SIEMENS

Data sheet 6ES7331-7TF01-0AB0

Figure similar

SIMATIC DP, HART analog input SM 331, 8 AI, 0/4 - 20 mA HART, for ET200M with IM153-2, 1 x 20-pole, Functions: FW update, HART auxiliary variables, redundancy, local diagnostic buffer with time stamping,

General information	
Product function	
● Isochronous mode	No
Supply voltage	
Load voltage L+	
● Rated value (DC)	24 V
● Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	20 mA
from backplane bus 5 V DC, max.	120 mA
Output voltage	
Power supply to the transmitters	
● present	Yes
● Rated value (DC)	24 V
● short-circuit proof	Yes
● Supply current, max.	60 mA
Power loss	
Power loss, typ.	1.5 W
Analog inputs	
Number of analog inputs	8
permissible input current for current input (destruction limit), max.	40 mA
Input ranges (rated values), currents	
● 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	140 Ω
● -20 mA to +20 mA	
— Input resistance (-20 mA to +20 mA)	140 Ω
● 4 mA to 20 mA	
— Input resistance (4 mA to 20 mA)	140 Ω
Cable length	
● shielded, max.	800 m
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
● Resolution with overrange (bit including sign), max.	16 bit
● Integration time, parameterizable	Yes

● Integration time (ms)	20 ms at 50 Hz; 16.6 ms at 60 Hz; 100 ms at 100 Hz
● Basic conversion time, including integration time (ms)	55 ms @ 60 Hz, 65 ms @ 50 Hz, 305 ms @ 100 Hz
● Interference voltage suppression for interference frequency f1 in Hz	10 / 50 / 60 Hz
Smoothing of measured values	
● parameterizable	Yes
● Step: None	Yes
● Step: low	Yes
● Step: Medium	Yes
● Step: High	Yes
Encoder	
Connection of signal encoders	
● for current measurement as 2-wire transducer	Yes
● for current measurement as 4-wire transducer	Yes
Errors/accuracies	
Operational error limit in overall temperature range	
● Current, relative to input range, (+/-)	0.15 %
Basic error limit (operational limit at 25 °C)	
● Current, relative to input range, (+/-)	0.1 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
● Diagnostic alarm	Yes
● Limit value alarm	Yes
Diagnostics indication LED	
● Group error SF (red)	Yes
● Channel fault indicator F (red)	Yes
Potential separation	
Potential separation analog inputs	
● between the channels	No
● between the channels and backplane bus	Yes
Isolation	
Isolation tested with	500 V DC
Degree and class of protection	
IP degree of protection	IP20
Connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	117 mm
Weights	
Weight, approx.	205 g

last modified: 12/18/2020