SIEMENS

Data sheet 6ES7332-5TB10-0AB0

SIMATIC DP, HART ANALOG OUTPUT SM 332, 2AO, 0/4 - 20MA HART, FROM HART REV. 5.0, FOR ET200M WITH IM153-2, 1 X 20 PIN

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	150 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	3.5 W
Analog outputs	
Number of analog outputs	2
Current output, no-load voltage, max.	19 V
Cycle time (all channels) max.	5 ms
Output ranges, current	
• 0 to 20 mA	Yes
• -20 mA to +20 mA	No
• 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.	650 Ω
• with current outputs, inductive load, max.	7.5 mH
Destruction limits against externally applied voltages and currents	
• Voltages at the outputs towards MANA	max. 17 V / -0.5 V
• Current, max.	60 mA / -1 A
Cable length	
• shielded, max.	400 m
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	12 bit; + sign
• Conversion time (per channel)	40 ms
Settling time	

• for resistive load	2.5 ms
• for capacitive load	4 ms
• for inductive load	2.5 ms

Errors/accuracies	
Output ripple (based on output area, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.03 %
Temperature error (relative to output range), (+/-)	0.01 %/K
Crosstalk between the outputs, min.	130 dB
Repeat accuracy in steady state at 25 °C (relative to output area), (+/-)	0.005 %
Operational error limit in overall temperature range	
• Current, relative to output area, (+/-)	0.55 %
Basic error limit (operational limit at 25 °C)	
• Current, relative to output area, (+/-)	0.15 %

Interrupts/diagnostics/status information	
Substitute values connectable	Yes; Parameterizable
Alarms	
• Diagnostic alarm	Yes; Parameterizable
Diagnostic messages	
• Diagnostic functions	Yes; Parameterizable
• Diagnostic information readable	Yes; possible
• Overrange	Yes
• Wire-break	Yes; as of output value > 0.5 mA
• HART communication active	Yes; green LED (H)
Diagnostics indication LED	
• Group error SF (red)	Yes; Red LED
• Channel fault indicator F (red)	Yes; per channel

Ex(i) characteristics	
Module for Ex(i) protection	Yes
Maximum values of output circuits (per channel)	
• Co (permissible external capacity), max.	230 nF
• Io (short-circuit current), max.	66 mA
• Lo (permissible external inductivity), max.	7.5 mH
• Po (power of load), max.	506 mW
• Uo (output no-load voltage), max.	19 V
• Um (fault voltage), max.	60 V; DC
• Ta (permissible ambient temperature), max.	60 °C

Potential separation	
Potential separation analog outputs	
• between the channels	Yes

• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
Permissible potential difference	
between the outputs (UCM)	60 V DC/30 V AC permitted potential difference (Viso) of signals from hazardous areas
Isolation	
tested with	
• Channels against backplane bus and load voltage L+	2500 V DC
• Channels among one another	2500 V DC
• Load voltage L+ against backplane bus	500 V DC
Standards, approvals, certificates	
FM approval	Yes
Use in hazardous areas	
• Type of protection acc. to FM	Class I, Division 2, Group A, B, C, D T4; Class I, Zone 2, Group IIC T4
• Test number KEMA	DEKRA 14 ATEX 0053X
• Type of protection acc. to KEMA	II 3 G (2) GD Ex nA [ib Gb] [ib IIIC Db] IIC T4 Gc
Connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	290 g

last modified: 09.10.2015