SIEMENS

Data sheet

6ES7136-6PA00-0BC0



SIMATIC DP, POWER M. F-PM-E PPM PROFIsafe, for ET 200SP; 24 V DC safe shutdown of DQ and F-DQ up to PL D/SIL2 or PL E/SIL3 2 for safe dig. inputs 1 for safe dig. output PPM

Product type designation usable BaseUnits Color code for module-specific color identification plate Product function • I&M data Engineering with • STEP 7 TIA Portal configurable/integrated from version • TREP 7 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 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) 28.8 V Reverse polarity protection To mA; without load Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) Encoder supply Number of outputs Short-circuit protection • up to 60 °C, max. 4 V encoder supply • 24 V • Short-circuit protection • Output current, max. Power	eral information	
Color code for module-specific color identification plate Product function IsM data Yes; I&M0 to I&M3 Engineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 Tonfigurable/integrated from version PROFINET from GSD version/GSD revision Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) Encoder supply Number of outputs Short-circuit protection Yes; Electronic (response threshold 0.7 A to 2.1 A) Output current Output current Output current Output 5 C, max. A V Yes; min. L+ (-1.5 V) Short-circuit protection Yes Short-circuit protection Yes Short-circuit protection Yes Short-circuit protection Output current, max.	oduct type designation	F-PM-E 24 V DC/8 A PPM ST
Product function • I&M data Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 configurable/integrated from version • PROFINET from GSD version/GSD revision Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper l	able BaseUnits	BU type C0
Input current Current consumption (rated value) Current consumption, max. Output voltage / header Rated value (DC) Current consumption (rated value) Output current Output current Output current Yes; Electronic (response threshold 0.7 A to 2.1 A) Output current Ves; min. L+ (-1.5 V) Short-circuit protection Yes Output current of all encoders	lor code for module-specific color identification plate	CC52
Engineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFINET from GSD version/GSD revision V5.5 SP3 /- PROFINET from GSD version/GSD revision V2.31 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Ves Input current Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) Encoder supply Number of outputs Short-circuit protection Ves; Electronic (response threshold 0.7 A to 2.1 A) Output current Output current Output 60 °C, max. 24 V encoder supply 24 V Short-circuit protection Yes; min. L+ (-1.5 V) Short-circuit protection Yes Short-circuit protection Output current, max.	oduct function	
STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFINET from GSD version/GSD revision V2.31 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection V2.8.8 V Reverse polarity protection V3.8 V Reverse polarity protection V4.9 Input current Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) Encoder supply Number of outputs Short-circuit protection V4.9 V4.9 Short-circuit protection Output current Output current Output current Output of 60 °C, max. 24 V encoder supply Pes; min. L+ (-1.5 V) Short-circuit protection Yes Short-circuit protection Output current, max.	I&M data	Yes; I&M0 to I&M3
version STEP 7 configurable/integrated from version PROFINET from GSD version/GSD revision V2.31 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Current consumption (rated value) Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) Permoder supply Number of outputs Short-circuit protection Pes; Electronic (response threshold 0.7 A to 2.1 A) Output current Pup to 60 °C, max. 24 V encoder supply 24 V Short-circuit protection Pes; min. L+ (-1.5 V) Short-circuit protection Yes Output current, max. 600 mA; Total current of all encoders	gineering with	
PROFINET from GSD version/GSD revision 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) 75 mA; without load Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) 24 V Encoder supply Number of outputs 2 Short-circuit protection Yes; Electronic (response threshold 0.7 A to 2.1 A) Output current • up to 60 °C, max. 0.3 A 24 V encoder supply • 24 V Short-circuit protection Yes; min. L+ (-1.5 V) • Short-circuit protection Yes • Output current, max. 600 mA; Total current of all encoders		V12
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) 24 V Encoder supply Number of outputs Short-circuit protection output current output current output current yes; Electronic (response threshold 0.7 A to 2.1 A) Output current output of 60 °C, max. 24 V encoder supply 24 V Yes; min. L+ (-1.5 V) Short-circuit protection Yes Output current, max. output current of all encoders	 STEP 7 configurable/integrated from version 	V5.5 SP3 / -
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Current Current consumption (rated value) Current consumption, max. Output voltage / header Rated value (DC) Encoder supply Number of outputs Short-circuit protection • up to 60 °C, max. 24 V e Short-circuit protection • Output current, max. • Output current of all encoders	PROFINET from GSD version/GSD revision	V2.31
permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Current Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) 24 V Encoder supply Number of outputs Short-circuit protection • up to 60 °C, max. 24 V encoder supply • 24 V Short-circuit protection • Output current • Output current, max.	ply voltage	
permissible range, upper limit (DC) Reverse polarity protection Reverse polarity protection	ited value (DC)	24 V
Reverse polarity protection Input current Current consumption (rated value) Current consumption, max. Output voltage / header Rated value (DC) Encoder supply Number of outputs Short-circuit protection Output current • up to 60 °C, max. 24 V Yes; min. L+ (-1.5 V) • Short-circuit protection • Output current, max. • Output current of all encoders	rmissible range, lower limit (DC)	20.4 V
Input current Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) Encoder supply Number of outputs Short-circuit protection Output current • up to 60 °C, max. 24 V Yes; min. L+ (-1.5 V) • Short-circuit protection Yes • Output current, max. 600 mA; Total current of all encoders		28.8 V
Current consumption (rated value) Current consumption, max. 21 mA; without load 21 mA; From the backplane bus output voltage / header Rated value (DC) Encoder supply Number of outputs Short-circuit protection Output current • up to 60 °C, max. 24 V Yes; Electronic (response threshold 0.7 A to 2.1 A) 25 V encoder supply • 24 V Yes; min. L+ (-1.5 V) • Short-circuit protection • Output current, max. • Output current of all encoders	everse polarity protection	Yes
Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (DC) 24 V Encoder supply Number of outputs Short-circuit protection • up to 60 °C, max. 24 V encoder supply • 24 V Yes; Electronic (response threshold 0.7 A to 2.1 A) Output current • up to 60 °C, max. 24 V encoder supply • 24 V • Short-circuit protection • Output current, max. 600 mA; Total current of all encoders	it current	
output voltage / header Rated value (DC) Encoder supply Number of outputs Short-circuit protection Output current • up to 60 °C, max. 24 V encoder supply • 24 V Yes; Electronic (response threshold 0.7 A to 2.1 A) 0.3 A 24 V encoder supply • 24 V • Short-circuit protection • Short-circuit protection • Output current, max. 600 mA; Total current of all encoders	rrent consumption (rated value)	75 mA; without load
Rated value (DC) Encoder supply Number of outputs Short-circuit protection Output current • up to 60 °C, max. 24 V encoder supply • 24 V Short-circuit protection Output current • up to 60 °C, max. Calculate the supply • 24 V • Short-circuit protection • Output current, max. Short-circuit protection • Output current, max. Short-circuit of all encoders	rrent consumption, max.	21 mA; From the backplane bus
Encoder supply Number of outputs Short-circuit protection Output current • up to 60 °C, max. 24 V encoder supply • 24 V Short-circuit protection Short-circuit protection Output current • Output current • Output current • Output current • Output current, max.	out voltage / header	
Number of outputs Short-circuit protection Output current • up to 60 °C, max. 24 V encoder supply • 24 V • Short-circuit protection • Output current Output current • Output current Output current Output current, max. 22 Yes; Electronic (response threshold 0.7 A to 2.1 A) Output current Yes; Electronic (response threshold 0.7 A to 2.1 A) Ves; Electronic (response threshold 0.7 A to 2.1 A) Output current Output current, max.	ited value (DC)	24 V
Short-circuit protection Output current • up to 60 °C, max. 24 V encoder supply • 24 V • Short-circuit protection • Output current, max. Short-circuit protection • Output current, max. Yes; Electronic (response threshold 0.7 A to 2.1 A) 0.3 A Yes; min. L+ (-1.5 V) Yes; min. L+ (-1.5 V)	oder supply	
Output current • up to 60 °C, max. 24 V encoder supply • 24 V • Short-circuit protection • Output current, max. O.3 A Yes; min. L+ (-1.5 V) Yes 600 mA; Total current of all encoders	·	2
 up to 60 °C, max. 24 V encoder supply 24 V Short-circuit protection Output current, max. 0.3 A Yes; min. L+ (-1.5 V) Yes 600 mA; Total current of all encoders 	ort-circuit protection	Yes; Electronic (response threshold 0.7 A to 2.1 A)
24 V encoder supply • 24 V • Short-circuit protection • Output current, max. Yes; min. L+ (-1.5 V) Yes 600 mA; Total current of all encoders	itput current	
 24 V Short-circuit protection Output current, max. Yes; min. L+ (-1.5 V) Yes Output current, max. 600 mA; Total current of all encoders 	up to 60 °C, max.	0.3 A
 Short-circuit protection Output current, max. Yes 600 mA; Total current of all encoders 	11.2	
Output current, max. 600 mA; Total current of all encoders	• 24 V	Yes; min. L+ (-1.5 V)
	·	Yes
Power	Output current, max.	600 mA; Total current of all encoders
	ver	
Power available from the backplane bus 70 mW	·	70 mW
Power loss	ver loss	
Power loss, typ. 5 W	wer loss, typ.	5 W
Address area	ress area	
Address space per module	dress space per module	
• Inputs 7 byte	·	7 byte
• Outputs 5 byte	Outputs	5 byte
Hardware configuration	dware configuration	
Automatic encoding Yes	tomatic encoding	Yes

