



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

General information	
Product type designation	F-PM-E 24 V DC/8 A PPM ST
usable BaseUnits	BU type C0
Color code for module-specific color identification plate	CC52
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	V12
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	V5.5 SP3 / -
<ul style="list-style-type: none"> PROFINET from GSD version/GSD revision 	V2.31
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	
<ul style="list-style-type: none"> up to 60 °C, max. 	0.3 A
24 V encoder supply	
<ul style="list-style-type: none"> 24 V 	Yes; min. L+ (-1.5 V)
<ul style="list-style-type: none"> Short-circuit protection 	Yes
<ul style="list-style-type: none"> Output current, max. 	600 mA; Total current of all encoders
Power	
Power consumption from the backplane bus	70 mW
Power loss	
Power loss, typ.	5 W
Address area	
Address space per module	
<ul style="list-style-type: none"> Inputs 	7 byte
<ul style="list-style-type: none"> Outputs 	5 byte
Hardware configuration	
Automatic encoding	Yes
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Type of input voltage 	DC
<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> for signal "0" 	-30 to +5 V
<ul style="list-style-type: none"> for signal "1" 	+15 to +30 V
Input current	
<ul style="list-style-type: none"> for signal "1", typ. 	3.7 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes
— at "0" to "1", min.	0.4 ms
— at "0" to "1", max.	20 ms
— at "1" to "0", min.	0.4 ms
— at "1" to "0", max.	20 ms
for technological functions	
— parameterizable	No
Cable length	
<ul style="list-style-type: none"> shielded, max. 	1 000 m
<ul style="list-style-type: none"> unshielded, max. 	500 m
Digital outputs	
Number of digital outputs	1
Short-circuit protection	Yes
<ul style="list-style-type: none"> Response threshold, typ. 	> 14.8 A
Open-circuit detection	Yes
<ul style="list-style-type: none"> Response threshold, typ. 	8 mA
Overload protection	Yes
<ul style="list-style-type: none"> Response threshold, typ. 	8.8 A
Limitation of inductive shutdown voltage to	Max. -1.5 V
Switching capacity of the outputs	
<ul style="list-style-type: none"> with resistive load, max. 	8 A
<ul style="list-style-type: none"> on lamp load, max. 	100 W
Load resistance range	
<ul style="list-style-type: none"> lower limit 	3 Ω
<ul style="list-style-type: none"> upper limit 	2 000 Ω
Output voltage	
<ul style="list-style-type: none"> for signal "1", min. 	24 V; L+ (-0.5 V)
Output current	
<ul style="list-style-type: none"> for signal "1" rated value 	8 A
<ul style="list-style-type: none"> for signal "0" residual current, max. 	1.5 mA; PP-switching: max. 1.5 mA; PM-switching: max. 1 mA
Switching frequency	
<ul style="list-style-type: none"> with resistive load, max. 	10 Hz; Symmetrical
<ul style="list-style-type: none"> with inductive load, max. 	0.1 Hz; according to IEC 60947-5-1, DC-13, symmetrical
<ul style="list-style-type: none"> on lamp load, max. 	4 Hz; Symmetrical
Total current of the outputs	
<ul style="list-style-type: none"> Current per channel, max. 	8 A; note derating data in the manual
<ul style="list-style-type: none"> Current per module, max. 	8 A; note derating data in the manual
Cable length	
<ul style="list-style-type: none"> shielded, max. 	1 000 m
<ul style="list-style-type: none"> unshielded, max. 	500 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes; See Chapter "Alarms/diagnostic messages" in the manual
Substitute values connectable	No
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes
<ul style="list-style-type: none"> Hardware interrupt 	No
Diagnostics indication LED	

- RUN LED
- ERROR LED
- Monitoring of the supply voltage (PWR-LED)
- Channel status display
- for channel diagnostics
- for module diagnostics

Yes; green LED
 Yes; red LED
 Yes; green PWR LED
 Yes; green LED
 Yes; red LED
 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)
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Standards, approvals, certificates

Suitable for safety functions	Yes
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Ecological footprint

• environmental product declaration	Yes
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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

Altitude during operation relating to sea level

• Installation altitude above sea level, max.	4 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP System Manual
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Dimensions

Width	20 mm
Height	73 mm
Depth	58 mm

Weights

Weight, approx.	70 g
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Classifications

	Version	Classification
eClass	14	27-24-26-11
eClass	12	27-24-26-11
eClass	9.1	27-24-26-11
eClass	9	27-24-26-11
eClass	8	27-24-26-11
eClass	7.1	27-24-26-11
eClass	6	27-24-26-11
ETIM	10	EC002583
ETIM	9	EC002583
ETIM	8	EC002583
ETIM	7	EC002583
IDEA	4	3575
UNSPSC	15	32-15-17-06

Approvals / Certificates

General Product Approval

[Miscellaneous](#)



[Manufacturer Declaration](#)



For use in hazardous locations



[CCC-Ex](#)

[FM](#)



[Type Examination Certificate](#)



For use in hazardous locations

Functional Safety

Maritime application

[Miscellaneous](#)

[TUEV](#)

[Type Examination Certificate](#)



Maritime application

Industrial Communication



[NK / Nippon Kaiji Kyokai](#)



[CCS \(China Classification Society\)](#)



[PROFIsafe](#)

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