6AG1526-1BH00-2AB0

## **Data sheet**



SIPLUS S7-1500 F-DI 16x24 V DC based on 6ES7526-1BH00-0AB0 with conformal coating, -30...+60 °C, F digital input module, 35 mm overall width; up to PL E (ISO13849-1)/ SIL 3 (IEC 61508)

General information	
Product type designation	F-DI 16x24VDC
Firmware version	
FW update possible	Yes
based on	6ES7526-1BH00-0AB0
Product function	
• I&M data	Yes; I&M0 to I&M3
Engineering with	
<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	see entry ID: 109746275
Operating mode	
• DI	Yes
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Input current	
Current consumption (rated value)	50 mA
Encoder supply	
Number of outputs	4
Short-circuit protection	Yes; Electronic (response threshold 0.7 A to 1.8 A)
24 V encoder supply	
• 24 V	Yes; min. L+ (-1.5 V)
Short-circuit protection	Yes
Output current, max.	300 mA; Max. 100 mA when mounted vertically
Power	
Power available from the backplane bus	0.9 W
Power loss	
Power loss, typ.	4.6 W
Address area	
Address space per module	
<ul> <li>Address space per module, max.</li> </ul>	9 byte
Hardware configuration	
Automatic encoding	Yes
<ul> <li>Electronic coding element type F</li> </ul>	Yes
Digital inputs	
Number of digital inputs	16
Source/sink input	Yes; P-reading
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Input voltage	

