-0AB0	6ES7131-4BF50-0AA0
	ET200S, EL-MOD., 4DI, UC 24-48V, 5 PCS	ET200S, EL-MOD., 2DI, AC 120V, 5PCS.	ET200S, EL-MOD., 2DI, AC 230V, 5PCS.	ET200S, EL-MOD., 4DI DC 24V NAMUR	ET200S, 8DI SOURCE OUTPUT DC24V
Parameter					
Remark		3 byte	3 byte	12 byte	3 byte
Galvanic isolation					
Galvanic isolation digital inputs					
• between the channels		No	No	No	No
• between the channels and the backplane bus		Yes	Yes	Yes	Yes
• between the channels and the load voltage L+				Yes	
Permissible potential difference					
between different circuits				75V DC/60V AC	75V DC/60V AC
between M internally and the inputs		1500 V AC	1500 V AC		
Isolation					
Isolation checked with		2500 V DC	4000 VDC	500 V DC	500 V DC
Dimensions					
Width		15 mm	15 mm	15 mm	15 mm
Height		81 mm	81 mm	81 mm	81 mm
Depth		52 mm	52 mm	52 mm	52 mm
Weights					
Weight, approx.		31 g	31 g	35 g	35 g

Article number	6ES7132-4BB01-0AB0	6ES7132-4BB01-0AA0	6ES7132-4BB31-0AB0	6ES7132-4BB31-0AA0	6ES7132-4BD00-0AB0	6ES7132-4BD02-0AA0
	ET200S, EL-MOD., 2DO HF,DC24V, 0.5A, 5PC	ET200S, EL-MOD., 2DO ST,DC24V, 0.5A, 5PC	ET200S, EL-MOD., 2DO HF, DC 24V, 2A, 5PC	ET200S, EL-MOD., 2DO ST, DC 24V, 2A, 5PC	ET200S, EL-MOD., 4DO HF,DC24V, 0.5A,5PCS	ET200S, EL-MOD., 4DO ST,DC24V, 0.5A,5PCS
Product type designation						
Supply voltage						
Reverse voltage protection	Yes; when using the same load voltage as on the power module	Yes; when using the same load voltage as on the power module	Yes; when using the same load voltage as on the power module	Yes; when using the same load voltage as on the power module	Yes; when using the same load voltage as on the power module	Yes; when using the same load voltage as on the power module
Load voltage L+						
• Rated value (DC)	24 V; From power module	24 V; From power module	24 V; From power module	24 V; From power module	24 V; From power module	24 V; From power module
• Reverse polarity protection	Yes; polarity reversal can lead to the digital outputs being connected through	Yes; polarity reversal can lead to the digital outputs being connected through	Yes; polarity reversal can lead to the digital outputs being connected through	Yes; polarity reversal can lead to the digital outputs being connected through	Yes; polarity reversal can lead to the digital outputs being connected through	Yes; polarity reversal can lead to the digital outputs being connected through
Input current						
from load voltage L+ (without load), max.	5 mA; Per channel	5 mA; per module	5 mA; Per channel	5 mA; Per channel	5 mA; Per channel	10 mA; Per channel
from backplane bus 3.3 V DC, max.	10 mA	10 mA	10 mA	10 mA	10 mA	10 mA
Power losses						
Power loss, typ.	0.4 W	0.4 W	1.4 W	1.4 W		0.8 W
Address area						
Address space per module						
• with packing	2 bit	2 bit	2 bit	2 bit	4 bit	4 bit
• without packing	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte

Technical specifications (continued)

