



SIMATIC S7-1500 digital input/output module, DI 32x24VDC BA SNK / SRC, 32 channels in groups of 16, input delay typ. 3.2 ms input type 3 (IEC 61131), sinking/sourcing input, DQ 32XDC 24V/0.3A SNK BA; 32 channels in groups of 16; 2 A per group at 60 °C; sourcing output; 35 mm wide; cables and terminal blocks to be ordered separately as accessories

General information	
Product type designation	DI 32 x 24 V DC / DQ 32 x 24 V DC/0.3A SNK BA
HW functional status	From FS01
Firmware version	V1.0.0
<ul style="list-style-type: none"> FW update possible 	Yes
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Isochronous mode 	No
<ul style="list-style-type: none"> Prioritized startup 	No
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	V16 with HSP 0319 / V17
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	V5.5 SP3 / -
<ul style="list-style-type: none"> PROFIBUS from GSD version/GSD revision 	V1.0 / V5.1
<ul style="list-style-type: none"> PROFINET from GSD version/GSD revision 	V2.35 / -
Operating mode	
<ul style="list-style-type: none"> DI 	Yes
<ul style="list-style-type: none"> Counter 	No
<ul style="list-style-type: none"> DQ 	Yes
<ul style="list-style-type: none"> DQ with energy-saving function 	No
<ul style="list-style-type: none"> PWM 	No
<ul style="list-style-type: none"> Cam control (switching at comparison values) 	No
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> MSI 	Yes
<ul style="list-style-type: none"> MSO 	Yes
<ul style="list-style-type: none"> Integrated operating cycle counter 	No
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes; Through internal protection with 4 A per group
external protection for power supply lines (recommendation)	input side: 24 V DC/4 A miniature circuit breaker with type B or C tripping characteristic; output side: 24 V DC/6 A miniature circuit breaker with type B tripping characteristic
Input current	
Current consumption, max.	45 mA; without load
output voltage / header	
Rated value (DC)	24 V
Power	
Power available from the backplane bus	0.6 W
Power loss	

Power loss, typ.	4.7 W
Digital inputs	
Number of digital inputs	32
Digital inputs, parameterizable	No
Source/sink input	Yes
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Number of simultaneously controllable inputs	
• Number of simultaneously controllable inputs	32
horizontal installation	
— up to 60 °C, max.	32
vertical installation	
— up to 40 °C, max.	16
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-5 ... +5 V (reference potential is COM)
• for signal "1"	-11 ... -30 V; +11 ... +30 V (reference potential is COM)
Input current	
• for signal "1", typ.	2.7 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	No
— at "0" to "1", min.	3 ms
— at "0" to "1", max.	4 ms
— at "1" to "0", min.	3 ms
— at "1" to "0", max.	4 ms
for interrupt inputs	
— parameterizable	No
for technological functions	
— parameterizable	No
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	32
Current-sinking	Yes
Current-sourcing	No
Digital outputs, parameterizable	No
Short-circuit protection	No; external fusing necessary, max. 4 A per group, tripping characteristic type B or C
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• with resistive load, max.	0.3 A
• on lamp load, max.	5 W
Load resistance range	
• lower limit	80 Ω
• upper limit	10 kΩ
Output voltage	
• for signal "1", min.	M+ (0.5 V)
Output current	
• for signal "1" rated value	0.3 A
• for signal "1" permissible range, max.	0.3 A
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", max.	100 μs
• "1" to "0", max.	500 μs
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.	100 Hz

<ul style="list-style-type: none"> • with inductive load, max. • on lamp load, max. 	0.5 Hz; According to IEC 60947-5-1, DC-13 10 Hz
Total current of the outputs	
<ul style="list-style-type: none"> • Current per channel, max. • Current per group, max. • Current per module, max. 	0.3 A 2 A 4 A
Total current of the outputs (per module)	
horizontal installation	
— up to 60 °C, max.	4 A
vertical installation	
— up to 40 °C, max.	4 A
Cable length	
<ul style="list-style-type: none"> • shielded, max. • unshielded, max. 	1 000 m 600 m
Encoder	
Connectable encoders	
<ul style="list-style-type: none"> • 2-wire sensor — permissible quiescent current (2-wire sensor), max. 	Yes 1.5 mA
Interrupts/diagnostics/status information	
Diagnostics function	No
Substitute values connectable	No
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm • Maintenance interrupt • Hardware interrupt 	No No No
Diagnoses	
<ul style="list-style-type: none"> • Monitoring the supply voltage • Wire-break • Short-circuit • Group error 	No No No No
Diagnostics indication LED	
<ul style="list-style-type: none"> • RUN LED • ERROR LED • MAINT LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics • for module diagnostics 	Yes; green LED Yes; red LED No Yes; via SIMATIC TOP connect connection module Yes; via SIMATIC TOP connect connection module No No
Potential separation	
Potential separation channels	
<ul style="list-style-type: none"> • between the channels • between the channels, in groups of • between the channels and backplane bus 	No 16; 32 when using SIMATIC TOP connect connection module Yes
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. 	-30 °C 60 °C -30 °C 40 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	250 g
Other	
Note:	Please order cable and connection modules separately

last modified:

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