## **SIEMENS**

## **Data sheet**

## 6ES7322-5GH00-0AB0



SIMATIC S7-300, Digital output SM 322, isolated, 16 DO (solid-state relay), 24-48 V AC/DC; 0.5 A with single rooting, 1x + 40-pole

Figure similar

Mains buffering  Mains buffering  Mains buffering  Mains buffering  All active (DC)  Permissible range, lower limit (DC)  Permissible range, lower limit (DC)  Permissible range, upper limit (DC)  Reverse polarity protection  Power loss  Input current  If orm supply voltage L+, max.  If orm backplane bus 5 V DC, max.  Power loss  Power loss  Power loss  Power loss  Power loss (YP)  Digital outputs  Number of digital outputs  No, to be provided externally  Controlling a digital input  Yes  Size of motor starters according to NEMA, max.  Sixe 5 according to NEMA  Switching capacity of the outputs  Output current  For signal "1" min.  Cutput current  For signal "1" rated value  For signal "1" rated value  For signal "1" rated value  For signal "1" permissible range for 0 to 40 °C, max.  For signal "1" permissible range for 40 to 60 °C, max.  For signal "1" permissible urage current, max.  For signal "1" premissible urage current, max.  For signal "1" permissible urage current, max.  For signal "1" prax.  For signal "1" pra	Supply voltage	
Mains/voltage failure stored energy time  Activity of the stored energy time  Activity of the outputs  Activity of the output outpu		
Load voltage L+  • Rated value (DC)  • permissible range, lower limit (DC)  • permissible range, upper limit (DC)  • Reverse polarity protection  Yes  Input current  from supply voltage L+, max.  200 mA from backplane bus 5 V DC, max.  Power loss  Power loss  Power loss, typ.  2.8 W  Digital outputs  Number of digital outputs  16 Short-circuit protection  No; to be provided externally  Controlling a digital input  Yes  Size of motor starters according to NEMA, max.  Size 5 according to NEMA  Switching capacity of the outputs  • on a lamp load, max.  2.5 W  Output voltage  • for signal "1" rated value  • for signal "1" permissible range for 40 to 60 "C, max.  • for signal "1" permissible range for 40 to 60 "C, max.  • for signal "1" permissible surge current, max.  • for signal "1" permissible range for 40 to 60 "C, max.  • for signal "1" permissible surge current, max.  • for signal "1" permissible range for 40 to 60 "C, max.  • for signal "1" permissible surge current, max.  • for signal "1" permissible surge current, max.  • for signal "1" permissible surge current, max.  • for signal "1" permissible load  • "0" to "1", max.  • 10" to "1", max.	9	F
<ul> <li>Rated value (DC)</li> <li>permissible range, lower limit (DC)</li> <li>permissible range, upper limit (DC)</li> <li>Reverse polarity protection</li> <li>Yes</li> </ul> Input current from supply voltage L+, max. <ul> <li>power loss.</li> <li>Power loss.</li> <li>Power loss.</li> <li>Power loss, typ.</li> <li>2.8 W</li> </ul> Digital outputs <ul> <li>No; to be provided externally</li> <li>Controlling a digital input</li> <li>Yes</li> <li>Size of motor starters according to NEMA, max.</li> <li>Size 5 according to NEMA</li> </ul> Switching capacity of the outputs <ul> <li>for signal "1", min.</li> <li>L+(-0.25 V)</li> </ul> Output voltage <ul> <li>for signal "1" repemissible range for 0 to 40 °C, max.</li> <li>for signal "1" permissible surge current, max.</li> <li>for signal "0" residual current, max.</li> <li>of or signal "0" repressible large current, max.</li> <li>of or signal "0" repressible large current, max.</li> <li>of or signal "0" repressible large current, max.</li> <li>of or signal "0" residual current, max.</li> <li>of or signal swith resistive load</li> <li>of "0" to "1", max.</li> <li>a for uprating</li> <li>for uprating</li> <li>for uprating</li> <li>for uprating</li> <li>for uprating</li> <li>for redundant control of a load</li> </ul> Yes <ul> <li>with resistive load, max.</li> <li>10 Hz</li> </ul>		5 MS
