SIEMENS

Data sheet 6AG1138-4DA04-2AB0



Figure similar

SIPLUS ET 200S EM 1 Count 24V/ 100 based on 6ES7138-4DA04-0AB0 with conformal coating, -25…+60 °C,

Supply voltage	
Load voltage L+	
● Rated value (DC)	24 V
● permissible range, lower limit (DC)	20.4 V
● permissible range, upper limit (DC)	28.8 V
● Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	42 mA
from backplane bus 3.3 V DC, max.	10 mA
Encoder supply	
24 V encoder supply	
● 24 V	Yes; L+ (-0.8 V)
● Short-circuit protection	Yes
● Output current, max.	500 mA
Power loss	
Power loss, typ.	1 W
Hardware configuration	
Module exchange	
● Module exchange during operation of the IM-DP	Yes
● Module exchange under process voltage	Yes
Digital inputs	
Number of digital inputs	1
Functions	Gate control, synchronization, latch function
Input characteristic curve in accordance with IEC 61131, type 2	Yes
Input voltage	
● Rated value (DC)	24 V
● for signal "0"	-30 to +5 V
● for signal "1"	+11 to +30V
Input current	
● for signal "0", max. (permissible quiescent current)	2 mA
● for signal "1", typ.	9 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— at "0" to "1", max.	2.5 µs; Filter off: 2.5 µs (200 kHz), filter on: 25 µs (20 kHz)
Cable length	
● shielded, max.	100 m; Filter 20 kHz: 100 m, filter 200 kHz: 50 m
Digital outputs	
Number of digital outputs	1

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Short-circuit protection	Yes
● Response threshold, typ.	2.6 A to 4 A
Limitation of inductive shutdown voltage to	L+ (-50 to -60 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
● on lamp load, max.	5 W
Output voltage	
● Rated value (DC)	24 V
● for signal "0", max.	3 V
● for signal "1", min.	L+ (-1 V)
Output current	
● for signal "1" permissible range for 0 to 40 °C, min.	5 mA
● for signal "1" permissible range for 0 to 40 °C, max.	2 000 mA
● for signal "1" permissible range for 0 to 60 °C, min.	5 mA
● for signal "1" permissible range for 0 to 60 °C, max.	500 mA; 1 000 mA at 50 °C
● for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
● "0" to "1", max.	100 µs
Switching frequency	
● with resistive load, max.	100 Hz
● with inductive load, max.	2 Hz
● on lamp load, max.	10 Hz
Cable length	
● shielded, max.	1 000 m
● unshielded, max.	600 m
Encoder	
Number of connectable encoders, max.	1
Connectable encoders	
● Incremental encoder (asymmetrical)	Yes
● 24 V initiator	Yes
● 2-wire sensor	Yes
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Diagnostics indication LED	
● Group error SF (red)	Yes
● Status indicator digital input (green)	Yes
● Status indicator digital output (green)	Yes
● Status indicator forward counting (green)	Yes
● Status indicator backward counting (green)	Yes
Integrated Functions	
Measuring functions	
Measuring range	
— Frequency measurement, min.	0.1 Hz
— Frequency measurement, max.	100 kHz
— Cycle duration measurement, min.	10 µs
— Cycle duration measurement, max.	120 s
— Speed measurement, min.	1 1/min
— Speed measurement, max.	25 000 1/min
Counter	
Number of counter inputs	1; 32 bit
Counter input 24 V	
● Minimum pulse width	2.5 µs; Filter off: 2.5 µs (200 kHz), filter on: 25 µs (20 kHz)
Parameter	
Remark	16 byte
Potential separation	
Potential separation digital inputs	
● Potential separation digital inputs	No; only opposite shielding
Potential separation counter	
● between the channels and backplane bus	Yes

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● Between the channels and load voltage L+	No
Ambient conditions	
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	5 000 m
● Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
● With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost permitted (no commissioning in bedewed state)
Resistance	
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!
Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm
Weights	
Weight, approx.	40 g

Classifications

	Version	Classification
eClass	16	27-24-26-05
eClass	14	27-24-26-05
eClass	12	27-24-26-05
eClass	9.1	27-24-26-05
eClass	9	27-24-26-05
eClass	8	27-24-26-05
eClass	7.1	27-24-26-05
eClass	6	27-24-26-05
ETIM	10	EC001601
ETIM	9	EC001601
ETIM	8	EC001601
ETIM	7	EC001601
IDEA	4	3567
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval	EMV

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Manufacturer Declaration

China RoHS

EMV	For use in hazardous locations

CCC-Ex

last modified: 5/13/2024

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