Electronic coding element type F	Yes
Digital inputs	
Number of digital inputs	2
Source/sink input	Yes; P-reading
Input characteristic curve in accordance with IEC 61131,	Yes
type 1	
Input voltage	
 Type of input voltage 	DC
 Rated value (DC) 	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+15 to +30 V
Input current	
• for signal "1", typ.	3.7 mA
Input delay (for rated value of input voltage)	
for standard inputs	Yes
— parameterizable	0.4 ms
— at "0" to "1", min. — at "0" to "1", max.	0.4 ms
— at "1" to "0", min. — at "1" to "0", max.	0.4 ms 20 ms
for technological functions	20 1110
parameterizable	No
— parameterizable Cable length	INO
• shielded, max.	1 000 m
snielded, max.unshielded, max.	500 m
·	300 111
Digital outputs	
Number of digital outputs	1
Short-circuit protection	Yes
Response threshold, typ. One principle detection.	> 14.8 A
Open-circuit detection	Yes
Response threshold, typ. Overland protection.	8 mA
Overload protection	Yes 8.8 A
 Response threshold, typ. Limitation of inductive shutdown voltage to 	0.0 A Max1.5 V
Switching capacity of the outputs	IVIAX1.5 V
with resistive load, max.	8 A
on lamp load, max.	100 W
Load resistance range	100 11
• lower limit	3 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	8 A
• for signal "0" residual current, max.	1.5 mA; PP-switching: max. 1.5 mA; PM-switching: max. 1 mA
Switching frequency	· ·
with resistive load, max.	10 Hz; Symmetrical
with inductive load, max.	0.1 Hz; according to IEC 60947-5-1, DC-13, symmetrical
• on lamp load, max.	4 Hz; Symmetrical
Total current of the outputs	
Current per channel, max.	8 A; note derating data in the manual
Current per module, max.	8 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	1.00, 9.00.111.00 211.10 222
Potential separation channels	
between the channels	No
 between the channels and backplane bus 	Yes
 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
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
Dimensions	
Width	20 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	70 g

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last modified: