SIEMENS

Data sheet

6AG1321-1BL00-2AA0

SIPLUS S7-300 SM 321 40-pole based on 6ES7321-1BL00-0AA0 with conformal coating, -40...+70 $^{\circ}\text{C},$ digital input isolated 32 DI, 24 V DC, 1x 40-pole



Load voltage L+ ● Rated value (DC) ● permissible range, lower limit (DC) ● permissible range, upper limit (DC) Enter current from backplane bus 5 V DC, max. 15 mA Power loss Power loss, lyp. Digital inputs Number of digital inputs Input characteristic curve in accordance with IEC 61131. lyps 1 Number of simultaneously controllable inputs horizontal installation - up to 40 °C, max. - up to 60 °C, max. 16; 12 @ > 60 °C Input voltage ● Type of input voltage ● Tor signal "1" 13 to 30V Input current ● for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs - at "0" to "1", min. - at "0" to "1", max. - at "1" to "0", min. -	Supply voltage	
permissible range, lower limit (DC)	Load voltage L+	
permissible range, upper limit (DC) 28.8 V Input current	 Rated value (DC) 	24 V
Input current	 permissible range, lower limit (DC) 	20.4 V
From backplane bus 5 V DC, max. 15 mA	 permissible range, upper limit (DC) 	28.8 V
Power loss, typ. Power loss, typ. 6.5 W	Input current	
Power loss, typ. 6.5 W	from backplane bus 5 V DC, max.	15 mA
Number of digital inputs 32	Power loss	
Number of digital inputs Input characteristic curve in accordance with IEC 61131, type 1 Number of simultaneously controllable inputs horizontal installation	Power loss, typ.	6.5 W
Input characteristic curve in accordance with IEC 61131, type 1 Number of simultaneously controllable inputs horizontal installation — up to 40 °C, max. — up to 60 °C, max. — 16; 12 @ > 60 °C Input voltage • Type of input voltage • Tor signal "0" • for signal "1" 13 to 30V Input current • for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. — at "1" to "0", min. — at "1" to "0", max. — at	Digital inputs	
type 1 Number of simultaneously controllable inputs horizontal installation up to 40 °C, max. 32 up to 60 °C, max. 16; 12 @ > 60 °C Input voltage • Type of input voltage • Rated value (DC) 24 V • for signal "1" 13 to 30V Input current • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for standard inputs parameterizable at "0" to "1", max. 4.8 ms at "1" to "0", max. 1.2 ms at "1" to "0", max. 1.5 mA at "0" to "1", max. 1.5 mA	Number of digital inputs	32
horizontal installation - up to 40 °C, max up to 60 °C, max. 16; 12 @ > 60 °C Input voltage • Type of input voltage • Rated value (DC) • for signal "0" • for signal "1" 13 to 30V Input current • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for standard inputs - parameterizable - at "0" to "1", min at "0" to "1", max at "1" to "0", min at "1" to "0", min at "1" to "0", max. Cable length • shielded, max. • unshielded, max. • unshielded, max. • 2-wire sensor - permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information		Yes
up to 40 °C, max up to 60 °C, max. 16; 12 @ > 60 °C Input voltage • Type of input voltage • Rated value (DC) • Rated value (DC) • for signal "0" • for signal "1" • for signal "1" • for signal "1", typ. Input current • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for standard inputs parameterizable at "0" to "1", max at "0" to "1", max at "1" to "0", min at "1" to "0", max. Cable length • shielded, max. • unshielded, max. • unshielded, max. Encoder Connectable encoders permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	Number of simultaneously controllable inputs	
up to 60 °C, max. Input voltage • Type of input voltage • Rated value (DC) • (For signal "0") • (For signal "1") • (For si	horizontal installation	
Input voltage Type of input voltage Rated value (DC) for signal "0" for signal "1" Type of input voltage for signal "1" Type of roisignal "1" Type of roisignal "1" Type of roisignal "1" Type of roisignal "1", type of roisignal "	— up to 40 °C, max.	32
Type of input voltage Rated value (DC) Rated value (DC) for signal "0" for signal "1" 13 to 30V Input current for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for standard inputs - parameterizable - at "0" to "1", min at "0" to "1", min at "1" to "0", min at "1" to "0", max. 4.8 ms Cable length shielded, max. unshielded, max. - unshielded, max. 2-wire sensor - permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	— up to 60 °C, max.	16; 12 @ > 60 °C
Rated value (DC) • for signal "0" • for signal "1" 13 to 30V Input current • for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. — at "1" to "0", min. — at "1" to "0", max. — at "1" to "0", max. — at "1" to "0", max. Cable length • shielded, max. • unshielded, max. • unshielded, max. • unshielded, max. • 2-wire sensor — permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information Interrupts/diagnostics/status information 2	Input voltage	
for signal "0" for signal "1" 13 to 30V Input current for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for standard inputs	 Type of input voltage 	DC
for signal "1"	 Rated value (DC) 	24 V
Input current • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for standard inputs — parameterizable No — at "0" to "1", min. 1.2 ms — at "0" to "1", max. 4.8 ms — at "1" to "0", min. 1.2 ms — at "1" to "0", max. 4.8 ms Cable length • shielded, max. 1000 m • unshielded, max. 600 m Encoder Connectable encoders • 2-wire sensor Yes — permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	• for signal "0"	-30 to +5 V
for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for standard inputs — parameterizable No — at "0" to "1", min. 1.2 ms — at "1" to "0", min. 1.2 ms — at "1" to "0", max. 4.8 ms Cable length • shielded, max. 1000 m • unshielded, max. 600 m Encoder Connectable encoders • 2-wire sensor Yes — permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	• for signal "1"	13 to 30V
Input delay (for rated value of input voltage) for standard inputs	Input current	
for standard inputs - parameterizable - at "0" to "1", min at "0" to "1", max at "1" to "0", min at "1" to "0", max. 4.8 ms - at "1" to "0", max. 4.8 ms Cable length • shielded, max. • unshielded, max. foo m Encoder Connectable encoders • 2-wire sensor - permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	• for signal "1", typ.	7 mA
parameterizable at "0" to "1", min at "0" to "1", max at "1" to "0", min at "1" to "0", min at "1" to "0", max at "1" to "0", min at "1" to "0", min at "1" to "0", max	Input delay (for rated value of input voltage)	
- at "0" to "1", min.	for standard inputs	
- at "0" to "1", max. - at "1" to "0", min. - at "1" to "0", max. 4.8 ms Cable length • shielded, max. • unshielded, max. • unshielded, max. 600 m Encoder Connectable encoders • 2-wire sensor - permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	— parameterizable	No
- at "1" to "0", min at "1" to "0", max. 4.8 ms Cable length • shielded, max. • unshielded, max. 1 000 m 600 m Encoder Connectable encoders • 2-wire sensor - permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	— at "0" to "1", min.	1.2 ms
- at "1" to "0", max. Cable length • shielded, max. • unshielded, max. • unshielded, max. 600 m Encoder Connectable encoders • 2-wire sensor — permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	— at "0" to "1", max.	4.8 ms
Cable length • shielded, max. • unshielded, max. 600 m Encoder Connectable encoders • 2-wire sensor — permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	— at "1" to "0", min.	1.2 ms
 shielded, max. unshielded, max. 600 m Encoder Connectable encoders 2-wire sensor permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information 	— at "1" to "0", max.	4.8 ms
 unshielded, max. Encoder Connectable encoders 2-wire sensor permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information 	Cable length	
Encoder Connectable encoders • 2-wire sensor — permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information	• shielded, max.	1 000 m
Connectable encoders	unshielded, max.	600 m
2-wire sensor — permissible quiescent current (2-wire sensor), max. Interrupts/diagnostics/status information Yes 1.5 mA	Encoder	
— permissible quiescent current (2-wire sensor), max. 1.5 mA Interrupts/diagnostics/status information	Connectable encoders	
max. Interrupts/diagnostics/status information	• 2-wire sensor	Yes
		1.5 mA
Alarms	Interrupts/diagnostics/status information	
	Alarms	No

