



SIPLUS ET 200SP, digital output module, DQ 8x 24VDC/0.5A ST, -40...+70°C with conformal coating based on 6ES7132-6BF01-0BA0 . suitable for BU type A0, Color code CC02, Module diagnostics

General information	
Product type designation	DQ 8x24VDC/0.5A ST
Firmware version	
<ul style="list-style-type: none"> FW update possible 	No
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC02
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Isochronous mode 	No
Operating mode	
<ul style="list-style-type: none"> DQ 	Yes
<ul style="list-style-type: none"> DQ with energy-saving function 	No
<ul style="list-style-type: none"> PWM 	No
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> MSO 	No
Redundancy	
<ul style="list-style-type: none"> 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.	35 mA; without load
output voltage / header	
Rated value (DC)	24 V
Power loss	
Power loss, typ.	1 W
Address area	
Address space per module	
<ul style="list-style-type: none"> Inputs 	+ 1 byte for QI information
<ul style="list-style-type: none"> Outputs 	1 byte
Hardware configuration	
Automatic encoding	Yes
<ul style="list-style-type: none"> Mechanical coding element 	Yes
Submodules	
<ul style="list-style-type: none"> Number of configurable submodules, max. 	4
Selection of BaseUnit for connection variants	
<ul style="list-style-type: none"> 1-wire connection 	BU type A0

- 2-wire connection
- 3-wire connection
- 4-wire connection

BU type A0
 BU type A0 with AUX terminals
 BU type A0 + Potential distributor module

Digital outputs

Type of digital output	Source output (PNP, current-sourcing)
Number of digital outputs	8
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
<ul style="list-style-type: none"> • Response threshold, typ. 	1 A
Limitation of inductive shutdown voltage to	Typ. L+ (-50 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
<ul style="list-style-type: none"> • with resistive load, max. 	0.5 A
<ul style="list-style-type: none"> • on lamp load, max. 	5 W
Load resistance range	
<ul style="list-style-type: none"> • lower limit 	48 Ω
<ul style="list-style-type: none"> • upper limit 	12 kΩ
Output voltage	
<ul style="list-style-type: none"> • for signal "1", min. 	L+ (-0.8 V)
Output current	
<ul style="list-style-type: none"> • for signal "1" rated value 	0.5 A
<ul style="list-style-type: none"> • for signal "1" permissible range, max. 	0.5 A
<ul style="list-style-type: none"> • for signal "0" residual current, max. 	0.1 mA
Output delay with resistive load	
<ul style="list-style-type: none"> • "0" to "1", max. 	50 μs; at rated load
<ul style="list-style-type: none"> • "1" to "0", max. 	100 μs; at rated load
Parallel switching of two outputs	
<ul style="list-style-type: none"> • for uprating 	No
<ul style="list-style-type: none"> • for redundant control of a load 	Yes
Switching frequency	
<ul style="list-style-type: none"> • with resistive load, max. 	100 Hz
<ul style="list-style-type: none"> • with inductive load, max. 	2 Hz
<ul style="list-style-type: none"> • on lamp load, max. 	10 Hz
Total current of the outputs	
<ul style="list-style-type: none"> • Current per channel, max. 	0.5 A
<ul style="list-style-type: none"> • Current per module, max. 	4 A
Total current of the outputs (per module)	
horizontal installation	
— up to 30 °C, max.	4 A
— up to 40 °C, max.	4 A
— up to 50 °C, max.	4 A
— up to 60 °C, max.	4 A
vertical installation	
— up to 30 °C, max.	4 A; in all other mounting positions
— up to 40 °C, max.	4 A; in all other mounting positions
— up to 50 °C, max.	4 A; in all other mounting positions
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	1 000 m
<ul style="list-style-type: none"> • unshielded, max. 	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	Yes
Diagnoses	
<ul style="list-style-type: none"> • Monitoring the supply voltage 	Yes
<ul style="list-style-type: none"> • Wire-break 	Yes; Module-wise
<ul style="list-style-type: none"> • Short-circuit to M 	Yes; Module-wise
<ul style="list-style-type: none"> • Short-circuit to L+ 	Yes; Module-wise

Diagnostics indication LED	
<ul style="list-style-type: none"> Monitoring of the supply voltage (PWR-LED) 	Yes; green PWR LED
<ul style="list-style-type: none"> Channel status display 	Yes; green LED
<ul style="list-style-type: none"> for channel diagnostics 	No
<ul style="list-style-type: none"> for module diagnostics 	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
<ul style="list-style-type: none"> between the channels 	No
<ul style="list-style-type: none"> between the channels and backplane bus 	Yes
<ul style="list-style-type: none"> between the channels and the power supply of the electronics 	No
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	
<ul style="list-style-type: none"> horizontal installation, min. 	-40 °C; = Tmin (incl. condensation/frost)
<ul style="list-style-type: none"> horizontal installation, max. 	70 °C; = Tmax; > +60 °C max. total current 1.0 A
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> Installation altitude above sea level, max. 	5 000 m
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Coatings for printed circuit board assemblies acc. to EN 61086 	Yes; Class 2 for high reliability
<ul style="list-style-type: none"> Protection against fouling acc. to EN 60664-3 	Yes; Type 1 protection

- Military testing according to MIL-I-46058C, Amendment 7
- Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A

Yes; Discoloration of coating possible during service life

Yes; Conformal coating, Class A

Dimensions

Width	15 mm
Height	73 mm
Depth	58 mm

Weights

Weight, approx.	30 g
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last modified:

1/16/2021 