

SIPLUS S7-1500 DI 16x110VDC HF TX RAIL -40 ... +70°C TX with +85°C for 10 min with Conformal Coating BasedOn 6ES7521-1BL00-0AB0 . DI 16x24 ... 125V UC HF, 16 Channels in groups of 1; Input Delay 0,05 ... 20ms; Input Type 3 (IEC 61131); Diagnosis, Processalarms



General information	
Product type designation	DI 16x110VDC HF
Product function	
• I&M data	Yes; I&M0 to I&M3
Operating mode	
• DI	Yes
• Counter	No
• Oversampling	No
• MSI	Yes
Power	
Power available from the backplane bus	1.2 W
Power loss	
Power loss, typ.	2.2 W; At 24 V DC; 6.0 W at 125 V AC
Digital inputs	
Number of digital inputs	16; > +60 °C number of simultaneously controllable inputs max. 4 (no adjacent points)
Digital inputs, parameterizable	Yes

Input characteristic curve in accordance with IEC 61131, type 3	Yes; at 24 V DC
Input voltage	
<ul style="list-style-type: none"> • Type of input voltage • Rated value (DC) • Rated value (AC) • for signal "0" • for signal "1" 	AC/DC 24 V; 48 V, 72 V, 96 V, 110 V, 125 V 24 V; 48 V, 125 V (50 - 60 Hz) -5 ... +5 V +11 V DC to +146 V DC, as well as +154 V DC for 1 s according to EN 50155
Input current	
<ul style="list-style-type: none"> • for signal "1", typ. 	3 mA; at 24 V DC
Input delay (for rated value of input voltage)	
for standard inputs	
<ul style="list-style-type: none"> — parameterizable — at "0" to "1", min. — at "0" to "1", max. — at "1" to "0", min. — at "1" to "0", max. 	Yes; 0.05 / 0.1 / 0.4 / 1.6 / 3.2 / 12.8 / 20 ms parameterizable with DC, 20 ms fixed with AC 0.05 ms 20 ms 0.05 ms 20 ms
for interrupt inputs	
<ul style="list-style-type: none"> — parameterizable 	Yes
for counter/technological functions	
<ul style="list-style-type: none"> — parameterizable 	No
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	
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm • Hardware interrupt 	Yes Yes
Diagnostic messages	
<ul style="list-style-type: none"> • Monitoring the supply voltage • Wire-break 	No Yes; To I < 550 µA

• Short-circuit	No
Diagnostics indication LED	
• RUN LED	Yes; Green LED
• ERROR LED	Yes; Red LED
• Monitoring of the supply voltage (PWR-LED)	No
• Channel status display	Yes; Green LED
• for channel diagnostics	Yes; Red LED
• for module diagnostics	Yes; Red LED

Potential separation	
Potential separation channels	
• between the channels	Yes
• between the channels, in groups of	1
• between the channels and backplane bus	Yes

Permissible potential difference	
between different circuits	146 V DC/132 V AC

Isolation	
Isolation tested with	2 000 V DC

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 50124-1	Yes; Railway applications - overvoltage category OV3 (channels to backplane bus and ground); OV2 (between the channels); pollution degree PD2; rated impulse voltage UNi = 1.5 kV; UNm = 125 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 Tx, horizontal mounting position, salt spray Class ST2
• EN 61373	Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
• Fire protection acc. to EN 45545-2	Yes; Rail vehicles - verification on request

Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-40 °C; = Tmin
• horizontal installation, max.	70 °C; = Tmax; +85 °C for 10 min (Tx acc. to EN 50155)
Altitude during operation based on sea level	
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m)

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 under 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 fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	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!
— to mechanically active substances according to EN 60721-3-3	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!
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%) including salt spray according to EN 50155 (ST2). The supplied plug covers must remain in place over the unused interfaces during operation!
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 including sand and dust. The supplied plug covers must remain in place over the unused interfaces during operation!
Decentralized operation	
Prioritized startup	Yes
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Other	
Note:	For use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A Online Support article 109736776
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