<ul> <li>permissible range, lower limit (DC)</li> <li>permissible range, upper limit (DC)</li> <li>Reverse polarity protection</li> <li>Yes</li> </ul> Input current from supply voltage L+, max. <ul> <li>200 mA</li> <li>from backplane bus 5 V DC, max.</li> </ul> Power loss Power loss, typ. <ul> <li>2.8 W</li> </ul> Digital outputs <ul> <li>No; to be provided externally</li> <li>Controlling a digital input</li> <li>Yes</li> <li>Size of motor starters according to NEMA, max.</li> <li>Size 5 according to NEMA</li> </ul> Switching capacity of the outputs <ul> <li>on lamp load, max.</li> <li>of on lamp load, max.</li> <li>for signal "1" rated value</li> <li>for signal "1" permissible range for 0 to 40 "C, max.</li> <li>of or signal "1" permissible range for 40 to 60 "C, max.</li> <li>of or signal "1" permissible surge current, max.</li> <li>of or signal "0" residual current, max.</li> <li>of signal "0" residual current, max.</li> <li>of signal "0" residual current, max.</li> <li>of "0" to "1", max.</li> <li>of "0" to "1", max.</li> <li>of "0" to "1", max.</li> <li>of or uprating</li> <li>of or redundant control of a load</li> <li>Yes</li> </ul> Switching frequency <ul> <li>with resistive load, max.</li> <li>10 Hz</li> </ul>	9	04.1/ 04./ 40
permissible range, upper limit (DC) Reverse polarity protection Yes    New Yes	• •	
• Reverse polarity protection  Input current  from supply voltage L+, max. from backplane bus 5 V DC, max.  Power loss, typ.  Power loss, typ.  Power loss, typ.  Digital outputs  Number of digital outputs  Size of motor starters according to NEMA, max.  Size of motor starters according to NEMA, max.  Size of motor starters according to NEMA, max.  Switching capacity of the outputs  • on lamp load, max.  Output voltage  • for signal "1" rated value • for signal "1" rated value • for signal "1" permissible range for 0 to 40 °C, max. • for signal "1" permissible range for 40 to 60 °C, max. • for signal "1" permissible surge current, max. • for signal "0" residual current, max. • for signal "0" residual current, max. • for imax. • f	, ,	
Input current  from supply voltage L+, max.  from backplane bus 5 V DC, max.  Power loss, typ.  Digital outputs  Number of digital outputs  16 Short-circuit protection  Controlling a digital input  Yes Size of motor starters according to NEMA, max.  Size 5 according to NEMA  Switching capacity of the outputs  on lamp load, max.  2.5 W  Output voltage  for signal "1" rated value  for signal "1" rated value  of or signal "1" permissible range for 0 to 40 °C, max.  of or signal "1" permissible range for 40 to 60 °C, max.  of or signal "1" permissible surge current, max.  of or signal "0" residual current, max.  for or "0" to "1", max.  of "1" to "0", max.  Parallel switching of two outputs  of tor uprating of or redundant control of a load  Switching frequency  with resistive load, max.  10 Hz		
from supply voltage L+, max.  from backplane bus 5 V DC, max.  Power loss  Power loss, typ.  Digital outputs  Number of digital outputs  Number of digital outputs  No; to be provided externally  Controlling a digital input  Yes Size of motor starters according to NEMA, max.  Size 5 according to NEMA  Switching capacity of the outputs  on lamp load, max.  2.5 W  Output voltage  of or signal "1", min.  L+ (-0.25 V)  Output current  of or signal "1" rated value of or signal "1" permissible range for 0 to 40 °C, max. of or signal "1" permissible range for 40 to 60 °C, max. of or signal "1" permissible surge current, max. of or signal "1" permissible surge current, max. of or signal "1" permissible surge current, max. of or signal "0" residual current, max. of or signal "1" or	Reverse polarity protection	Yes