Article number	6ES7132-4BB01-0AB0	6ES7132-4BB01-0AA0	6ES7132-4BB31-0AB0	6ES7132-4BB31-0AA0	6ES7132-4BD00-0AB0	6ES7132-4BD02-0AA0
	ET200S, EL-MOD., 2DO HF,DC24V, 0.5A, 5PC	ET200S, EL-MOD., 2DO ST,DC24V, 0.5A, 5PC	ET200S, EL-MOD., 2DO HF, DC 24V, 2A, 5PC	ET200S, EL-MOD., 2DO ST, DC 24V, 2A, 5PC	ET200S, EL-MOD., 4DO HF,DC24V, 0.5A,5PCS	ET200S, EL-MOD., 4DO ST,DC24V, 0.5A,5PCS
Digital outputs						
Number of digital outputs	2	2	2	2	4	4
short-circuit protection	Yes	Yes	Yes	Yes	Yes	Yes
• Response threshold, typ.	1,5 A	0.7 to 1.8 A	4 A	2.8 to 7.2 A	0.7 to 1.5 A	1 to 1.5 A
Limitation of inductive shutdown voltage to	-55 to -60 V, typ. L+( )	-55 to -60 V, typ. L+( )	-55 to -60 V, typ. L+( )	-55 to -60 V, typ. L+( )	-55 to -60 V, L+( )	(L+) -55 to -60 V
Controlling a digital input	Yes	Yes	Yes	Yes	Yes	Yes
Switching capacity of the outputs						
• on lamp load, max.	2.5 W	5 W	5 W	10 W	5 W	5 W
Load resistance range						
• lower limit	48 Ω	48 Ω	12 Ω	12 Ω	48 Ω	48 Ω
• upper limit	3 400 Ω	3 400 Ω	3 400 Ω	3 400 Ω	3 400 Ω	3 400 Ω
Output voltage						
• for signal "1", min.	L+ (-1 V)	L+ (-1 V)	L+ (-1 V)	L+ (-1 V)	L+ (-1 V)	L+ (-1 V)
Output current						
• for signal "1" rated value	0.5 A	0.5 A	2 A	2 A	0.5 A	0.5 A
• for signal "1" permissible range for 0 to 60 °C, min.	7 mA	7 mA	7 mA	7 mA	7 mA	7 mA
• for signal "1" permissible range for 0 to 60 °C, max.	600 mA	600 mA	2.4 A	2.4 A	600 mA	600 mA
• for signal "0" residual current, max.	0.3 mA	0.3 mA	0.5 mA	0.5 mA	0.3 mA	0.3 mA
Output delay with resistive load						
• "0" to "1", max.	100 µs	200 µs	100 µs	200 µs	100 µs	45 µs; Typical value
• "1" to "0", max.	400 µs	1.3 ms	400 µs	1.3 ms	300 µs	90 µs; Typical value
Parallel switching of 2 outputs						
• for increased power	No	No	No	No	No	No
• for redundant control of a load	Yes; per module	Yes; per module	Yes; per module	Yes; per module	Yes; per module	Yes; per module
Switching frequency						
• with resistive load, max.	100 Hz	100 Hz	100 Hz	100 Hz	100 Hz	800 Hz
• with inductive load, max.	2 Hz	2 Hz	2 Hz; 0,5 H	2 Hz; 0,5 H	2 Hz	2 Hz
• on lamp load, max.	10 Hz	10 Hz	10 Hz	10 Hz	10 Hz	10 Hz
Aggregate current of outputs (per group)						
all mounting positions						
- up to 60 °C, max.	1 A	1 A	4 A	4 A	2 A	2 A
Cable length						
• shielded, max.	1 000 m	1 000 m	1 000 m	1 000 m	1 000 m	1 000 m
• Unshielded, max.	600 m	600 m	600 m	600 m	600 m	600 m
Isochronous mode						
Isochronous operation (application synchronized up to terminal)	Yes	No	Yes	No	Yes	Yes
Interrupts/diagnostics/ status information						
Substitute values connectable	Yes; 0/1		Yes; 0/1			
Diagnostic messages						
• Diagnostic functions	Yes; Can be read out	No	Yes; Can be read out	No	Yes	No
• Wire break	Yes; channel by channel		Yes; channel by channel			
• Short circuit	Yes; channel by channel		Yes; channel by channel		Yes; Module-wise	
Diagnostics indication LED						
• Group error SF (red)	Yes		Yes		Yes; SF-LED (red)	
• Status indicator digital output (green)	Yes	Yes	Yes	Yes	Yes; Per channel	Yes

Digital electronic modules

Technical specifications (continued)

Article number	6ES7132-4BB01-0AB0	6ES7132-4BB01-0AA0	6ES7132-4BB31-0AB0	6ES7132-4BB31-0AA0	6ES7132-4BD00-0AB0	6ES7132-4BD02-0AA0
	ET200S, EL-MOD., 2DO HF,DC24V, 0.5A, 5PC	ET200S, EL-MOD., 2DO ST,DC24V, 0.5A, 5PC	ET200S, EL-MOD., 2DO HF, DC 24V, 2A, 5PC	ET200S, EL-MOD., 2DO ST, DC 24V, 2A, 5PC	ET200S, EL-MOD., 4DO HF,DC24V, 0.5A,5PCS	ET200S, EL-MOD., 4DO ST,DC24V, 0.5A,5PCS
Parameter						
Remark	3 byte	1 byte	3 byte	1 byte		1 byte
Diagnosis: wire break	Disable / enable		Disable / enable			
Diagnosis: short circuit	Disable / enable		Disable / enable			
Behavior on CPU/Master STOP, channel-wise	Substitute a value/ keep last value		Substitute a value/ keep last value			
Galvanic isolation						
Galvanic isolation digital outputs						
• between the channels	No	No	No	No	No	No
• between the channels and the backplane bus	Yes	Yes	Yes	Yes	Yes	Yes
Isolation						
Isolation checked with	500 V DC	500 V DC	500 V DC	500 V DC	500 V DC	500 V DC
Dimensions						
Width	15 mm	15 mm	15 mm	15 mm	15 mm	15 mm
Height	81 mm	81 mm	81 mm	81 mm	81 mm	81 mm
Depth	52 mm	52 mm	52 mm	52 mm	52 mm	52 mm
Weights						
Weight, approx.	40 g	40 g	40 g	40 g	40 g	40 g

