## **SIEMENS**

## **Data sheet**

6AG1132-6HD01-7BB1



SIPLUS ET 200SP RQ 4x 120V DC..230VAC/5A ST based on 6ES7132-6HD01-0BB1 with conformal coating, -40...+70  $^{\circ}$ C, relay module normally open, suitable for BU type B0 or B1, module diagnostics

Product type designation Firmware version Firmware versio		
FW update possible usable BaseUnits Color code for module-specific color identification plate  Product function  I & M data I sochronous mode  Operating mode  DQ PWM DQ with energy-saving function PWM Oversampling MSO Redundancy Redundancy Redundancy capability  Supply voltage  Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Pyes BU type B0, B1 CC40  Pest 18,M0 to I&M3 No  Yes; I&M0 to I&M3 No  No  No  Yes  Yes  No  Yes  19.2 V  Permissible range, upper limit (DC) 28.8 V  Reverse polarity protection Yes  Input current  Current consumption (rated value)  55 mA; without load	Product type designation	RQ 4x120 VDC 230 VAC/5 A NO ST
usable BaseUnits Color code for module-specific color identification plate  Product function  I&M data Selsochronous mode Operating mode  DQ	Firmware version	
Color code for module-specific color identification plate  Product function  I &M data I Ses; I&M0 to I&M3 I Sochronous mode  Operating mode  DQ POWITH energy-saving function PWM Oversampling I MSO Redundancy Redundancy Redundancy capability  Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection  Permissible range (rated value)  Current consumption (rated value)  CC40  Yes; I&M0 to I&M3  No  No  Yes  Yes  No  Yes  Supply voltage  Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, u	<ul> <li>FW update possible</li> </ul>	No
Product function  I &M data I Sechronous mode I Sechronous mode  Operating mode  DQ Yes DQ Yes DQ with energy-saving function PWM No Oversampling No MSO Redundancy Redundancy Redundancy Supply voltage  Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection  Product function No No Yes  24 V Permissible range, upper limit (DC) P	usable BaseUnits	BU type B0, B1
<ul> <li>I&amp;M data</li> <li>Isochronous mode</li> <li>No</li> </ul> Operating mode <ul> <li>DQ</li> <li>Yes</li> <li>DQ with energy-saving function</li> <li>PWM</li> <li>Oversampling</li> <li>MSO</li> <li>No</li> </ul> Redundancy <ul> <li>Redundancy capability</li> <li>Yes</li> </ul> Supply voltage Rated value (DC) <ul> <li>permissible range, lower limit (DC)</li> <li>permissible range, upper limit (DC)</li> <li>gas. 8 V</li> <li>Reverse polarity protection</li> <li>Yes</li> </ul> Input current Current consumption (rated value) <ul> <li>55 mA; without load</li> </ul>	Color code for module-specific color identification plate	CC40
Isochronous mode     Operating mode	Product function	
Operating mode  • DQ • DQ with energy-saving function • PWM • Oversampling • MSO • MSO  Redundancy • Redundancy capability  Yes  Supply voltage  Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection  Input current  Current consumption (rated value)  Yes  Yes  Sometimate of the support of	● I&M data	Yes; I&M0 to I&M3
DQ with energy-saving function     PWM     No     Oversampling     No     MSO     No  Redundancy     Redundancy capability  Rated value (DC)     permissible range, lower limit (DC)     permissible range, upper limit (DC)     Reverse polarity protection  Input current  Current consumption (rated value)  Yes  Yes  Yes  24 V  19.2 V  28.8 V  Reverse polarity protection  Yes		No
<ul> <li>DQ with energy-saving function</li> <li>PWM</li> <li>Oversampling</li> <li>MSO</li> <li>No</li> <li>Redundancy</li> <li>Redundancy capability</li> <li>Yes</li> </ul> Supply voltage Rated value (DC) <ul> <li>permissible range, lower limit (DC)</li> <li>permissible range, upper limit (DC)</li> </ul>		
PWM Oversampling No MSO No  Redundancy Redundancy capability Yes  Supply voltage  Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes  Input current  Current consumption (rated value)  No No No No No No  Yes  Supply voltage  24 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes		
<ul> <li>Oversampling</li> <li>MSO</li> <li>No</li> <li>Redundancy</li> <li>Redundancy capability</li> <li>Yes</li> <li>Supply voltage</li> <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>Input current</li> <li>Current consumption (rated value)</li> <li>No</li> <li>No</li> <li>No</li> <li>No</li> <li>No</li> <li>Yes</li> </ul>	6,7	
Redundancy  Redundancy capability  Yes  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Input current  Current consumption (rated value)  Yes		
