



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-coded label	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 STEP 7 configurable/integrated from version PROFINET from GSD version/GSD revision 	V12 V5.5 SP3 / - 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	
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 Short-circuit protection Output current, max. 	Yes; min. L+ (-1.5 V) Yes 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 Outputs 	7 byte 5 byte
Hardware configuration	
Automatic encoding	Yes

• Electronic coding element type F	Yes
Digital inputs	
Number of digital inputs	2
Sourcing/sinking 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	
• 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	
• shielded, max.	1 000 m
• unshielded, max.	500 m
Digital outputs	
Number of digital outputs	1
Digital outputs, parameterizable	Yes
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	Max. -1.5 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	

• 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	
Probability of failure (for service life of 20 years and repair time of 100 hours)		
— Low demand mode: PFDavg in accordance with SIL2	< 2.00E-04	
— Low demand mode: PFDavg in accordance with SIL3	< 2.00E-05	
— High demand/continuous mode: PFH in accordance with SIL2	< 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.	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	
Dimensions		
Width	20 mm	
Height	73 mm	
Depth	58 mm	
Weights		
Weight, approx.	70 g	
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



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