

Siemens
EcoTech



SIMATIC S7-1500, digital output module, DQ 8x24 V DC/5 A AUX, width 35 mm, 8 channels in groups of 4, 5 A / channel, 8 A / group, per group, two channels can be parallel-switched (2 x 8 A), 8 channels with pulse width modulation (PWM; max 12.5 kHz), front connector (screw terminal or push-in) to be ordered separately

General information	
Product type designation	DQ 8x24VDC/5A HS
HW functional status	from FS01
Firmware version	from 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 	Yes
<ul style="list-style-type: none"> Prioritized startup 	Yes
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	V18 with HSP 0434 / V20
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	STEP 7 V5.7 or higher SP1 or higher
<ul style="list-style-type: none"> PROFIBUS from GSD version/GSD revision 	revision 3 / version 5.1
<ul style="list-style-type: none"> PROFINET from GSD version/GSD revision 	V 2.43 / -
Operating mode	
<ul style="list-style-type: none"> DQ 	Yes
<ul style="list-style-type: none"> DQ with energy-saving function 	Yes; Valve control
<ul style="list-style-type: none"> PWM 	Yes; max. 12.5 kHz
<ul style="list-style-type: none"> Cam control (switching at comparison values) 	No
<ul style="list-style-type: none"> Oversampling 	Yes
<ul style="list-style-type: none"> MSO 	Yes
<ul style="list-style-type: none"> Integrated operating cycle counter 	Yes
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 10 A per group
Input current	
Current consumption, max.	40 mA; 20 mA per group, no output is activated.
Output voltage	
Rated value (DC)	24 V
Power	
Power consumption from the backplane bus	0.55 W
Power loss	
Power loss, typ.	2.4 W
Address area	

Address space per module	
• Inputs	0 byte; typical, maximum 7 bytes, see manual for details
• Outputs	1 byte; typical, maximum 18 bytes, see manual for details
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	8
Current-sinking	No
Current-sourcing	Yes; Push-pull output
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
• Response threshold, typ.	10 A; 4 us response time
Open-circuit detection	No
Overload protection	Thermal overload protection
Limitation of inductive shutdown voltage to	M (-1 V)
Controlling a digital input	Yes
Digital output functions, parameterizable	
• Switching tripped by comparison values	No
• Freely usable digital output	Yes
• PWM output	Yes
— Number, max.	8
— Cycle duration, parameterizable	Yes; 0.08 ... 100 ms
— ON period, min.	0 %
— ON period, max.	100 %
— Resolution of the duty cycle	0.1 %
— Minimum pulse duration	30 µs
• Digital output with oversampling	Yes
— Number, max.	8
— Values per cycle, max.	16
Switching capacity of the outputs	
• with resistive load, max.	5 A
• with inductive load, max.	5 A
• on lamp load, max.	10 W
Load resistance range	
• lower limit	4.8 Ω
• upper limit	4 kΩ
Output voltage	
• for signal "1", min.	L+ (-0.8 V)
Output current	
• for signal "1" rated value	5 A
• for signal "1" permissible range, max.	6 A; note derating data in the manual
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", typ.	3 µs
• "1" to "0", typ.	3 µs
Parallel switching of two outputs	
• for logic links	No
• for uprating	Yes; 8A for parallel connection of channel 0 and 1 / channel 4 and 5
• for redundant control of a load	No
Switching frequency	
• with resistive load, max.	12.5 kHz
• with inductive load, max.	12.5 kHz; According to IEC 60947-5-1, DC-13
• on lamp load, max.	12.5 kHz
Total current of the outputs	
• Current per channel, max.	5 A; see additional description in the manual
• Current per group, max.	8 A; see additional description in the manual
• Current per module, max.	16 A; see additional description in the manual
Total current of the outputs (per module)	
horizontal installation	
— up to 40 °C, max.	8 A

— up to 60 °C, max.	5 A
vertical installation	
— up to 40 °C, max.	5 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Isochronous mode	
Bus cycle time (TDP), min.	250 µs
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
• Maintenance interrupt	Yes; maintenance alarm for switching cycle counter
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire break	No
• Short-circuit	Yes
• Group error	Yes
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• MAINT LED	Yes; Yellow 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	4
• between the channels and backplane bus	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Siemens Eco Profile (SEP)	Siemens EcoTech
Suitable for safety functions	No
Suitable for safety-related tripping of standard modules	No
Ecological footprint	
• environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	43.8 kg
— global warming potential, (during production) [CO2 eq]	9.5 kg
— global warming potential, (during operation) [CO2 eq]	34.5 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.231 kg
Security	
signed firmware update	Yes; Firmware V3.0.0 or higher
securely removing data	No
data integrity	Yes; Firmware V3.0.0 or higher
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-30 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C
• vertical installation, max.	40 °C
Altitude during operation relating to sea level	

• Installation altitude above sea level, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Absolute humidity	
• dew point, min.	-60 °C; suitable for dry room applications
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	236 g
Classifications	

	Version	Classification
eClass	16	27-24-22-04
eClass	14	27-24-22-04
eClass	12	27-24-22-04
eClass	9.1	27-24-22-04
eClass	9	27-24-22-04
eClass	8	27-24-22-04
eClass	7.1	27-24-22-04
eClass	6	27-24-22-04
ETIM	10	EC001419
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419

Approvals / Certificates	
General Product Approval	

[Miscellaneous](#)



[Manufacturer Declaration](#)



[China RoHS](#)

General Product Approval	EMV	For use in hazardous locations
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[Manufacturer Declaration](#)



[CCC-Ex](#)

[FM](#)



For use in hazardous locations	Environment
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[Type Examination Certificate](#)



[Miscellaneous](#)

[CCC-Ex](#)



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