



Figure similar

SIPLUS ET 200MP IM155-5 PN HF T1 rail based on 6ES7155-5AA00-0AC0 with conformal coating, -40...+60 °C, OT1 with ST1/2 (+70 °C für 10 minutes), PROFINET IO device interface module for ET 200MP electronic modules; up to 12 IO modules without PS; up to 30 IO modules with additional PS; integrated 2-port switch; RJ45 shared device; MRP; IRT >=0.25 ms; isochronous mode FW update; IM0...3; prioritized run-up

General information	
Product type designation	IM 155-5 PN HF
Vendor identification (VendorID)	002AH
Device identifier (DeviceID)	0X0312
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	Yes
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275
Configuration control	
via user data	No
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	5 ms
Input current	
Current consumption (rated value)	0.2 A
Current consumption, max.	1.2 A
Inrush current, max.	9 A
I ² t	0.09 A ² ·s
Power	
Infeed power to the backplane bus	14 W
Power available from the backplane bus	2.3 W
Power loss	
Power loss, typ.	4.5 W
Address area	
Address space per module	
• Address space per module, max.	256 byte; per input / output
Address space per station	
• Address space per station, max.	512 byte; per input / output
Hardware configuration	
Integrated power supply	Yes

System power supply can be plugged in to left of IM	Yes
Number of permissible power segments	3
Rack	
• Modules per rack, max.	30; I/O modules
Interfaces	
Number of PROFINET interfaces	1
1. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes
• Number of ports	2
• integrated switch	Yes
Protocols	
• PROFINET IO Device	Yes
• Media redundancy	Yes; PROFINET MRP
Interface types	
RJ 45 (Ethernet)	
• Transmission procedure	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
• 100 Mbps	Yes
• Autonegotiation	Yes
• Autocrossing	Yes
Protocols	
PROFINET IO Device	
Services	
— IRT	Yes
— PROFIenergy	No
— Prioritized startup	Yes
— Shared device	Yes
— Number of IO Controllers with shared device, max.	4
Redundancy mode	
• PROFINET system redundancy (S2)	Yes
Media redundancy	
— MRP	Yes
— MRPD	No
Open IE communication	
• TCP/IP	Yes
• SNMP	Yes
• LLDP	Yes
Isochronous mode	
Equidistance	Yes
shortest clock pulse	250 µs
max. cycle	4 ms
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
• Connection display LINK TX/RX	Yes; Yellow LED
Potential separation	
between backplane bus and electronics	No
between PROFINET and all other circuits	Yes
between supply and all other circuits	No
Isolation	
Isolation tested with	750 V DC (type test) and according to EN 50155 (routine test)
Standards, approvals, certificates	
Railway application	

• EN 50121-3-2 • EN 50121-4 • EN 50124-1	Yes; EMC for rail vehicles Yes; EMC for signal and telecommunications systems Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC
• EN 50125-1 • EN 50125-2 • EN 50125-3	Yes; Rail vehicles - see ambient conditions Yes; Stationary electrical equipment - see ambient conditions Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)
• EN 50155	Yes; Rail vehicles - temperature class OT1, ST1/ST2, horizontal mounting position
• EN 61373	Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
• Fire protection acc. to EN 45545-2	Yes; For proof of conformity, see Service & Support
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max.	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C 60 °C; = Tmax; +70 °C for 10 min (OT1, ST1/ST2 acc. to EN 50155) -40 °C; = Tmin; Startup @ -25 °C 40 °C; = Tmax
Altitude during operation relating to sea level	
• Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude	2 000 m Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3 — to chemically active substances according to EN 60721-3-3 — to mechanically 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 Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Yes; Class 3S4 incl. sand, dust, *
Use on land craft, rail vehicles and special-purpose vehicles	
— to biologically active substances according to EN 60721-3-5 — to chemically active substances according to EN 60721-3-5 — to mechanically active substances according to EN 60721-3-5	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Yes; Class 5S3 incl. sand, dust; *
Usage in industrial process technology	
— Against chemically active substances acc. to EN 60654-4 — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Class 3 (excluding trichlorethylene) Yes; Level GX group A/B (excluding trichlorethylene; harmful gas 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 • Electronic equipment on rolling stock acc. to EN 50155 • 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; Class PC2 protective coating acc. to EN 50155:2017 Yes; Discoloration of coating possible during service life Yes; Conformal coating, Class A

connection method / header	
ET-Connection	
• via BU/BA Send	No
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	350 g
Other	
Note:	for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776

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