

Data sheet

6AG2241-1CH30-1XB0



Figure similar

SIPLUS S7-1200 CB 1241 RS 485 rail based on 6ES7241-1CH30-1XB0 with conformal coating, -25...+55 °C, OT1 with ST1/2 (+70 °C für 10 minutes), RS-485, terminal block, supports Freeport

General information	
Product type designation	CB 1241 RS 485
based on	6ES7241-1CH30-1XB0
Input current	
from backplane bus 5 V DC, typ.	50 mA
Power loss	
Power loss, typ.	1.5 W
Interfaces	
Point-to-point connection	
• Cable length, max.	1 000 m
Integrated protocol driver	
— Freeport	Yes
— ASCII	Yes; Available as library function
— Modbus RTU master	Yes
— Modbus RTU device	Yes
— USS	Yes; Available as library function
Protocols	
Integrated protocols	
Freeport	
— Telegram length, max.	1 kbyte
— Bits per character	7 or 8
— Number of stop bits	1 (Standard), 2
— Parity	No parity (standard); even, uneven, mark (parity bit always 1); space (parity bit always 0)
3964 (R)	
— Telegram length, max.	1 kbyte
— Bits per character	7 or 8
— Number of stop bits	1 (Standard), 2
— Parity	No parity (standard); even, uneven, mark (parity bit always 1); space (parity bit always 0)
Modbus RTU master	
— Address area	1 through 49 999 (Standard Modbus addressing)
— max. number of devices	247; slave numbers 1 through 247, per MODBUS network segment maximum 32 devices, additional repeaters needed to expand the network to maximum configuration
Modbus RTU device	
— Address area	1 through 49 999 (Standard Modbus addressing)
Interrupts/diagnostics/status information	
Diagnostics function	Yes

Isolation	
Isolation tested with	750 V DC (type test) and according to EN 50155 (routine test)
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
Railway application	
<ul style="list-style-type: none"> • EN 50121-3-2 • EN 50121-4 • EN 50124-1 • EN 50125-1 • EN 50125-2 • EN 50125-3 • EN 50155 • EN 61373 • Fire protection acc. to EN 45545-2 	<p>Yes; EMC for rail vehicles</p> <p>Yes; EMC for signal and telecommunications systems</p> <p>Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC</p> <p>Yes; Rail vehicles - see ambient conditions</p> <p>Yes; Stationary electrical equipment - see ambient conditions</p> <p>Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)</p> <p>Yes; Rail vehicles - temperature class OT1, ST1/ST2, horizontal mounting position</p> <p>Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B</p> <p>Yes; For proof of conformity, see Service & Support</p>
Ambient conditions	
Free fall	
<ul style="list-style-type: none"> • Fall height, max. 	0.3 m; five times, in product package
Ambient temperature during operation	
<ul style="list-style-type: none"> • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. 	<p>-25 °C; = Tmin (incl. condensation/frost)</p> <p>60 °C; = Tmax; +70 °C for 10 min (OT1, ST1/ST2 acc. to EN 50155)</p> <p>-25 °C; = Tmin</p> <p>50 °C; = Tmax</p>
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. • max. 	<p>-40 °C</p> <p>70 °C</p>
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude 	<p>2 000 m</p> <p>Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)</p>
Relative humidity	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> 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 	<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>

Mechanics/material	
Enclosure material (front) <ul style="list-style-type: none"> Plastic 	Yes

Dimensions	
Width	38 mm
Height	62 mm
Depth	21 mm

Weights	
Weight, approx.	40 g

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

Approvals / Certificates	
General Product Approval	EMV

[Manufacturer Declaration](#)



[China RoHS](#)



Railway	
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[Confirmation](#)

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