## Data sheet



SIPLUS S7-300 SM326 10F-DO -25 ... +60 DEGREES C 70 DEG C WITH FORCED CONVECTION WITH CONFORMAL COATING BASED ON 6ES7326-2BF10-0AB0 . DIGITAL OUTPUT DC24V/2A PP, FAILSAFE DIGITAL OUTPUT FOR SIMATIC S7F SYSTEMS WITH DIAGNOST. INTERRUPT, LVV, 1 X 40 PIN

Figure similar

Supply voltage	
Rated value (DC)	24 V; 1L+
Load voltage L+	
• Rated value (DC)	24 V; 2L+, 3L+
Input current	
from supply voltage 1L+, max.	100 mA
from load voltage 2L+ (without load), max.	100 mA
from load voltage 3L+ (without load), max.	100 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	6 W
Digital outputs	
Number of digital outputs	10
Short-circuit protection	Yes
Switching capacity of the outputs	
• on lamp load, max.	5 W

• for signal "1" rated value • for signal "1" permissible range for 0 to 40 "C, min.  • for signal "1" permissible range for 0 to 40 "C, max. • for signal "1" permissible range for 40 to 60 "C, min.  • for signal "1" permissible range for 40 to 60 "C, min. • for signal "1" permissible range for 40 to 60 "C, max. • for signal "0" residual current, max. • for signal "0"	Output current	
min.  • for signal "1" permissible range for 0 to 40 °C, max.  • for signal "1" permissible range for 40 to 60 °C, 7 mA min.  • for signal "1" permissible range for 40 to 60 °C, 7 mA min.  • for signal "1" permissible range for 40 to 60 °C, 2.4 A max.  • for signal "0" residual current, max. 0.5 mA  Switching frequency  • with resistive load, max. 25 Hz • with inductive load, max. 10 Hz  Total current of the outputs (per group)  horizontal installation  — up to 40 °C, max. 6A  vertical installation  — up to 40 °C, max. 5A  Cable length • shielded, max. 1000 m  • shielded, max. 600 m  Interrupts/diagnostics/status information  Alarms  • Diagnostic alarm Yes  Diagnostic messages  • Diagnostic information readable Yes  Diagnostic messages  • Diagnostic information readable Yes  Potential separation  Potential separation  Potential separation  Potential separation  Potential separation digital outputs  • between the channels Yes  • between the channels and the power supply of the electronics  Isolation	• for signal "1" rated value	2 A
max.  • for signal "1" permissible range for 40 to 60 °C, min.  • for signal "1" permissible range for 40 to 60 °C, max.  • for signal "0" residual current, max.  • for signal "0" residual current, max.  • of ro signal "0" residual current, max.  • on lamp load, max.  • with inductive load, max.  • with inductive load, max.  • on lamp load, max.  • on lamp load, max.  • up to 40 °C, max.  — up to 40 °C, max.  — up to 60 °C, max.  — up to 60 °C, max.  • of A  Cable length  • shielded, max.  • unshielded, max.  • Diagnostic alarm  Diagnostic slatrus information  Nature  • Diagnostic information readable  • Polagnostic information readable  • Fail-safe operation  • Group error SF (red)  Potential separation  Potential separation  Potential separation  Potential separation  Potential separation digital outputs  • between the channels in groups of  • between the channels and backplane bus  • between the channels and backplane bus  • between the channels and backplane bus  • between the channels and the power supply of the electronics   Isolation		7 mA
min.  • for signal "1" permissible range for 40 to 60 °C, max.  • for signal "0" residual current, max.  0.5 mA  Switching frequency  • with resistive load, max.  • with inductive load, max.  • on lamp load, max.  • on lamp load, max.  10 Hz  Total current of the outputs (per group)  horizontal installation  — up to 40 °C, max. — up to 60 °C, max. — up to 40 °C, max. — up to 40 °C, max.  Cable length  • shelded, max. • unshielded, max.  • unshielded, max.  • Diagnostic alarm  • Diagnostic alarm  • Diagnostic information readable  Diagnostic indication LED  • Fail-safe operation • Group error SF (red)  Potential separation  Potential separation  Potential separation  Potenten the channels of the power supply of the electronics  Isolation  Isolation  Ves  • between the channels and the power supply of the electronics		2.4 A
