SIEMENS

Data sheet

6ES7136-6RA00-0BF0



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	Yes
electronics	
Permissible potential difference	
between channels and backplane bus/supply voltage	250 V AC (reinforced insulation)
Isolation	0.5451/100/0 / (")
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	
Suitable for safety functions	Yes
Highest safety class achievable in safety mode	
 Performance level according to ISO 13849-1 	PLe
5	
Category according to ISO 13849-1	4
-	
Category according to ISO 13849-1	4 SIL 3
Category according to ISO 13849-1SIL acc. to IEC 61508	4 SIL 3
 Category according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time Low demand mode: PFDavg in accordance with 	4 SIL 3 e of 100 hours)
Category according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time Low demand mode: PFDavg in accordance with SIL2 Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance	4 SIL 3 e of 100 hours) < 1.00E-04, function test 1x per year
Category according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time Low demand mode: PFDavg in accordance with SIL2 Low demand mode: PFDavg in accordance with SIL3	4 SIL 3 e of 100 hours) < 1.00E-04, function test 1x per year < 1.00E-05, function test 1x per month
Category according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time Low demand mode: PFDavg in accordance with SIL2 Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL2 High demand/continuous mode: PFH in accordance	4 SIL 3 e of 100 hours) < 1.00E-04, function test 1x per year < 1.00E-05, function test 1x per month < 1.00E-08 1/h, function test 1x per year

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

last modified: 2/20/2023 🖸