Diagnostics function	No
Alarms	110
Diagnostic alarm	No
Hardware interrupt	No
Diagnostics indication LED	
Status indicator digital input (green)	Yes
Potential separation	
Potential separation digital inputs	
between the channels	No
 between the channels, in groups of 	16
between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes; File E239877
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Railway application	Voc. Sections 4.5 and 12: no further agreements annius T4. Catagoria
● EN 50155	Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007 (see SIOS entry 109755985)
Ambient conditions	
Ambient temperature during operation	
• min.	-40 °C; = Tmin
• max.	70 °C; = Tmax; for use on railway vehicles according to EN50155, the
	rated temperature range -25 +55 °C (T1) or 60 °C @
Ambient temperature during storage/transportation	UL/ULhaz/ATEX/FM use applies
min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
Installation altitude above sea level, max.	5 000 m
 Ambient air temperature-barometric pressure- 	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin
altitude	(Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)
Relative humidity	(1111ax -20 K) at 030 HF a 340 HF a (+3 300 HF +3 000 HI)
With condensation, tested in accordance with IEC	100 %; RH incl. condensation/frost (no commissioning under
60068-2-38, max.	condensation conditions)
Resistance	
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
to chemically active substances according to	fauna); Class 3B3 on request Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52
EN 60721-3-3	(severity degree 3); *
— to mechanically active substances according to	Yes; Class 3S4 incl. sand, dust, *
EN 60721-3-3	1
Use on land craft, rail vehicles and special-purpose vehic	
 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	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *
EN 60721-3-5	
— to mechanically active substances according to	Yes; Class 5S3 incl. sand, dust; *
EN 60721-3-5 Use on ships/at sea	
to biologically active substances according to	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on
EN 60721-3-6	request
— to chemically active substances according to	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52
EN 60721-3-6	(severity degree 3); *
 to mechanically active substances according to EN 60721-3-6 	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
Against chemically active substances acc. to	Yes; Class 3 (excluding trichlorethylene)
EN 60654-4	
— Environmental conditions for process,	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas
measuring and control systems acc. to ANSI/ISA-	concentrations up to the limits of EN 60721-3-3 class 3C4 permissible);

71.04	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!
connection method / header	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	260 g
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