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Data sheet 6AG2132-6FD00-4CU0



Figure similar

SIPLUS ET 200SP DQ 4x24..230VAC TX rail based on 6ES7132-6FD00-0CU0 with conformal coating, -40…+70 °C, OT4 with ST1/2 (+85 °C for 10 minutes), digital output module, suitable for BU type U0, color code CC20, channel diagnostics two alternative operating modes: DQ and power control,

General information	
Product type designation	DQ 4x24 ... 230 V AC/2 A HF
Firmware version	
● FW update possible	Yes
based on	6ES7132-6FD00-0CU0
usable BaseUnits	BU type U0
Color code for module-specific color-coded label	CC20
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	No
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275
Operating mode	
● DQ	Yes
● DQ with energy-saving function	Yes
● PWM	No
● Oversampling	No
● MSO	No
● Phase control	Yes; Control area: 8.5 ... 100% of the phase angle
● Trailing-edge phase	No
● Half-wave	Yes
● Full-wave	Yes
Supply voltage	
Rated value (AC)	230 V; 47 ... 63 Hz, max. rate of change of frequency 1 mHz/s
permissible range, lower limit (AC)	20.4 V
permissible range, upper limit (AC)	264 V
Input current	
Current consumption (rated value)	8 mA; without load
Output voltage	
Rated value (AC)	230 V; 24V AC to 230V AC
Power loss	
Power loss, typ.	9 W; Active power, load voltage 230 V, all outputs loaded with 2 A, 50 Hz
Address area	
Address space per module	
● Inputs	+ 1 byte for QI information
● Outputs	8 byte
Hardware configuration	
Automatic encoding	Yes

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● Mechanical coding element	Yes
Selection of BaseUnit for connection variants	
● 1-wire connection	BU type U0
● 2-wire connection	BU type U0
● 3-wire connection	BU type U0 + Potential distributor module
Digital outputs	
Type of digital output	Triac
Number of digital outputs	4
Current-sinking	No
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	No; external fusing necessary
Open-circuit detection	Yes; channel by channel
● Response threshold, typ.	1 mA; 40 V AC or more
Overload protection	No; A miniature fuse with 10 tripping current and tripping characteristic "quick response" must be provided in the module supply
Controlling a digital input	Yes
Switching capacity of the outputs	
● with resistive load, max.	2 A; Max. 4 A, see additional description in manual
● with inductive load, max.	2 A
● on lamp load, max.	100 W; Tungsten rating in accordance with UL; for thermistors with higher power ratings, see the notes in the manual
Output voltage	
● for signal "1", min.	20.4 V
Output current	
● for signal "1" rated value	2 A
● for signal "1" permissible range, min.	10 mA
● for signal "1" permissible range, max.	4 A; note derating data in the manual
● for signal "0" residual current, max.	3 mA
Output delay with resistive load	
● "0" to "1", max.	40 ms; 2 AC cycles
● "1" to "0", max.	20 ms; 1 AC cycle
Parallel switching of two outputs	
● for logic links	No
● for uprating	No
● for redundant control of a load	Yes
Switching frequency	
● with resistive load, max.	10 Hz; Applies to DQ mode; limited by line frequency in PC mode
● with inductive load (acc. to IEC 60947-5-1, AC15), max.	10 Hz; Applies to DQ mode; limited by line frequency in PC mode
● on lamp load, max.	1 Hz; Applies to DQ mode; limited by line frequency in PC mode
Total current of the outputs	
● Current per channel, max.	2 A; Max. 4 A, see additional description in manual
● Current per module, max.	8 A
Total current of the outputs (per module)	
horizontal installation	
— up to 40 °C, max.	8 A; Applicable for current channels up to 2 A. For current channels between 2 A and 4 A, note derating data in the manual
— up to 50 °C, max.	6 A; Applicable for current channels up to 2 A. For current channels between 2 A and 4 A, note derating data in the manual
— up to 60 °C, max.	4 A; Applicable for current channels up to 2 A. For current channels between 2 A and 4 A, note derating data in the manual
— up to 70 °C, max.	2 A; Applicable for current channels up to 2 A
vertical installation	
— up to 30 °C, max.	8 A
— up to 40 °C, max.	6 A
— up to 50 °C, max.	4 A
Cable length	
● shielded, max.	1 000 m
● unshielded, max.	600 m
Interrupts/diagnostics/status information	

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Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
● Diagnostic alarm	Yes
Diagnoses	
● Diagnostic information readable	Yes
● Monitoring the supply voltage	Yes
● Wire break	Yes; channel by channel
● short-circuit	No
● Group error	Yes
Diagnostics indication LED	
● Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
● Channel status display	Yes; green LED
● for channel diagnostics	Yes; red Fn LED
● for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
● between the channels	No
● between the channels and backplane bus	Yes
● between the channels and the power supply of the electronics	No
Isolation	
Isolation tested with	2 545 V DC (type test) and according to EN 50155 (routine test)
Standards, approvals, certificates	
Suitable for safety functions	No
Railway application	
● EN 50121-3-2	Yes; EMC for rail vehicles
● EN 50121-4	Yes; EMC for signal and telecommunications systems
● EN 50121-5	Yes; EMC for fixed installations and railway power supply equipment (shielded cables required)
● EN 50124-1	Yes; Railway applications - overvoltage category OV3; pollution degree PD2; UNm = 230 V AC
● EN 50125-1	Yes; Rail vehicles - see ambient conditions
● EN 50125-2	Yes; Stationary electrical equipment - see ambient conditions
● EN 50125-3	Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)
● EN 50155	Yes; Rail vehicles - temperature class OT4, ST1/ST2, horizontal mounting position
● EN 61373	Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
● Fire protection acc. to EN 45545-2	Yes; For proof of conformity, see Service & Support
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)
● horizontal installation, max.	70 °C; = Tmax; +85 °C for 10 min (OT4, ST1/ST2 acc. to EN 50155)
● vertical installation, min.	-40 °C; = Tmin
● vertical installation, max.	50 °C; = Tmax
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	2 000 m
● Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
● With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
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); *

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— 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 land craft, rail vehicles and special-purpose vehicles	
— to biologically active substances according to EN 60721-3-5	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust; *
— Against mechanical environmental conditions acc. to EN 60721-3-5	Yes; Class 5M2 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)
— against mechanical environmental conditions in agriculture acc. to ISO 15003	Yes; level 1 (Location LE) 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
● Electronic equipment on rolling stock acc. to EN 50155	Yes; Class PC2 protective coating acc. to EN 50155:2017
● 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	20 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	50 g
Other	
Note:	for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776

Classifications

	Version	Classification
eClass	16	27-24-26-04
eClass	14	27-24-26-04
eClass	12	27-24-26-04
eClass	9.1	27-24-26-04
eClass	9	27-24-26-04
eClass	8	27-24-26-04
eClass	7.1	27-24-26-04
eClass	6	27-24-26-04
ETIM	10	EC001599
ETIM	9	EC001599
ETIM	8	EC001599
ETIM	7	EC001599
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

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Manufacturer Declaration

China RoHS

General Product Approval				EMV	Railway
			China RoHS		Confirmation

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