

SIMATIC DP, Electronics module for ET 200S, 1 count 24 V/100 kHz  
 15 mm installation width, operating modes: Count, Measure, (cycle  
 duration measurement, high-resolution) with clock synchronization



Figure similar

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	
<ul style="list-style-type: none"> <li>Module exchange during operation of the IM-DP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Module exchange under process voltage</li> </ul>	Yes
Digital inputs	
Number of digital inputs	1
Functions	Gate control, synchronization, latch function
Input characteristic curve in accordance with IEC 61131, type 2	Yes
Input voltage	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>for signal "0"</li> </ul>	-30 to +5 V
<ul style="list-style-type: none"> <li>for signal "1"</li> </ul>	+11 to +30V
Input current	
<ul style="list-style-type: none"> <li>for signal "0", max. (permissible quiescent current)</li> </ul>	2 mA
<ul style="list-style-type: none"> <li>for signal "1", typ.</li> </ul>	9 mA
Input delay (for rated value of input voltage)	
for standard inputs	
<ul style="list-style-type: none"> <li>at "0" to "1", max.</li> </ul>	2.5 $\mu$ s; Filter off: 2.5 $\mu$ s (200 kHz), filter on: 25 $\mu$ s (20 kHz)
Cable length	
<ul style="list-style-type: none"> <li>shielded, max.</li> </ul>	100 m; Filter 20 kHz: 100 m, filter 200 kHz: 50 m
Digital outputs	
Number of digital outputs	1
Short-circuit protection	Yes
<ul style="list-style-type: none"> <li>Response threshold, typ.</li> </ul>	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	
<ul style="list-style-type: none"> <li>on lamp load, max.</li> </ul>	5 W
Output voltage	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>for signal "0", max.</li> </ul>	3 V
<ul style="list-style-type: none"> <li>for signal "1", min.</li> </ul>	L+ (-1 V)
Output current	
<ul style="list-style-type: none"> <li>for signal "1" permissible range for 0 to 40 °C, min.</li> </ul>	5 mA
<ul style="list-style-type: none"> <li>for signal "1" permissible range for 0 to 40 °C, max.</li> </ul>	2 000 mA
<ul style="list-style-type: none"> <li>for signal "1" permissible range for 0 to 60 °C, min.</li> </ul>	5 mA

<ul style="list-style-type: none"> <li>• for signal "1" permissible range for 0 to 60 °C, max.</li> </ul>	500 mA; 1 000 mA at 50 °C
<ul style="list-style-type: none"> <li>• for signal "0" residual current, max.</li> </ul>	0.5 mA
<b>Output delay with resistive load</b>	
<ul style="list-style-type: none"> <li>• "0" to "1", max.</li> </ul>	100 µs
<b>Switching frequency</b>	
<ul style="list-style-type: none"> <li>• with resistive load, max.</li> </ul>	100 Hz
<ul style="list-style-type: none"> <li>• with inductive load, max.</li> </ul>	2 Hz
<ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>	10 Hz
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	1 000 m
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	600 m
<b>Encoder</b>	
Number of connectable encoders, max.	1
<b>Connectable encoders</b>	
<ul style="list-style-type: none"> <li>• Incremental encoder (asymmetrical)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• 24 V initiator</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• 2-wire sensor</li> </ul>	Yes
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• Group error SF (red)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Status indicator digital input (green)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Status indicator digital output (green)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Status indicator forward counting (green)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Status indicator backward counting (green)</li> </ul>	Yes
<b>Integrated Functions</b>	
<b>Measuring functions</b>	
<b>Measuring range</b>	
— 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
<b>Counter</b>	
Number of counter inputs	1; 32 bit
<b>Parameter</b>	
Remark	16 byte
<b>Potential separation</b>	

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
<b>last modified:</b>	05/13/2020