



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	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

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

Connection method

Design of electrical connection	Screw/spring-type terminal
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Dimensions

Width	30 mm
Height	129 mm
Depth	136.5 mm

Weights

Weight, approx.	255 g
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Classifications

	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

Approvals / Certificates

General Product Approval



[Miscellaneous](#)

[China RoHS](#)

[KC](#)



For use in hazardous locations



[FM](#)



[Miscellaneous](#)



For use in hazardous locations				Maritime application	
CCC-Ex	 UL	 INMETRO	Miscellaneous	Miscellaneous	 ABS
Maritime application				Environment	
 BUREAU VERITAS	 DNV	 LRS	NK / Nippon Kaiji Ky- okai	 PRS	 EPD

last modified:

7/7/2025 