max.  • for signal "0" residual current, max.  • for signal "0" residual current, max.  O.5 mA  Switching frequency  • with resistive load, max.  • with inductive load, max.  • on lamp load, max.  10 Hz  Total current of the outputs (per group)  horizontal installation  — up to 40 "C, max.  — up to 60 "C, max.  — up to 60 "C, max.  SA  Cable length  • shielded, max.  • unshielded, max.  • unshielded, max.  • unshielded, max.  • Diagnostic alarm  • Diagnostic messages  • Diagnostic information readable  Diagnostic information readable  Potential separation  • Group error SF (red)  Potential separation  Potential separation digital outputs  • between the channels and backplane bus  • between the channels and the power supply of the electronics		7 mA
Switching frequency  • with resistive load, max. • with inductive load, max. • on lamp load, max.  • on lamp load, max.  10 Hz  Total current of the outputs (per group)  horizontal installation  — up to 40 °C, max. — up to 60 °C, max. — up to 40 °C, max. — up to 40 °C, max.  5 A  Cable length • shielded, max. • unshielded, max. • unshielded, max. • Diagnostic alarm  Polagnostic alarm  Polagnostic information readable  Piagnostic information readable  Piagnostics indication LED • Fail-safe operation • Group error SF (red)  Potential separation		2.4 A
with resistive load, max.     with inductive load, max.     on lamp load, max.     10 Hz  Total current of the outputs (per group)  horizontal installation	<ul><li>for signal "0" residual current, max.</li></ul>	0.5 mA
with inductive load, max. on lamp load, max. 10 Hz  Total current of the outputs (per group) horizontal installation — up to 40 °C, max. — up to 60 °C, max. — up to 40 °C, max.  wertical installation — up to 40 °C, max.  fo A  Cable length  shielded, max.  unshielded, max.  unshielded, max.  biagnostics/status information  Alarms  Diagnostic alarm  Poingnostic information readable  Diagnostics indication LED  Fail-safe operation Group error SF (red)  Potential separation  Potential separation digital outputs  between the channels between the channels in groups of between the channels and backplane bus between the channels and the power supply of the electronics  Isolation	Switching frequency	
on lamp load, max.  Total current of the outputs (per group)  horizontal installation  - up to 40 °C, max up to 60 °C, max.  - up to 40 °C, max.  S A  Cable length  • shielded, max.  • unshielded, max.  • unshielded, max.  • Unisplication  Alarms  • Diagnostic alarm  Diagnostic information readable  Polagnostic information readable  Fail-safe operation  Group error SF (red)  Potential separation  Potential separation  Potential separation  Potential separation  Potential separation digital outputs  • between the channels in groups of • between the channels and backplane bus • between the channels and backplane bus • between the channels and the power supply of the electronics  Isolation	• with resistive load, max.	25 Hz
Total current of the outputs (per group) horizontal installation — up to 40 °C, max. 10 A — up to 60 °C, max. 6 A  vertical installation — up to 40 °C, max. 5 A  Cable length  • shielded, max. 1000 m • unshielded, max. 600 m  Interrupts/diagnostics/status information  Alarms • Diagnostic alarm Yes  Diagnostic information readable Yes  Diagnostic information readable Yes  Diagnostics indication LED  • Fail-safe operation Yes • Group error SF (red) Yes  Potential separation  Potential separation  Potential separation digital outputs • between the channels Yes • between the channels and backplane bus Yes • between the channels and the power supply of the electronics	• with inductive load, max.	25 Hz
horizontal installation  — up to 40 °C, max. — up to 60 °C, max. — up to 40 °C, max.  Vertical installation — up to 40 °C, max.  5 A  Cable length  • shielded, max. • unshielded, max.  • unshielded, max.  1 000 m  Interrupts/diagnostics/status information  Alarms  • Diagnostic alarm  Poiagnostic information readable  Piagnostic information readable  i Fail-safe operation • Group error SF (red)  Potential separation  Potential separation  Potential separation  Potential separation digital outputs  • between the channels • between the channels and backplane bus • between the channels and backplane bus • between the channels and the power supply of the electronics  Isolation	• on lamp load, max.	10 Hz
up to 40 °C, max up to 60 °C, max.  up to 40 °C, max.  -	Total current of the outputs (per group)	