● Redundancy capability  Supply voltage  Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection  Input current  Current consumption (rated value)  Yes  Yes		No
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection  Input current Current consumption (rated value)  24 V 19.2 V 28.8 V Yes  Input current 55 mA; without load	•	Vee
Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Input current  Current consumption (rated value)  24 V  19.2 V  28.8 V  Yes  Input current  55 mA; without load		res
permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection  Input current  Current consumption (rated value)  19.2 V 28.8 V Yes  Input current 55 mA; without load	· · · · · · · · · · · · · · · · · · ·	
permissible range, upper limit (DC) Reverse polarity protection  Input current  Current consumption (rated value)  28.8 V  Yes  Input current  55 mA; without load		
Reverse polarity protection  Input current  Current consumption (rated value)  55 mA; without load	, ,	
Input current Current consumption (rated value) 55 mA; without load		
Current consumption (rated value) 55 mA; without load		Yes
output voltage / header		55 mA; without load
	output voltage / header	
Rated value (AC) 230 V	Rated value (AC)	230 V
Power loss	Power loss	
Power loss, typ. 1.5 W	Power loss, typ.	1.5 W
Address area	Address area	
Address space per module	Address space per module	
• Inputs + 1 byte for QI information		+ 1 byte for QI information
• Outputs 1 byte	<ul><li>Outputs</li></ul>	1 byte
Hardware configuration	Hardware configuration	
Automatic encoding Yes	Automatic encoding	Yes
Mechanical coding element     Yes	<ul> <li>Mechanical coding element</li> </ul>	Yes
Digital outputs	Digital outputs	
Type of digital output Relays	Type of digital output	Relays
Number of digital outputs 4		4
Current-sinking Yes		Yes
Current-sourcing Yes	Current-sourcing	Yes

Digital outputs, parameterizable Short-circuit protection Parallel switching of two outputs  • for logic links • for uprating • for redundant control of a load Yes  Switching frequency • with resistive load, max. • with inductive load, max. • on lamp load, max. • on lamp load, max.  • Current of the outputs • Current per channel, max. • Current per module, max.  • Current of the outputs (per module) horizontal installation — up to 50 °C, max. — up to 60 °C, max. — up to 50 °C, max.
Parallel switching of two outputs  • for logic links • for uprating • for redundant control of a load Yes  Switching frequency • with resistive load, max. • with inductive load, max. • on lamp load, max. • on lamp load, max.  • Current per channel, max. • Current per module, max. • Current per module, max.  • Current of the outputs (per module)  horizontal installation — up to 50 °C, max. — up to 60 °C, max. — up to 40 °C, max. — up to 50 °C, max. — loss and the mounting positions  Relay outputs • Number of relay outputs • Number of relay outputs • Rated supply voltage of relay coil L+ (DC)   Yes  Yes  Yes  Yes  Yes  Yes  Yes  10  No  Yes  20  A  20  A  20  A  4  • Rated supply voltage of relay coil L+ (DC)  24  Vertical installation  4  • Rated supply voltage of relay coil L+ (DC)
for logic links         for uprating             No             for redundant control of a load             Yes  Switching frequency          with resistive load, max.             with inductive load, max.             on lamp load, max.
<ul> <li>for uprating</li> <li>for redundant control of a load</li> <li>Yes</li> <li>Switching frequency</li> <li>with resistive load, max.</li> <li>with inductive load, max.</li> <li>on lamp load, max.</li> <li>Current of the outputs</li> <li>Current per channel, max.</li> <li>Current per module, max.</li> <li>Current of the outputs (per module)</li> <li>horizontal installation</li> <li>up to 50 °C, max.</li> <li>up to 60 °C, max.</li> <li>up to 40 °C, max.</li> <li>up to 50 °C, max.</li> <li>up to 50 °C, max.</li> <li>A</li> <li>vertical installation</li> <li>up to 50 °C, max.</li> <li>A</li> <li>vertical of the outputs (per module)</li> <li>horizontal installation</li> <li>up to 50 °C, max.</li> <li>A</li> <li>vertical installation</li> <li>up to 40 °C, max.</li> <li>A</li> <li>vertical installation</li> <li>A</li></ul>
for redundant control of a load     Switching frequency         with resistive load, max.         with inductive load, max.         on lamp load, max.
