



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 $\Omega$
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
<b>Output delay with resistive load</b>	
• "0" to "1", max.	2 ms
• "1" to "0", max.	1.5 ms
<b>Parallel switching of two outputs</b>	
• for uprating	No; for Ex reasons not possible; nor for predecessor
<b>Switching frequency</b>	
• with resistive load, max.	100 Hz
• with inductive load, max.	2 Hz
<b>Cable length</b>	
• shielded, max.	500 m
• unshielded, max.	500 m
<b>Interfaces</b>	
Number of PROFINET interfaces	0
Number of RS 485 interfaces	0
<b>Protocols</b>	
Supports protocol for PROFINET IO	No
PROFIsafe	No
PROFIBUS	No
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
• Hardware interrupt	No
<b>Diagnoses</b>	
• 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)
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes
<b>Ex(i) characteristics</b>	
Module for Ex(i) protection	Yes; for more Co/Lo combinations, see certificate IECEx KEM 05.0011
<b>maximum values for connecting terminals for gas group IIC</b>	
• $U_0$ (no-load voltage), max.	25.6 V
• $I_0$ (short-circuit current), max.	96 mA
• $P_0$ (power output), max.	0.61 W
• $C_0$ (permissible external capacity), max.	98 nF
• $L_0$ (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
<b>Potential separation</b>	
<b>Potential separation digital outputs</b>	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
<b>Degree and class of protection</b>	
IP degree of protection	IP30
<b>Standards, approvals, certificates</b>	
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
<b>Use in hazardous areas</b>	
• ATEX marking	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
• ATEX certificate	KEMA 04 ATEX 1249
• IECEX	IECEX KEM 05.0011
• CCC Ex	2020322316002945
• EAC Ex	PB Ex ib [ia] I Mb 1Ex ib [ia Ga] IIC T4 Gb [Ex ia Da] IIIC
• FM marking	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
• Explosion protection category for gas	ATEX gas explosion protection, Zone 1
• Explosion protection category for dust	ATEX dust explosion protection, Zone 21 always install in corresponding enclosure
• associated equipment (Ex ia)	Yes
• associated equipment (Ex ib)	Yes

<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes

<b>Connection method</b>	
Design of electrical connection	Screw/spring-type terminal

<b>Dimensions</b>	
Width	30 mm
Height	129 mm
Depth	136.5 mm

<b>Weights</b>	
Weight, approx.	255 g

<b>Classifications</b>			
		<b>Version</b>	<b>Classification</b>
	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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[China RoHS](#)



**For use in hazardous locations**



[FM](#)



[Miscellaneous](#)



For use in hazardous locations Maritime application

[CCC-Ex](#)



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Maritime application Environment



[NK / Nippon Kaiji Kyokai](#)



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