Article number	6ES7132-4BF00-0AB0	6ES7132-4BF00-0AA0
	ET200S, ELECTR.MODULE 8DO HF DC24V/0,5A	ET200S, ELEKTRONIC MODULE 8DO DC24V/0,5A
Product type designation		
Supply voltage		
Reverse voltage protection	Yes; when using the same load voltage as on the power module	Yes
Load voltage L+		
• Rated value (DC)	24 V; From power module	24 V
• Reverse polarity protection	Yes; polarity reversal can lead to the digital outputs being connected through	Yes
Input current		
from load voltage L+ (without load), max.	5 mA; Per channel	5 mA; Per channel
from backplane bus 3.3 V DC, max.	10 mA	10 mA
Power losses		
Power loss, typ.		1.5 W
Address area		
Address space per module		
• with packing	Not relevant	
• without packing	1 byte	1 byte

Ordering data

	Article No.
Digital input modules	
Ordering unit 5 items	
• 2 DI 24 V DC Standard	**6ES7131-4BB01-0AA0**
• 2 DI 24 V DC High Feature	**6ES7131-4BB01-0AB0**
• 4 DI 24 V DC Standard	**6ES7131-4BD01-0AA0**
• 4 DI 24 V DC High Feature	**6ES7131-4BD01-0AB0**
• 2 DI 120 V AC	**6ES7131-4EB00-0AB0**
• 2 DI 230 V AC	**6ES7131-4FB00-0AB0**
• 4 DI 24 to 48 V UC	**6ES7131-4CD02-0AB0**
• 4 DI 24 V DC SOURCE INPUT	**6ES7131-4BD51-0AA0**
Ordering unit 1 item	
• 4 DI 24 V DC NAMUR	**6ES7131-4RD02-0AB0**
• 8 DI 24 V DC Standard	**6ES7131-4BF00-0AA0**
• 8 DI, 24 V DC, Standard SOURCE INPUT	**6ES7131-4BF50-0AA0**
Ordering unit 100 items	
• 8 DI 24 V DC Standard	**6ES7131-4BF00-4AA0**
Digital output modules	
Ordering unit 5 items	
• 2 DO 24 V DC/0.5 A Standard	**6ES7132-4BB01-0AA0**
• 2 DO 24 V DC/0.5 A High Feature	**6ES7132-4BB01-0AB0**
• 2 DO 24 V DC/2 A Standard	**6ES7132-4BB31-0AA0**
• 2 DO 24 V DC/2 A High Feature	**6ES7132-4BB31-0AB0**
• 4 DO 24 V DC/0.5 A Standard	**6ES7132-4BD02-0AA0**
• 4 DO, 24 V DC/0.5 A, Standard SOURCE OUTPUT	**6ES7132-4BD50-0AA0**
• 4 DO 24 V DC/0.5 A High Feature	**6ES7132-4BD00-0AB0**
• 8 DO 24 V DC/0.5 A High Feature	**6ES7132-4BF00-0AB0**
• 4 DO 24 V DC/2 A Standard	**6ES7132-4BD32-0AA0**
• 4 DO 24 V DC/2 A High Feature	**6ES7132-4BD30-0AB0**
• 2 DO 24 to 230 V AC/2 A	**6ES7132-4FB01-0AB0**
• 2 DO 24 V DC to 230 V AC/5 A relay, NO contact	**6ES7132-4HB01-0AB0**
• 2 DO 24...48 V DC/5 A, 24...230 V AC/5 A relay, changeover contact	**6ES7132-4HB12-0AB0**
Ordering unit 1 item	
• 2 DO 24...48 V DC/5 A, 24...230 V AC/5 A relay, changeover contact, with manual operation	**6ES7132-4HB50-0AB0**
• 8 DO 24 V DC/0.5 A Standard	**6ES7132-4BF00-0AA0**
• 8 DO, 24 V DC/0.5 A, Standard SINK OUTPUT	**6ES7132-4BF50-0AA0**
Ordering unit 100 items	
• 8 DO 24 V DC/0.5 A Standard	**6ES7132-4BF00-4AA0**

	Article No.
Accessories	
Label sheets DIN A4 (10 pieces)	
Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules	
• petrol	**6ES7193-4BH00-0AA0**
• red	**6ES7193-4BD00-0AA0**
• yellow	**6ES7193-4BB00-0AA0**
• light beige	**6ES7193-4BA00-0AA0**

Technical specifications (continued)

Article number	**6AG1132-4BB01-2AB0**	**6AG1132-4BB31-7AB0**	**6AG1132-4BD02-7AA0**	**6AG1132-4BD32-2AA0**
Based on	**6ES7132-4BB01-0AB0**	**6ES7132-4BB31-0AB0**	**6ES7132-4BD02-0AA0**	**6ES7132-4BD32-0AA0**
	SIPLUS DP 2DO HF ET200S	SIPLUS ET200S 2DO HIGH FEATURE	SIPLUS ET200S 4DO (1VE = 5 STUECK)	SIPLUS_ET200S_4DO DC24V/2A
Ambient conditions				
Ambient temperature in operation				
• Min.	-25 °C; = Tmin	-25 °C; = Tmin	-25 °C; = Tmin	-25 °C; = Tmin
• max.	60 °C; = Tmax	70 °C; = Tmax	70 °C; = Tmax	60 °C; = Tmax
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 - 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)
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 under condensation conditions)	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!