from backplane bus 5 V DC, max.  Power loss Power loss, typ.  Digital outputs  Number of digital outputs  Short-circuit protection Controlling a digital input Yes Size of motor starters according to NEMA, max. Size 5 according to NEMA Switching capacity of the outputs  • on lamp load, max.  Output voltage • for signal "1", min.  L+ (-0.25 V)  Output current • for signal "1" rated value • for signal "1" permissible range for 0 to 40 °C, max. • for signal "1" permissible range for 40 to 60 °C, max. • for signal "1" permissible surge current, max.  • for signal "0" residual current, max.  • for signal "0" residual current, max.  • for signal "0" residual current, max.  Output delay with resistive load • "0" to "1", max. • "1" to "0", max.  Parallel switching of two outputs • for redundant control of a load  Yes  Switching frequency • with resistive load, max.  10 Hz	Input current	
Power loss Power loss, typ. 2.8 W  Digital outputs  Number of digital outputs 16 Short-circuit protection No; to be provided externally  Controlling a digital input Yes Size of motor starters according to NEMA, max. Size 5 according to NEMA Switching capacity of the outputs  on lamp load, max. 2.5 W  Output voltage of or signal "1", min. L+ (-0.25 V)  Output current  of or signal "1" rated value 0.5 A of or signal "1" permissible range for 0 to 40 °C, max. 0.5 A of or signal "1" permissible range for 40 to 60 °C, max. of or signal "1" permissible surge current, max. 1.5 A; for 50 ms, 1 A 2 s one-time of or signal "0" residual current, max. 10 µA  Output delay with resistive load  o"0" to "1", max. 6 ms o"1" to "0", max. 3 ms  Parallel switching of two outputs of or redundant control of a load Yes  Switching frequency owith resistive load, max. 10 Hz	from supply voltage L+, max.	200 mA
Power loss, typ.  Digital outputs  Number of digital outputs  Short-circuit protection  No; to be provided externally  Controlling a digital input  Size of motor starters according to NEMA, max.  Size 5 according to NEMA  Switching capacity of the outputs  on lamp load, max.  2.5 W  Output voltage  for signal "1", min.  L+ (-0.25 V)  Output current  of or signal "1" permissible range for 0 to 40 °C, max.  of or signal "1" permissible range for 40 to 60 °C, max.  for signal "1" permissible surge current, max.  of or signal "0" residual current, max.  of or signal "0" residual current, max.  of or signal "0" residual current, max.  Output delay with resistive load  o"0" to "1", max.  of or uprating of or redundant control of a load  Yes  Switching frequency  with resistive load, max.  10 Hz	from backplane bus 5 V DC, max.	100 mA
Number of digital outputs  Number of digital outputs  Short-circuit protection  Controlling a digital input  Size of motor starters according to NEMA, max.  Size 5 according to NEMA  Switching capacity of the outputs  on lamp load, max.  2.5 W  Output voltage  of ro signal "1", min.  L+ (-0.25 V)  Output current  of ro signal "1" rated value of ro signal "1" permissible range for 0 to 40 °C, max. of ro signal "1" permissible range for 40 to 60 °C, max. of ro signal "1" permissible surge current, max. of ro signal "0" residual current, max. of max. of ro signal "0" residual current, max. of max. of ro signal "0" residual current, max. of m	Power loss	
Number of digital outputs  Short-circuit protection  No; to be provided externally  Yes  Size of motor starters according to NEMA, max.  Size 5 according to NEMA  Switching capacity of the outputs  • on lamp load, max.  Output voltage  • for signal "1", min.  L+ (-0.25 V)  Output current  • for signal "1" rated value  • for signal "1" permissible range for 0 to 40 °C, max.  • for signal "1" permissible range for 40 to 60 °C, max.  • for signal "1" permissible surge current, max.  • for signal "1" permissible surge current, max.  • for signal "0" residual current,	Power loss, typ.	2.8 W
