



SIMATIC ET 200SP MultiFieldbus interface module IM 155-6 MF High Feature, PN IO, Ethernet IP, Modbus TCP, max. 64 I/O modules and 16 ET 200AL modules, S2 redundancy, multi hot swap, 0.25 ms, isochronous mode, optional PN strain relief PN security class 1 including server module (6ES7193-6PA00-0AA0)

General information	
Product type designation	IM 155-6 MF HF
Firmware version	V6.4.1
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Vendor identification (VendorID)	002AH
Device identifier (DeviceID)	0313H
Manufacturer ID according to ODVA (VendorID)	0x04E3
Device ID according to ODVA (Product code)	0FA2H
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> <li>Module swapping during operation (hot swapping)</li> <li>Isochronous mode</li> <li>IRT</li> <li>Tool changer</li> <li>Local coupling, IO data                             <ul style="list-style-type: none"> <li>Number of coupling modules</li> </ul> </li> </ul>	Yes; I&M0 to I&M4 Yes; Multi-hot swapping Yes Yes Yes; Docking station and docking unit Yes 6; 1x output + max. 5x input
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> <li>STEP 7 configurable/integrated from version</li> <li>PROFINET from GSD version/GSD revision</li> <li>Multi Fieldbus Configuration Tool (MFCT)</li> </ul>	V20 V5.7 SP3 GSDML V2.45 V1.5.2.0 or higher
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
Short-circuit 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)	550 mA
Current consumption, max.	650 mA
Inrush current, max.	1 A
I <sup>2</sup> t	0.05 A <sup>2</sup> ·s
Power loss	
Power loss, typ.	2 W
Address area	

<b>Address space per module</b>	
• Address space per module, max.	288 byte; For input and output data respectively
<b>Address space per station</b>	
• Address space per station, max.	1 440 byte
<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>	
Transmission procedure	100BASE-TX
Number of PROFINET interfaces	1; 2 ports (switch)
<b>1. Interface</b>	
<b>Interface types</b>	
• RJ 45 (Ethernet)	Yes; with BusAdapter
• Number of ports	2; with BusAdapter
• integrated switch	Yes
• BusAdapter (PROFINET)	Yes; BA 2x RJ45, BA 2x M12, BA 2x FC
<b>Protocols</b>	
• PROFINET IO Device	Yes
• Open IE communication	Yes
• Media redundancy	Yes; PROFINET MRP client
<b>PROFINET IO Device</b>	
<b>Services</b>	
— IRT	Yes; 250 µs to 4 ms in 125 µs frame
— Dynamic Frame Packing (DFP)	Yes
— Fast Forwarding	Yes
— Fragmentation	Yes
— PROFIenergy	Yes
— Prioritized startup	Yes
— Shared device	Yes
— Number of IO Controllers with shared device, max.	14; 2x PN controller + 2x EtherNet/IP scanner + 10x Modbus TCP master
<b>Interface types</b>	
<b>RJ 45 (Ethernet)</b>	
• Transmission procedure	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
• 100 Mbps	Yes
• Autonegotiation	Yes
• Autocrossing	Yes
<b>Protocols</b>	
Supports protocol for PROFINET IO	Yes
PROFIsafe	Yes
PROFIBUS	No
EtherNet/IP	Yes
Modbus TCP	Yes
<b>Number of connections</b>	
• Number of MtM communication relationships/connections, max.	16
<b>Redundancy mode</b>	
• PROFINET system redundancy (S2)	Yes; NAP S2
• PROFINET system redundancy (R1)	No
• H-Sync forwarding	Yes
<b>Media redundancy</b>	
— MRP	Yes
— MRPD	Yes
<b>EtherNet/IP</b>	
<b>Services</b>	
— CIP Implicit Messaging	Yes
— CIP Explicit Messaging	Yes

— CIP Safety	No
— Configuration control via Explicit Messaging	No
— Shared device	Yes; 2x PN controller + 2x EtherNet/IP scanner + 10x Modbus TCP master
— Number of scanners with shared device, max.	2
<b>Updating times</b>	
— Requested Packet Interval (RPI)	2 ms
<b>Address area</b>	
— Address space per module, max.	288 byte; (246 byte outputs / 288 byte inputs)
— ForwardOpen (Class1 & 32 bit Header)	500 byte; (246 byte outputs / 500 byte inputs)
— LargeForwardOpen (Class3)	4 002 byte
<b>Connections</b>	
— Number of rack connections	2
<b>Modbus TCP</b>	
<b>Services</b>	
— read coils (code=1)	Yes
— read discrete inputs (code=2)	Yes
— Read Holding Registers (Code=3)	Yes
— Read Input Register (Code=4)	Yes
— write single coil (code=5)	Yes
— Write Single Register (Code=6)	Yes
— write multiple coils (code=15)	Yes
— Write Multiple Registers (Code=16)	Yes
— Read/Write Multiple Registers (Code=23)	Yes
— Parameter change by master	Yes
— Modbus TCP Security Protocol	No
<b>Address space per station</b>	
— Address space per station, max.	500 byte; (246 byte outputs / 500 byte inputs)
— Access-consistent address space	250 byte; (246 byte outputs / 250 byte inputs)
<b>Updating time</b>	
— I/O request interval	2 ms
<b>Connections</b>	
— number of connections per device	9; (1x inputs / 2x outputs / 4x volatile registers / 2x Device Info)
<b>Open IE communication</b>	
• TCP/IP	Yes
• UDP	Yes
• SNMP	Yes
• LLDP	Yes
• ARP	Yes
• IGMP	Yes
• Multicast	Yes
• Broadcast	Yes
• IPv4	Yes
• IPv6	No
<b>Isochronous mode</b>	
Equidistance	Yes
shortest clock pulse	250 µs
max. cycle	4 ms
Bus cycle time (TDP), min.	250 µs
Jitter, max.	1 µs
<b>Interrupts/diagnostics/status information</b>	
Status indicator	Yes
Alarms	Yes
Diagnostics function	Yes
<b>Diagnostics indication LED</b>	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• MAINT LED	Yes; Yellow LED
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• NS LED	Yes; green/red LED

<ul style="list-style-type: none"> <li>• MS LED</li> <li>• IO LED</li> <li>• Connection display LINK TX/RX</li> </ul>	<p>Yes; green/red LED</p> <p>Yes; red-green-yellow LED</p> <p>Yes; 2x green link LEDs on BusAdapter</p>		
<b>Potential separation</b>			
between backplane bus and electronics	No		
between PROFINET and all other circuits	Yes; 1500 V AC (type test)		
between supply and all other circuits	No		
<b>Permissible potential difference</b>			
between different circuits	Safety extra low voltage SELV		
<b>Isolation</b>			
Isolation tested with	707 V DC (type test)		
<b>Standards, approvals, certificates</b>			
Network loading class	3		
<b>Security</b>			
PROFINET Security Class	1		
signed firmware update	Yes		
Secure Boot	No		
safely removing data	Yes		
data integrity	Yes		
<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>	<p>-30 °C; No condensation</p> <p>60 °C</p> <p>-30 °C; No condensation</p> <p>50 °C</p>		
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 ET 200SP system manual		
<b>Connection method</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	50 mm		
Height	117 mm		
Depth	74 mm		
<b>Weights</b>			
Weight, approx.	120 g; without BusAdapter		
<b>Classifications</b>			
		<b>Version</b>	<b>Classification</b>
	eClass	14	27-24-26-08
	eClass	12	27-24-26-08
	eClass	9.1	27-24-26-08
	eClass	9	27-24-26-08
	eClass	8	27-24-26-08
	eClass	7.1	27-24-26-08
	eClass	6	27-24-26-08
	ETIM	10	EC001604
	ETIM	9	EC001604
	ETIM	8	EC001604
	ETIM	7	EC001604
<b>Approvals / Certificates</b>			
<b>General Product Approval</b>			



[Manufacturer Declaration](#)

[Miscellaneous](#)

[PROFINET](#)



General Product Approval

For use in hazardous locations



[China RoHS](#)



For use in hazardous locations

[EM](#)

[CCC-Ex](#)



IECEx

[Miscellaneous](#)

[Type Examination Certificate](#)

For use in hazardous locations

Maritime application

[CCC-Ex](#)



LRS

[NK / Nippon Kaiji Kyokai](#)

Maritime application



[CCS \(China Classification Society\)](#)

[KR \(Korean Register of Shipping\)](#)

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