

I/O systems

ET 200 systems for the control cabinet

ET 200S - I/O modules

Digital electronic modules

Technical specifications (continued)

Article number	6ES7132-4BF00-0AB0		6ES7132-4BF00-0AA0		
	ET200S, ELECTR.MODULE 8DO HF DC24V/0,5A		ET200S, ELEKTRONIC MODULE 8DO DC24V/0,5A		
Parameter					
Remark	1 byte		3-byte parameter (not accessible for the user)		
Galvanic isolation					
Galvanic isolation digital outputs					
• between the channels	No		No		
• between the channels and the backplane bus	Yes		Yes		
Isolation					
Isolation checked with	500 V DC		500 V DC		
Dimensions					
Width	15 mm		15 mm		
Height	81 mm		81 mm		
Depth	52 mm		52 mm		
Weights					
Weight, approx.	40 g		40 g		

Article number	6ES7132-4BD30-0AB0	6ES7132-4BD32-0AA0	6ES7132-4FB01-0AB0	6ES7132-4HB01-0AB0	6ES7132-4HB12-0AB0
	ET200S, EL-MOD., 4DO HF, DC24V, 2A, 5PCS	ET200S, EL-MOD., 4DO ST, DC24V, 2A, 5PCS	ET200S, ELECT. MOD., 2DO, AC 230V, 5PCS	ET200S, EL-MOD., 2RO, DC24VAC230V, 5A,5PCS	ET200S, EL-MOD., 2RO,DC48V/AC230V, 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		
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
• Reverse polarity protection	Yes; polarity reversal can lead to the digital outputs being connected through	Yes		Yes	Yes
Load voltage L1					
• permissible range, lower limit (AC)			24 V; From power module		
• permissible range, upper limit (AC)			230 V		
Input current					
from load voltage L+ (without load), max.	5 mA; Per channel	10 mA; Per channel	30 mA	30 mA	30 mA
from backplane bus 3.3 V DC, max.	10 mA	10 mA	18 mA	10 mA	10 mA
Power losses					
Power loss, typ.	1.6 W	1.6 W	4 W	0.6 W	0.6 W
Address area					
Address space per module					
• with packing	4 bit	4 bit	2 bit	2 bit	2 bit
• without packing	1 byte	1 byte	1 byte	1 byte	1 byte

Technical specifications (continued)

Article number	6ES7132-4BD30-0AB0 ET200S, EL-MOD., 4DO HF, DC24V, 2A, 5PCS	6ES7132-4BD32-0AA0 ET200S, EL-MOD., 4DO ST, DC24V, 2A, 5PCS	6ES7132-4FB01-0AB0 ET200S, ELECT. MOD., 2DO, AC 230V, 5PCS	6ES7132-4HB01-0AB0 ET200S, EL-MOD., 2RO, DC24VAC230V, 5A,5PCS	6ES7132-4HB12-0AB0 ET200S, EL-MOD., 2RO, DC48V/AC230V, 5A,5PCS
Digital outputs					
Number of digital outputs	4	4	2	2	2
short-circuit protection	Yes	Yes	Yes	No	No
• Response threshold, typ.	5 to 10 A	2.8 to 7.2 A			
Limitation of inductive shutdown voltage to	L+ (-37 to 41V)	Typ. L+ (-55 to -60 V)	-55 to -60 V	No	No
Controlling a digital input	Yes	Yes	Yes; possible	Yes	Yes
Switching capacity of the outputs					
• on lamp load, max.		10 W	100 W		
Load resistance range					
• lower limit	12 Ω	12 Ω			
• upper limit	3 400 Ω	3 400 Ω			
Output voltage					
• for signal "1", min.	L+ (-1.0 V)	L+ (-1.0 V)	L+ (-1.5 V)		
Output current					
• for signal "1" rated value	2 A	2 A	2 A	5 A	5 A
• for signal "1" permissible range for 0 to 60 °C, min.	7 mA	7 mA	0.1 mA		
• for signal "1" permissible range for 0 to 60 °C, max.	2.4 A	2.4 A	2.2 A		
• for signal "1" minimum load current				8 mA	8 mA
• for signal "0" residual current, max.	0.5 mA	0.5 mA	3 mA		
Output delay with resistive load					
• "0" to "1", max.	250 μs	50 μs; Typ. 45 μs	15 ms		
• "1" to "0", max.	400 μs	120 μs; Typ. 90 μs	15 ms		
Parallel switching of 2 outputs					
• for increased power	No	No	No		
• for redundant control of a load	Yes; per module	Yes; per module	Yes; per module		
Switching frequency					
• with resistive load, max.	100 Hz	1 000 Hz	10 Hz	2 Hz	2 Hz
• with inductive load, max.	2 Hz	2 Hz; At 0.5 H	0.5 Hz	0.5 Hz	0.5 Hz
• on lamp load, max.	10 Hz	10 Hz	1 Hz	2 Hz	2 Hz
Aggregate current of outputs (per group)					
all mounting positions					
- up to 40 °C, max.			2 A		
- up to 50 °C, max.			1.5 A		
- up to 60 °C, max.		4 A	1 A		
horizontal installation					
- up to 60 °C, max.	4 A				
vertical installation					
- up to 40 °C, max.	4 A; At 55 °C and 24 V DC	4 A; At 55 °C and 24 V DC			
Relay outputs					
Switching capacity of contacts					
- Thermal continuous current, max.				5 A	5 A
Cable length					
• shielded, max.	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
Isochronous mode					
Isochronous operation (application synchronized up to terminal)	Yes	Yes		No	No

