



Figure similar

SIMATIC, electronic module for ET200iSP, 4 AO HART, 4 - 20 mA, for connecting HART field devices, supported HART protocol version 6.0, Ex ib [ia Ga] IIC T4 Gb, Ex ib [ia IIC Da] IIC T4 Gb, Ex ib [ia] I Mb

General information	
Product type designation	4AQ I HART
HW functional status	17
Firmware version	V3.0.4
Installation type/mounting	
Rack mounting	No
Front mounting	Yes
Rail mounting	Yes
Wall mounting/direct mounting	No
Supply voltage	
Type of supply voltage	DC
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption, typ.	295 mA
from load voltage (power bus), max.	330 mA
Power loss	
Power loss, typ.	2.7 W
Hardware configuration	
Fieldbus connection via separate transceiver	Yes
Analog outputs	
Number of analog outputs	4
Cycle time (all channels) max.	3.6 ms
Voltage signal at analog output	No
Current signal at analog output	Yes
Output ranges, current	
• 0 to 20 mA	Yes
• 4 mA to 20 mA	Yes
Connection of actuators	
• for current output two-wire connection	Yes
Load impedance (in rated range of output)	
• with current outputs, max.	750 Ω
Cable length	
• shielded, max.	500 m
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	14 bit
Settling time	

<ul style="list-style-type: none"> • for resistive load 	4 ms
<ul style="list-style-type: none"> • for capacitive load 	40 ms
<ul style="list-style-type: none"> • for inductive load 	40 ms
Errors/accuracies	
Linearity error (relative to output range), (+/-)	0.015 %
Temperature error (relative to output range), (+/-)	0.005 %/K
Crosstalk between the outputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.01 %
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> • Current, relative to output range, (+/-) 	0.15 %
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> • Current, relative to output range, (+/-) 	0.1 %
Interfaces	
Number of PROFINET interfaces	0
Protocols	
Supports protocol for PROFINET IO	No
PROFIsafe	No
PROFIBUS	No
Further protocols	
<ul style="list-style-type: none"> • other bus systems 	No
Interrupts/diagnostics/status information	
Substitute values connectable	Yes
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	Yes
Diagnoses	
<ul style="list-style-type: none"> • Diagnostic information readable 	Yes
<ul style="list-style-type: none"> • Wire break 	Yes; I load > 1 mA
<ul style="list-style-type: none"> • Short-circuit 	Yes; I load > 1 mA
Diagnostics indication LED	
<ul style="list-style-type: none"> • Group error SF (red) 	Yes
Ex(i) characteristics	
Module for Ex(i) protection	Yes; for more Co/Lo combinations, see certificate IECEx KEM 05.0012
maximum values for connecting terminals for gas group IIC	
<ul style="list-style-type: none"> • U_o (no-load voltage), max. 	27.6 V
<ul style="list-style-type: none"> • I_o (short-circuit current), max. 	88.2 mA
<ul style="list-style-type: none"> • P_o (power output), max. 	0.61 mW
<ul style="list-style-type: none"> • C_o (permissible external capacity), max. 	83 nF
<ul style="list-style-type: none"> • L_o (permissible external inductivity), max. 	3 mH
Potential separation	
between channels and powerbus	Yes
Potential separation analog outputs	
<ul style="list-style-type: none"> • between the channels 	No
<ul style="list-style-type: none"> • between the channels and backplane bus 	Yes
Degree and class of protection	
IP degree of protection	IP30
Standards, approvals, certificates	
CE mark	CE 0344
UKCA mark	DEKRA 21UKEX0091 Importer UK: Siemens plc Manchester M20 2UR
cULus	LISTED E334384
FM approval	CLASSIFIED 3025852
Suitable for safety functions	No
INMETRO certificate	UL-BR 12.0070
reference designation according to IEC 81346-2 (2009)	K
Use in hazardous areas	
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • ATEX certificate 	KEMA 04 ATEX 1250
<ul style="list-style-type: none"> • IECEx 	IECEx KEM 05.0012

- CCC Ex
- EAC Ex
- FM marking
- Explosion protection category for gas
- Explosion protection category for dust
- associated equipment (Ex ia)
- associated equipment (Ex ib)

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 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

Connection method

Design of electrical connection Screw/spring-type terminal

Dimensions

Width 30 mm
 Height 129 mm
 Depth 136.5 mm

Weights

Weight, approx. 265 g

Classifications

	Version	Classification
eClass	14	27-24-26-01
eClass	12	27-24-26-01
eClass	9.1	27-24-26-01
eClass	9	27-24-26-01
eClass	8	27-24-26-01
eClass	7.1	27-24-26-01
eClass	6	27-24-26-01
ETIM	10	EC001596
ETIM	9	EC001596
ETIM	8	EC001596
ETIM	7	EC001596
IDEA	4	3562
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval



[Miscellaneous](#)



[China RoHS](#)

General Product Approval

For use in hazardous locations

[Manufacturer Declaration](#)



[FM](#)



[Miscellaneous](#)

For use in hazardous locations

Maritime application



[CCC-Ex](#)



[Miscellaneous](#)



Maritime application

Environment