

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Selected official pages for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

6ES7322-1BP00-0AA0

Sixty-Four-Channel Digital Output Module. Relevant section pages: 106, 107, 108, 109, 110, 111, 112. Adjacent model text on shared pages is outside this product reference.

OFFICIAL SOURCE

S7-300 Module data; 05/2022, A5E00105505-AK

Siemens original documentation and product reference

The sourcing 1BP00 chapter contains an inconsistent 'M switching' row on source page 109; that row is not adopted in the authored data. Scope begins on page 106 and ends before 1BP50 on page 112.

AMIKON PRODUCT SUPPORT

+86-18020776786

INFO@AMIKON.CN

AMIKONG.COM

Amikon Limited prepared this independent reference package. Selected manufacturer pages follow with their original content and pagination visible.

SIMATIC

S7-300 S7-300 Module data

Equipment Manual

General technical data

1

Power supply modules

2

Digital modules

3

Principles of analog value
processing

4

Principles of analog modules

5

Analog modules

6

Other signal modules

7

Interface modules

8

Parameter sets of signal
modules

A

Diagnostics data of signal
modules

B

Dimensional drawings

C

Spare parts and accessories
for S7-300 modules

D

Directive on handling
Electrostatic-Sensitive
Devices (ESD)

E

Service & support

F

Safety-relevant symbols

G

S7-300

S7-300 Module data

Equipment Manual

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Technical specifications	
Connection of 2-wire BEROs	supported
• Permissible quiescent current	max. 2 mA
Wiring of the signal sensors	using a 40-pin front connector

3.19 Digital output module SM 322; DO 64 x DC 24 V/0.3 A sourcing; (6ES7322-1BP00-0AA0)

Order number

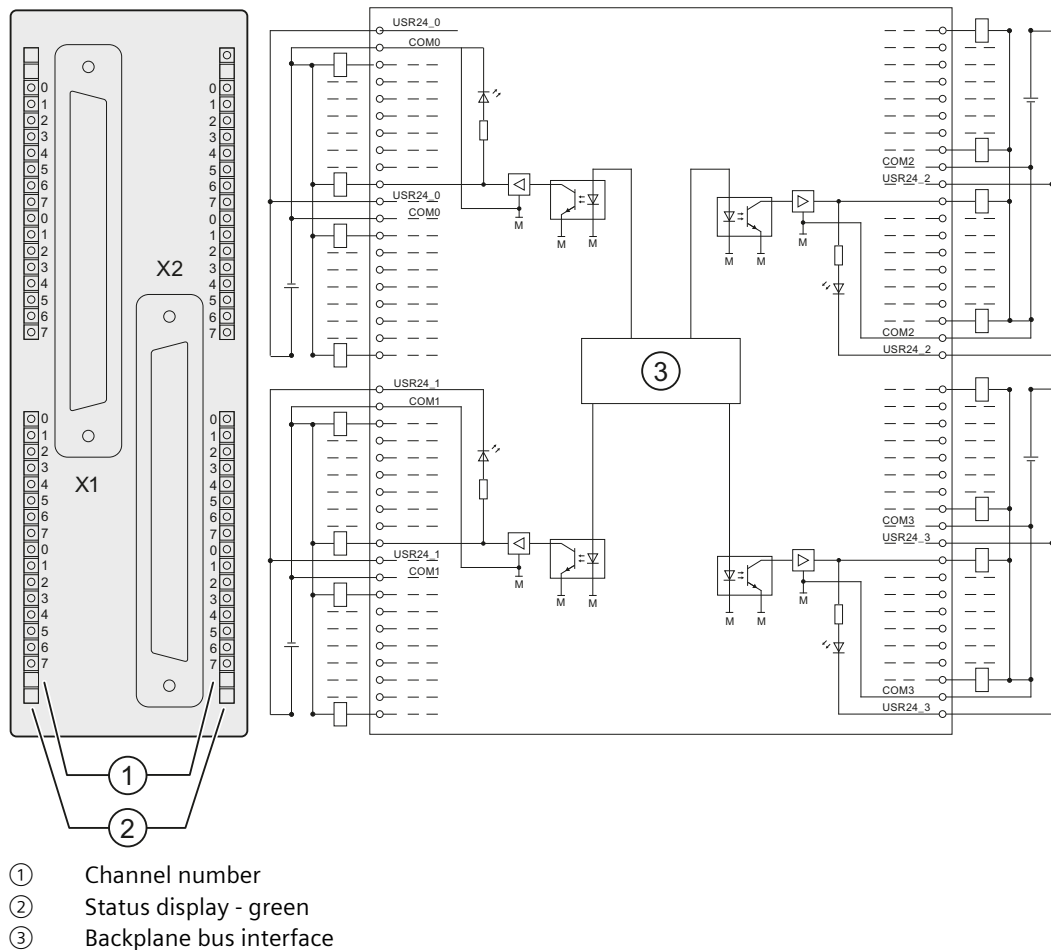
6ES7322-1BP00-0AA0

Properties

Properties of SM 322; DO 64 x DC 24 V/0,3 A Sourcing:

