

SIMATIC DP, ELECTRONIC MODULE F. ET 200S, 1 COUNT
24V/100KHZ 15 MM WIDE, OPERATION MODES: COUNT,
MEASURE, (PERIOD DURATION MEASUREMENT HIGH
RESOLUTION) WITH CLOCK CYCLIC SYNCHRON.APP

Supply voltage

Load voltage L+

- | | |
|---------------------------------------|--------|
| • 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

- | | |
|---|-------|
| from load voltage L+ (without load), max. | 42 mA |
| from backplane bus 3.3 V DC, max. | 10 mA |

Encoder supply

24 V encoder supply

- | | |
|----------------------------|------------------|
| • 24 V | Yes; L+ (-0.8 V) |
| • Short-circuit protection | Yes |
| • Output current, max. | 500 mA |

Power loss

- | | |
|------------------|-----|
| Power loss, typ. | 1 W |
|------------------|-----|

Hardware configuration

Module exchange

- | | |
|---|-----|
| • Module exchange during operation of the IM-DP | Yes |
| • Module exchange under process voltage | Yes |

Digital inputs

- | | |
|---|-----------------------------------|
| Number of digital inputs | 1 |
| Functions | Counting signal and digital input |
| Input characteristic curve in accordance with IEC 61131, type 2 | Yes |

Input voltage

- | | |
|--------------------|-------------|
| • Rated value (DC) | 24 V |
| • for signal "0" | -30 to +5V |
| • for signal "1" | +11 to +30V |

Input current

• for signal "0", max. (permissible quiescent current)	2 mA
• for signal "1", typ.	9 mA
Cable length	
• shielded, max.	100 m; Filter 20 kHz: 100 m, filter 200 kHz: 50 m
Digital outputs	
Number of digital outputs	1
Short-circuit protection	Yes
• Response threshold, typ.	2.6 A to 4 A
Limitation of inductive shutdown voltage to	L+ (-50 to -60 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	10 W
Output voltage	
• Rated value (DC)	24 V
• for signal "0", max.	3 V
• for signal "1", min.	L+ (-1 V)
Output current	
• for signal "1" rated value	2 mA; 2 A (40 °C); 1 A (50 °C); 0.5 A (60 °C)
• for signal "1" permissible range for 0 to 40 °C, min.	5 mA
• for signal "1" permissible range for 0 to 40 °C, max.	2 A
• for signal "1" permissible range for 0 to 60 °C, min.	5 mA
• for signal "1" permissible range for 0 to 60 °C, max.	0.5 mA; 1 A at 50 °C
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", max.	100 µs
Switching frequency	
• with resistive load, max.	100 Hz
• with inductive load, max.	2 Hz
• on lamp load, max.	10 Hz
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Encoder	
Connectable encoders	
• Incremental encoder (asymmetrical)	Yes
• 24 V initiator	Yes
• 2-wire sensor	Yes; Type 2

Interrupts/diagnostics/status information	
Diagnostic functions	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
• Status indicator digital input (green)	Yes
• Status indicator digital output (green)	Yes
• Status indicator backward counting (green)	Yes
• Status indicator forward counting (green)	Yes
Integrated Functions	
Measuring functions	
Measuring range	
— Frequency measurement, min.	0.1 Hz
— Frequency measurement, max.	100 kHz
— Cycle duration measurement, min.	10 µs
— Cycle duration measurement, max.	120 s
— Speed measurement, min.	1 1/min
— Speed measurement, max.	25 000 1/min
Counter	
Number of counter inputs	1; 32 bit
Minimum pulse width	2.5 µs; Filter off: 2.5 µs (200 kHz), filter on: 25 µs (20 kHz)
Parameter	
Remark	16 byte
Potential separation	
Potential separation digital inputs	
• Potential separation digital inputs	No; only opposite shielding
Potential separation counter	
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	No
Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm
Weights	
Weight, approx.	40 g
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