SIEMENS

Data sheet 6AG2541-1AB00-4AB0

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	6ES7541-1AB00-0AB0
Product function	
● I&M data	Yes; I&M 0
● Fast startup	Yes
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	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	
● 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
— max. number of devices	32
protocols / Modbus RTU device / header	
— 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
Diagnoses	
● Wire-break	Yes
Diagnostics indication LED	
● RUN LED	Yes; green LED
● ERROR LED	Yes; red LED
● Receive RxD	Yes; Yellow LED
● Transmit TxD	Yes; Yellow LED
Potential separation	
between backplane bus and interface	Yes
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	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
Ambient conditions	
Ambient temperature during operation	
● 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
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 60068-2-52 (severity degree 3); *
— 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; Class 2 for high reliability
● 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

Classifications

	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	9	EC001423
ETIM	8	EC001423
ETIM	7	EC001423
IDEA	4	3564
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval	EMV

Miscellaneous | Manufacturer Declaration

Railway

Confirmation

last modified: 5/29/2024