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Data sheet 6ES7138-7FD00-0AB0



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 IIIC Da] IIC T4 Gb, Ex ib [ia] I Mb

General information	
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
Hardware configuration	
Fieldbus connection via separate transceiver	Yes
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 Uao (DC)	17.4 V
Internal resistor Ri	167 Ω
Load resistance range	
● lower limit	270 Ω
● upper limit	18 kΩ
Trend key points E	
● Voltage Ue (DC)	10.7 V
● Current Ie	40 mA
Output voltage	
● Type of output voltage	DC
● for signal "1", max.	17.4 V
Output current	
● for signal "0" residual current, max.	10 µA
Parallel switching of two outputs	
● for uprating	Yes

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● 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**

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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

Metrological Approval

General Product Approval

Manufacturer Declaration

China RoHS

For use in hazardous locations

For use in hazardous locations

FM

Miscellaneous

CCC-Ex

For use in hazardous locations

Functional Saftey

Maritime application

Miscellaneous

TUEV

Type Examination Certificate

TUEV

Maritime application

Environment

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