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Data sheet 6ES7136-6DB00-0CA0



SIMATIC DP, Electronics module for ET 200SP, F-DQ 4X24 V DC/2A, 15 mm width, up to PL E (ISO 13849) up to SIL 3 (IEC 61508)

General information	
Product type designation	F-DQ 4x24VDC/2A PM HF
usable BaseUnits	BU type A0
Product function	
● I&M data	Yes; I&M0 to I&M3
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V12
● STEP 7 configurable/integrated from version	V5.5 SP3 / -
● PROFINET from GSD version/GSD revision	V2.31
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
power supply according to NEC Class 2 required	No
Input current	
Current consumption (rated value)	75 mA; without load
Current consumption, max.	21 mA; From the backplane bus
Output voltage	
Rated value (DC)	24 V
Power	
Power consumption from the backplane bus	70 mW
Power loss	
Power loss, typ.	4 W
Address area	
Address space per module	
● Inputs	5 byte
● Outputs	5 byte
Hardware configuration	
Automatic encoding	Yes
● Electronic coding element type F	Yes
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	4
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
● Response threshold, typ.	> 3.3 A
Open-circuit detection	Yes
● Response threshold, typ.	8 mA

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Overload protection	Yes
● Response threshold, typ.	2.9 A
Limitation of inductive shutdown voltage to	Typ. -2x 47 V
Controlling a digital input	Yes; digital output, according to IEC 61131-2, type 2
Switching capacity of the outputs	
● with resistive load, max.	2 A
● on lamp load, max.	10 W
Load resistance range	
● lower limit	12 Ω
● upper limit	2 000 Ω
Output voltage	
● for signal "1", min.	24 V; L+ (-0.5 V)
Output current	
● for signal "1" rated value	2 A
● for signal "0" residual current, max.	0.5 mA
Switching frequency	
● with resistive load, max.	30 Hz; Symmetrical
● with inductive load, max.	0.1 Hz; according to IEC 60947-5-1, DC-13, symmetrical
● on lamp load, max.	10 Hz; Symmetrical
Total current of the outputs	
● Current per channel, max.	2 A; note derating data in the manual
● Current per module, max.	6 A; note derating data in the manual
Cable length	
● shielded, max.	1 000 m
● unshielded, max.	500 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes; See Chapter "Alarms/diagnostic messages" in the manual
Substitute values connectable	No
Alarms	
● Diagnostic alarm	Yes
● Hardware interrupt	No
Diagnostics indication LED	
● RUN LED	Yes; green LED
● ERROR LED	Yes; red LED
● Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
● Channel status display	Yes; green LED
● for channel diagnostics	Yes; red LED
● for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
● between the channels	No
● between the channels and backplane bus	Yes
● between the channels and the power supply of the electronics	No
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Suitable for safety functions	Yes
Ecological footprint	
● environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	88.3 kg
— global warming potential, (during production) [CO2 eq]	13.1 kg
— global warming potential, (during operation) [CO2 eq]	76.6 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-1.37 kg
Highest safety class achievable in safety mode	
● Performance level according to ISO 13849-1	PLe

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● SIL acc. to IEC 61508	SIL 3
Probability of failure (for service life of 20 years and repair time of 100 hours)	
— Low demand mode: PFDavg in accordance with SIL2	< 2.00E-04
— Low demand mode: PFDavg in accordance with SIL3	< 2.00E-05
— High demand/continuous mode: PFH in accordance with SIL2	< 1.00E-08 1/h
— High demand/continuous mode: PFH in accordance with SIL3	< 1.00E-09 1/h
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	0 °C
● horizontal installation, max.	60 °C
● vertical installation, min.	0 °C
● vertical installation, max.	50 °C
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	4 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	57 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

Manufacturer Declaration

Miscellaneous

General Product Approval | **For use in hazardous locations**

China RoHS

FM

CCC-Ex

For use in hazardous locations | **Functional Saftey**

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IECEx	Type Examination Certificate	Miscellaneous	CCC-Ex	TUEV	Type Examination Certificate

Functional Saftey		Maritime application			
UL	TUEV	ABS	BUREAU VERITAS	DNV	LRS

Maritime application				Environment
NK / Nippon Kaiji Kyokai	RINA	CCS (China Classification Society)	KR (Korean Register of Shipping)	EPD

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