Switching frequency  • with resistive load, max.  • with inductive load, max.  • on lamp load, max.  • on lamp load, max.  • Current of the outputs  • Current per channel, max.  • Current per module, max.  • Current of the outputs (per module)  horizontal installation  — up to 50 °C, max.  — up to 60 °C, max.  — up to 60 °C, max.  — up to 40 °C, max.  — up to 50 °C, max.  — up to 40 °C, max.  — up to 50 °
<ul> <li>with resistive load, max.</li> <li>with inductive load, max.</li> <li>0.5 Hz</li> <li>on lamp load, max.</li> <li>2 Hz</li> </ul> Total current of the outputs <ul> <li>Current per channel, max.</li> <li>Current per module, max.</li> <li>Current of the outputs (per module)</li> <li>horizontal installation</li> <li>up to 50 °C, max.</li> <li>up to 60 °C, max.</li> <li>up to 60 °C, max.</li> <li>vertical installation</li> <li>up to 40 °C, max.</li> <li>up to 50 °C, max.</li> <li>to A</li> </ul> Vertical installation <ul> <li>up to 50 °C, max.</li> <li>to A</li> <li>vertical installation</li> <li>up to 50 °C, max.</li> <li>to A</li> </ul> Relay outputs <ul> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>24 V</li> </ul>
<ul> <li>with inductive load, max.</li> <li>on lamp load, max.</li> <li>2 Hz</li> <li>Total current of the outputs</li> <li>Current per channel, max.</li> <li>Current per module, max.</li> <li>Current of the outputs (per module)</li> <li>horizontal installation</li> <li>— up to 50 °C, max.</li> <li>— up to 60 °C, max.</li> <li>— up to 40 °C, max.</li> <li>— up to 50 °C, max.</li> <li>20 A</li> <li>vertical installation</li> <li>— up to 40 °C, max.</li> <li>— up to 50 °C, max.</li> <li>A; in all other mounting positions</li> <li>Relay outputs</li> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>24 V</li> </ul>
<ul> <li>on lamp load, max.</li> <li>Total current of the outputs</li> <li>Current per channel, max.</li> <li>Current per module, max.</li> <li>Current of the outputs (per module)</li> <li>horizontal installation</li> <li>— up to 50 °C, max.</li> <li>— up to 60 °C, max.</li> <li>— up to 60 °C, max.</li> <li>— up to 40 °C, max.</li> <li>— up to 50 °C, max.</li> <li>— aup to 50 °C, max.</li> <li>— up to 50 °C, max.</li></ul>
Total current of the outputs  Current per channel, max. Current per module, max. Current of the outputs (per module)  horizontal installation  up to 50 °C, max. up to 60 °C, max.  up to 40 °C, max.  up to 50 °C, max.  leave tical installation  leave tica
<ul> <li>Current per channel, max.</li> <li>Current per module, max.</li> <li>Current of the outputs (per module)</li> <li>horizontal installation</li> <li>— up to 50 °C, max.</li> <li>— up to 60 °C, max.</li> <li>— up to 40 °C, max.</li> <li>— up to 50 °C, max.</li> <li>— up</li></ul>
<ul> <li>Current per module, max.</li> <li>Total current of the outputs (per module)</li> <li>horizontal installation</li> <li>— up to 50 °C, max.</li> <li>— up to 60 °C, max.</li> <li>Vertical installation</li> <li>— up to 40 °C, max.</li> <li>— up to 50 °C, max.</li> <li>— up to 50 °C, max.</li> <li>— up to 50 °C, max.</li> <li>— Relay outputs</li> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>24 V</li> </ul>
Total current of the outputs (per module)  horizontal installation  — up to 50 °C, max. — up to 60 °C, max.  16 A  vertical installation  — up to 40 °C, max. — up to 50 °C, max.  16 A; in all other mounting positions  Relay outputs  Number of relay outputs  Rated supply voltage of relay coil L+ (DC)  • Rated supply voltage of relay coil L+ (DC)
horizontal installation  — up to 50 °C, max.  — up to 60 °C, max.  16 A  vertical installation  — up to 40 °C, max.  — up to 50 °C, max.  — up to 50 °C, max.  16 A; in all other mounting positions  Relay outputs  • Number of relay outputs  • Rated supply voltage of relay coil L+ (DC)  24 V
<ul> <li>— up to 50 °C, max.</li> <li>— up to 60 °C, max.</li> <li>16 A</li> <li>vertical installation</li> <li>— up to 40 °C, max.</li> <li>— up to 50 °C, max.</li> <li>— up to 50 °C, max.</li> <li>16 A; in all other mounting positions</li> <li>Relay outputs</li> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>24 V</li> </ul>
<ul> <li>up to 60 °C, max.</li> <li>vertical installation</li> <li>up to 40 °C, max.</li> <li>up to 50 °C, max.</li> <li>Helay outputs</li> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>16 A</li> <li>17 In all other mounting positions</li> <li>4</li> <li>24 V</li> </ul>
vertical installation  — up to 40 °C, max.  — up to 50 °C, max.  16 A; in all other mounting positions  Relay outputs  • Number of relay outputs  • Rated supply voltage of relay coil L+ (DC)  24 V
<ul> <li>— up to 40 °C, max.</li> <li>— up to 50 °C, max.</li> <li>Relay outputs</li> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> </ul>
<ul> <li>— up to 50 °C, max.</li> <li>Relay outputs</li> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>16 A; in all other mounting positions</li> <li>4</li> <li>24 V</li> </ul>
Relay outputs  • Number of relay outputs  • Rated supply voltage of relay coil L+ (DC)  24 V
Relay outputs  • Number of relay outputs  • Rated supply voltage of relay coil L+ (DC)  24 V
<ul> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>24 V</li> </ul>
Rated supply voltage of relay coil L+ (DC)     24 V
Current consumption of relays (coil current of all 40 mA
relays), max.
