

SIPLUS S7-1500 CM PTP RS 422/485 TX rail -40...+70°C TX with 85°C for 10 minutes with conformal coating based on 6ES7541-1AB00-0AB0 . Communication module for serial connection RS 422 and RS 485, Freeport, 3964 (R), USS, MODBUS RTU master, slave, 115200 Kbit/s, 15-pin D-sub socket



General information	
Product type designation	CM PtP RS 422 / 485 HF
Product function	
• I&M data	Yes; I&M 0
• Fast startup	Yes
Installation type/mounting	
Rail mounting	Yes; S7-1500 mounting rail
Supply voltage	
Type of supply voltage	system power supply
Input current	
Current consumption (rated value)	43 mA; From the backplane bus
Power	
Power available from the backplane bus	0.65 W
Power loss	
Power loss, typ.	0.6 W
Address area	

Address space per module	
• Inputs	8 byte
Interface types	
RS 485	
• Transmission rate, max.	115.2 kbit/s
• Cable length, max.	1 200 m
RS 422	
• Transmission rate, max.	115.2 kbit/s
• Cable length, max.	1 200 m
• 4-wire full duplex connection	Yes
• 4-wire multipoint connection	No
Protocols	
Integrated protocols	
Freeport	
— Telegram length, max.	4 kbyte
— Bits per character	7 or 8
— Number of stop bits	1 or 2 bit
— Parity	None, even, odd, always 1, always 0, any
3964 (R)	
— Telegram length, max.	4 kbyte
— Bits per character	7 or 8
— Number of stop bits	1 or 2 bit
— Parity	None, even, odd, always 1, always 0, any
Modbus RTU master	
— Address area	1 to 247, extended 1 to 65535
— Number of slaves, max.	32
MODBUS RTU slave	
— Address area	1 to 247, extended 1 to 65535
Telegram buffer	
• Buffer memory for telegrams	8 kbyte
• Number of telegrams which can be buffered	255
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Hardware interrupt	No
Diagnostic messages	
• Wire-break	Yes
Diagnostics indication LED	
• RUN LED	Yes; green LED

- ERROR LED
- Receive RxD
- Transmit TxD

Yes; red LED
 Yes; Yellow LED
 Yes; Yellow LED

Potential separation

between backplane bus and interface Yes

Isolation

Isolation tested with 707 V DC (type test) and according to EN 50155 (routine test)

Standards, approvals, certificates

Railway application

- EN 50121-3-2 Yes; EMC for rail vehicles
- EN 50121-4 Yes; EMC for signal and telecommunications systems
- EN 50124-1 Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC
- EN 50125-1 Yes; Rail vehicles - see ambient conditions
- EN 50125-2 Yes; Stationary electrical equipment - see ambient conditions
- EN 50125-3 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 Tx, horizontal mounting position, salt spray Class ST2
- EN 61373 Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
- Fire protection acc. to EN 45545-2 Yes; Rail vehicles - verification on request

Ambient conditions

Ambient temperature during operation

- horizontal installation, min. -40 °C; = Tmin
- horizontal installation, max. 70 °C; = Tmax; +85 °C for 10 min (Tx acc. to EN 50155)

Altitude during operation relating to sea level

- Installation altitude above sea level, max. 2 000 m
- Ambient air temperature-barometric pressure-altitude 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 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, *
Use on land craft, rail vehicles and special-purpose vehicles	
— to biologically 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
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust; *
Usage in industrial process technology	
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	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	Yes
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection
• Electronic equipment on rolling stock acc. to EN 50155	Yes; Class PC2 protective coating acc. to EN 50155:2017
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A
Decentralized operation	
to SIMATIC S7-300	Yes
to SIMATIC S7-400	Yes
to SIMATIC S7-1500	Yes
to standard PROFINET controller	Yes
Dimensions	
Width	35 mm
Height	147 mm
Depth	127 mm
Weights	
Weight, approx.	0.22 kg
Other	

Note:

for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776

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