



Figure similar

SIPLUS S7-1500 CM PTP RS422/485 TX rail based on 6ES7541-1AB00-0AB0 with conformal coating, -40...+70 °C, OT4 with ST1/2 (+85 °C for 10 minutes), communications 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
based on	<a href="#">6ES7541-1AB00-0AB0</a>
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M 0
<ul style="list-style-type: none"> <li>Fast startup</li> </ul>	Yes
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	see entry ID: 109746275
Installation type/mounting	
Rail mounting	Yes; S7-1500 mounting rail
Supply voltage	
Design of the power supply	system power supply
Input current	
Current consumption (rated value)	43 mA; From the backplane bus
Power	
Power consumption from the backplane bus	0.65 W
Power loss	
Power loss, typ.	0.6 W
Address area	
Address space per module	
<ul style="list-style-type: none"> <li>Inputs</li> </ul>	8 byte
Interface types	
RS 485	
<ul style="list-style-type: none"> <li>Transmission rate, max.</li> </ul>	115.2 kbit/s
<ul style="list-style-type: none"> <li>Cable length, max.</li> </ul>	1 200 m
RS 422	
<ul style="list-style-type: none"> <li>Transmission rate, max.</li> </ul>	115.2 kbit/s
<ul style="list-style-type: none"> <li>Cable length, max.</li> </ul>	1 200 m
<ul style="list-style-type: none"> <li>4-wire full duplex connection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>4-wire multipoint connection</li> </ul>	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
<b>Modbus RTU master</b>	
— Address area	1 to 247, extended 1 to 65535
— max. number of devices	32
<b>Modbus RTU device</b>	
— Address area	1 to 247, extended 1 to 65535
<b>Telegram buffer</b>	
• Buffer memory for telegrams	8 kbyte
• Number of telegrams which can be buffered	255
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
• Hardware interrupt	No
<b>Diagnoses</b>	
• Wire-break	Yes
<b>Diagnostics indication LED</b>	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• Receive RxD	Yes; Yellow LED
• Transmit TxD	Yes; Yellow LED
<b>Potential separation</b>	
between backplane bus and interface	Yes
<b>Isolation</b>	
Isolation tested with	750 V DC (type test) and according to EN 50155 (routine test)
<b>Standards, approvals, certificates</b>	
<b>Railway application</b>	
• EN 50121-3-2	Yes; EMC for rail vehicles
• EN 50121-4	Yes; EMC for signal and telecommunications systems
• EN 50121-5	Yes; EMC for fixed installations and railway power supply equipment (shielded cables required)
• 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 OT4, 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
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)
• horizontal installation, max.	70 °C; = Tmax; +85 °C for 10 min (OT4, ST1/ST2 acc. to EN 50155)
• vertical installation, min.	-40 °C; = Tmin
• vertical installation, max.	40 °C; = Tmax
<b>Altitude during operation relating to sea level</b>	
• 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)
<b>Relative humidity</b>	
• With condensation, tested in accordance with IEC 60068-2-38, max.	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 land craft, rail vehicles and special-purpose vehicles</b>	
— 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 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 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 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)
<b>Remark</b>	
— 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!
<b>Conformal coating</b>	
<ul style="list-style-type: none"> <li>• Coatings for printed circuit board assemblies acc. to EN 61086</li> <li>• Protection against fouling acc. to EN 60664-3</li> <li>• Electronic equipment on rolling stock acc. to EN 50155</li> <li>• Military testing according to MIL-I-46058C, Amendment 7</li> <li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Class PC2 protective coating acc. to EN 50155:2017</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>
<b>Decentralized operation</b>	
to SIMATIC S7-300	Yes
to SIMATIC S7-400	Yes
to SIMATIC S7-1500	Yes
to standard PROFINET controller	Yes
<b>Dimensions</b>	
Width	35 mm
Height	147 mm
Depth	127 mm
<b>Weights</b>	
Weight, approx.	0.22 kg
<b>Other</b>	
Note:	for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776
<b>Classifications</b>	

	Version	Classification
eClass	14	27-24-22-08
eClass	12	27-24-22-08
eClass	9.1	27-24-22-08
eClass	9	27-24-22-08
eClass	8	27-24-22-08
eClass	7.1	27-24-22-08
eClass	6	27-24-22-08
ETIM	10	EC001423
ETIM	9	EC001423
ETIM	8	EC001423
ETIM	7	EC001423
IDEA	4	3564

## Approvals / Certificates

## General Product Approval

EMV

[Manufacturer Declaration](#)[China RoHS](#)

## Railway

[Confirmation](#)

last modified:

10/23/2025