

Siemens
EcoTech



SIMATIC ET 200MP, multi-fieldbus interface module, IM 155-5 MF HF, EtherNet/IP and Modbus TCP, 2 flexible ports via plug-in SIMATIC BusAdapter (sold separately), max. 30 I/O modules, multi-hot-swap with active backplane (sold separately), IRT with 250 µs, shared device with 4 controllers (1440 bytes each), 256 bytes per I/O module, MRP, MRPD, S2 redundancy, PN security class 1, optional cable grip (sold separately) PN security class 1, optional cable grip (sold separately)

General information	
Product type designation	IM 155-5 MF HF
HW functional status	from FS01
Firmware version	V5.2.1
• FW update possible	Yes
Vendor identification (VendorID)	002AH
Device identifier (DeviceID)	0312H
Manufacturer ID according to ODVA (VendorID)	0x04E3
Device ID according to ODVA (Product code)	0x0FA3
Product function	
• I&M data	Yes; I&M0 to I&M3
• Module swapping during operation (hot swapping)	Yes; In combination with active backplane bus
• Isochronous mode	Yes
• IRT	Yes
• Tool changer	Yes; Docking station
• Local coupling, IO data	Yes
— Number of coupling modules	6; 1x output + max. 5x input
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V20 HSP0454
• STEP 7 configurable/integrated from version	use GSD file
• PROFINET from GSD version/GSD revision	GSDML V2.45
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	
• Mains/voltage failure stored energy time	10 ms
Input current	
Current consumption (rated value)	0.16 A; at 24 V DC and without load
Current consumption, max.	1.2 A
Inrush current, max.	13 A
I _{pt}	0.1 A ² ·s

Power	
Infeed power to the backplane bus	16 W
Power consumption from the backplane bus	3.4 W; in case of operation with separate system power supply to the left of IM
Power loss	
Power loss, typ.	4.3 W
Address area	
Address space per module	
• Address space per module, max.	256 byte; For input and output data respectively
Address space per station	
• Address space per station, max.	1 440 byte; For input and output data respectively
Hardware configuration	
Integrated power supply	Yes; 16 W
System power supply can be plugged in to left of IM	Yes; only with design with U-connectors
Number of permissible power segments	3; incl. interface module
Rack	
• Modules per rack, max.	30; I/O modules
Submodules	
• Number of submodules per station, max.	256; 9 per I/O module
Interfaces	
Number of PROFINET interfaces	1; 2 ports (switch)
1. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes; with BusAdapter
• Number of ports	2; with BusAdapter
• integrated switch	Yes
• BusAdapter (PROFINET)	Yes; BA 2x RJ45, BA 2x FC, BA 2x M12
Protocols	
• PROFINET IO Device	Yes
• Open IE communication	Yes
• Media redundancy	Yes; PROFINET MRP client / HRP client
PROFINET IO Device	
Services	
— IRT	Yes; 250 µs to 4 ms in 125 µs frame
— PROFIenergy	No
— Prioritized startup	No
— Shared device	Yes
— Number of IO Controllers with shared device, max.	4; for multi-fieldbus mixed operation: 2x PN controller + 2x EtherNet/IP scanner + 10x Modbus TCP master
Interface types	
RJ 45 (Ethernet)	
• Transmission procedure	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
• 100 Mbps	Yes
• Autonegotiation	Yes
• Autocrossing	Yes
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIsafe	Yes
PROFIBUS	No
EtherNet/IP	Yes
Modbus TCP	Yes
Redundancy mode	
• PROFINET system redundancy (S2)	Yes; NAP S2
— on S7-1500R/H	Yes
— on S7-400H	Yes; use GSD file
• PROFINET system redundancy (R1)	No
• H-Sync forwarding	Yes
Media redundancy	
— MRP	Yes
— MRPD	Yes

EtherNet/IP	
Services	
— CIP Implicit Messaging	Yes
— CIP Explicit Messaging	Yes
— CIP Safety	No
— Configuration control via Explicit Messaging	No
— Shared device	Yes; for multi-fieldbus mixed operation: 2x PN controller + 2x EtherNet/IP scanner + 10x Modbus TCP master
— Number of scanners with shared device, max.	2
Updating times	
— Requested Packet Interval (RPI)	2 ms
Address area	
— Address space per module, max.	256 byte; 246 byte outputs / 256 byte inputs
— ForwardOpen (Class1 & 32 bit Header)	500 byte; (246 byte outputs / 500 byte inputs)
— LargeForwardOpen (Class3)	4 002 byte
Connections	
— Number of rack connections	2
Modbus TCP	
Services	
— read coils (code=1)	Yes
— read discrete inputs (code=2)	Yes
— Read Holding Registers (Code=3)	Yes
— write single coil (code=5)	Yes
— write multiple coils (code=15)	Yes
— Write Multiple Registers (Code=16)	Yes
— Parameter change by master	Yes
— Modbus TCP Security Protocol	No
Address space per station	
— 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)
Updating time	
— I/O request interval	2 ms
Connections	
— number of connections per device	9; (1x inputs / 2x outputs / 4x volatile registers / 2x Device Info)
Open IE communication	
• TCP/IP	Yes
• UDP	Yes
• SNMP	Yes
• LLDP	Yes
• ARP	Yes
• IGMP	Yes
• Multicast	Yes
• Broadcast	Yes
• IPv4	Yes
• IPv6	No
Isochronous mode	
Equidistance	Yes
shortest clock pulse	250 µs
max. cycle	4 ms
Bus cycle time (TDP), min.	250 µs
Jitter, max.	1 µs
Interrupts/diagnostics/status information	
Status indicator	Yes
Alarms	Yes
Diagnostics function	Yes
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• MAINT LED	Yes; Yellow LED

• NS LED • MS LED • IO LED • Connection display LINK TX/RX	Yes; green/red LED Yes; green/red LED Yes; red-green-yellow LED Yes; 2x green LEDs on BusAdapter		
Potential separation			
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		
Permissible potential difference			
between different circuits	Safety extra low voltage SELV		
Isolation			
Isolation tested with	707 V DC (type test)		
Standards, approvals, certificates			
Siemens Eco Profile (SEP)	Siemens EcoTech		
Network loading class	3		
Ecological footprint			
• environmental product declaration	Yes		
Global warming potential			
— global warming potential, (total) [CO2 eq]	64.1 kg		
— global warming potential, (during production) [CO2 eq]	11.1 kg		
— global warming potential, (during operation) [CO2 eq]	53.6 kg		
— global warming potential, (after end of life cycle) [CO2 eq]	-0.669 kg		
Security			
PROFINET Security Class	1		
signed firmware update	Yes		
Secure Boot	Yes		
safely removing data	Yes		
data integrity	Yes		
Ambient conditions			
Ambient temperature during operation			
• horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max.	-30 °C 60 °C -30 °C 40 °C		
Altitude during operation relating to sea level			
• Installation altitude above sea level, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual		
Connection method			
ET-Connection			
• via BU/BA Send	No		
Mechanics/material			
Strain relief	Yes; Optional		
Dimensions			
Width	35 mm		
Height	147 mm		
Depth	129 mm		
Weights			
Weight, approx.	260 g; without BusAdapter		
Classifications			
		Version	Classification
	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

Approvals / Certificates

General Product Approval



General Product Approval EMV For use in hazardous locations



For use in hazardous locations Maritime application



Maritime application



other Environment Industrial Communication



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