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 BU type C0 Color code for module-specific color identification plate CC62 Product function • I&M data Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 ronfigurable/integrated from version • PROFINET from GSD version/GSD revision PROFINET from GSD version/GSD revision V2.31 Supply votage Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upp	General information		
Cotor code for module-specific cotor identification plate Product function • I&M data Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 Tour configurable/integrated from version • STEP 7 Tour configurable/integrated from version • PROFINET from GSD version/GSD revision Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible rang	Product 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 • V2.31 Supply voltage Rated value (DC) 24 V Encoder supply Number of outputs Short-circuit protection • 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 Power Power available from the backplane bus 70 mW Power loss, typ. Address pace Power loss, typ. Address space per module • Inputs • Outputs • Outputs • Outputs • Outputs • Outputs • Foyle • Outputs • Outputs • Outputs • Outputs • Outputs • Outputs • Fowler • Outputs • Outpu	usable BaseUnits	BU type C0	
• I&M data Yes; I&M0 to I&M3 Engineering with • STEP 7 TIAP Portal 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, lower limit (DC) permissible range, upper limit (DC) permissib	Color code for module-specific color identification plate	CC52	
Engineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version STEP 7 configurable/integrated from version V5.5 SP3 / - PROFINET from GSD version/GSD revision V2.31 Supply voltage Rated value (DC) permissible range, lower limit (DC) 22 4 V permissible range, upper limit (DC) Reverse polarity protection Pyes Imput 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 2 Short-circuit protection Yes; Electronic (response threshold 0.7 A to 2.1 A) Output current up to 60 °C, max. 24 V vencoder supply 22 V 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 vencoder supply 22 V Short-circuit protection Yes; Electronic (response threshold 0.7 A to 2.1 A) Output current Output current Short-circuit protection Yes; Electronic fresponse threshold 0.7 A to 2.1 A) Output current Power variable from the backplane bus 70 mW Power loss; typ. Short-circuit protection Fower Power available from the backplane bus 70 mW Power loss; typ. 5 W Address area Address area Address space per module Inputs Outputs Sbyte Hardware configuration Automatic encoding Yes	Product function		
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) 24 V permissible range, lower 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 / header Rated value (DC) 24 V Encoder supply Number of outputs 2 Short-circuit protection output current output of 0°C, max. 24 V encoder supply 24 V Short-circuit protection Yes; Electronic (response threshold 0.7 A to 2.1 A) Output current output of 0°C, max. 0.3 A 24 V encoder supply 24 V Short-circuit protection Yes; Electronic (response threshold 0.7 A to 2.1 A) Output current output of 0°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 Power Power available from the backplane bus 70 mW Power loss Power loss, typ. 4ddress area Address space per module Inputs Outputs Fyes	● I&M data	Yes; I&M0 to I&M3	
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 ran	Engineering with		
PROFINET from GSD version/GSD revision Supply voltage Rated value (DC) 24 V permissible range, lower 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 • Output current, max. 6000 mA; Total current of all encoders Power Power available from the backplane bus 70 mW Power loss Power loss Power loss Address space per module • Inputs 7 byte • Outputs • Outputs Hardware configuration Automatic encoding Yes	 STEP 7 TIA Portal configurable/integrated from version 	V12	
Rated value (DC) 24 V permissible range, lower 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; min. L+ (-1.5 V) • Short-circuit protection Yes • Output current 600 mA; Total current of all encoders Power Verence Styp. Power available from the backplane bus 70 mW Power loss Power loss, typ. 5 W Address space per module • Inputs 7 byte • Outputs • Outputs • Outputs • Outputs • Outputs • Outputs • 5 byte Hardware configuration Automatic encoding	 STEP 7 configurable/integrated from version 	V5.5 SP3 / -	
