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Data sheet 6AG1136-6RA00-2BF0



Figure similar

SIPLUS ET 200SP F-RQ DC 24V/24-230V AC/5A based on 6ES7136-6RA00-0BF0 with conformal coating, -30…+60 °C, 20 mm overall width, 1 relay output (2 NO) summation output current 5 A, load voltage 24 V DC and 24 ... 230 V AC, can be used up to PL e (ISO 13849-1: 2008)/ SIL 3 (IEC 61508: 2010) if controlled by F-DQ (e.g. 6AG1136-6DB00-2CA0)

General information	
Product type designation	F-RQ 1x24 V DC/24 ... 230 V AC/5 A
based on	6ES7136-6RA00-0BF0
usable BaseUnits	BU type F0
Color code for module-specific color-coded label	CC42
Product function	
● I&M data	Yes; I&M0 to I&M3
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
power supply according to NEC Class 2 required	No
Power	
Power consumption from the backplane bus	100 mW
Power loss	
Power loss, typ.	1 W
Address area	
Address space per module	
● Inputs	1 byte
Hardware configuration	
Automatic encoding	Yes
● Mechanical coding element	Yes
● Type of mechanical coding element	type C
Digital outputs	
Type of digital output	Relays
Number of digital outputs	1
Limitation of inductive shutdown voltage to	No
Controlling a digital input	Yes
Switching capacity of the outputs	
● with resistive load, max.	5 A
● on lamp load, max.	25 W
Switching frequency	
● with resistive load, max.	2 Hz
● with inductive load, max.	0.1 Hz; See data in manual
● with inductive load (acc. to IEC 60947-5-1, DC13), max.	0.1 Hz
● with inductive load (acc. to IEC 60947-5-1, AC15), max.	2 Hz

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Total current of the outputs (per module)	
horizontal installation	
— up to 40 °C, max.	5 A; note derating data in the manual
— up to 50 °C, max.	4 A; note derating data in the manual
— up to 60 °C, max.	3 A; note derating data in the manual
— up to 70 °C, max.	3 A; note derating information in the manual; only with configured slots to the left and right of the module
vertical installation	
— up to 50 °C, max.	3 A; note derating data in the manual
Relay outputs	
● Number of relay outputs	1; 2 NO contacts
● Rated supply voltage of relay coil L+ (DC)	24 V
● Current consumption of relays (coil current of all relays), max.	70 mA
● external protection for relay outputs	yes; 6 A, see data in manual
● Relay approved acc. to UL 508	Yes; Pilot Duty B300, R300
Switching capacity of contacts	
— with inductive load, max.	see additional description in the manual
— with resistive load, max.	see additional description in the manual
— Thermal continuous current, max.	5 A
— Switching current, min.	1 mA
— Switching current after exceeding 300 mA, min.	10 mA
— Switching current after exceeding 300 mA, max.	5 A
— Rated switching voltage (DC)	24 V
— Rated switching voltage (AC)	230 V
Cable length	
● shielded, max.	500 m; for load contacts
● unshielded, max.	300 m; for load contacts
● Control cable (input), max.	10 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Diagnostics indication LED	
● RUN LED	Yes; green/red DIAG LED
● Channel status display	Yes; green LED
Potential separation	
Potential separation channels	
● between the channels	Yes; for SELV / PELV only
● between the channels and backplane bus	Yes
● between the channels and the power supply of the electronics	Yes
Permissible potential difference	
between channels and backplane bus/supply voltage	250 V AC (reinforced insulation)
Isolation	
Isolation tested with	2 545 V DC/2 s (routine test)
Overvoltage category	III (according to IEC/EN 61131-2:2007 and EN 298:2022), II (according to IEC 61131-2:2017 and IEC 61010-2-201)
Standards, approvals, certificates	
Suitable for safety functions	Yes
Ecological footprint	
● environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	52 kg
— global warming potential, (during production) [CO2 eq]	6.8 kg
— global warming potential, (during operation) [CO2 eq]	45.8 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.628 kg
Highest safety class achievable in safety mode	
● Performance level according to ISO 13849-1	PLe
● Category according to ISO 13849-1	4

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● SIL acc. to IEC 61508	SIL 3
Probability of failure (for service life of 20 years and repair time of 100 hours)	
— Low demand mode: PFDavg in accordance with SIL2	< 1.00E-04, function test 1x per year
— Low demand mode: PFDavg in accordance with SIL3	< 1.00E-05, function test 1x per month
— High demand/continuous mode: PFH in accordance with SIL2	< 1.00E-08 1/h, function test 1x per year
— High demand/continuous mode: PFH in accordance with SIL3	< 6.00E-09 1/h, function test 1x per month
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	-30 °C; = Tmin (incl. condensation/frost)
● horizontal installation, max.	60 °C; = Tmax; +70 °C with spacing modules (6AG1193-6BN00-7BA0) or configured slots to the left and right of the module
● vertical installation, min.	-30 °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); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
— 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; *
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	20 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	90 g

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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

Manufacturer Declaration

China RoHS

General Product Approval

China RoHS

EMV

Functional Saftey

TUEV

TUEV

Maritime application

Environment

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