Short-circuit protection  Controlling a digital input  Size of motor starters according to NEMA, max.  Size 5 according to NEMA  Switching capacity of the outputs  on lamp load, max.  2.5 W  Output voltage  of ror signal "1" min.  L+ (-0.25 V)  Output current  of ror signal "1" permissible range for 0 to 40 °C, max.  of ror signal "1" permissible range for 40 to 60 °C, max.  of ror signal "1" permissible surge current, max.  of ror signal "0" residual current, max.  of ms  of ror to "1", max.  of ms  of ror of to "0", max.  Parallel switching of two outputs  of or uprating  of ror redundant control of a load  No  of redundant control of a load  Switching frequency  owith resistive load, max.	Digital outputs	
Controlling a digital input  Size of motor starters according to NEMA, max.  Size 5 according to NEMA  Switching capacity of the outputs  on lamp load, max.  2.5 W  Output voltage  for signal "1", min.  L+ (-0.25 V)  Output current  of r signal "1" rated value  of r signal "1" permissible range for 0 to 40 °C, max.  of r signal "1" permissible range for 40 to 60 °C, max.  of r signal "1" permissible surge current, max.  of r signal "1" permissible surge current, max.  of r signal "0" residual current, max.  of r signal "0" residual current, max.  of ms  "1" to "0", max.  Parallel switching of two outputs  of or redundant control of a load  Switching frequency  with resistive load, max.  on Hz	Number of digital outputs	16
Size of motor starters according to NEMA, max.  Switching capacity of the outputs  on lamp load, max.  2.5 W  Output voltage of r signal "1", min.  L+ (-0.25 V)  Output current of r signal "1" rated value of r signal "1" permissible range for 0 to 40 °C, max. of r signal "1" permissible range for 40 to 60 °C, max. of r signal "1" permissible surge current, max. of r signal "1" permissible surge current, max. of r signal "0" residual current, max. of r signal "0" residual current, max. of r signal "0" residual current, max. of max.  Parallel switching of two outputs of r redundant control of a load  Yes  Switching frequency owith resistive load, max.	Short-circuit protection	No; to be provided externally
Size of motor starters according to NEMA, max.  Switching capacity of the outputs  on lamp load, max.  2.5 W  Output voltage of r signal "1", min.  L+ (-0.25 V)  Output current of r signal "1" rated value of r signal "1" permissible range for 0 to 40 °C, max. of r signal "1" permissible range for 40 to 60 °C, max. of r signal "1" permissible surge current, max. of r signal "1" permissible surge current, max. of r signal "0" residual current, max. of r signal "0" residual current, max. of r signal "0" residual current, max. of max.  Parallel switching of two outputs of r redundant control of a load  Yes  Switching frequency owith resistive load, max.	Controlling a digital input	Yes
<ul> <li>on lamp load, max.</li> <li>Output voltage</li> <li>for signal "1", min.</li> <li>L+ (-0.25 V)</li> <li>Output current</li> <li>for signal "1" permissible range for 0 to 40 °C, max.</li> <li>for signal "1" permissible range for 40 to 60 °C, max.</li> <li>for signal "1" permissible surge current, max.</li> <li>for signal "0" residual current, max.</li> <li>To rignal "0" residual current, max.</li> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> <li>for uprating</li> <li>for redundant control of a load</li> <li>with resistive load, max.</li> <li>With resistive load, max.</li> <li>With resistive load, max.</li> <li>We</li> </ul>		Size 5 according to NEMA
Output voltage  • for signal "1", min.  L+ (-0.25 V)  Output current  • for signal "1" rated value  • for signal "1" permissible range for 0 to 40 °C, max.  • for signal "1" permissible range for 40 to 60 °C, max.  • for signal "1" permissible surge current, max.  • for signal "0" residual current, max.  • for signal "0" residual current, max.  Output delay with resistive load  • "0" to "1", max.  • "1" to "0", max.  Parallel switching of two outputs  • for redundant control of a load  Switching frequency  • with resistive load, max.  10 Hz	Switching capacity of the outputs	
<ul> <li>for signal "1", min.</li> <li>L+ (-0.25 V)</li> <li>Output current</li> <li>for signal "1" rated value</li> <li>for signal "1" permissible range for 0 to 40 °C, max.</li> <li>for signal "1" permissible range for 40 to 60 °C, max.</li> <li>for signal "1" permissible surge current, max.</li> <li>for signal "0" residual current, max.</li> <li>for signal "0" residual current, max.</li> <li>0utput delay with resistive load</li> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> <li>"1" to "0", max.</li> <li>For uprating</li> <li>for redundant control of a load</li> <li>Switching frequency</li> <li>with resistive load, max.</li> <li>10 Hz</li> </ul>	on lamp load, max.	2.5 W
Output current  • for signal "1" rated value • for signal "1" permissible range for 0 to 40 °C, max. • for signal "1" permissible range for 40 to 60 °C, max. • for signal "1" permissible surge current, max. • for signal "1" permissible surge current, max. • for signal "0" residual current, max.  1.5 A; for 50 ms, 1 A 2 s one-time • for signal "0" residual current, max.  10 µA  Output delay with resistive load • "0" to "1", max. • "1" to "0", max.  9 "1" to "0", max.  Parallel switching of two outputs • for uprating • for redundant control of a load  No • with resistive load, max.  10 Hz	Output voltage	
<ul> <li>for signal "1" rated value</li> <li>for signal "1" permissible range for 0 to 40 °C, max.</li> <li>for signal "1" permissible range for 40 to 60 °C, max.</li> <li>for signal "1" permissible surge current, max.</li> <li>for signal "0" residual current, max.</li> <li>for signal "0" residual current, max.</li> <li>1.5 A; for 50 ms, 1 A 2 s one-time</li> <li>for signal "0" residual current, max.</li> <li>0 µA</li> <li>Output delay with resistive load</li> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> <li>9 for uprating</li> <li>for uprating</li> <li>for redundant control of a load</li> <li>Switching frequency</li> <li>with resistive load, max.</li> <li>10 Hz</li> </ul>	● for signal "1", min.	L+ (-0.25 V)
<ul> <li>for signal "1" permissible range for 0 to 40 °C, max.</li> <li>for signal "1" permissible range for 40 to 60 °C, max.</li> <li>for signal "1" permissible surge current, max.</li> <li>for signal "0" residual current, max.</li> <li>for signal "0" residual current, max.</li> <li>0 µA</li> <li>Output delay with resistive load</li> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> <li>Farallel switching of two outputs</li> <li>for uprating</li> <li>for redundant control of a load</li> <li>Switching frequency</li> <li>with resistive load, max.</li> <li>10 Hz</li> </ul>	Output current	
<ul> <li>for signal "1" permissible range for 40 to 60 °C, max.</li> <li>for signal "1" permissible surge current, max.</li> <li>for signal "0" residual current, max.</li> <li>1.5 A; for 50 ms, 1 A 2 s one-time</li> <li>for signal "0" residual current, max.</li> <li>0 µA</li> <li>Output delay with resistive load</li> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> <li>3 ms</li> <li>Parallel switching of two outputs</li> <li>for uprating</li> <li>for redundant control of a load</li> <li>Switching frequency</li> <li>with resistive load, max.</li> <li>10 Hz</li> </ul>	<ul><li>for signal "1" rated value</li></ul>	0.5 A