Rated value (DC) 24 V permissible range, lower limit (DC) 20.4 V permissible range, lower 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 Yes; min. L+ (-1.5 V) • Short-circuit protection Yes • Output current, max. 660 mA; Total current of all encoders Power loss Power loss Power loss, tp. 5 W Address area Address space per module • Inputs 7 byte • Outputs Facility of the control of the poly of the control of the c	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 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 Power Power available from the backplane bus 70 mW Power loss Power loss, typ. 5 W Address area Address space per module • Inputs 7 byte • Outputs • Outputs Fundamental current of all encoding Yes Automatic encoding Yes	Supply voltage		
permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption (rated value) Current consumption (max. 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 • Short-circuit protection • Output current • Output current, max. 600 mA; Total current of all encoders Power loss Power loss Power loss, typ. Address area Address space per module • Inputs • Outputs • 5 byte Hardware configuration Automatic encoding Yes	Rated value (DC)	24 V	
Reverse polarity protection Input current Current consumption (rated value) Current consumption, max. 21 mA; From the backplane bus output voltage / header Rated value (ICC) 24 V Encoder supply Number of outputs 2 Short-circuit protection Ves; 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 Ves; min. L+ (-1.5 V) • Short-circuit protection • Output current, max. 600 mA; Total current of all encoders Power Power available from the backplane bus 70 mW Power loss Power loss, typ. Address area Address pace per module • Inputs • Outputs • Outputs • Outputs • 5 byte Hardware configuration Automatic encoding	permissible 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) 24 V Encoder supply Number of outputs 2 Short-circuit protection Output current • up to 60 °C, max. 24 V encoder supply • 24 V • Short-circuit protection Ves; 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 Ves; min. L+ (-1.5 V) • Short-circuit protection Ves • Output current, max. 600 mA; Total current of all encoders Power Power available from the backplane bus 70 mW Power loss Power loss, typ. 4ddress area Address area Address space per module • Inputs • Outputs • Outputs 5 byte Hardware configuration Automatic encoding	permissible range, upper limit (DC)	28.8 V	
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 2 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. 0.3 A 24 V encoder supply • 24 V • Short-circuit protection • Output current, max. 600 mA; Total current of all encoders Power Power available from the backplane bus 70 mW Power loss Power loss, typ. Address area Address space per module • Inputs • Outputs • Outputs • Outputs • Outputs • Outputs • Outputs • Outputs • Outputs • Style • Outputs	Reverse polarity protection	Yes	
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 es; Electronic (response threshold 0.7 A to 2.1 A) Output current • 24 V Yes; min. L+ (-1.5 V) • Short-circuit protection Yes • Output current, max. 600 mA; Total current of all encoders Power Power loss Power loss Power loss Power savailable from the backplane bus 70 mW Address area Address space per module • Inputs • Outputs 7 byte • Outputs 5 byte Hardware configuration Automatic encoding Yes	Input current		
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 Yes; min. L+ (-1.5 V) • Short-circuit protection Yes • Output current, max. 600 mA; Total current of all encoders Power Power loss Power loss Power loss, typ. 5 W Address area Address space per module • Inputs 7 byte • Outputs • Outputs • Outputs • Outputs 7 byte • Outputs • Outputs • Outputs • Outputs • Shyte • Outputs	Current consumption (rated value)	75 mA; without load	
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Encoder supply Number of outputs Short-circuit protection 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 Power available from the backplane bus 70 mW Power loss Power loss, typ. Address area Address space per module • Inputs • Outputs • Outputs 7 byte • Outputs • Outputs 7 byte • Outputs	output voltage / header		
Number of outputs Short-circuit protection 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 Power Power available from the backplane bus 70 mW Power loss Power loss, typ. Address space per module • Inputs • Outputs • Outputs 7 byte • Outputs • Outputs 5 byte Hardware configuration Automatic encoding Yes	Rated 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. 600 mA; Total current of all encoders Power available from the backplane bus Power loss Power loss, typ. Address area Address space per module • Inputs • Outputs • Outputs • Outputs 7 byte • Outputs • Outputs 7 byte • Outputs	Encoder supply		
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 Power Power available from the backplane bus 70 mW Power loss Power loss, typ. 4ddress area Address space per module • Inputs • Outputs • Outputs Automatic encoding Yes	Number of outputs	2	
up to 60 °C, max. 24 V encoder supply 24 V Short-circuit protection Short-circuit protection Output current, max. 600 mA; Total current of all encoders Power available from the backplane bus 70 mW Power loss Power loss, typ. 5 W Address area Address space per module Inputs Outputs Outputs 7 byte Outputs Hardware configuration Automatic encoding Yes	Short-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. 600 mA; Total current of all encoders Power Power available from the backplane bus Power loss Power loss, typ. 5 W Address area Address space per module • Inputs • Outputs • Outputs Hardware configuration Automatic encoding Yes	Output current		
Yes; min. L+ (-1.5 V) Short-circuit protection Output current, max. Output current of all encoders Power Power available from the backplane bus Power loss Power loss, typ. Address area Address space per module Inputs Outputs Outputs Automatic encoding Yes Yes; min. L+ (-1.5 V) Yes Yes For all encoders For mW For all encoders For all encoders For mW For all encoders Fo	● up to 60 °C, max.	0.3 A	
Short-circuit protection Output current, max. 600 mA; Total current of all encoders Power Power available from the backplane bus Power loss Power loss, typ. Address area Address space per module Inputs Outputs Outputs Four inputs Outputs Address byte Hardware configuration Automatic encoding Yes 600 mA; Total current of all encoders 70 mW Power loss Four inputs Four inp	24 V encoder supply		
● Output current, max. Power Power available from the backplane bus Power loss Power loss, typ. Address area Address space per module ● Inputs ● Outputs Poutputs Outputs Automatic encoding Power loss, typ. 5 W Formula in the backplane bus Formula in the backpl	• 24 V	Yes; min. L+ (-1.5 V)	
Power available from the backplane bus 70 mW Power loss Power loss, typ. 5 W Address area Address space per module Inputs Outputs Outputs Address configuration Automatic encoding Yes	Short-circuit protection	Yes	
Power loss Power loss, typ. 5 W Address area Address space per module Inputs Outputs Outputs Automatic encoding Power loss, typ. 5 W 5 W 5 W 5 W 5 W 5 W 5 W 5 W	Output current, max.	600 mA; Total current of all encoders	
Power loss Power loss, typ. 5 W Address area Address space per module Inputs Outputs Outputs Flardware configuration Automatic encoding Yes	Power		
Power loss, typ. 5 W Address area Address space per module Inputs 7 byte Outputs 5 byte Hardware configuration Automatic encoding Yes	Power available from the backplane bus	70 mW	
Address area Address space per module Inputs Outputs Outputs Flardware configuration Automatic encoding Yes	Power loss		
Address space per module Inputs Outputs Outputs Flardware configuration Automatic encoding Yes	Power loss, typ.	5 W	
● Inputs 7 byte ● Outputs 5 byte Hardware configuration Automatic encoding Yes	Address area		
● Outputs 5 byte Hardware configuration Automatic encoding Yes	Address space per module		
Hardware configuration Automatic encoding Yes	• Inputs	7 byte	
Automatic encoding Yes	Outputs	5 byte	
Automatic encoding Yes	Hardware configuration		
Electronic coding element type F Yes		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, type 1	Yes
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	10 10 10 10
• for signal "1", typ.	3.7 mA
Input delay (for rated value of input voltage)	V.T IIIA
for standard inputs	
— parameterizable	Yes
— at "0" to "1", min.	0.4 ms
— at 0 to 1, min. — at "0" to "1", max.	20 ms
	0.4 ms
— at "1" to "0", min.	
— at "1" to "0", max.	20 ms
for technological functions	Ne
— parameterizable	No
Cable length	4.000
• shielded, max.	1 000 m
• unshielded, max.	500 m
Digital outputs	
Number of digital outputs	1
Short-circuit protection	Yes
Response threshold, typ.	> 14.8 A
Open-circuit detection	Yes
Response threshold, typ.	8 mA
Overload protection	Yes
Response threshold, typ.	8.8 A
Limitation of inductive shutdown voltage to	Max1.5 V
Switching capacity of the outputs	
with resistive load, max.	8 A
● on lamp load, max.	100 W
Load resistance range	
• 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	Voc
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
• 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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