## **SIEMENS**

## Data sheet

## 6AG1322-5FF00-4AB0

SIPLUS S7-300 SM 322 8DO with conformal coating based on 6ES7322-5FF00-0AB0 . Digital output isolated, 8 DO, 120/230 V AC, 2A, with single rooting/channel and selectable failure mode, 1x 40pole



Figure similar

Supply voltage	
Load voltage L1	
• Rated value (AC)	230 V; 120/230 V AC
<ul> <li>permissible range, lower limit (AC)</li> </ul>	79 V
• permissible range, upper limit (AC)	264 V
Input current	
from load voltage L1 (without load), max.	2 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	8.6 W
Digital outputs	
Number of digital outputs	8
Switching capacity of the outputs	
• on lamp load, max.	50 W
Output voltage	
● for signal "1", min.	L1 (-8.5 V)

• for signal "1" raited value         2 A           • for signal "1" riminum load current         10 mA           • for signal "1" permissible surge current, max.         2 0 A; with 2 half waves           • for signal "1" permissible surge current, max.         2 D A; with 2 half waves           • for signal "1" permissible surge current, max.         2 D A; with 2 half waves           • for signal "1" residual current, max.         2 D A; with 2 half waves           • with inductive load, max.         0 F Hz           • on lamp load, max.         1 Hz           • Total current of the outputs (per group)         Drizontal installation           up to 40 °C, max.         4 A           • vertical installation         - up to 40 °C, max.           • a pol to 40 °C, max.         4 A           • Cable length         - up to 40 °C, max.           • bielided, max.         1000 m           • unshielded, max.         600 m           Interrupts/diagnostics/status information         Diagnostics function LED           • Diagnostic surger or SF (red)         Yes           • Status indicator digital output (green)         Yes           • Detween the channels         Yes           • between the channels in groups of         1           • between the channels in groups of         1 <t< th=""><th>Output current</th><th></th></t<>	Output current	
ior signal "1" permissible surge current, max.       20 A; with 2 half waves         ior signal "0" residual current, max.       2 mA         Switching frequency       0.5 Hz         i with inductive load, max.       0.5 Hz         i on lamp load, max.       1 Hz         Total current of the outputs (per group)       1 Hz         horizontal installation       8 A         - up to 40 °C, max.       4 A         vertical installation       4 A         - up to 60 °C, max.       4 A         vertical installation       600 m         - up to 60 °C, max.       600 m         ishielded, max.       1000 m         on singlostics function       Yes; Parameterizable         Diagnostics latern       Yes; Parameterizable         Diagnostics latern       Yes; Parameterizable         Diagnostics latern       Yes         offer signal separation digital output (green)       Yes         Potential separation digital output separation       Yes         obtiveen the channels       Yes         obtiveen the channels, in groups of       1         obtiveen the channels, in groups of       1         obtiveen the channels, eurificates       Yes         Obtion       Yes; File E239877	<ul> <li>for signal "1" rated value</li> </ul>	2 A
• for signal *1° permissible surge current, max.20 A; with 2 half waves• for signal *0° residual current, max.2 mASwitching frequency10 Hz• with in ductive load, max.0.5 Hz• on lamp load, max.0.5 Hz• on lamp load, max.1 HzTotal current of the outputs (per group)• horizontal installation8 A- up to 40 °C, max.8 A- up to 60 °C, max.4 A• entite linstallation4 A• current of the outputs (per group)• horizontal installation4 A• up to 60 °C, max.8 A• up to 60 °C, max.1000 m• shielded, max.1000 m• unshielded, max.600 m• unshielded, max.1000 m• outputs (per group)Ves; ParameterizableDiagnostics functionVes; ParameterizableDiagnostics laternVes; ParameterizableDiagnostics laternYes• Status indicator digital output (green)Yes• Detential separation digital output (green)Yes• between the channelsYes• between the channels in groups of • between the channels, in groups of • between the channels, in groups of • between the channels, in groups of • Sitol vac1• between the channels, eurificatesYesStandards, septrovalYesCell and the channels, eurificatesYes• between the channels, eurificatesYes• between the channels, eurificatesYes• between the channels, eurificatesYes•	<ul> <li>for signal "1" minimum load current</li> </ul>	10 mA
