



SIMATIC ET 200SP, CM 4xIO-Link ST Communication module IO-Link Master V1.1

General information	
Product type designation	CM 4 x IO-Link ST
HW functional status	FS20
Firmware version	V2.2.2
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC04
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>	No; Only for PROFINET and configuration as version with FW V2.0 or V2.1
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	STEP 7 V15 or higher
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>	STEP 7 V5.5 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 V2.3
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V; 20.5 V if IO-Link is used, as the supply voltage for IO-Link devices has to be at least 20 V at the master.
permissible range, upper limit (DC)	28.8 V
power supply according to NEC Class 2 required	No
Input current	
Current consumption, max.	45 mA; without load
Encoder supply	
Number of outputs	4
Output current	
<ul style="list-style-type: none"> <li>Rated value</li> </ul>	700 mA; Per channel
24 V encoder supply	
<ul style="list-style-type: none"> <li>Short-circuit protection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Output current, max.</li> </ul>	2.1 A
Power loss	
Power loss, typ.	1 W
Hardware configuration	
Automatic encoding	Yes
<ul style="list-style-type: none"> <li>Electronic coding element type H</li> </ul>	Yes
Digital outputs	
Cable length	

<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	20 m; Also applies for shielded cables
<b>IO-Link</b>	
Number of ports	4
<ul style="list-style-type: none"> <li>• of which simultaneously controllable</li> </ul>	4
IO-Link protocol 1.0	Yes
IO-Link protocol 1.1	Yes
Transmission rate	4.8 kBaud (COM1); 38.4 kBaud (COM2), 230.4 kBaud (COM3)
Cycle time, min.	2 ms; dynamic, depending on user data length
Size of process data, input per port	32 byte; max.
Size of process data, input per module	144 byte; max.
Size of process data, output per port	32 byte; max.
Size of process data, output per module	128 byte; max.
Memory size for device parameter	2 kbyte; for each port
Master backup	Yes
Configuration without S7-PCT	Yes
Cable length unshielded, max.	20 m
<b>Operating modes</b>	
<ul style="list-style-type: none"> <li>• IO-Link</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• DI</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• DQ</li> </ul>	Yes; max. 100 mA per channel
<b>Time Based IO</b>	
— TIO IO-Link IN	No; Only for PROFINET and configuration as version with FW V2.0 or V2.1
— TIO IO-Link OUT	No; Only for PROFINET and configuration as version with FW V2.0 or V2.1
— TIO IO-Link IN/OUT	No; Only for PROFINET and configuration as version with FW V2.0 or V2.1
<b>Connection of IO-Link devices</b>	
<ul style="list-style-type: none"> <li>• Port type A</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Port type B</li> </ul>	Yes; 24 V DC via external terminal
<ul style="list-style-type: none"> <li>• via three-wire connection</li> </ul>	Yes
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>	Yes; The port diagnosis is available in the IO-Link mode only.
<b>Diagnoses</b>	
<ul style="list-style-type: none"> <li>• Monitoring the supply voltage</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Wire-break</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Short-circuit</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Group error</li> </ul>	Yes
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; green PWR LED
<ul style="list-style-type: none"> <li>• Channel status display</li> </ul>	Yes; one green LED for channel status Qn (SIO mode) and port status Cn (IO-Link mode) per channel
<ul style="list-style-type: none"> <li>• for channel diagnostics</li> </ul>	Yes; red Fn LED
<ul style="list-style-type: none"> <li>• for module diagnostics</li> </ul>	Yes; green/red DIAG LED
<b>Potential separation</b>	
<b>Potential separation channels</b>	
<ul style="list-style-type: none"> <li>• between the channels</li> </ul>	No
<ul style="list-style-type: none"> <li>• between the channels and backplane bus</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• between the channels and the power supply of the electronics</li> </ul>	No
<b>Isolation</b>	
Isolation tested with	707 V DC (type test)
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>• horizontal installation, min.</li> </ul>	-30 °C
<ul style="list-style-type: none"> <li>• horizontal installation, max.</li> </ul>	60 °C
<ul style="list-style-type: none"> <li>• vertical installation, min.</li> </ul>	-30 °C
<ul style="list-style-type: none"> <li>• vertical installation, max.</li> </ul>	50 °C
<b>Altitude during operation relating to sea level</b>	
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> </ul>	2 000 m; On request: Installation altitudes greater than 2 000 m

Dimensions	
Width	13 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	30 g
<b>last modified:</b>	3/22/2022 