external protection for relay outputs     Yes, with 6A
Number of operating cycles, max.     7 000 000; see additional description in the manual
Switching capacity of contacts
— with inductive load, max. 2 A; see additional description in the manual
<ul> <li>— with resistive load, max.</li> <li>5 A; see additional description in the manual</li> </ul>
— Thermal continuous current, max. 5 A; Max. 1 385 VA, 150 W
— Switching current, min.  100 mA; 5 V DC
— Rated switching voltage (DC) 24 V DC to 120 V DC
— Rated switching voltage (AC) 24V AC to 230V AC
Cable length
• shielded, max. 1 000 m
• unshielded, max. 200 m
·
Interrupts/diagnostics/status information
Diagnostics function Yes
Substitute values connectable Yes
Alarms
Diagnostic alarm     Yes
Diagnoses
Monitoring the supply voltage     Yes
Wire-break     No
• Short-circuit No
Diagnostics indication LED
Monitoring of the supply voltage (PWR-LED)     Yes; green PWR LED
Channel status display  Yes; green LED
• for channel diagnostics No
• for module diagnostics  Yes; green/red DIAG LED
Potential separation
Potential separation channels
e hotwoon the channels
between the channels     Yes
• between the channels and backplane bus  Yes
<ul> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the</li> <li>Yes</li> <li>Yes</li> </ul>
<ul> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> </ul> Yes Yes
<ul> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> <li>Isolation</li> </ul>
<ul> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> </ul> Yes Yes
<ul> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> <li>Isolation</li> </ul>
<ul> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> <li>Isolation</li> <li>Isolation tested with</li> <li>between channels and backplane bus/supply</li> <li>2 500 V DC (type test)</li> </ul>
between the channels and backplane bus     between the channels and the power supply of the electronics    Isolation     2 500 V DC (type test)

Standards, approvals, certificates	
Suitable for safety functions	No
Ambient conditions	
Ambient temperature during operation	
horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)
horizontal installation, max.	70 °C; = Tmax; see Derating BasedOn (e.g. manual), additionally Tmax > 60 °C max. continuous current of 3 A per relay
vertical installation, min.	-40 °C; in all other mounting positions
vertical installation, max.	50 °C; in all other mounting positions
Altitude during operation relating to sea level	0.000
Installation altitude above sea level, max.  Application for temperature become trip processing.	3 000 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 - 1 K/100 m) at 795 hPa 701 hPa (+2 000 m +3 000 m)
Relative humidity	(
<ul> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; incl. condensation / frost permitted (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants	
Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	Von Close 2D2 mold fungue and drawat angre (with the surrent)
to biologically active substances according to EN 60721-3-3  to chemically active substances according to	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52
<ul> <li>to chemically active substances according to EN 60721-3-3</li> <li>to mechanically active substances according to</li> </ul>	(severity degree 3); * Yes; Class 3S4 incl. sand, dust, *
EN 60721-3-3  — Against mechanical environmental conditions	Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-
acc. to EN 60721-3-3  Use on ships/at sea	6AA00-0AA0)
to biologically active substances according to	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on
EN 60721-3-6 — to chemically active substances according to	request Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52
EN 60721-3-6 — to mechanically active substances according to	(severity degree 3); * Yes; Class 6S3 incl. sand, dust; *
EN 60721-3-6  — Against mechanical environmental conditions	Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-
acc. to EN 60721-3-6 Usage in industrial process technology	6AA00-0AA0)
Against chemically active substances acc. to	Yes; Class 3 (excluding trichlorethylene)
EN 60654-4	red, Glass & (excluding themeretry)
<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> <li>Military testing according to MIL-I-46058C, Amendment 7</li> </ul>	Yes; Type 1 protection 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	20 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	40 g
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