Rated value (DC)     for signal "0"     for signal "1"     hto signal "1", typ.  Input current      for signal "1", typ.     3.7 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", max.  Cable length      shielded, max.     inshielded, max.     inshielded, max.     inshielded, max.     inshielded, max.      interrupts/diagnostics/status information  Diagnostics function  Pes  Alarms      Diagnostic alarm     hardware interrupt     No  Diagnoses      Monitoring the supply voltage     wire-break     No     Short-circuit     Yes     Group error     Yes     Group error     Yes; green LED     RUN LED     Yes; green LED	
• for signal "1"	
Input current  • for signal "1", typ. 3.7 mA  Input delay (for rated value of input voltage)  for standard inputs  parameterizable Yes at "0" to "1", min. 0.4 ms at "0" to "1", max. 20 ms at "1" to "0", min. 0.4 ms at "1" to "0", max. 20 ms  Cable length  • shielded, max. 1000 m  • unshielded, max. 500 m  Interrupts/diagnostics/status information  Diagnostics function Yes  Alarms  • Diagnostic alarm Yes Hardware interrupt No  Diagnoses  • Monitoring the supply voltage Yes Wire-break No Short-circuit Yes Group error Yes  Diagnostics indication LED RUN LED RUN LED ERROR LED Channel status display  Yes; green LED Channel status display  Yes; green LED Channel status display	
for signal "1", typ. 3.7 mA  Input delay (for rated value of input voltage)  for standard inputs  - parameterizable Yes - at "0" to "1", min. 0.4 ms - at "1" to "0", min. 0.4 ms - at "1" to "0", min. 0.4 ms - at "1" to "0", max. 20 ms  Cable length  • shielded, max. 1000 m • unshielded, max. 500 m  Interrupts/diagnostics/status information  Diagnostics function Yes  Alarms  • Diagnostic alarm Yes • Hardware interrupt No  Diagnoses  • Monitoring the supply voltage Yes • Wire-break No • Short-circuit Yes • Group error  Diagnostics indication LED • RUN LED • RUN LED • Channel status display  Yes; green LED • Channel status display  Yes • Consequence of the supply voltage • Channel status display  Yes; green LED • Channel status display	
Input delay (for rated value of input voltage)  for standard inputs	
for standard inputs	
parameterizable Yes  at "0" to "1", min. 0.4 ms  at "0" to "1", max. 20 ms  at "1" to "0", min. 0.4 ms  at "1" to "0", min. 0.4 ms  at "1" to "0", max. 20 ms   Cable length   shielded, max. 1000 m  shielded, max. 500 m  Interrupts/diagnostics/status information  Diagnostics function Yes  Alarms  Diagnostic alarm Yes  Hardware interrupt No  Diagnoses  Monitoring the supply voltage Yes  Wire-break No Short-circuit Yes  Group error Yes   Diagnostics indication LED  RUN LED Yes; green LED Channel status display  Yes; green LED  Channel status display  Yes; green LED Channel status display  Yes; green LED Channel status display  Alarms  Alarms Alar	
- 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.  20 ms  Cable length  shielded, max unshielded, max unshielded, max to max t	
at "1" to "0", min at "1" to "0", max.  Cable length  • shielded, max. • unshielded, max.  • unshielded, max.  Diagnostics/status information  Diagnostics function  Pes  • Diagnostic alarm • Diagnostic alarm • Hardware interrupt  No  Diagnoses  • Monitoring the supply voltage • Wire-break • Short-circuit • Group error  Pes  Diagnostics indication LED • RUN LED • ERROR LED • Channel status display  • Von min.  1 00.4 ms  20 ms   0.4 ms  20 ms  1 000 m  1 000 m  2 988   No  9 988   Ves  No  Ves  No  Yes  Pes  Diagnostics indication LED  Yes; green LED  Yes; green LED  • Channel status display	
- at "1" to "0", max.  Cable length  • shielded, max. • unshielded, max.  1 000 m  interrupts/diagnostics/status information  Diagnostics function  Pes  • Diagnostic alarm • Diagnostic alarm • Diagnoses  • Monitoring the supply voltage • Wire-break • Wire-break • Short-circuit • Group error  Diagnostics indication LED  • RUN LED • ERROR LED • Channel status display  1 000 m  9 7 9 8  1 000 m  1 000 m  9 7 9 8  1 000 m  1 0	
Cable length  • shielded, max.  • unshielded, max.  • unshielded, max.  Interrupts/diagnostics/status information  Diagnostics function  Alarms  • Diagnostic alarm  • Diagnostic alarm  • Hardware interrupt  No  Diagnoses  • Monitoring the supply voltage  • Wire-break  • Short-circuit  • Short-circuit  • Group error  Pes  Diagnostics indication LED  • RUN LED  • RUN LED  • ERROR LED  • Channel status display  1000 m  10	
shielded, max.     unshielded, max.     500 m  Interrupts/diagnostics/status information  Diagnostics function  Alarms      Diagnostic alarm     Hardware interrupt     No  Diagnoses      Monitoring the supply voltage     Wire-break     Short-circuit     Group error     Group error  Page 1  Page 2  Page 3  Page 4  Page 4  Page 4  Page 5  Page 6  Page 7  Page 7  Page 7  Page 8  Page 7  Page 8  Page 8  Page 8  Page 8  Page 8  Page 8  Page 9	
unshielded, max.  Interrupts/diagnostics/status information  Diagnostics function  Pes  Alarms  Diagnostic alarm  Hardware interrupt  No  Diagnoses  Monitoring the supply voltage Wire-break Short-circuit Group error  Diagnostics indication LED  RUN LED ERROR LED Channel status display  Fyes  500 m  500 m  500 m  500 m  Yes  Yes  Yes  No  Yes  No  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	
Interrupts/diagnostics/status information  Diagnostics function  Alarms  Diagnostic alarm  Hardware interrupt  No  Diagnoses  Monitoring the supply voltage  Wire-break  Short-circuit  Group error  Pes  Pes  Piagnostics indication LED  RUN LED  ERROR LED  Channel status display  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	