up to 60 °C, max.  vertical installation up to 40 °C, max.  5 A  Cable length  • shielded, max.  • unshielded, max.  • unshielded, max.  1 000 m  600 m  Interrupts/diagnostics/status information  Alarms  • Diagnostic alarm  Diagnostic messages  • Diagnostic information readable  Yes  Diagnostics indication LED  • Fail-safe operation • Group error SF (red)  Potential separation  Potential separation digital outputs  • between the channels • between the channels, in groups of • between the channels and backplane bus • between the channels and the power supply of the electronics  Isolation	horizontal installation	
- up to 60 °C, max. 6 A  vertical installation - up to 40 °C, max. 5 A  Cable length  • shielded, max. 1 000 m  • unshielded, max. 600 m  Interrupts/diagnostics/status information  Alarms  • Diagnostic alarm Yes  Diagnostic messages  • Diagnostic information readable Yes  Diagnostics indication LED  • Fail-safe operation Yes  • Group error SF (red) Yes  Potential separation  Potential separation digital outputs  • between the channels in groups of 5  • between the channels and backplane bus Yes  • between the channels and the power supply of the electronics  Isolation	— up to 40 °C, max.	10 A
vertical installation — up to 40 °C, max.  Cable length  • shielded, max. • unshielded, max. • unshielded, max.  1 000 m  Interrupts/diagnostics/status information  Alarms  • Diagnostic alarm  Polagnostic messages  • Diagnostic information readable  Fail-safe operation • Group error SF (red)  Potential separation  Potential separation digital outputs  • between the channels, in groups of • between the channels and backplane bus • between the channels and the power supply of the electronics  Isolation	·	6 A
— up to 40 °C, max. 5 A  Cable length  • shielded, max. 1000 m  • unshielded, max. 600 m  Interrupts/diagnostics/status information  Alarms  • Diagnostic alarm Yes  Diagnostic messages  • Diagnostic information readable Yes  Diagnostics indication LED  • Fail-safe operation Yes  • Group error SF (red) Yes  Potential separation  Potential separation digital outputs  • between the channels Yes  • between the channels in groups of  • between the channels and backplane bus Yes  • between the channels and the power supply of the electronics  Isolation	·	
Cable length  • shielded, max. • unshielded, max.  • unshielded, max.  1 000 m  600 m  Interrupts/diagnostics/status information  Alarms  • Diagnostic alarm  Piagnostic messages  • Diagnostic information readable  Piagnostics indication LED  • Fail-safe operation • Group error SF (red)  Potential separation  Potential separation digital outputs  • between the channels • between the channels, in groups of • between the channels and backplane bus • between the channels and the power supply of the electronics  Isolation		5 A
shielded, max.     unshielded, max.     600 m  Interrupts/diagnostics/status information  Alarms     Diagnostic alarm     Yes  Diagnostic messages     Diagnostic information readable     Yes  Diagnostics indication LED     Fail-safe operation     Group error SF (red)  Potential separation  Potential separation digital outputs      between the channels     between the channels, in groups of     between the channels and backplane bus     between the channels and the power supply of the electronics  Isolation	·	
Interrupts/diagnostics/status information  Alarms  Diagnostic alarm  Pes  Diagnostic messages  Diagnostic information readable  Fail-safe operation Group error SF (red)  Potential separation  Potential separation digital outputs  Detween the channels Detween the channels, in groups of Detween the channels and backplane bus Detween the channels and the power supply of the electronics  Isolation		1 000 m
Alarms  • Diagnostic alarm  Diagnostic messages  • Diagnostic information readable  • Fail-safe operation • Group error SF (red)  Potential separation  Potential separation digital outputs  • between the channels • between the channels, in groups of • between the channels and backplane bus • between the channels and the power supply of the electronics  Isolation		600 m
Diagnostic alarm  Diagnostic messages  Diagnostic information readable  Poliagnostics indication LED  Fail-safe operation Group error SF (red)  Potential separation  Potential separation digital outputs  Detween the channels Detween the channels, in groups of Detween the channels and backplane bus Detween the channels and the power supply of the electronics    Solation   Yes	Interrupts/diagnostics/status information	
