SIEMENS

Product data sheet 6ES7138-7FA00-0AB0

SIMATIC DP,
FAILSAFE ELECT. SUBMODULE FOR ET200ISP,
4F-AI HART EX I,
UP TO CATEGORY 4 (EN954-1)/ SIL3 (IEC61508)/PLE (ISO13849),
FOR CONNECTION OF (HART) 2-WIRE TRANSDUCER

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Input current	
from supply voltage L+, max.	490 mA
Output voltage	
Power supply to the transmitters	
short-circuit proof	Yes
Supply current, max.	25 mA ; Plus 4 mA per channel
Power losses	
Power loss, typ.	5.4 W ; max.
Address area	
Address space per module	
Address space per module, max.	16 byte ; 12 bytes in the I area / 4 bytes in the O area
Analog inputs	
Number of analog inputs	4
Cycle time (all channels) max.	See data in manual
Input ranges	
Voltage	No
Current	Yes
Thermocouple	No

Resistance thermometer	No
Resistance	No
Input ranges (rated values), currents	
4 to 20 mA	Yes ; and 0 to 20 mA
Cable length	
Cable length, shielded, max.	500 m
Analog value creation	
Measurement principle	integrating (Sigma-Delta)
Integrations and conversion time/ resolution per channel	
Resolution with overrange (bit including sign), max.	16 bit
Integration time, parameterizable	Yes
Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz
Smoothing of measured values	
Parameterizable	Yes ; in 4 stages
Step: None	Yes ; 1 x cycle time
Step: low	Yes ; 4 x cycle time
Step: Medium	Yes ; 32 x cycle time
Step: High	Yes ; 64 x cycle time
Encoder	
Connection of signal encoders	
for current measurement as 2-wire transducer	Yes
Burden of 2-wire transmitter, max.	750 Ω
Errors/accuracies	
Linearity error (relative to input area)	+/- 0.015 %
Temperature error (relative to input area)	+/- 0.005 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in settled status at 25 °C (relative to input area)	+/- 0.015 %
Operational limit in overall temperature range	
Current, relative to input area	+/- 0.35 %
Basic error limit (operational limit at 25 °C)	
Current, relative to input area	+/- 0.1 %
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency	
Series mode interference (peak value of interference < rated value of input range), min.	40 dB
Common mode interference, min.	50 dB
Interrupts/diagnostics/status information	
Alarms	
Diagnostic alarm	Yes ; Parameterizable

Diagnostic messages	
Diagnostic information readable	Yes
Wire break	Yes
Short circuit	Yes
Diagnostics indication LED	
Group error SF (red)	Yes
Galvanic isolation	
Galvanic isolation analog inputs	
between the channels	No
between the channels and the backplane bus	Yes
between the channels and the load voltage L+	Yes ; Power bus
Permissible potential difference	
between the inputs (UCM)	60 V DC/30 V AC
Standards, approvals, certificates	
CE mark	Yes
Highest safety class achievable in safety mode	
acc. to IEC 61508	SIL 3
Performance Level in accordance with EN ISO 13849-1:2008	PLe
Use in hazardous areas	
Type of protection acc. to EN 50020 (CENELEC)	II 2 G (1) GD Ex ib[ia Ga][ia IIIC Da] IIC T4 GB and I M2 Ex ib[ia Ma] I Mb
Type of protection acc. to KEMA	10 ATEX 0058
Dimensions	
Width	30 mm
Height	129 mm
Depth	136.5 mm
Weights	
Weight, approx.	299 g
Status	Nov 9, 2013