

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7132-7RD01-0AB0

FOUR-CHANNEL INTRINSICALLY SAFE DIGITAL OUTPUT MODULE

Used with the applicable SIMATIC ET 200iSP configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens SIMATIC ET 200iSP manufacturer documentation; applicable pages 1, 2, 3



SIMATIC, electronic module for ET200iSP, 4 DO, 23.1 V DC/20 mA "H"-shutdown, Ex ib (ia Ga) IIC T4 Gb, Ex ib [ia IIIC Da] IIC T4 Gb, Ex ib [ia] I Mb

General information	
Product brand name	SIMATIC
Product family	ET 200iSP
Product category	Digital module output
Product type designation	4DQ 23.1 V DC/20 mA
HW functional status	7
Firmware version	V3.0.0
Product version	SHUT DOWN "H"
Installation type/mounting	
Rack mounting	No
Front mounting	Yes
Rail mounting	Yes
Wall mounting/direct mounting	No
Supply voltage	
Type of supply voltage	DC
Input current	
Current consumption, typ.	290 mA
from load voltage (power bus), max.	340 mA; with actuator supply
Power loss	
Power loss, typ.	2.5 W
Address area	
Address space per module	
• Address space per module, max.	2 byte
Hardware configuration	
Fieldbus connection via separate transceiver	Yes
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	4; additionally 1 intrinsically-safe input for H shutdown
Short-circuit protection	Yes
No-load voltage U_{ao} (DC)	23.1 V
Internal resistor R_i	275 Ω
Trend key points E	
• Voltage U_e (DC)	17.6 V
• Current I_e	20 mA
Output voltage	
• Type of output voltage	DC
• permissible voltage at output, min.	0 V
• permissible voltage at output, max.	23.1 V
Output current	

• for signal "1" rated value	0.02 A
Output delay with resistive load	
• "0" to "1", max.	2 ms
• "1" to "0", max.	1.5 ms
Parallel switching of two outputs	
• for uprating	No; for Ex reasons not possible; nor for predecessor
Switching frequency	
• with resistive load, max.	100 Hz
• with inductive load, max.	2 Hz
Cable length	
• shielded, max.	500 m
• unshielded, max.	500 m
Interfaces	
Number of PROFINET interfaces	0
Number of RS 485 interfaces	0
Protocols	
Supports protocol for PROFINET IO	No
PROFIsafe	No
PROFIBUS	No
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes; Parameterizable
• Hardware interrupt	No
Diagnoses	
• Diagnostic information readable	Yes
• Wire-break	Yes; $R > 10 \text{ kohms}$, $I < 100 \mu\text{A}$
• Short-circuit	Yes; $R < 80 \text{ Ohm}$ (one output), $R < 40 \text{ Ohm}$ (outputs connected in parallel)
Diagnostics indication LED	
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes
Ex(i) characteristics	
Module for Ex(i) protection	Yes; for more Co/Lo combinations, see certificate IECEx KEM 05.0011
maximum values for connecting terminals for gas group IIC	
• U_o (no-load voltage), max.	25.6 V
• I_o (short-circuit current), max.	96 mA
• P_o (power output), max.	0.61 W
• C_o (permissible external capacity), max.	98 nF
• L_o (permissible external inductivity), max.	3 mH
• U_i (intrinsically safe input voltage), max.	28 V; switch input circuit
• P_i (intrinsically safe input power), max.	1.2 W; switch input circuit
• C_i (internal capacity), max.	3 nF; switch input circuit
Potential separation	
Potential separation digital outputs	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
Degree and class of protection	
IP degree of protection	IP30
Standards, approvals, certificates	
CE mark	CE 0344
UKCA mark	DEKRA 21UKEX0085 Importer UK: Siemens plc Manchester M20 2UR
cULus	LISTED E334384
FM approval	CLASSIFIED 3025852
Suitable for safety functions	No
INMETRO certificate	UL-BR 12.0073
reference designation according to IEC 81346-2 (2009)	K
Highest safety class achievable in safety mode	

• SIL acc. to IEC 61508	No																																										
Use in hazardous areas																																											
• ATEX marking • ATEX certificate • IECEX • CCC Ex • EAC Ex • FM marking • Explosion protection category for gas • Explosion protection category for dust • associated equipment (Ex ia) • associated equipment (Ex ib)	II 2 G (1) G Ex ib [ia Ga] IIC T4 Gb II 2 G (1) D Ex ib [ia IIIC Da] IIC T4 Gb I M2 Ex ib [ia] I Mb KEMA 04 ATEX 1249 IECEX KEM 05.0011 2020322316002945 PB Ex ib [ia] I Mb 1Ex ib [ia Ga] IIC T4 Gb [Ex ia Da] IIIC Class I, Zone 1 AEx ib [ia] IIC T4 Ex ib IIC T4 NI, Class I, DIV.2, GP. A,B,C,D T4 AIS, Class I, DIV.1, GP. A,B,C,D T4 DIP Class II, III, GP. E,F,G ATEX gas explosion protection, Zone 1 ATEX dust explosion protection, Zone 21 always install in corresponding enclosure Yes Yes																																										
Marine approval																																											
• Germanischer Lloyd (GL) • American Bureau of Shipping (ABS) • Bureau Veritas (BV) • Det Norske Veritas (DNV)	Yes Yes Yes Yes																																										
Connection method																																											
Design of electrical connection	Screw/spring-type terminal																																										
Dimensions																																											
Width	30 mm																																										
Height	129 mm																																										
Depth	136.5 mm																																										
Weights																																											
Weight, approx.	255 g																																										
Classifications																																											
	<table><tr><th></th><th>Version</th><th>Classification</th></tr><tr><td>eClass</td><td>14</td><td>27-24-26-04</td></tr><tr><td>eClass</td><td>12</td><td>27-24-26-04</td></tr><tr><td>eClass</td><td>9.1</td><td>27-24-26-04</td></tr><tr><td>eClass</td><td>9</td><td>27-24-26-04</td></tr><tr><td>eClass</td><td>8</td><td>27-24-26-04</td></tr><tr><td>eClass</td><td>7.1</td><td>27-24-26-04</td></tr><tr><td>eClass</td><td>6</td><td>27-24-26-04</td></tr><tr><td>ETIM</td><td>10</td><td>EC001599</td></tr><tr><td>ETIM</td><td>9</td><td>EC001599</td></tr><tr><td>ETIM</td><td>8</td><td>EC001599</td></tr><tr><td>ETIM</td><td>7</td><td>EC001599</td></tr><tr><td>IDEA</td><td>4</td><td>3566</td></tr><tr><td>UNSPSC</td><td>15</td><td>32-15-17-05</td></tr></table>		Version	Classification	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
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