Diagnostic messages  • Diagnostic information readable  Piail-safe operation • Fail-safe operation • Group error SF (red)  Potential separation  Potential separation digital outputs  • between the channels • between the channels and backplane bus • between the channels and the power supply of the electronics    Solation   Separation   Separa		
Diagnostic information readable  Diagnostics indication LED  Fail-safe operation Group error SF (red)  Potential separation  Potential separation digital outputs  between the channels between the channels, in groups of between the channels and backplane bus between the channels and the power supply of the electronics    Solation   Separation	Diagnostic alarm	Yes
Diagnostics indication LED  Fail-safe operation Group error SF (red)  Potential separation  Potential separation digital outputs  between the channels between the channels, in groups of between the channels and backplane bus between the channels and backplane bus between the channels and the power supply of the electronics    Solation   So	Diagnostic messages	
Fail-safe operation Group error SF (red)  Potential separation  Potential separation digital outputs  between the channels between the channels, in groups of between the channels and backplane bus between the channels and the power supply of the electronics  Potential separation  Yes  Yes  Yes  Yes  Solation	Diagnostic information readable	Yes
Group error SF (red)  Potential separation  Potential separation digital outputs      between the channels     between the channels, in groups of     between the channels and backplane bus     between the channels and the power supply of the electronics  Solation  Yes  Yes  Yes  Yes  Yes  Solation	Diagnostics indication LED	
Potential separation  Potential separation digital outputs  • between the channels • between the channels, in groups of • between the channels and backplane bus • between the channels and the power supply of the electronics    Solution   Potential separation   Potential separation	Fail-safe operation	Yes
Potential separation digital outputs  • between the channels Yes  • between the channels, in groups of 5  • between the channels and backplane bus Yes  • between the channels and the power supply of the electronics  Isolation	• Group error SF (red)	Yes
<ul> <li>between the channels</li> <li>between the channels, in groups of</li> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> </ul> Isolation	Potential separation	
<ul> <li>between the channels, in groups of</li> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> </ul> Isolation 5 Yes Yes	Potential separation digital outputs	
<ul> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> </ul> Yes Yes Yes Isolation	• between the channels	Yes
between the channels and the power supply of the electronics    Solation   Yes	• between the channels, in groups of	5
the electronics  Isolation	• between the channels and backplane bus	Yes
Isolation	• between the channels and the power supply of	Yes
	the electronics	
Isolation tested with 370V for 1 min	Isolation	
	Isolation tested with	370V for 1 min

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
Highest safety class achievable in safety mode	
• acc. to EN 954	Cat. 4
• SIL acc. to IEC 61508	SIL 3
Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C
• max.	60 °C; = T max; *+70 °C when forced convection at a minimum air speed of 0.3 m/s through the modules is ensured. If in the course of maintenance or automatic diagnosis it is determined that the admissible specified parameters have been exceeded, the modules should be subjected to a proof test (function check) by the manufacturer.
Extended ambient conditions	
<ul> <li>relative to ambient temperature-atmospheric pressure-installation altitude</li> </ul>	Tmin Tmax at 1080 hPa 795 hPa (-1000 m +2000 m)
Relative humidity	
<ul> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
<ul> <li>against biologically active substances / conformity with EN 60721-3-3</li> </ul>	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!
<ul> <li>against chemically active substances / conformity with EN 60721-3-3</li> </ul>	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!
— against mechanically active substances /	Yes; Class 3S4 incl. sand, dust. The supplied connector covers
conformity with EN 60721-3-3	must remain on 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.	330 g

**last modified:** 10/12/2016