

SIPLUS S7-300 SM321 - 40-POLE -40 ... +70 DGR C WITH CONFORMAL COATING CONFORMITY TO EN50155 T1 CAT 1 CL A/B BASED ON 6ES7321-1BL00-0AA0 . DIGITAL INPUT OPTICALLY ISOLATE 32DI, 24 V DC, 1 X 40 PIN



Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
from backplane bus 5 V DC, max.	15 mA
Power loss	
Power loss, typ.	6.5 W
Digital inputs	
Number of digital inputs	32
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
horizontal installation	
— up to 40 °C, max.	32
— up to 60 °C, max.	16; 12 @ > 60 °C
Input voltage	

<ul style="list-style-type: none"> • Type of input voltage • Rated value (DC) • for signal "0" • for signal "1" 	DC 24 V -30 to +5V 13 to 30V
Input current	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • shielded, max. • unshielded, max. 	1 000 m 600 m
Encoder	
Connectable encoders	
<ul style="list-style-type: none"> • 2-wire sensor — permissible quiescent current (2-wire sensor), max. 	Yes 1.5 mA
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No
Interrupts/diagnostics/status information	
Diagnostic functions	No
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm • Hardware interrupt 	No No
Diagnostics indication LED	
<ul style="list-style-type: none"> • Status indicator digital input (green) 	Yes
Potential separation	
Potential separation digital inputs	
<ul style="list-style-type: none"> • between the channels • between the channels, in groups of • between the channels and backplane bus 	No 16 Yes; Optocoupler
Permissible potential difference	
between different circuits	75 V DC/60 V AC
Isolation	
Isolation tested with	500 V DC

Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes; File E239877
FM approval	Yes; CofC 3028431
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Railway application	
• EN 50155	Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007
Use in hazardous areas	
• ATEX	Yes
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 @ UL/ULhaz/ATEX/FM use applies
Ambient temperature during storage/transportation	
• 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-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (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	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
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 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; *
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
from supply voltage 1L+	
— Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!

Connection method	
required front connector	40-pin

Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm

Weights	
Weight, approx.	260 g
last modified:	05/16/2018