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Data sheet 6ES7155-5MU00-0CN0



SIMATIC ET 200MP, multi-fieldbus interface module IM 155-5 MF HF, multi-fieldbus (PROFINET, 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, isochronous mode, shared device with 4 controllers (each with 1440 bytes), 256 bytes per I/O module, MRP, MRPD, S2 redundancy, CiR, 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	V5.3.1
● 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&M4
● 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 MSO local output + max. 5x MSO local input
Engineering with	
● STEP 7 configurable/integrated from version	use GSD file
● PROFINET from GSD version/GSD revision	GSDML V2.45
Configuration control	
via dataset	Yes
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
reconfiguration possible in RUN	Yes; add IO device only
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^2t	0.1 $A^2 \cdot s$
Power	

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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	
Transmission procedure	100BASE-TX
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
— Dynamic Frame Packing (DFP)	No
— 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

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— 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

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● MAINT LED	Yes; Yellow LED
● NS LED	Yes; green/red LED
● MS LED	Yes; green/red LED
● IO LED	Yes; red-green-yellow LED
● Connection display LINK TX/RX	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
securely removing data	Yes
data integrity	Yes
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	-30 °C
● horizontal installation, max.	60 °C
● vertical installation, min.	-30 °C
● vertical installation, max.	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
Absolute humidity	
● dew point, min.	-60 °C; suitable for dry room applications
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	16	27-24-26-08
eClass	14	27-24-26-08
eClass	12	27-24-26-08

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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






Miscellaneous

Manufacturer Declaration



General Product Approval			EMV	For use in hazardous locations	
	China RoHS	Manufacturer Declaration			FM

For use in hazardous locations

CCC-Ex		Type Examination Certificate		Miscellaneous	CCC-Ex

Maritime application





NK / Nippon Kaiji Kyokai



Maritime application		other	Environment	Industrial Communication
CCS (China Classification Society)	KR (Korean Register of Shipping)	PROFINET		PROFINET

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