

SIPLUS S7-300 SM321 -25 ... +70 DGR C WITH CONFORMAL COATING CONFORMITY TO EN50155 T1 CAT 1 CL A/B BASED ON 6ES7321-1CH20-0AA0 . DIGITAL INPUT, OPTICALLY ISOLAT 16 DI, DC 48-125V, 1 X 20 PIN



Figure similar

### Supply voltage

#### Load voltage L+

• Rated value (DC)	48 V
• permissible range, lower limit (DC)	48 V
• permissible range, upper limit (DC)	125 V

### Input current

from backplane bus 5 V DC, max.	40 mA
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### Power loss

Power loss, typ.	4.3 W
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### Digital inputs

Number of digital inputs	16
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 60 °C, max.	8; 6 @ Ue 146 V

— up to 70 °C, max.	6; 4 @ Ue 146 V
<b>horizontal installation</b>	
— up to 50 °C, max.	8
— up to 60 °C, max.	8; 6 to Ue 146 V
<b>Input voltage</b>	
• Type of input voltage	DC
• Rated value (DC)	48 V; 48 V DC to 125 V DC
• for signal "0"	-146 V DC to +15 V DC
• for signal "1"	30 V DC to 146 V DC
<b>Input current</b>	
• for signal "1", typ.	3.5 mA
<b>Input delay (for rated value of input voltage)</b>	
<b>for standard inputs</b>	
— parameterizable	No
— at "0" to "1", min.	0.1 ms
— at "0" to "1", max.	3.5 ms
— at "1" to "0", min.	0.7 ms
— at "1" to "0", max.	3 ms
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Encoder</b>	
<b>Connectable encoders</b>	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1 mA
<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	No
<b>Interrupts/diagnostics/status information</b>	
Diagnostic functions	No
<b>Alarms</b>	
• Diagnostic alarm	No
• Hardware interrupt	No
<b>Diagnostics indication LED</b>	
• Group error SF (red)	No
• Status indicator digital input (green)	Yes
<b>Potential separation</b>	
<b>Potential separation digital inputs</b>	
• between the channels	No

<ul style="list-style-type: none"> <li>• between the channels, in groups of</li> <li>• between the channels and backplane bus</li> </ul>	8 Yes; Optocoupler
<b>Permissible potential difference</b>	
between different circuits	146 V DC/132 V AC
<b>Isolation</b>	
Isolation tested with	1500 V DC
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes; File E239877
FM approval	No
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
<b>Railway application</b>	
<ul style="list-style-type: none"> <li>• EN 50155</li> </ul>	Yes; T1 Category 1 Class A/B horizontal mounting position
<b>Use in hazardous areas</b>	
<ul style="list-style-type: none"> <li>• ATEX</li> </ul>	No
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	-25 °C 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
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	-40 °C 70 °C
<b>Extended ambient conditions</b>	
<ul style="list-style-type: none"> <li>• relative to ambient temperature-atmospheric pressure-installation altitude</li> </ul>	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>— With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
<b>Resistance</b>	
<ul style="list-style-type: none"> <li>— against biologically active substances / conformity with EN 60721-3-3</li> <li>— against chemically active substances / conformity with EN 60721-3-3</li> <li>— against mechanically active substances / conformity with EN 60721-3-3</li> </ul>	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation! Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!

### Connection method

required front connector 20-pin

### Dimensions

Width 40 mm

Height 125 mm

Depth 120 mm

### Weights

Weight, approx. 200 g

**last modified:** 05/31/2017