



SIMATIC ET 200SP, PROFINET, 3-port interface module, IM 155-6PN/3 High Feature, 2 slots for BusAdapter, max. 64 I/O modules and 16 ET 200AL modules, S2 redundancy, multi-hotswap, 0.25 ms, isochronous mode, optional PN strain relief, including server module

General information	
Product type designation	IM 155-6 PN/3 HF
HW functional status	From FS02
Firmware version	V4.2
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
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>Module swapping during operation (hot swapping)</li> </ul>	Yes; Multi-hot swapping
<ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Tool changer</li> </ul>	Yes; Docking station and docking unit
<ul style="list-style-type: none"> <li>Local coupling, IO data</li> </ul>	Yes
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Number of coupling modules</li> </ul> </li> </ul>	16
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Number of coupling submodules per module</li> </ul> </li> </ul>	4
<ul style="list-style-type: none"> <li>Local coupling, data records</li> </ul>	No
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V15.1
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>	Configurable via GSD file
<ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>	GSDML V2.3
Configuration control	
via dataset	Yes
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Mains buffering	
<ul style="list-style-type: none"> <li>Mains/voltage failure stored energy time</li> </ul>	10 ms
Input current	
Current consumption (rated value)	175 mA; At 24 V, 2 slots 2x RJ45 BusAdapter, no I/O modules
Current consumption, max.	950 mA
Inrush current, max.	9 A
$I^2t$	0.34 A <sup>2</sup> ·s
Power loss	
Power loss, typ.	4.9 W
Address area	
Address space per module	
<ul style="list-style-type: none"> <li>Address space per module, max.</li> </ul>	288 byte; For input and output data respectively
Address space per station	

• Address space per station, max.	1 440 byte; Dependent on configuration
<b>Hardware configuration</b>	
<b>Rack</b>	
• Quantity of operable ET 200SP modules, max.	64
• Quantity of operable ET 200AL modules, max.	16
<b>Submodules</b>	
• Number of submodules per station, max.	256
<b>Interfaces</b>	
Number of PROFINET interfaces	1; 3 ports (switch)
<b>1. Interface</b>	
<b>Interface types</b>	
• Number of ports	3; Via 2 BusAdapter slots
• integrated switch	Yes
• BusAdapter (PROFINET)	Yes; Compatible BusAdapter: BA 2x RJ45, BA 2x FC, BA 2x SCRJ, BA SCRJ / RJ45, BA SCRJ / FC, BA 2x LC, BA LC / RJ45, BA LC / FC
<b>Protocols</b>	
• PROFINET IO Device	Yes
• Open IE communication	Yes
• Media redundancy	Yes; PROFINET MRP
<b>Interface types</b>	
<b>RJ 45 (Ethernet)</b>	
• Transmission procedure	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
• 10 Mbps	No
• 100 Mbps	Yes; PROFINET with 100 Mbit/s full duplex (100BASE-TX)
• Autonegotiation	Yes
• Autocrossing	Yes
<b>Protocols</b>	
<b>Number of connections</b>	
• Number of MtM communication relationships/connections, max.	16
<b>PROFINET IO Device</b>	
<b>Services</b>	
— IRT	Yes; 250 $\mu$ s, 500 $\mu$ s, 1 ms, 2 ms, 4 ms additionally with IRT with high performance: 250 $\mu$ s to 4 ms in 125 $\mu$ s frame
— PROFIenergy	Yes
— Prioritized startup	Yes
— Shared device	Yes
— Number of IO Controllers with shared device, max.	4
<b>Redundancy mode</b>	
• PROFINET system redundancy (S2)	Yes; NAP S2
• Redundant PROFINET configuration (R1)	No
• H-Sync forwarding	Yes
<b>Media redundancy</b>	
— MRP	Yes
— MRPD	No
<b>Open IE communication</b>	
• TCP/IP	Yes
• SNMP	Yes
• LLDP	Yes
<b>Isochronous mode</b>	
Equidistance	Yes
shortest clock pulse	250 $\mu$ s
max. cycle	4 ms
Bus cycle time (TDP), min.	250 $\mu$ s
Jitter, max.	1 $\mu$ s
<b>Interrupts/diagnostics/status information</b>	
Status indicator	Yes
Alarms	Yes
Diagnostics function	Yes

<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• RUN LED</li> <li>• ERROR LED</li> <li>• MAINT LED</li> <li>• Monitoring of the supply voltage (PWR-LED)</li> <li>• Connection display LINK TX/RX</li> </ul>	<ul style="list-style-type: none"> <li>Yes; green LED</li> <li>Yes; red LED</li> <li>Yes; Yellow LED</li> <li>Yes; green PWR LED</li> <li>Yes; 2x green link LEDs on BusAdapter</li> </ul>
<b>Potential separation</b>	
between backplane bus and electronics	No
between PROFINET and all other circuits	Yes
between supply and all other circuits	No
<b>Isolation</b>	
Isolation tested with	707 V DC (type test)
<b>Standards, approvals, certificates</b>	
Network loading class	3
Security level	According to Security Level 1 Test Cases V1.1.1
<b>Ambient conditions</b>	
Ambient temperature during operation	
<ul style="list-style-type: none"> <li>• horizontal installation, min.</li> <li>• horizontal installation, max.</li> <li>• vertical installation, min.</li> <li>• vertical installation, max.</li> </ul>	<ul style="list-style-type: none"> <li>-30 °C</li> <li>60 °C</li> <li>-30 °C</li> <li>50 °C</li> </ul>
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
<b>connection method / header</b>	
ET-Connection	
<ul style="list-style-type: none"> <li>• via BU/BA Send</li> </ul>	Yes; + 16 ET 200AL modules
<b>Mechanics/material</b>	
Strain relief	Yes; Optional
<b>Dimensions</b>	
Width	100 mm
Height	117 mm
Depth	74 mm
<b>Weights</b>	
Weight, approx.	220 g; without BusAdapter
<b>last modified:</b>	3/2/2021 