• for signal "0" residual current, max.2 mASwitching frequency10 Hz• with resistive load, max.10 Hz• with inductive load, max.0.5 Hz• on lamp load, max.11 HzTotal current of the outputs (per group)11 Hz• horizontal installation8 A- up to 6 0 °C, max.8 A- up to 6 0 °C, max.4 A• wetrical installation4 A- up to 6 0 °C, max.6 Om m- up to 6 0 °C, max.6 Om m• unshielded, max.1 000 m• unshielded, max.1 000 m• unshielded, max.1 000 m• unshielded, max.9 Om m• Diagnostics functionYes: ParameterizableAtams9• Diagnostic alarmYes: Parameterizable• Diagnostic alarmYes• Group error SF (red)Yes• Status indicator digital output (green)Yes• between the channelsYes• between the channelsYes• between the channels and backplane busYes• between the channels and backplane busYes• between the channels and backplane busYes• between the channels, in groups of1• between the channels, mand backplane busYesStandards, approvals, certificatesYesCE markYesUL approvalYesRCM (formerly C-TICK)YesKC approvalYesRaitway applicationYes		20 A; with 2 half waves
Switching frequency         10 Hz           • with resistive load, max.         10 Hz           • on lamp load, max.         0.5 Hz           • on lamp load, max.         1 Hz           Total current of the outputs (per group)         Hz           horizontal installation         8 A		2 mA
• with resistive load, max.10 Hz• with inductive load, max.0.5 Hz• on lamp load, max.1 HzTotal current of the outputs (per group)horizontal installation- up to 40 °C, max.8 A- up to 60 °C, max.4 Avertical installation- up to 40 °C, max.4 ACable length- up to 40 °C, max.600 mStalleided, max.600 mInterrupts/diagnostics/status informationDiagnostics functionYes; ParameterizableAlarrosObjenstics indication LED• Group error SF (red)Yes• Status indicator digital output (green)YesPotential separationYes: OpticouplerPotential separation digital outputs1• between the channelsYes• between the channels in groups of • between the channels in diackplane busYesVes1500 V ACStandards, approvals, certificatesYesCE markYesUL approvalYesRCM (formerly C-TICK)YesKC approvalYesRCM (formerly C-TICK)YesRailway applicationYes	-	
• with inductive load, max.0.5 Hz• on iamp load, max.1 HzTotal current of the outputs (per group)• horizontal installation8 A- up to 40 °C, max.4 A• vertical installation4 A• vertical installation4 A• cup to 60 °C, max.600 mCable length1000 m• shielded, max.600 mInterrupts/diagnostics/status informationYes; Parameterizable• bignostics functionYes; ParameterizableDiagnostics function LEDYes• Group error SF (red)Yes• Status indicator digital output (green)YesPotential separation digital outputsYes• between the channels, in groups of • tes; OpticouplerIsolation tested with1500 V ACStandards, approvals, certificatesYesCE markYesCE markYesCide mark<		10 Hz
• on lamp load, max.1 HzTotal current of the outputs (per group)horizontal installation8 A- up to 40 °C, max.8 A- up to 60 °C, max.4 Avertical installation4 ACable length600 m• unshielded, max.1 000 m• unshielded, max.600 m• unshielded, max.9 do °C, max.• unshielded, max.9 dos °C, max.• unshielded, max.9 dos °C, max.• unshielded, max.9 dos °C, max.• dos on Carrent Signation LED9 dos °C, field output (green)• between the channels. in groups of1• between the channels. in groups of1• between the channels. in groups of1• between the channels and backplane busYes: OptocouplerIsolation tested with1500 V	·	0.5 Hz
Total current of the outputs (per group)           horizontal installation           - up to 40 °C, max.         8 Å           - up to 60 °C, max.         4 Å           vertical installation         4 Å           - up to 40 °C, max.         4 Å           Cabbe length         4 Å           - up to 40 °C, max.         600 m           Cabbe length         600 m           - unshielded, max.         600 m           Diagnostics function         Yes; Parameterizable           Alarms         1000 m           Obignostic alarm         Yes; Parameterizable           Diagnostics indicator digital output (green)         Yes           • Status indicator digital output (green)         Yes           Potential separation digital outputs         Yes; Opticocupler           • between the channels, in groups of         1           • between the channels, in groups of         1           • between the channels and backplane bus         Yes; Opticocupler           Status indicator digital outputs         Yes; Opticocupler           Isolation tested with         1500 V AC           Standards, approvals, certificates         Yes           CE mark         Yes           UL approval         Yes           RCM		1 Hz
