



Figure similar

SIPLUS ET 200MP IM155-5 MF HF based on 6ES7155-5MU00-0CN0 with conformal coating -40...+70 °C flexible ports via plug-in SIPLUS 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)

General information	
Product type designation	IM 155-5 MF HF
Firmware version	V5.3.1
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Vendor identification (VendorID)	002AH
Device identifier (DeviceID)	0312H
Manufacturer ID according to ODVA (VendorID)	0x04E3
Device ID according to ODVA (Product code)	0x0FA3
based on	<a href="#">6ES7155-5MU00-0CN0</a>
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</li> <li>— Number of coupling modules</li> </ul>	Yes; I&M0 to I&M4 Yes; In combination with active backplane bus Yes Yes Yes; Docking station 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>PROFINET from GSD version/GSD revision</li> </ul>	see entry ID: 109746275 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	
<ul style="list-style-type: none"> <li>Mains/voltage failure stored energy time</li> </ul>	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 <sup>2</sup> t	0.1 A <sup>2</sup> ·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

<b>Power loss</b>	
Power loss, typ.	4.3 W
<b>Address area</b>	
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
<b>Hardware configuration</b>	
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
<b>Interfaces</b>	
Transmission procedure	100BASE-TX
Number of PROFINET interfaces	1; 2 ports (switch)
<b>1. Interface</b>	
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
<b>Interface types</b>	
RJ 45 (Ethernet)	
• 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
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	

<b>Services</b>	
— 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
<b>Updating times</b>	
— Requested Packet Interval (RPI)	2 ms
<b>Address area</b>	
— 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
<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
— 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
<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
• 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 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>Ecological footprint</b>	
<ul style="list-style-type: none"> <li>• environmental product declaration</li> </ul>	Yes
<b>Global warming potential</b>	
— 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
<b>Security</b>	
PROFINET Security Class	1
signed firmware update	Yes
Secure Boot	Yes
safely removing data	Yes
data integrity	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<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>-40 °C; = Tmin (incl. condensation/frost)</p> <p>70 °C; = Tmax</p> <p>-40 °C; = Tmin</p> <p>40 °C; = Tmax</p>
<b>Altitude during operation relating to sea level</b>	
<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>Relative humidity</b>	
<ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
<b>Resistance</b>	
<b>Coolants and lubricants</b>	
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
<b>Use on ships/at sea</b>	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
<b>Usage in industrial process technology</b>	
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas)

and control systems acc. to ANSI/ISA-71.04

concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)

**Remark**

— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04

\* The supplied plug covers must remain in place over the unused interfaces during operation!

**Conformal coating**

- Coatings for printed circuit board assemblies acc. to EN 61086
- Protection against fouling acc. to EN 60664-3
- Military testing according to MIL-I-46058C, Amendment 7
- Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A

Yes; Class 2 for high reliability  
 Yes; Type 1 protection  
 Yes; Discoloration of coating possible during service life  
 Yes; Conformal coating, Class A

**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**

[Manufacturer Declaration](#)



[China RoHS](#)



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**General Product Approval**

**For use in hazardous locations**

**Environment**



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