SIEMENS

Data sheet

6ES7136-6DC00-0CA0



SIMATIC DP, Electronics module ET 200SP, F-DQ 8XDC 24V0.5A PP, 15 mm width, up to PL E (ISO 13849) up to SIL 3 (IEC 61508)

Product type designation F-DQ 8x24 V DC/0.5 A PP HF Firmware version - • FW update possible Yes usable BaseUnits BU type A0 Color code for module-specific color identification plate CO/2 Product function - • 18M data Yes; 18M0 to 18M3 Engineering with - • STEP 7 TA Portal configurable/integrated from V14 SP1 with HSP 202 • STEP 7 configurable/integrated from version V5.5 SP4 HF5 • PROFINET from GSD version/GSD revision V2.31 Supply voltage - Rated value (DC) 24 V permissible range, uoper limit (DC) 28.8 V Reverse polarity protection Yes Input current - Current consumption (rated value) 75 mA; without load Current consumption, max. 21 mA; From the backplane bus Output voltage - Power loss - Power loss 70 mW Power loss 70 mW Power loss 70 mW Power loss - Power loss 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA	General information	
• FW update possibleYesusable BaseUnitsBU type A0Color code for module-specific color identification plateCO2Product function• I&M dataYes; I&M0 to I&M3Engineering with• STEP 7 TIA Potal configurable/integrated from versionV14 SP1 with HSP 202• STEP 7 configurable/integrated from versionV5.5 SP4 HF5• PROFINET from GSD version/GSD revisionV2.31Supply voltageRated value (DC)24 Vpermissible range, uoper limit (DC)20.4 Vpermissible range, uoper limit (DC)28.8 VReverse polarity protectionYesInput currentCurrent consumption (rated value)75 mA; without loadCurrent consumption, max.21 mA; From the backplane busOtyput voltagePower lossPower lossPower loss3 WAddress space per module6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFAAddress space per module• Electronic coding element type FYesVesPoingla outputsAutomatic encodingYes• LictoriotsYes• Unputs6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA• Electronic coding element type FYes• Digital outputs8	Product type designation	F-DQ 8x24 V DC/0.5 A PP HF
usable BaseUnits BU type A0 Color code for module-specific color identification plate CC02 Product function (BM data Yes; IBM0 to IBM3 Engineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version STEP 7 configurable/integrated from version STEP 7 configurable/integrated from version PROFINET from GSD version/GSD revision V5.5 SP4 HF5 V2.31 Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 26.8 V Reverse polarity protection Yes 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 loss, typ. 3 W Address area Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA 6 Uptus 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA 4 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Automatic encoding Yes Poser loss configurable Potyputs A byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA	Firmware version	
Color code for module-specific color identification plate CC02 Product function • • I&M data Yes; I&M0 to I&M3 Engineering with • • STEP 7 TIA Portal configurable/integrated from version V14 SP1 with HSP 202 • STEP 7 configurable/integrated from version V5.5 SP4 HF5 • PROFINET from GSD version/GSD revision V2.31 Supply voltage Rated value (DC) Rated value (DC) 24 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption, (rated value) Cutrent consumption, max. 21 mA; From the backplane bus Output voltage Rated value (DC) Power loss 3 W Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Power loss, typ. 3 W Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 6 byte; 5 bytes non-RIOforFA; 6 b	FW update possible	Yes
Product function I&M data Yes; I&M0 to I&M3 Engineering with STEP 7 TIA Portal configurable/integrated from version V14 SP1 with HSP 202 version STEP 7 configurable/integrated from version V5.5 SP4 HF5 Supply voltago Rated value (DC) 24 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption, max. 21 mA; From the backplane bus Output voltage Rated value (DC) 24 V Power toossumption, max. 21 mA; From the backplane bus Output voltage Rated value (DC) 24 V Power Power loss, typ. 3 W Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA 0 utputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA 4 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA	usable BaseUnits	BU type A0
• I&M data Yes; I&M0 to I&M3 Engineering with • STEP 7 TIA Portal configurable/integrated from version V14 SP1 with HSP 202 • STEP 7 configurable/integrated from version V5.5 SP4 HF5 PC0 • PROFINET from GSD version/GSD revision V2.31 V2.31 Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Input current Ves Input current Current consumption (rated value) 75 mA; without load Current consumption, max. Output voltage Power available from the backplane bus 70 mW Power available from the backplane bus 70 mW Power loss, typ. 3 W Address area Address area Address repace per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Duptas 6 byte; 5 bytes non	Color code for module-specific color identification plate	CC02
Engineering with V14 SP1 with HSP 202 • STEP 7 Tu A Portal configurable/integrated from version V5.5 SP4 HF5 • PROFINET from GSD version/GSD revision V2.31 Supply voltage Rated value (DC) 24 V permissible range, upper limit (DC) 20.4 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption, max. Current consumption, max. 21 mA; From the backplane bus Output voltage Rated value (DC) 24 V Power Power Power available from the backplane bus 75 mA; without load Output voltage Rated value (DC) Power available from the backplane bus 70 mW Power loss Power loss, typ. Power loss, typ. 3 W Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Duputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA	Product function	
• STEP 7 TIA Portal configurable/integrated from version V14 SP1 with HSP 202 • STEP 7 configurable/integrated from version V5.5 SP4 HF5 • PROFINET from GSD version/GSD revision V2.31 Supply voltage 24 V Rated value (DC) 24 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes Input current 75 mA; without load Current consumption, max. 21 mA; From the backplane bus Output voltage 70 mW Power loss, typ. 3 W Address pace per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Unputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Address pace per module • Inputs • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA	• I&M data	Yes; I&M0 to I&M3
version V5.5 SP4 HF5 • STEP 7 configurable/integrated from version V2.31 Supply voltage Rated value (DC) Rated value (DC) 24 V permissible range, lower limit (DC) 20.4 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus Output voltage Rated value (DC) Power 24 V Power loss 70 mW Power loss, typ. 3 W Address area 4ddress space per module Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Yes Lectonic coding element type F Yes Polytal outputs 8	Engineering with	