max.  • for signal "1" permissible surge current, max.  • for signal "0" residual current, max.  1.5 A; for 50 ms, 1 A 2 s one-time  10 μA  Output delay with resistive load  • "0" to "1", max.  • "1" to "0", max.  Parallel switching of two outputs  • for uprating  • for redundant control of a load  Switching frequency  • with resistive load, max.  1.5 A; for 50 ms, 1 A 2 s one-time  10 μA  No  For ms, 1 A 2 s one-time  10 μA  No  For ms  No  Yes	<ul> <li>for signal "1" permissible range for 0 to 40 °C, max.</li> </ul>	0.5 A
<ul> <li>for signal "0" residual current, max.</li> <li>Output delay with resistive load</li> <li>"0" to "1", max.</li> <li>6 ms</li> <li>"1" to "0", max.</li> <li>3 ms</li> <li>Parallel switching of two outputs</li> <li>for uprating</li> <li>for redundant control of a load</li> <li>Switching frequency</li> <li>with resistive load, max.</li> <li>10 Hz</li> </ul>		0.5 A
Output delay with resistive load  • "0" to "1", max.  • "1" to "0", max.  Parallel switching of two outputs  • for uprating  • for redundant control of a load  Switching frequency  • with resistive load, max.  10 Hz	<ul><li>for signal "1" permissible surge current, max.</li></ul>	1.5 A; for 50 ms, 1 A 2 s one-time
<ul> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> <li>3 ms</li> </ul> Parallel switching of two outputs <ul> <li>for uprating</li> <li>for redundant control of a load</li> <li>Switching frequency</li> <li>with resistive load, max.</li> </ul> 10 Hz	<ul><li>for signal "0" residual current, max.</li></ul>	10 μΑ
<ul> <li>"1" to "0", max.</li> <li>Parallel switching of two outputs</li> <li>for uprating</li> <li>for redundant control of a load</li> <li>Switching frequency</li> <li>with resistive load, max.</li> <li>3 ms</li> <li>No</li> <li>Yes</li> <li>10 Hz</li> </ul>	Output delay with resistive load	
Parallel switching of two outputs  • for uprating • for redundant control of a load Yes  Switching frequency • with resistive load, max.  10 Hz	• "0" to "1", max.	6 ms
<ul> <li>for uprating         <ul> <li>for redundant control of a load</li> </ul> </li> <li>Switching frequency         <ul> <li>with resistive load, max.</li> <li>10 Hz</li> </ul> </li> </ul>	• "1" to "0", max.	3 ms
<ul> <li>for redundant control of a load</li> <li>Switching frequency</li> <li>with resistive load, max.</li> <li>10 Hz</li> </ul>	Parallel switching of two outputs	
Switching frequency  • with resistive load, max.  10 Hz	<ul><li>for uprating</li></ul>	No
• with resistive load, max. 10 Hz	<ul> <li>for redundant control of a load</li> </ul>	Yes
	Switching frequency	
• with inductive load, max. 0.5 Hz	<ul> <li>with resistive load, max.</li> </ul>	10 Hz
	<ul> <li>with inductive load, max.</li> </ul>	0.5 Hz

<ul> <li>with inductive load (acc. to IEC 60947-5-1, DC13), max.</li> </ul>	0.5 Hz
● on lamp load, max.	0.5 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 40 °C, max.	0.5 A; 8 A per module
— up to 60 °C, max.	0.5 A; 8 A per module
vertical installation	
— up to 40 °C, max.	0.5 A; 8 A per module
Cable length	
<ul><li>shielded, max.</li></ul>	1 000 m
• unshielded, max.	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Parameterizable
Alarms	
Diagnostic alarm	Yes; Parameterizable
Diagnoses	
Diagnostic information readable	Yes
Diagnostics indication LED	
<ul> <li>Group error SF (red)</li> </ul>	Yes
<ul> <li>Status indicator digital output (green)</li> </ul>	Yes
Potential separation	
Potential separation digital outputs	
<ul> <li>between the channels</li> </ul>	Yes
<ul> <li>between the channels, in groups of</li> </ul>	1
<ul> <li>between the channels and backplane bus</li> </ul>	Yes; Optocoupler
<ul> <li>between the channels and the power supply of the electronics</li> </ul>	Yes
Isolation	
Isolation tested with	1 500 V AC
connection method / header	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	260 g

12/16/2020 🖸

last modified: