

SIPLUS S7-1500 DQ 16X24VDC/0.5A -40 ... +70 GRAD C  
 STARTUP -25 GRAD C MIT CONFORMAL COATING BASED ON  
 6ES7522-1BH01-0AB0 . 16 CHANNELS IN GROUPS OF 8, 4 A PER  
 GROUP; SINGLE-CHANNEL DIAGNOSIS; SUBSTITUTE VALUE

General information	
Product type designation	DQ 16x24VDC/0.5A HF
Firmware version	
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
Operating mode	
<ul style="list-style-type: none"> <li>DQ</li> <li>DQ with energy-saving function</li> <li>PWM</li> <li>Oversampling</li> <li>MSO</li> </ul>	Yes No No No Yes
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes; through internal protection with 7 A per group
Input current	
Current consumption, max.	30 mA
Output voltage	
Rated value (DC)	24 V
Power	
Power available from the backplane bus	1.1 W
Power loss	
Power loss, typ.	2 W
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	16
Current-sourcing	Yes
Short-circuit protection	Yes; Clocked electronically
<ul style="list-style-type: none"> <li>Response threshold, typ.</li> </ul>	1 A
Limitation of inductive shutdown voltage to	L+ (-53 V)

Controlling a digital input	Yes
<b>Switching capacity of the outputs</b>	
• with resistive load, max.	0.5 A
• on lamp load, max.	5 W
<b>Load resistance range</b>	
• lower limit	48 Ω
• upper limit	12 kΩ
<b>Output voltage</b>	
• for signal "1", min.	L+ (-0.8 V)
<b>Output current</b>	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range, max.	0.5 A
• for signal "0" residual current, max.	0.5 mA
<b>Output delay with resistive load</b>	
• "0" to "1", max.	100 μs
• "1" to "0", max.	500 μs
<b>Parallel switching of two outputs</b>	
• for logic links	Yes
• for uprating	No
• for redundant control of a load	Yes
<b>Switching frequency</b>	
• with resistive load, max.	100 Hz
• with inductive load, max.	0.5 Hz; According to IEC 60947-5-1, DC-13
• on lamp load, max.	10 Hz
<b>Total current of the outputs</b>	
• Current per channel, max.	0.5 A; see additional description in the manual
• Current per group, max.	4 A; see additional description in the manual
• Current per module, max.	8 A; see additional description in the manual
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	Yes
Execution and activation time (TCO), min.	70 μs
Bus cycle time (TDP), min.	250 μs
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Substitute values connectable	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes

Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	Yes
• Short-circuit	Yes
• Group error	Yes
Diagnostics indication LED	
• RUN LED	Yes; Green LED
• ERROR LED	Yes; Red LED
• Monitoring of the supply voltage (PWR-LED)	Yes; Green LED
• Channel status display	Yes; Green LED
• for channel diagnostics	Yes; Red LED
• for module diagnostics	Yes; Red LED
Potential separation	
Potential separation channels	
• between the channels	No
• between the channels, in groups of	8
• between the channels and backplane bus	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-40 °C; = Tmin
• horizontal installation, max.	70 °C; = Tmax; see Derating BasedOn (e.g. manual), additionally Tmax > 60 °C max. aggregate current 2 A per group
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *

— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
<b>Use on ships/at sea</b>	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
<b>from supply voltage 1L+</b>	
— Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!

### Decentralized operation

Prioritized startup	Yes
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### Dimensions

Width	35 mm
Height	147 mm
Depth	129 mm

### Weights

Weight, approx.	230 g
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**last modified:** 05/18/2018