• PROFINET from GSD version/GSD revision V2.31 Supply voltage Pated value (DC) 24 V permissible range, lower limit (DC) 20.4 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption (rated value) 75 mA; without load Current consumption, max. 21 mA; From the backplane bus Output voltage Power Rated value (DC) 24 V Power 70 mW Power loss. Power loss. Power loss Power loss. Power loss. 3 W Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Electronic coding element type F Yes Digital outputs 8		V14 SP1 with HSP 202
Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 20.4 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus Output voltage Rated value (DC) Rated value (DC) 24 V Power 70 mW Power loss 70 mW Power loss 3 W Address area Address space per module • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Yes Automatic encoding Yes • Electronic coding element type F Yes • Electronic coding element type F Yes • Digital outputs 8	 STEP 7 configurable/integrated from version 	V5.5 SP4 HF5
Rated value (DC) 24 V permissible range, lower limit (DC) 20.4 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current	 PROFINET from GSD version/GSD revision 	V2.31
permissible range, lower limit (DC) 20.4 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current	Supply voltage	
Permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes 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 loss 70 mW Power loss Power loss, typ. 3 W Address area Address area 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Vextoratic encoding Yes e Electronic coding element type F Yes Digital outputs 8	Rated value (DC)	24 V
Reverse polarity protection Yes Input current 75 mA; without load Current consumption (rated value) 75 mA; without load Current consumption, max. 21 mA; From the backplane bus Output voltage 24 V Rated value (DC) 24 V Power Power available from the backplane bus Power loss 70 mW Power loss, typ. 3 W Address area Address space per module • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 9 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 7 yes • Digital outputs 8	permissible range, lower limit (DC)	20.4 V
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 available from the backplane bus 70 mW Power loss Power loss, typ. 3 W Address area Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Liputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Dutputs 7 yes • Electronic coding Yes • Electronic coding element type F Yes • Digital outputs 8	permissible range, upper limit (DC)	28.8 V
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 available from the backplane bus 70 mW Power loss Power loss, typ. 3 W Address area Address space per module • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Yes Automatic encoding Yes • Electronic coding element type F Yes Digital outputs 8	Reverse polarity protection	Yes
Current consumption, max. 21 mA; From the backplane bus Output voltage Rated value (DC) 24 V Power 20 V Power available from the backplane bus 70 mW Power loss 70 mW Power loss, typ. 3 W Address area 3 W Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Automatic encoding Yes • Electronic coding element type F Yes Digital outputs 8	Input current	
Output voltage Rated value (DC) 24 V Power Power available from the backplane bus 70 mW Power loss 70 mW Power loss, typ. 3 W Address area Address space per module Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Yes Automatic encoding Yes Electronic coding element type F Yes Digital outputs 8	Current consumption (rated value)	75 mA; without load
Rated value (DC) 24 V Power Power available from the backplane bus 70 mW Power loss 70 mW Power loss 3 W Address area 3 W Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Automatic encoding Yes • Electronic coding element type F Yes Digital outputs 8	Current consumption, max.	21 mA; From the backplane bus
Power Power available from the backplane bus 70 mW Power loss 3 W Power loss, typ. 3 W Address area Address space per module • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Yes • Electronic coding element type F Yes • Digital outputs 8	Output voltage	
Power available from the backplane bus 70 mW Power loss 3 Power loss, typ. 3 W Address area 3 Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Automatic encoding Yes • Electronic coding element type F Yes Digital outputs 8	Rated value (DC)	24 V
Power loss Power loss, typ. Address strea Address space per module • Inputs • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs Hardware configuration Automatic encoding Yes • Electronic coding element type F Yes Digital outputs 8	Power	
Power loss, typ. 3 W Address area Address space per module Address space per module 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Yes Automatic encoding Yes • Electronic coding element type F Yes Digital outputs 8	Power available from the backplane bus	70 mW
Address area Address space per module • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Automatic encoding Automatic encoding Yes • Electronic coding element type F Yes Digital outputs 8	Power loss	
Address space per module • Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Automatic encoding Automatic encoding Yes • Electronic coding element type F Yes Digital outputs 8	Power loss, typ.	3 W
• Inputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA • Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Automatic encoding Automatic encoding Yes • Electronic coding element type F Yes Digital outputs 8	Address area	
Outputs 6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA Hardware configuration Automatic encoding Electronic coding element type F Yes Digital outputs Number of digital outputs 8	Address space per module	
Hardware configuration Automatic encoding Yes • Electronic coding element type F Yes Digital outputs Number of digital outputs Number of digital outputs 8	Inputs	6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA
Automatic encoding Yes • Electronic coding element type F Yes Digital outputs Yes Number of digital outputs 8	Outputs	6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA
Electronic coding element type F Yes Digital outputs Number of digital outputs 8	Hardware configuration	
Digital outputs Number of digital outputs 8	Automatic encoding	Yes
Number of digital outputs 8	 Electronic coding element type F 	Yes
	Digital outputs	
Digital outputs, parameterizable Yes	Number of digital outputs	8
	Digital outputs, parameterizable	Yes

Short-circuit protection	Yes
 Response threshold, typ. 	Min. 0.7 A
Open-circuit detection	No
Limitation of inductive shutdown voltage to	Тур39 V
Controlling a digital input	Yes
Switching capacity of the outputs	
 with resistive load, max. 	0.5 A
 on lamp load, max. 	2 W
Load resistance range	
lower limit	48 Ω
• upper limit	12 000 Ω
Output voltage	
● for signal "1", min.	24 V; L+ (-0.5 V)
Output current	
 for signal "1" rated value 	0.5 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
with capacitive load, max.	2 Hz; Symmetrical
• on lamp load, max.	10 Hz; Symmetrical
Total current of the outputs	To Hz, Symmotria
Current per channel, max.	0.5 A; note derating data in the manual
Current per module, max.	3 A; note derating data in the manual
Total current of the outputs (per module)	o A, hole derating data in the mandal
horizontal installation	
— up to 40 °C, max.	3 A
— up to 50 °C, max.	2.5 A
	2.5 A 2 A
— up to 60 °C, max. vertical installation	2 A
	2.4
— up to 50 °C, max.	2 A
Cable length	400
• shielded, max.	100 m
• unshielded, max.	100 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	
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
Highest safety class achievable in safety mode	
Performance level according to ISO 13849-1	PLe

 Category according to ISO 13849-1 	Cat. 4		
 SIL acc. to IEC 61508 	SIL 3		
Probability of failure (for service life of 20 years and repa	Probability of failure (for service life of 20 years and repair time of 100 hours)		
 Low demand mode: PFDavg in accordance with SIL3 	< 6.00E-05		
 High demand/continuous mode: PFH in accordance with SIL3 	< 2.00E-09 1/h		
Ambient conditions			
Ambient temperature during operation			
 horizontal installation, min. 	0°0		
 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; with derating		
Dimensions			
Width	15 mm		
Height	73 mm		
Depth	58 mm		
Weights			
Weight, approx.	48 g		
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