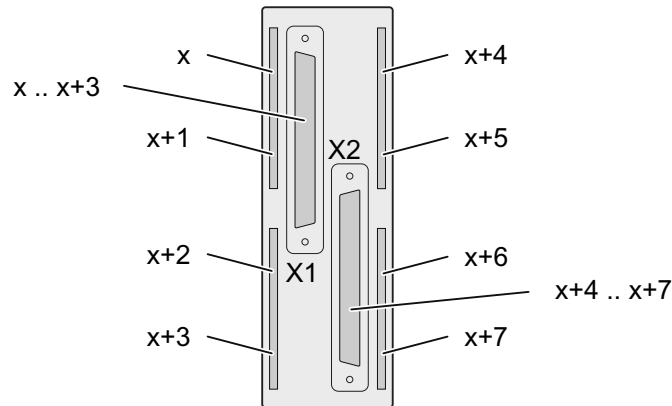
- 64 outputs, isolated in 4 groups of 16
- Rated load voltage 24 V DC

Wiring and block diagram of SM 322; DO 64 x DC 24 V/0,3 A Sourcing



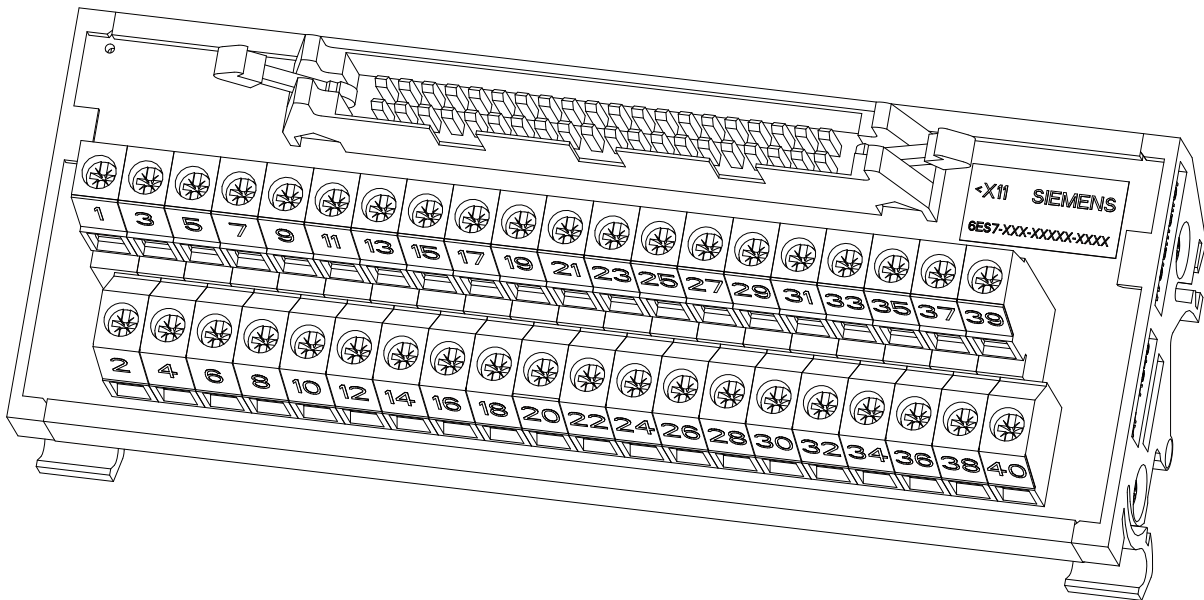
Terminal assignment of SM 322; DO 64 x DC 24 V/0.3 A Sourcing

The figure below shows how channels are assigned to addresses (output byte x up to output byte x+7).



40-pin terminal block

SM 322; DO 64 x DC 24 V/0.3 A Sourcing features two terminal blocks for connecting actuators and sensors to the module front connector. A connecting cable is used to establish the module connections.



The table below shows how channel terminals are assigned to the connector for module SM 322; DO 64 x DC 24 V/0.3 A Sourcing.

