Product overview

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3.1 Properties

Article number

6ES7522-5EH00-0AB0

View of the module

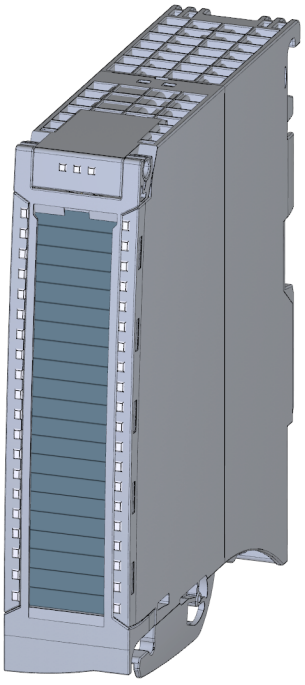


Figure 3-1 View of the DQ 16x24...48VUC/125VDC/0.5A ST module

Properties

The module has the following technical properties:

- 16 digital outputs; electrically isolated in groups of 1
- Rated output voltage 24 V DC (24 V DC to 125 V DC / 24 V UC to 48 V UC)
- Rated output current 0.5 A per channel
- Configurable substitute values (per channel)
- Suitable for solenoid valves, DC contactors, and indicator lights
- Switching cycle counter for connected actuators

The module supports the following functions:

Table 3-1 Version dependencies of the module functions

Function	Firmware version of the module	Configuration software	
		STEP 7 (TIA Portal)	GSD file in STEP 7 (TIA Portal)
Firmware update	V1.0.0 or higher	V13, SP1 or higher with HSP 0142	V12 or higher, or STEP 7 V5.5 SP3 or higher
Identification data I&M0 to I&M3	V1.0.0 or higher	V13, SP1 or higher with HSP 0142	V12 or higher, or STEP 7 V5.5 SP3 or higher
Parameter assignment in RUN	V1.0.0 or higher	V13, SP1 or higher with HSP 0142	V12 or higher, or STEP 7 V5.5 SP3 or higher
Module-internal Shared Output (MSO)	V1.0.0 or higher	V13, SP1 or higher with HSP 0142 (PROFINET IO only)	V12 or higher, or STEP 7 V5.5 SP3 or higher (PROFINET IO only)
Configurable submodules / submodules for Shared Device	V1.0.0 or higher	V13, SP1 or higher with HSP 0142 (PROFINET IO only)	V12 or higher, or STEP 7 V5.5 SP3 or higher (PROFINET IO only)
Switching cycle counter	V1.1.0 or higher	As of V18 with HSP 0382 (PROFINET IO only, central operation with a S7-1500 CPU is supported)	V15 SP1 or higher, or STEP 7 V5.5 SP4 or higher (PROFINET IO only)

You can configure the module with STEP 7 (TIA Portal) and with a GSD file.

Compatibility

The following table shows the compatibility of the modules and the dependencies between hardware functional status (FS) and firmware version (FW) used:

Hardware functional status	Firmware version	Note
FS01	V1.0.0	Upgrade and downgrade not possible between V1.0.0 and higher
FS02	V1.0.0	Upgrade and downgrade not possible between V1.0.0 and higher
FS03	V1.0.0	Upgrade and downgrade not possible between V1.0.0 and higher
FS04	V1.0.0	Upgrade and downgrade not possible between V1.0.0 and higher
FS05	V1.1.0	Upgrade and downgrade not possible between V1.1.0 and other versions

Accessories

The following accessories are supplied with the module and can also be ordered separately as spare parts:

- Labeling strips
- U connector
- Universal front cover

Other components

The following component can be ordered separately:
Front connectors, including potential jumpers and cable ties
You can find additional information on accessories in the system manual S7-1500/ET 200MP (https://support.industry.siemens.com/cs/ww/en/view/59191792).

Technical specifications

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Technical specifications of the DQ 16x24...125VUC/0.5A ST

Article number	6ES7522-5EH00-0AB0
General information	
Product type designation	DQ 16x24 ... 48 V UC/125 V DC/0.5 A ST
HW functional status	From FS01
Firmware version	from V1.0.0
• FW update possible	Yes
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
• Prioritized startup	Yes
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V13 SP1 / -
• STEP 7 configurable/integrated from version	V5.5 SP3 / -
• PROFIBUS from GSD version/GSD revision	V1.0 / V5.1
• PROFINET from GSD version/GSD revision	V2.3 / -
Operating mode	
• DQ	Yes
• DQ with energy-saving function	No
• PWM	No
• Cam control (switching at comparison values)	No
• Oversampling	No
• MSO	Yes
• Integrated operating cycle counter	Yes; FW V1.1.0 or higher
output voltage / header	
Rated value (DC)	24 V; 48 V, 125 V
Rated value (AC)	24 V; 48 V (50 - 60 Hz)
Power	
Power available from the backplane bus	2 W
Power loss	
Power loss, typ.	3.8 W

Article number	6ES7522-5EH00-0AB0
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	16
Current-sinking	Yes
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Limitation of inductive shutdown voltage to	200 V (suppressor diode)
Controlling a digital input	Yes
Switching capacity of the outputs	
• with resistive load, max.	0.5 A
• on lamp load, max.	40 W; At 125 V DC, 10 W at 48 V UC, 5 W at 24 V UC
Output voltage	
• for signal "1", min.	L+ (-1.0 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range, max.	0.6 A
Output delay with resistive load	
• "0" to "1", max.	5 ms
• "1" to "0", max.	5 ms
Parallel switching of two outputs	
• for logic links	Yes
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	25 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	10 Hz
Total current of the outputs	
• Current per channel, max.	0.5 A
• Current per group, max.	0.5 A
• Current per module, max.	8 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Diagnostics function	No
Substitute values connectable	Yes

Article number	6ES7522-5EH00-0AB0
Alarms	
• Diagnostic alarm	No
• Maintenance interrupt	Yes
Diagnoses	
• Monitoring the supply voltage	No
• Wire-break	No
• Short-circuit	No
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• Monitoring of the supply voltage (PWR-LED)	No
• Channel status display	Yes; green LED
• for channel diagnostics	No
• for module diagnostics	Yes; red LED
Potential separation	
Potential separation channels	
• between the channels	Yes
• between the channels, in groups of	1
• between the channels and backplane bus	Yes
Permissible potential difference	
between different circuits	125 V DC/48 V AC
Isolation	
Isolation tested with	2 000 V DC
Standards, approvals, certificates	
Suitable for safety functions	No
Suitable for safety-related tripping of standard modules	Yes; From FS02
Highest safety class achievable for safety-related tripping of standard modules	
• Performance level according to ISO 13849-1	PL d
• Category according to ISO 13849-1	Cat. 3
• SILCL according to IEC 62061	SILCL 2
product functions / security / header	
signed firmware update	Yes
data integrity	No

Article number	6ES7522-5EH00-0AB0
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-25 °C; From FS05
• horizontal installation, max.	60 °C
• vertical installation, min.	-25 °C; From FS05
• vertical installation, max.	40 °C
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	230 g

NOTE

External fuse for outputs

The outputs have to be protected by an external fuse. Recommendation: Siemens 2A 3NW6002-4 in fuse holder 3NW7014-4.

When installed in a danger area according to the National Electric Code (NEC), the fuse must only be removed with the correct tool when the module is not in an explosion-proof zone.