SIEMENS

Data sheet 6AG1132-6BH01-7BA0

SIPLUS ET 200SP DQ 16x24VDC/0,5A ST based on 6ES7132-6BH01-0BA0 with conformal coating, -40…+70 °C, digital output module, suitable for BU type A0, color code CC00, module diagnostics

General information	
Product type designation	DQ 16x24VDC/0.5A ST
Firmware version	
● FW update possible	No
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC00
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	No
Operating mode	
● DQ	Yes
● DQ with energy-saving function	No
● PWM	No
● Oversampling	No
● MSO	No
Redundancy	
● Redundancy capability	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, max.	60 mA; without load
output voltage / header	
Rated value (DC)	24 V
Power loss	
Power loss, typ.	1 W
Address area	
Address space per module	
● Inputs	+ 2 bytes for QI information
● Outputs	2 byte
Hardware configuration	
Automatic encoding	Yes
● Mechanical coding element	Yes
Selection of BaseUnit for connection variants	
● 1-wire connection	BU type A0
● 2-wire connection	BU type A0 + Potential distributor module
● 3-wire connection	BU type A0 + Potential distributor module
● 4-wire connection	BU type A0 + Potential distributor module

Digital outputs	
Type of digital output	Source output (PNP, current-sourcing)
Number of digital outputs	16
Current-sinking	No
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
● Response threshold, typ.	1 A
Open-circuit detection	Yes
Limitation of inductive shutdown voltage to	Typ. L+ (-50 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
● with resistive load, max.	0.5 A
● on lamp load, max.	5 W
Load resistance range	
● lower limit	48 Ω
● upper limit	12 kΩ
Output current	
● for signal "1" rated value	0.5 A
● for signal "0" residual current, max.	0.1 mA
Output delay with resistive load	
● "0" to "1", typ.	50 µs
● "1" to "0", typ.	100 µs
Parallel switching of two outputs	
● for uprating	No
● for redundant control of a load	Yes
Switching frequency	
● with resistive load, max.	100 Hz
● with inductive load, max.	2 Hz
● on lamp load, max.	10 Hz
Total current of the outputs	
● Current per channel, max.	0.5 A
● Current per module, max.	8 A
Total current of the outputs (per module)	
horizontal installation	
— up to 30 °C, max.	8 A
— up to 40 °C, max.	8 A
— up to 50 °C, max.	6 A
— up to 60 °C, max.	4 A
vertical installation	
— up to 30 °C, max.	8 A; in all other mounting positions
— up to 40 °C, max.	6 A; in all other mounting positions
— up to 50 °C, max.	4 A; in all other mounting positions
Cable length	
● shielded, max.	1 000 m
● unshielded, max.	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
● Diagnostic alarm	Yes
Diagnoses	
● Monitoring the supply voltage	Yes
● Wire-break	Yes; Module-wise
● Short-circuit to M	Yes; Module-wise
● Short-circuit to L+	Yes; Module-wise
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	
● between the channels	No
● between the channels and backplane bus	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Suitable for safety functions	No
Suitable for safety-related tripping of standard modules	Yes
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. total current 1 A
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	5 000 m
● Ambient air temperature-barometric pressure-altitude	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	
● With condensation, tested in accordance with IEC 60068-2-38, max.	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	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
— Against mechanical environmental conditions acc. to EN 60721-3-3	Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
— Against mechanical environmental conditions acc. to EN 60721-3-6	Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)
Usage in industrial process technology	
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	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	
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
● Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability
● Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection
● Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life
● Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	

Weight, approx.	30 g

last modified: 1/16/2021