



Figure similar

SIMATIC ET 200SP, TM PTO 2x24 V, interface module for stepper drives, 2 channels pulse train output, PTO: 24 V, 2 DI, 1 DQ 24 V DC per channel, suitable for BU type A0

General information	
Product type designation	TM PTO 2x24V
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC00
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>	Yes
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	STEP 7 V17 with HSP or higher
<ul style="list-style-type: none"> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	One GSD file each, Revision 3 and 5 and higher
<ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>	GSDML V2.35
Supply voltage	
Rated value (DC)	24 V
Load voltage L+	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>permissible range, lower limit (DC)</li> </ul>	19.2 V
<ul style="list-style-type: none"> <li>permissible range, upper limit (DC)</li> </ul>	28.8 V
<ul style="list-style-type: none"> <li>Reverse polarity protection</li> </ul>	Yes
Input current	
Current consumption, max.	50 mA; without load
Power loss	
Power loss, typ.	1.5 W
Address area	
Address space per module	
<ul style="list-style-type: none"> <li>Inputs</li> </ul>	32 byte
<ul style="list-style-type: none"> <li>Outputs</li> </ul>	16 byte
Hardware configuration	
Automatic encoding	Yes
<ul style="list-style-type: none"> <li>Mechanical coding element</li> </ul>	Yes
Digital inputs	
Number of digital inputs	6; 3 per channel
Digital inputs, parameterizable	Yes
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Digital input functions, parameterizable	
<ul style="list-style-type: none"> <li>Synchronization</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Probe</li> </ul>	Yes

• Drive ready	Yes
<b>Input voltage</b>	
• Rated value (DC)	24 V
• for signal "0"	-5 ... +5 V
• for signal "1"	+11 to +30V
• permissible voltage at input, min.	-30 V; -5 V continuous, -30 V brief reverse polarity protection
• permissible voltage at input, max.	30 V
<b>Input current</b>	
• for signal "1", typ.	2.5 mA
<b>Input delay (for rated value of input voltage)</b>	
for standard inputs	
— parameterizable	Yes; none / 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms
— at "0" to "1", min.	6 µs; for parameterization "none"
— at "1" to "0", min.	6 µs; for parameterization "none"
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Digital outputs</b>	
Number of digital outputs	6; 3 per channel
Current-sinking	Yes; For 24 V PTO outputs
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes; electronic/thermal
• Response threshold, typ.	1 A
Controlling a digital input	Yes
<b>Digital output functions, parameterizable</b>	
• PTO (pulse train output) signal interface	Yes
— 24 V asymmetrical	Yes
• PTO (pulse train output) signal type	
— Pulse and direction	Yes
— Count up, count down	Yes
— Incremental encoder (A, B phase shift)	Yes
— Incremental encoder (A, B phase shift, quadruple)	Yes
<b>Switching capacity of the outputs</b>	
• with resistive load, max.	0.1 A; 0.5 A for CHn.ED
• on lamp load, max.	1 W; 5 W for CHn.ED
<b>Load resistance range</b>	
• lower limit	240 Ω; 48 ohms for CHn.ED
• upper limit	12 kΩ
<b>Output voltage</b>	
• for signal "1", min.	23.2 V; L+ (-1.3 V), L+ (-0.8 V) for CHn.ED
<b>Output current</b>	
• for signal "1" rated value	0.1 A; 0.5 A for CHn.ED
• for signal "1" permissible range, max.	0.12 A; 0.6 A for CHn.ED
• for signal "1" minimum load current	2 mA
• for signal "0" residual current, max.	0.5 mA
<b>Switching frequency</b>	
• with resistive load, max.	10 kHz
• with inductive load, max.	0.5 Hz; According to IEC 60947-5-1, DC-13
• on lamp load, max.	10 Hz
• For signal interface 24 V asymmetrical	200 kHz; For 24 V PTO outputs
<b>Total current of the outputs</b>	
• Current per module, max.	1.4 A
<b>Cable length</b>	
• shielded, max.	600 m; Up to 10 kHz, 50 m at 200 kHz
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnoses</b>	

• Monitoring the supply voltage	Yes
• Short-circuit	Yes
<b>Diagnostics indication LED</b>	
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• Channel status display	Yes; green LED
• for module diagnostics	Yes; green/red DIAG LED
<b>Potential separation</b>	
<b>Potential separation channels</b>	
• between the channels and backplane bus	Yes
<b>Isolation</b>	
Isolation tested with	707 V DC (type test)
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• horizontal installation, min.	-30 °C
• horizontal installation, max.	60 °C; Observe derating
• vertical installation, min.	-30 °C
• vertical installation, max.	50 °C; Observe derating
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
<b>Decentralized operation</b>	
to SIMATIC S7-300	Yes; Via control and feedback interface
to SIMATIC S7-400	Yes; Via control and feedback interface
to SIMATIC S7-1200	Yes
to SIMATIC S7-1500	Yes
to standard PROFIBUS master	Yes; Via control and feedback interface
to standard PROFINET controller	Yes; Via control and feedback interface
<b>Dimensions</b>	
Width	15 mm
Height	73 mm
Depth	58 mm
<b>Weights</b>	
Weight, approx.	45 g
<b>last modified:</b>	3/2/2022 