Diagnostics function  Alarms  Diagnostic alarm Hardware interrupt No  Diagnoses  Monitoring the supply voltage Wire-break Short-circuit Group error  Piagnostics indication LED RUN LED REROR LED Channel status display  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	
Alarms  Diagnostic alarm Hardware interrupt No  Diagnoses  Monitoring the supply voltage Wire-break Short-circuit Scrup error Ves  Diagnostics indication LED RUN LED REROR LED Channel status display Yes Yes Yes Yes; green LED Yes; green LED Yes; green LED	
Diagnostic alarm Hardware interrupt No  Diagnoses  Monitoring the supply voltage Wire-break Short-circuit Scrup error Ves  Diagnostics indication LED RUN LED REROR LED Channel status display  Yes No Yes Yes Yes Yes Yes Yes Yes Yes; green LED	
<ul> <li>Hardware interrupt</li> <li>Diagnoses</li> <li>Monitoring the supply voltage</li> <li>Wire-break</li> <li>Short-circuit</li> <li>Group error</li> <li>Piagnostics indication LED</li> <li>RUN LED</li> <li>ERROR LED</li> <li>Channel status display</li> <li>No</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Tes; green LED</li> <li>Yes; green LED</li> <li>Yes; green LED</li> <li>Yes; green LED</li> </ul>	
Diagnoses  • Monitoring the supply voltage  • Wire-break  • Short-circuit  • Group error  Diagnostics indication LED  • RUN LED  • ERROR LED  • Channel status display  Yes  Yes  Yes  Yes  Yes; green LED  Yes; green LED  Yes; green LED	
Monitoring the supply voltage  Wire-break  Short-circuit  Group error  Piagnostics indication LED  RUN LED  ERROR LED  Channel status display  Yes  Yes  Yes  Yes  Yes; green LED  Yes; green LED  Yes; green LED	
Wire-break Short-circuit Short-circuit Group error Yes  Diagnostics indication LED  RUN LED FRROR LED FRROR LED Channel status display  No Yes Yes Yes Yes Yes  Yes; green LED Yes; red LED Yes; green LED	
<ul> <li>Short-circuit <ul> <li>Group error</li> <li>Yes</li> </ul> </li> <li>Diagnostics indication LED <ul> <li>RUN LED</li> <li>ERROR LED</li> <li>ERROR LED</li> <li>Channel status display</li> <li>Yes; green LED</li> </ul> </li> <li>Yes; green LED</li> <li>Yes; green LED</li> </ul>	
<ul> <li>Group error</li> <li>Diagnostics indication LED</li> <li>RUN LED</li> <li>ERROR LED</li> <li>Channel status display</li> <li>Yes; green LED</li> <li>Yes; red LED</li> <li>Yes; green LED</li> </ul>	
Diagnostics indication LED  • RUN LED  • ERROR LED  • Channel status display  Yes; green LED  Yes; red LED  Yes; green LED	
<ul> <li>RUN LED</li> <li>ERROR LED</li> <li>Channel status display</li> <li>Yes; green LED</li> <li>Yes; green LED</li> <li>Yes; green LED</li> </ul>	
<ul> <li>ERROR LED</li> <li>Channel status display</li> <li>Yes; red LED</li> <li>Yes; green LED</li> </ul>	
Channel status display  Yes; green LED	
e for channel diagnostics	
• for channel diagnostics Yes; red LED	
• for module diagnostics Yes; red LED	
Potential separation	
Potential separation channels	
• between the channels and backplane bus  Yes	
Permissible potential difference	
between different circuits 75 V DC/60 V AC (base isolation)	
Isolation	
Isolation tested with 707 V DC (type test)	
Standards, approvals, certificates	
Suitable for safety functions  Yes	
Highest safety class achievable in safety mode	
Performance level according to ISO 13849-1  PLe	
• SIL acc. to IEC 61508 SIL 3	
Probability of failure (for service life of 20 years and repair time of 100 hours)	
— Low demand mode: PFDavg in accordance with < 5.00E-05	
SIL3	
— High demand/continuous mode: PFH in accordance < 1.00E-09 1/h	
with SIL3	
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.  -30 °C; = Tmin (incl. condensation/frost)	
• horizontal installation, max.  60 °C; = Tmax	
• vertical installation, min30 °C; = Tmin	
• vertical installation, max. 40 °C; = Tmax	
Altitude during operation relating to sea level	
• Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual	
Relative humidity	
• With condensation, tested in accordance with IEC 60068- 2-38, max.  100 %; RH incl. condensation/frost (no commissioning under condensations)	ation
Resistance	
Coolants and lubricants	

<ul> <li>Resistant to commercially available coolants and lubricants</li> </ul>	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
<ul> <li>to biologically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
<ul> <li>to chemically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); $^{\star}$
<ul> <li>to mechanically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
<ul> <li>to biologically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
<ul> <li>to chemically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); $^{\star}$
<ul> <li>to mechanically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
<ul> <li>Against chemically active substances acc. to EN 60654-4</li> </ul>	Yes; Class 3 (excluding trichlorethylene)
<ul> <li>Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> </ul>	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	
<ul> <li>Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> </ul>	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
<ul> <li>Coatings for printed circuit board assemblies acc. to EN 61086</li> </ul>	Yes; Class 2 for high reliability
<ul> <li>Protection against fouling acc. to EN 60664-3</li> </ul>	Yes; Type 1 protection
<ul> <li>Military testing according to MIL-I-46058C, Amendment 7</li> </ul>	Yes; Discoloration of coating possible during service life
<ul> <li>Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC- CC-830A</li> </ul>	Yes; Conformal coating, Class A
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	280 g

last modified:

5/29/2024