Terminal	Function		Terminal	Function
1	O x.0		2	O x+2.0
3	O x.1		4	O x+2.1
5	O x.2		6	O x+2.2
7	O x.3		8	O x+2.3
9	O x.4		10	O x+2.4

Terminal	Function		Terminal	Function
11	O x.5		12	O x+2.5
13	O x.6		14	O x+2.6
15	O x.7		16	O x+2.7
17	1M		18	2M
19	1L+		20	2L+
21	O x+1.0		22	O x+3.0
23	O x+1.1		24	O x+3.1
25	O x+1.2		26	O x+3.2
27	O x+1.3		28	O x+3.3
29	O x+1.4		30	O x+3.4
31	O x+1.5		32	O x+3.5
33	O x+1.6		34	O x+3.6
35	O x+1.7		36	O x+3.7
37	1M		38	2M
39	1L+		40	2L+

NOTE

Connections x M and x L+ must be connected to a channel group.

Technical specifications of SM 322, DO 64 x DC 24 V, 0,3 A Sourcing

Technical specifications	
Dimensions and weight	
Dimensions (W x H x D) (mm)	40 x 125 x 112 (including protective barrier, required for connections which are not in use)
Weight	ca. 260 g
Module-specific data	
Supports isochronous mode	No
Number of outputs	64
Cable length - Unshielded - Shielded	max. 600 m max. 1000 m
Voltages, currents, electrical potentials	
Rated load voltage L+	24 V DC
Total current of outputs (per group)	
For horizontal installation - Up to 25 °C - to 40 °C - to 60 °C	max. 2.0 A max. 1.6 A max. 1.2 A

3.19 Digital output module SM 322; DO 64 x DC 24 V/0.3 A sourcing; (6ES7322-1BP00-0AA0)

Technical specifications	
For vertical installation - to 40 °C - Up to 25 °C	max. 1.6 A max. 2.0 A
Electrical isolation	
- Between channels and the backplane bus - Between channels - In groups of	Yes Yes 16
Isolation test voltage	500 VDC
Current consumption - From the backplane bus - From the user 24 V (L+) (separately for each group; no load)	Max. 100 mA Max. 75 mA
Power loss of the module	Typ. 6.0 W
Status, interrupts, diagnostics	
Status display	Green LED per channel
Interrupts	None
Diagnostic functions	None
Actuator selection data	
Output type Output voltage "1" signal	M switching 24 V DC L+ (-0.5 V)
Output current "1" signal - Rated value - Permitted range "0" signal (residual current)	Typ. 0.3 A 2.4 mA to 0.36 A <100 µA
Output delay (resistive load) "0" to "1" transition "1" to "0" transition	<550 µs <550 µs
Load resistance range	80 Ω to 10 kΩ
Lamp load	Max. <5 W
Wiring two outputs in parallel - For redundant load control - For performance increase	supported (with external diode) not supported
Control of a digital input	supported
Switching frequency - with resistive load - With inductive load to IEC 947-5-1, DC 13¹ - With lamp load	Max. <100 Hz Max. <0.5 Hz Max. <10 Hz
Internal limiting of the inductive shutdown voltage to:	53 V typ.
Short-circuit-proof output Response threshold:	Yes, electronic 0.7 A to 1.9 A typ.
Wiring of the actuators	Two 40-pin terminal blocks
¹ For loads above 200 mA, a terminal diode is required for the inductive load.	

STEP 7 integration

64-channel I/O modules are integrated with the HSP 2019 V 1.0. The HSP forms part of STEP 7 V 5.4 SP2 and can be installed from STEP 7 V 5.4 and higher.

GSD/GSDML files

The 64-channel I/O modules are supported by the ET 200M versions listed below. Download the corresponding GSD/GSDML files from the following link: on the Internet (<http://www.siemens.com/automation/service>).

- To search for PROFIBUS GSD files, type in the entry ID 113498.
- To search for PROFINET GSDML files, type in the entry ID: 25057900.

PROFIBUS

- IM 153-1, as of 6ES7153-1AA03-0XB0, E12 with GSD file SI01801D.*, version V 1.5
- IM 153-2, as of 6ES7153-2BA02-0XB0, E01 with GSD file SI04801E.*, version V 1.0

PROFINET

- IM 153-4 PN, as of 6ES7153-4AA00-0XB0 with GSDML file version V 2.1
- IM153-4 PN IO HF, as of 6ES7153-4BA00-0XB0 with GSDML file version V2.1

Using the module in S7-300 and ET 200M

If the station is configured with STEP 7, you can use the digital output module SM 322 with all CPUs in the following table. Startup cannot be performed if no configuration is loaded.

