

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS SIMATIC S7

6ES7138-7FD00-0AB0

FOUR-CHANNEL FAILSAFE OUTPUT MODULE

Used with the applicable SIMATIC ET 200iSP configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens official product documentation



SIMATIC, fail-safe electronic module for ET200iSP, 4 F-DO 17.4 V/40 mA Ex I, up to category 4 (EN954-1)/ SIL3 (IEC61508)/PLE (ISO13849), Ex ib (ia Ga) IIC T4 Gb, Ex ib [ia IIC Da] IIC T4 Gb, Ex ib [ia] I Mb

General information

Product brand name	SIMATIC
Product family	ET 200iSP
Product category	Digital module output
Product type designation	4F-DQ Ex(i) 17.4 V DC/40 mA

Installation type/mounting

Rack mounting	No
Front mounting	Yes
Rail mounting	Yes
Wall mounting/direct mounting	Yes

Supply voltage

Type of supply voltage	DC
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	30 V

Input current

Current consumption, typ.	340 mA
from load voltage L+ (without load), max.	510 mA; int. Powerbus

Power loss

Power loss, max.	5.3 W
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Hardware configuration

Fieldbus connection via separate transceiver	Yes
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Digital outputs

Type of digital output	Transistor
Number of digital outputs	4
Short-circuit protection	Yes
• Response threshold, typ.	Depending on the "short-circuit level" parameter
Controlling a digital input	No
No-load voltage U _{ao} (DC)	17.4 V
Internal resistor R _i	167 Ω

Load resistance range

• lower limit	270 Ω
• upper limit	18 kΩ

Trend key points E

• Voltage U _e (DC)	10.7 V
• Current I _e	40 mA

Output voltage

• Type of output voltage	DC
• for signal "1", max.	17.4 V
• permissible voltage at output, min.	0 V
• permissible voltage at output, max.	17.4 V

Output current	
• for signal "0" residual current, max.	10 µA
Parallel switching of two outputs	
• for uprating	Yes
• for redundant control of a load	No
Switching frequency	
• with resistive load, max.	30 Hz
• with inductive load, max.	2 Hz
Cable length	
• shielded, max.	500 m
• unshielded, max.	500 m
Interfaces	
Number of PROFINET interfaces	0
Number of RS 485 interfaces	0
Protocols	
Supports protocol for PROFINET IO	No
PROFIsafe	Yes
PROFIBUS	No
Interrupts/diagnostics/status information	
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnoses	
• Diagnostic information readable	Yes
• Wire-break	Yes
• Short-circuit	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes
Potential separation	
Potential separation digital outputs	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
Permissible potential difference	
between different circuits	60 V DC/30 V AC
Isolation	
Isolation tested with	370V for 1 min
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
Suitable for safety functions	Yes
reference designation according to IEC 81346-2 (2009)	K
Highest safety class achievable in safety mode	
• acc. to EN 954	Cat. 4
• Performance level according to ISO 13849-1	PLe
• SIL acc. to IEC 61508	SIL 3
Use in hazardous areas	
• Explosion protection category for gas	ATEX gas explosion protection, Zone 1
• associated equipment (Ex ia)	Yes
• associated equipment (Ex ib)	Yes
connection method	
Design of electrical connection	Screw/spring-type terminal
Dimensions	
Width	30 mm
Height	129 mm
Depth	136.5 mm
Weights	
Weight, approx.	285 g

Classifications			
		Version	Classification
	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	9	EC001599
	ETIM	8	EC001599
	ETIM	7	EC001599
	IDEA	4	3566
	UNSPSC	15	32-15-17-05

Approvals / Certificates					
General Product Approval					
					

General Product Approval		EMV	Test Certificates	Marine / Shipping	
Miscellaneous		Miscellaneous		Special Test Certificate	

Marine / Shipping			other		
				Confirmation	Miscellaneous

Railway		Environment			
Confirmation	Special Test Certificate		Environmental Confirmations	Environmental Confirmations	

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