horizontal installation         8 A          up to 60 °C, max.         8 A          up to 60 °C, max.         4 A           vertical installation         -          up to 40 °C, max.         4 A           Cable length         -          up to 40 °C, max.         4 A           Cable length         -          up to 40 °C, max.         1000 m           Cable length         -          up to 40 °C, max.         600 m          up to 40 °C, max.         Yes; Parameterizable           Diagnostic alarm         Yes; Parameterizable           Diagnostic alarm         Yes; Parameterizable           Diagnostic alarm         Yes; Parameteri		
up to 40 °C, max.8 A up to 60 °C, max.4 Avertical installation4 A up to 40 °C, max.4 ACable length1000 m• shielded, max.1000 m• unshielded, max.600 mInterpls/diagnostics/status informationYes; ParameterizableDiagnostic sfunctionYes; ParameterizableAlarms		
up to 60 °C, max.4 Avertical installationup to 40 °C, max.4 ACable length- shielded, max.1000 m• unshielded, max.600 mInterrupts/clagnostics/status informationDiagnostic functionYes; ParameterizableAlarms- Diagnostic alarmYes; ParameterizableDiagnostic alarmYes; ParameterizableDiagnostic alarmYes; ParameterizableDiagnostic alarmYes; ParameterizableDiagnostic alarmYes; ParameterizableDiagnostic alarmYes• Status indicator LEDYes• Status indicator digital output (green)YesPotential separationYes• between the channelsYes• between the channels, in groups of • between the channels and backplane bus1500 V ACStandards, approvals, certificatesYesCE mark UL approvalYesCE mark CC aproval EAC (formerly CoSLR)YesAlards EAC (formerly GoSLR)YesFailway applicationYes		8 A
vertical installation         4 A           Cable length         1000 m           • unshielded, max.         600 m           • unshielded, max.         600 m           Interrupts/diagnostics/status information         Yes; Parameterizable           Diagnostics function         Yes; Parameterizable           Alarms            • Diagnostic alarm         Yes; Parameterizable           Diagnostic alarm         Yes; Optocoupler           Potential separation         Yes; Optocoupler           Isolation tested with         1500 V AC	·	
	•	
Cable length            • shielded, max.             • unshielded, max.             • biagnostics/status information             Diagnostics/status information             Diagnostic alarm             • Diagnostic alarm             Diagnostic alarm             Otagnostic alarm             Diagnostic alarm             Diagnostic alarm             Detential separation <t< td=""><td></td><td>4 A</td></t<>		4 A
• shielded, max.1 000 m• unshielded, max.600 mDiagnostics/status informationDiagnostics/status informationPolagnostics/status informationAlarms• Diagnostic alarmYes; ParameterizableDiagnostic alarmYes; ParameterizableDiagnostic alarmYes; ParameterizableDiagnostic alarmYes; ParameterizableObagnostic alarmYes; ParameterizableObagnostic alarmYes; ParameterizableObagnostic alarmYes• Status indicator digital output (green)YesPotential separationYesPotential separation digital outputsYes• between the channelsYes; Optocoupler• between the channels and backplane busYes; OptocouplerIsolationIsolation tested withIsolation tested with1500 V ACStandards, approvals, certificatesYesCE markYes; File E239877RCM (formerly C-TICK)YesRealway applicationYes		
• unshielded, max.600 mInterrupts/diagnostics/status informationDiagnostics functionYes; ParameterizableAlarms• Diagnostic alarmYes; ParameterizableDiagnostic indication LEDYes• Group error SF (red)Yes• Status indicator digital output (green)YesPotential separationYes• between the channelsYes; Optocoupler• between the channels and backplane busYes; OptocouplerIsolation tested with1500 V ACStandards, approvals, certificatesYes; File E239877RCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesRailway applicationYes	-	1 000 m
