

SIMATIC DP, ELECTRONIC MODULE FOR ET 200S, 1 COUNT 5V/500KHZ FOR CONNECTING RS442 INCREMENTAL ENCODERS, OPERATION MODES: MEASURE, COUNT 30MM WIDE, SINGLE CHANNEL WITH CLOCK CYCLIC SYNCHRON.APP



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.	45 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.	2 W

Hardware configuration	
<b>Module exchange</b>	
• Module exchange during operation of the IM-DP	Yes
• Module exchange under process voltage	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
<b>Input voltage</b>	
• Rated value (DC)	24 V
• for signal "0"	-30 to +5V
• for signal "1"	+11 to +30V
<b>Input current</b>	
• for signal "0", max. (permissible quiescent current)	2 mA
• for signal "1", typ.	9 mA
<b>Input delay (for rated value of input voltage)</b>	
for standard inputs	
— at "0" to "1", max.	2.5 µs
<b>Cable length</b>	
• shielded, max.	50 m
Digital outputs	
Number of digital outputs	2
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
<b>Switching capacity of the outputs</b>	
• on lamp load, max.	10 W
<b>Output voltage</b>	
• Rated value (DC)	24 V
• for signal "0", max.	3 V
• for signal "1", min.	L+ (-1 V)
<b>Output current</b>	
• for signal "1" rated value	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.	2.4 A
• for signal "0" residual current, max.	0.5 mA

<b>Output delay with resistive load</b>	
• "0" to "1", max.	100 µs
<b>Switching frequency</b>	
• with resistive load, max.	100 Hz
• with inductive load, max.	2 Hz
• on lamp load, max.	10 Hz
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m

<b>Encoder</b>	
Number of connectable encoders, max.	1
<b>Connectable encoders</b>	
• Incremental encoder (symmetrical)	Yes
<b>Encoder signals, incremental encoder (symmetrical)</b>	
• Trace mark signals	A, notA, B, notB, A and B offset by 90°
• Zero mark signal	N, notN
<b>Encoder signal 5 V</b>	
— Signal level	to RS-422
— Terminating resistor	330 Ω
— Differential input voltage, min.	1 V
— Input frequency, max.	650 kHz
— Cable length, shielded, max.	50 m; > 500 kHz: 30 m

<b>Interrupts/diagnostics/status information</b>	
Diagnostic functions	Yes
<b>Diagnostics indication LED</b>	
• 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
• Synchronization SYN (green)	Yes

<b>Integrated Functions</b>	
<b>Measuring functions</b>	
<b>Measuring range</b>	
— Frequency measurement, min.	0.1 Hz
— Frequency measurement, max.	500 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
Parameter	
Remark	16 byte
Potential separation	
Potential separation digital inputs	
<ul style="list-style-type: none"> <li>Potential separation digital inputs</li> </ul>	No; only opposite shielding
Potential separation counter	
<ul style="list-style-type: none"> <li>between the channels and backplane bus</li> <li>Between the channels and load voltage L+</li> </ul>	Yes No
Dimensions	
Width	30 mm
Height	81 mm
Depth	52 mm
Weights	
Weight, approx.	65 g
<b>last modified:</b>	03/09/2017