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Interrupts/diagnostics/ status information					
Substitute values connectable				Yes; 0/1	Yes; 0/1
Diagnostic messages					
• Diagnostic functions	Yes	No	No	No	No
• Short circuit	Yes; Module-wise				
Diagnostics indication LED					
• Group error SF (red)	Yes; SF-LED (red)				
• Status indicator digital output (green)	Yes; Per channel	Yes	Yes	Yes	Yes
Parameter					
Remark		1 byte	3 byte		
Behavior on CPU/Master STOP, channel-wise			Substitute a value/ keep last value, 0/1	Substitute a value/ keep last value	Substitute a value/ keep last value
Galvanic isolation					
Galvanic isolation digital outputs					
• between the channels	No	No	No	Yes	Yes
• between the channels and the backplane bus	Yes	Yes	Yes	Yes	Yes
• between the channels and the load voltage L+				Yes	Yes
Isolation					
Isolation checked with	500 V DC	500 V DC	2500 V DC		
tested with					
• Channels against backplane bus and load voltage L+				1500 V AC	1500 V AC
• Load voltage L+ against backplane bus				500 V DC	500 V DC
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)
Dimensions					
Width	15 mm	15 mm	15 mm	15 mm	15 mm
Height	81 mm	81 mm	81 mm	81 mm	81 mm
Depth	52 mm	52 mm	52 mm	52 mm	52 mm
Weights					
Weight, approx.	40 g	40 g	37 g	50 g	50 g

Ordering data	Article No.	Article No.
Digital input modules Ordering unit 5 items • 2 DI 24 V DC Standard • 2 DI 24 V DC High Feature • 4 DI 24 V DC Standard • 4 DI 24 V DC High Feature • 2 DI 120 V AC • 2 DI 230 V AC • 4 DI 24 to 48 V UC • 4 DI 24 V DC SOURCE INPUT Ordering unit 1 item • 4 DI 24 V DC NAMUR • 8 DI 24 V DC Standard • 8 DI, 24 V DC, Standard SOURCE INPUT Ordering unit 100 items • 8 DI 24 V DC Standard	6ES7131-4BB01-0AA0 6ES7131-4BB01-0AB0 6ES7131-4BD01-0AA0 6ES7131-4BD01-0AB0 6ES7131-4EB00-0AB0 6ES7131-4FB00-0AB0 6ES7131-4CD02-0AB0 6ES7131-4BD51-0AA0 6ES7131-4RD02-0AB0 6ES7131-4BF00-0AA0 6ES7131-4BF50-0AA0 6ES7131-4BF00-4AA0	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 • red • yellow • light beige 6ES7193-4BH00-0AA0 6ES7193-4BD00-0AA0 6ES7193-4BB00-0AA0 6ES7193-4BA00-0AA0
Digital output modules Ordering unit 5 items • 2 DO 24 V DC/0.5 A Standard • 2 DO 24 V DC/0.5 A High Feature • 2 DO 24 V DC/2 A Standard • 2 DO 24 V DC/2 A High Feature • 4 DO 24 V DC/0.5 A Standard • 4 DO, 24 V DC/0.5 A, Standard SOURCE OUTPUT • 4 DO 24 V DC/0.5 A High Feature • 8 DO 24 V DC/0.5 A High Feature • 4 DO 24 V DC/2 A Standard • 4 DO 24 V DC/2 A High Feature • 2 DO 24 to 230 V AC/2 A • 2 DO 24 V DC to 230 V AC/5 A relay, NO contact • 2 DO 24...48 V DC/5 A, 24...230 V AC/5 A relay, changeover contact Ordering unit 1 item • 2 DO 24...48 V DC/5 A, 24...230 V AC/5 A relay, changeover contact, with manual operation • 8 DO 24 V DC/0.5 A Standard • 8 DO, 24 V DC/0.5 A, Standard SINK OUTPUT Ordering unit 100 items • 8 DO 24 V DC/0.5 A Standard	6ES7132-4BB01-0AA0 6ES7132-4BB01-0AB0 6ES7132-4BB31-0AA0 6ES7132-4BB31-0AB0 6ES7132-4BD02-0AA0 6ES7132-4BD50-0AA0 6ES7132-4BD00-0AB0 6ES7132-4BF00-0AB0 6ES7132-4BD32-0AA0 6ES7132-4BD30-0AB0 6ES7132-4FB01-0AB0 6ES7132-4HB01-0AB0 6ES7132-4HB12-0AB0 6ES7132-4HB50-0AB0 6ES7132-4BF00-0AA0 6ES7132-4BF50-0AA0 6ES7132-4BF00-4AA0	

I/O systems

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ET 200S - I/O modules

SIPLUS digital electronic modules

Technical specifications (continued)

Article number	6AG1132-4BF00-7AA0	6AG1132-4BF50-7AA0	6AG1132-4HB01-2AB0	6AG1132-4HB12-2AB0
Based on	6ES7132-4BF00-0AA0 SIPLUS ET200S EM 8 DO	6ES7132-4BF50-0AA0 SIPLUS ET200S EM 8 DO DC24V/0.5A	6ES7132-4HB01-0AB0 SIPLUS ET200S 2DORLY 24-48VDC 230VAC/5A	6ES7132-4HB12-0AB0 SIPLUS ET200S 2DORLY 24-48VDC 230VAC/5A
Ambient conditions				
Ambient temperature in operation				
• Min.	-40 °C; = Tmin	-25 °C; = Tmin	-25 °C; = Tmin	-25 °C; = Tmin
• max.	70 °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 at 1080 hPa ... 795 hPa (-1000 m ... +2000 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!