C-CPU (compact CPUs)	Order number
CPU 312C	6ES7312-5BD0x-0AB0
	6ES7312-5BE03-0AB0
	6ES7312-5BF04-0AB0
CPU 313C	6ES7313-5BE0x-0AB0
	6ES7313-5BF03-0AB0
	6ES7313-5BG04-0AB0
CPU 313C-2 DP	6ES7313-6CE0x-0AB0
	6ES7313-6CF03-0AB0
	6ES7313-6CG04-0AB0
CPU313C-2 PtP	6ES7313-6BE0x-0AB0
	6ES7313-6BF03-0AB0
	6ES7313-6BG04-0AB0
CPU 314C-2 DP	6ES7314-6CF0x-0AB0
	6ES7314-6CG03-0AB0
	6ES7314-6CH04-0AB0

3.19 Digital output module SM 322; DO 64 x DC 24 V/0.3 A sourcing; (6ES7322-1BP00-0AA0)

C-CPU (compact CPUs)	Order number
CPU 314C-2 PtP	6ES7314-6BF0x--0AB0
	6ES7314-6BG03--0AB0
	6ES7314-6BH04-0AB0
CPU314C-2 PN/DP	6ES7314-6EH04-0AB0

M-CPU	Order number
CPU 312	6ES7312-1AD1x-0AB0
	6ES7312-1AE13-0AB0
	6ES7312-1AE14-0AB0
CPU 314	6ES7314-1AF1x-0AB0
	6ES7314-1AG13-0AB0
	6ES7314-1AG14-0AB0
CPU 315-2 DP	6ES7315-2AF0x-0AB0
	6ES7315-2AG10-0AB0
	6ES7315-2AH14-0AB0
CPU 316-2 DP	6ES7316-2AG00-0AB0
CPU 317-2 DP	6ES7317-2AJ10-0AB0
	6ES7317-2AK14-0AB0
CPU 315-2 PN/DP	6ES7315-2EG10-0AB0
	6ES7315-2EH13-0AB0
	6ES7315-2EH14-0AB0
CPU 317-2 PN/DP	6ES7317-2EJ10-0AB0
	6ES7317-2EK13-0AB0
	6ES7317-2EK14-0AB0
CPU 319-3 PN/DP	6ES7318-3EL00-0AB0
	6ES7318-3EL01-0AB0

F-CPU	Order number
CPU 315F-2 DP	6ES7315-6FF0x-0AB0
CPU 317F-2 DP	6ES7317-6FF0x-0AB0
CPU 315F-2 PN/DP	6ES7315-2FH1x-0AB0
	6ES7315-2FJ14-0AB0
CPU 317F-2 PN/DP	6ES7317-2FJ10-0AB0
	6ES7317-2FK13-0AB0
	6ES7317-2FK14-0AB0
CPU 319F-3 PN/DP	6ES7318-3FL00-0AB0
	6ES7318-3FL01-0AB0

3.20 Digital output module SM 322; DO 64 x DC 24 V/0.3 A Sinking (6ES7322-1BP50-0AA0)

T-CPU	Order number
CPU 315T-2 DP	6ES7315-6TG10-0AB0
CPU315T-3 PN/DP	6ES7315-7TJ10-0AB0
CPU 317T-2 DP	6ES7317-6TJ10-0AB0
CPU317TF-2 DP	6ES7317-6TF14-0AB0
CPU317T-3 PN/DP	6ES7317-7TK10-0AB0
CPU317TF-3 PN/DP	6ES7317-7UL10-0AB0

C7-CPU	Order number
C7-613	6ES7613-1CA01-0AE3
C7-635 Touch	6ES7635-2EB01-0AE3
C7-635 Key	6ES7635-2EC01-0AE3
C7-636 Touch	6ES7636-2EB00-0AE3
C7-636 Key	6ES7636-2EC00-0AE3

⚠ WARNING**Use of the module**

This module must be configured in a STEP 7 project in which the correct address assignment and allocation of the input/output point is ensured. Using the module without having first carried out this configuration work can lead to machines or processes operating in an unexpected manner.

If machines or processes do run in an unexpected manner, this can result in death, serious injury, and/or material damage.

3.20 Digital output module SM 322; DO 64 x DC 24 V/0.3 A Sinking (6ES7322-1BP50-0AA0)

Order number

6ES7322-1BP50-0AA0

Properties

Characteristics of the SM 322; DO 64 x DC 24 V, 0,3 A Sinking digital output module:

- 64 outputs, isolated in 4 groups of 16
- Rated load voltage 24 V DC