



SIMATIC DP, Electronics module for ET 200S, 1 count 5 V/500 kHz connection of RS422 incremental encoders, operating modes: Measure, Count, 30 mm installation width, 1-channel with clock synchronization

Figure similar

Supply voltage	
Load voltage L+	
<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> permissible range, lower limit (DC) 	20.4 V
<ul style="list-style-type: none"> permissible range, upper limit (DC) 	28.8 V
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> 24 V 	Yes; L+ (-0.8 V)
<ul style="list-style-type: none"> Short-circuit protection 	Yes
<ul style="list-style-type: none"> Output current, max. 	500 mA
Power loss	
Power loss, typ.	2 W
Hardware configuration	
Module exchange	
<ul style="list-style-type: none"> Module exchange during operation of the IM-DP 	Yes
<ul style="list-style-type: none"> 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
Input voltage	
<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" 	+11 to +30V
Input current	
<ul style="list-style-type: none"> for signal "0", max. (permissible quiescent current) 	2 mA
<ul style="list-style-type: none"> for signal "1", typ. 	9 mA
Input delay (for rated value of input voltage)	
for standard inputs	
<ul style="list-style-type: none"> at "0" to "1", max. 	2.5 μ s
Cable length	

• 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
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 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
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	
Number of connectable encoders, max.	1
Connectable encoders	
• Incremental encoder (symmetrical)	Yes
Encoder signals, incremental encoder (symmetrical)	
• Trace mark signals	A, notA, B, notB, A and B offset by 90°
• Zero mark signal	N, notN
Encoder signal 5 V	
— 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
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
• Status indicator digital input (green)	Yes
• Status indicator digital output (green)	Yes
• Status indicator forward counting (green)	Yes
• Status indicator backward counting (green)	Yes
• Synchronization SYN (green)	Yes
Integrated Functions	
Measuring functions	
Measuring range	
— 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"> Potential separation digital inputs 	No; only opposite shielding
Potential separation counter	
<ul style="list-style-type: none"> between the channels and backplane bus Between the channels and load voltage L+ 	Yes No
Dimensions	
Width	30 mm
Height	81 mm
Depth	52 mm
Weights	
Weight, approx.	65 g
last modified:	1/16/2021 