SIEMENS

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 / header	
Rated value (DC)	24 V
Power	
Power available 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
Overload protection	Yes

Response threshold, typ.	2.9 A
Limitation of inductive shutdown voltage to	Typ2x 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
Substitute values connectable	No
Alarms	
Diagnostic alarm	Yes
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	rea, greathrea birto LEb
Potential separation channels	
between the channels	No
between the channels and backplane bus	Yes
 between the channels and backplane bus between the channels and the power supply of the 	No
electronics	
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Suitable for safety functions	Yes
Highest safety class achievable in safety mode	
Performance level according to ISO 13849-1	PLe
SIL acc. to IEC 61508	SIL 3
Probability of failure (for service life of 20 years and repair time	
- Low demand mode: PFDavg in accordance with	< 2.00E-04
SIL2	
— Low demand mode: PFDavg in accordance with SIL3	< 2.00E-05
High demand/continuous mode: PFH in accordance with SIL2 High demand/continuous mode: PEH in accordance	< 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. 	O° 0
 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

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