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Data sheet 6ES7138-7FN00-0AB0

SIMATIC, fail-safe electronic module for ET200iSP, 8 F-DI NAMUR 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 brand name	SIMATIC
Product family	ET 200iSP
Product category	Digital module input
Product type designation	8F-DI ExNAMUR
Installation type/mounting	
Rack mounting	No
Front mounting	Yes
Rail mounting	Yes
Wall mounting/direct mounting	Yes
Supply voltage	
Type of supply voltage	DC
Input current	
Current consumption, typ.	145 mA
from supply voltage L+, max.	150 mA; int. Powerbus
Encoder supply	
Number of outputs	8
Output voltage (DC)	8 V
Power loss	
Power loss, typ.	1.4 W
Address area	
Address space per module	
● Inputs	6 byte
● Outputs	4 byte
Hardware configuration	
Fieldbus connection via separate transceiver	Yes
Digital inputs	
Number of digital inputs	8
Input voltage	
● Type of input voltage	DC
Input current	
● for signal "0", max. (permissible quiescent current)	1.2 mA
● for signal "1", min.	2.1 mA
● for signal "1", typ.	9.5 mA
Input delay (for rated value of input voltage)	
● Delay time for signal change, min.	0.7 ms
● Delay time for signal change, max.	16 ms
for standard inputs	
— at "0" to "1", min.	0.7 ms

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— at "0" to "1", max.	16 ms; Parameterizable
— at "1" to "0", min.	0.7 ms
— at "1" to "0", max.	16 ms; Parameterizable
Cable length	
● shielded, max.	500 m
● unshielded, max.	200 m
Encoder	
Number of connectable encoders, max.	8
Connectable encoders	
● NAMUR encoder	Yes
Interfaces	
Number of PROFINET interfaces	0
Number of RS 485 interfaces	0
Protocols	
Supports protocol for PROFINET IO	No
PROFIBUS	No
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
● Diagnostic alarm	Yes; Parameterizable
● Hardware interrupt	No
Diagnoses	
● Diagnostic information readable	Yes
● Wire-break	Yes; NAMUR encoders or single contact with 10 kOhm parallel resistor
● Short-circuit	Yes; R load < 150 ohms with NAMUR sensor/sensor and NAMUR changeover contact/sensor to DIN 19234
Diagnostics indication LED	
● Group error SF (red)	Yes
Potential separation	
Potential separation digital inputs	
● between the channels	No
● between the channels and backplane bus	Yes
Permissible potential difference	
between different circuits	60 V DC/30 V AC
Isolation	
Isolation tested with	350 V AC/1 min between the shield and backplane bus connection 350 V AC/1 min between the shield and I/O 2830 V AC/1 min between backplane bus connection and I/O
Degree and class of protection	
IP degree of protection	IP30
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. 3 (single-channel), Cat. 4 (two-channel)
● Performance level according to ISO 13849-1	PLe
● SIL acc. to IEC 61508	SIL 3
Use in hazardous areas	
● ATEX marking	II 2 G (1) GD Ex ib[ia Ga][ia IIIC Da] IIC T4 GB and I M2 Ex ib[ia Ma] I Mb
● ATEX certificate	10 ATEX 0056
● Explosion protection category for gas	ATEX gas explosion protection, Cat. 2
● 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

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Depth	136.5 mm

Weights

Weight, approx.	288 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	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

CE EG-Konf. | UKCA | China RoHS | Miscellaneous | KC | Metrological Approval

General Product Approval	For use in hazardous locations				
RCM	ATEX	IECEx	FM	IECEx	Miscellaneous

For use in hazardous locations					Functional Saftey
CCC	CCC-Ex	INMETRO	UL	Miscellaneous	TUEV

Functional Saftey		Maritime application			Environment
Type Examination Certificate	TUEV	ABS	LRS	PRS	EPD

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