SIEMENS

Data sheet 6ES7136-6RA00-0BF0

Siemens EcoTech

SIMATIC DP, Electronics module f. ET200SP, F-RQ 1x 24 V DC/24..230VAC/5A ST, 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 control takes place by (e.g. 6ES7136-6DB00-0CA0) F-DQ

General information	
Product type designation	F-RQ 24 ... 48VDC/24 ... 230VAC/5A ST
usable BaseUnits	BU type F0
Color code for module-specific color identification plate	CC42
Product function	
● I&M data	Yes; I&M0 to I&M3
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V13
● STEP 7 configurable/integrated from version	V5.5 SP4 and higher
● PROFINET from GSD version/GSD revision	V2.31
Supply voltage	
Rated value (DC)	24 V; Coil voltage
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 available 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
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
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 298:2012), II (according to IEC 61131-2:2017 and IEC 61010-2-201)
tested with	
● between channels and backplane bus/supply voltage	DC 2 545 V 2 s (routine test), impulse voltage test DC 7 200 V / 5 positive and 5 negative pulses (type test)
● between backplane bus and supply voltage	707 V DC (type test)
Standards, approvals, certificates	
Siemens Eco Profile (SEP)	Siemens EcoTech
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)	-0.628 kg

[CO2 eq]	
Highest safety class achievable in safety mode	
● Performance level according to ISO 13849-1	PLe
● Category according to ISO 13849-1	4
● 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.	0 °C
● horizontal installation, max.	60 °C
● vertical installation, min.	0 °C
● vertical installation, max.	50 °C
Dimensions	
Width	20 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	56 g

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