Interrupts/diagnostics/status information       Diagnostics function     Yes; Parameterizable       Alarms          • Diagnostic alarm     Yes; Parameterizable       Diagnostics indication LED       • Group error SF (red)     Yes       • Status indicator digital output (green)     Yes       Potential separation     Yes       Potential separation digital outputs     Yes; Optocoupler       • between the channels, in groups of     1       • between the channels and backplane bus     Yes; Optocoupler       Isolation     Isolation tested with       Standards, approvals, certificates     Yes       CE mark     Yes       UL approval     Yes; File E239877       RCM (formerly C-TICK)     Yes       KC approval     Yes       EAC (formerly Gost-R)     Yes		
Diagnostics function       Yes; Parameterizable         Alarms <ul> <li>Diagnostics indication LED</li> <li>Group error SF (red)</li> <li>Yes</li> </ul> <ul> <li>Status indicator digital output (green)</li> </ul> Potential separation                  Potential separation digital outputs <ul> <li>between the channels</li> <li>Yes; Optocoupler</li> </ul> Isolation tested with         1500 V AC           Standards, approvals, certificates         Yes; File E239877 <ul> <li>Ves; File E239877</li> <li>Red (formerly Gost-R)</li> <li>Yes</li> <li>Yes</li> </ul>	• unshielded, max.	
Alarms       Yes; Parameterizable         Diagnostics indication LED          • Group error SF (red)       Yes         • Status indicator digital output (green)       Yes         Potential separation       Yes         • between the channels       Yes; Optocoupler         • between the channels and backplane bus       Yes; Optocoupler         Isolation       1         Isolation tested with       1500 V AC         Standards, approvals, certificates       Yes; File E239877         CE mark       Yes; File E239877         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes		
• Diagnostic alarm       Yes; Parameterizable         Diagnostics indication LED       Yes         • Group error SF (red)       Yes         • Status indicator digital output (green)       Yes         Potential separation       Yes         Potential separation digital outputs       Yes         • between the channels       Yes; Optocoupler         • between the channels, in groups of       1         • between the channels and backplane bus       Yes; Optocoupler         Isolation       Isolation         Isolation tested with       1500 V AC         Standards, approvals, certificates       Yes; File E239877         CE mark       Yes; File E239877         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes	Diagnostics function	Yes; Parameterizable
Diagnostics indication LED       Yes         • Group error SF (red)       Yes         • Status indicator digital output (green)       Yes         Potential separation       Yes         Potential separation digital outputs       1         • between the channels       Yes; Optocoupler         • between the channels and backplane bus       Yes; Optocoupler         Isolation       1         Isolation tested with       1500 V AC         Standards, approvals, certificates       Yes; File E239877         CE mark       Yes; File E239877         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes	Alarms	
Group error SF (red)Yes• Status indicator digital output (green)YesPotential separationPotential separation digital outputs• between the channelsYes• between the channels, in groups of1• between the channels and backplane busYes; OptocouplerIsolationYes; OptocouplerIsolation tested with1500 V ACStandards, approvals, certificatesYes; File E239877CE markYes; File E239877UL approvalYes; File E239877RCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesRailway applicationYes	Diagnostic alarm	Yes; Parameterizable
• Status indicator digital output (green)       Yes         Potential separation       Potential separation digital outputs         • between the channels       Yes         • between the channels, in groups of       1         • between the channels and backplane bus       Yes; Optocoupler         Isolation       Yes; Optocoupler         Isolation tested with       1500 V AC         Standards, approvals, certificates       Yes; File E239877         CE mark       Yes; File E239877         UL approval       Yes         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes	Diagnostics indication LED	
