SIEMENS

Data sheet 6ES7142-5AF00-0BL0



SIMATIC ET 200AL, IO-Link, DQ 8x 24 V DC/2 A, 8x M12, Degree of protection IP67

General information	
Product type designation	IO-Link DQ 8x24VDC/2A
HW functional status	FS01
Firmware version	V1.0.x
Vendor identification (VendorID)	42
Device identifier (DeviceID)	229381
Engineering with	
● IODD file	Yes
Supply voltage	
Load voltage 1L+	
● Rated value (DC)	24 V; Supply from 1Us+ of the IO-Link master
● permissible range, lower limit (DC)	18 V
● permissible range, upper limit (DC)	30 V
● Reverse polarity protection	Yes; against destruction
Load voltage 2L+	
● Rated value (DC)	24 V; Supply via M12 connector L-coded
● permissible range, lower limit (DC)	20.4 V
● permissible range, upper limit (DC)	28.8 V
● Reverse polarity protection	Yes; against destruction; load increasing
Input current	
Current consumption (rated value)	12 mA; without load
from load voltage 2L+, max.	8 A; Maximum value
Power loss	
Power loss, typ.	3.6 W
Digital outputs	
Number of digital outputs	8
Current-sourcing	Yes
output type acc. to IEC 61131, type 2	Yes
Short-circuit protection	Yes; per channel, electronic
● Response threshold, typ.	2.8 A
Limitation of inductive shutdown voltage to	2L+ (-47 V)
Switching capacity of the outputs	
● on lamp load, max.	10 W
Load resistance range	
● lower limit	12 Ω
● upper limit	4 kΩ
Output voltage	
● for signal "1", min.	L+ (-0.8 V)
Output current	

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● for signal "1" rated value	2 A (45 °C); 1 A (55 °C)
● for signal "1" permissible range, max.	2 A; with inductive load to IEC 60947-5-1, DC-13 / AC-15
● for signal "0" residual current, max.	0.5 mA
Switching frequency	
● with resistive load, max.	100 Hz
● with inductive load, max.	0.1 Hz; 0.25 Hz at 25 °C
● on lamp load, max.	1 Hz
Total current of the outputs	
● Current per module, max.	8 A
Cable length	
● unshielded, max.	30 m
IO-Link	
IO-Link protocol 1.1	Yes
Transmission rate	38.4 kBd (COM2)
Cycle time, min.	2.1 ms
Size of process data, input per module	0 byte
Size of process data, output per module	1 byte
Supported IO-Link profiles	common profile
Cable length unshielded, max.	20 m
Connection of IO-Link devices	
● Port type A	Yes
Interrupts/diagnostics/status information	
Substitute values connectable	Yes; channel by channel, parameterizable
Alarms	
● Diagnostic alarm	Yes; Parameterizable
Diagnoses	
● Short-circuit	Yes; Outputs to ground; module by module
Diagnostics indication LED	
● Channel status display	Yes; green LED
● for module diagnostics	Yes; green/red LED
● For load voltage monitoring	Yes; green LED
Potential separation	
between the load voltages	Yes
Potential separation channels	
● between the channels	No
● between the channels and the power supply of the electronics	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Degree and class of protection	
IP degree of protection	IP65/67
Standards, approvals, certificates	
Suitable for safety-related tripping of standard modules	Yes; from FS01
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
● SIL acc. to IEC 62061	SIL 2
● remark on safety-oriented shutdown	https://www.plcbin.com/?s=6ES7142-5AF00-0BL0
Ambient conditions	
Ambient temperature during operation	
● min.	-30 °C
● max.	55 °C
Connection method	
Design of electrical connection for the inputs and outputs	M12, 5-pin, A-coded
Type of electrical connection for IO-Link	M12, 5-pin, A-coded
Design of electrical connection for supply voltage	M12, 4-pin, L-coded
Dimensions	
Width	45 mm
Height	159 mm

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Depth	45 mm

Weights

Weight, approx.	168 g

Classifications

	Version	Classification
eClass	16	27-24-26-04
eClass	14	27-24-26-04
eClass	12	27-24-26-04
eClass	9.1	27-24-26-04
eClass	9	27-24-26-04
eClass	8	27-24-26-04
eClass	7.1	27-24-26-04
eClass	6	27-24-26-04
ETIM	10	EC001599
ETIM	9	EC001599
ETIM	8	EC001599
ETIM	7	EC001599
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

Miscellaneous

Manufacturer Declaration

General Product Approval

China RoHS

Functional Saftey

TUEV

Maritime application

ABS

Maritime application

DNV

LRS

NK / Nippon Kaiji Kyokai

RINA

CCS (China Classification Society)

Maritime application other

KR (Korean Register of Shipping)

last modified: 10/23/2025

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