Potential separation       Potential separation digital outputs       • between the channels     Yes       • between the channels, in groups of     1       • between the channels and backplane bus     Yes; Optocoupler       Isolation       Isolation tested with     1500 V AC       Standards, approvals, certificates       CE mark     Yes       UL approval     Yes; File E239877       RCM (formerly C-TICK)     Yes       KC approval     Yes       EAC (formerly Gost-R)     Yes       Railway application	<ul> <li>Group error SF (red)</li> </ul>	Yes
Potential separation digital outputs         • between the channels       Yes         • between the channels, in groups of       1         • between the channels and backplane bus       Yes; Optocoupler         Isolation       Yes; Optocoupler         Isolation tested with       1500 V AC         Standards, approvals, certificates       Yes; File E239877         UL approval       Yes; File E239877         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes	<ul> <li>Status indicator digital output (green)</li> </ul>	Yes
Potential separation digital outputs         • between the channels       Yes         • between the channels, in groups of       1         • between the channels and backplane bus       Yes; Optocoupler         Isolation       Yes; Optocoupler         Isolation tested with       1500 V AC         Standards, approvals, certificates       Yes; File E239877         UL approval       Yes; File E239877         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes	Potential separation	
• between the channels and backplane bus       Yes; Optocoupler         Isolation       Isolation tested with         Isolation tested with       1500 V AC         Standards, approvals, certificates       Yes         CE mark       Yes; File E239877         UL approval       Yes; File E239877         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes	between the channels	Yes
Isolation         Isolation tested with       1500 V AC         Standards, approvals, certificates         CE mark       Yes         UL approval       Yes; File E239877         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes	<ul> <li>between the channels, in groups of</li> </ul>	1
Isolation       Isolation tested with       1500 V AC         Standards, approvals, certificates       Yes         CE mark       Yes; File E239877         UL approval       Yes; File E239877         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes		Yes; Optocoupler
Isolation tested with1500 V ACStandards, approvals, certificatesYesCE markYesUL approvalYes; File E239877RCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesRailway applicationYes	·	
Standards, approvals, certificates         CE mark       Yes         UL approval       Yes; File E239877         RCM (formerly C-TICK)       Yes         KC approval       Yes         EAC (formerly Gost-R)       Yes         Railway application       Yes		1500 \/ AC
CE markYesUL approvalYes; File E239877RCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesRailway applicationYes		IJUU V AC
UL approval     Yes; File E239877       RCM (formerly C-TICK)     Yes       KC approval     Yes       EAC (formerly Gost-R)     Yes       Railway application     Yes		
RCM (formerly C-TICK)     Yes       KC approval     Yes       EAC (formerly Gost-R)     Yes       Railway application     Yes		
KC approval     Yes       EAC (formerly Gost-R)     Yes       Railway application     Yes		
EAC (formerly Gost-R) Yes Railway application		
Railway application		
		Yes
• EN 50155 No		
	• EN 50155	No

Ambient conditions	
Ambient temperature during operation	
• min.	0 °C; = Tmin
• max.	60 °C; = Tmax
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
<ul> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m
<ul> <li>Ambient air temperature-barometric pressure- altitude</li> </ul>	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	
<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	
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); *
<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); *
<ul> <li>— to mechanically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6S3 incl. sand, dust; *
Remark	
<ul> <li>— Note regarding classification of environmental conditions acc. to EN 60721</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 availability
<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
Connection method	
required front connector	40-pin

Dimensions		
Width	40 mm	
Height	125 mm	
Depth	120 mm	
Weights		
Weight, approx.	275 g	
last modified:	12/14/2018	