

SIMATIC DP, Electronics module 2 AI U High Feature f. ET200S, 15 mm width, Cycle time per module: 0.5 ms, +/-10V; 15 bit+sign, +/-5 V; 15 bit+sign, 1..5 V; 15 bit, Operational limit +/-0.1% with SF LED (group fault)



Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	55 mA
from backplane bus 3.3 V DC, max.	10 mA
Output voltage	
Power supply to the transmitters	
• present	No
Power loss	
Power loss, typ.	0.85 W
Address area	
Address space per module	
• Address space per module, max.	4 byte
Analog inputs	
Number of analog inputs	2

permissible input voltage for voltage input (destruction limit), max.	35 V; 35 V continuous; 75 V for max. 1 ms
Cycle time (all channels) max.	0.5 ms; 0.5 ms for 2 channels without noise suppression, 18 / 21 ms per channel with noise suppression
Input ranges	
• Voltage	Yes
• Current	No
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), voltages	
• 1 V to 5 V	Yes
• Input resistance (1 V to 5 V)	800 k Ω
• -10 V to +10 V	Yes
• Input resistance (-10 V to +10 V)	800 k Ω
• -5 V to +5 V	Yes
• Input resistance (-5 V to +5 V)	800 k Ω
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; 0 to 5 V: 15 bits, ± 10 V: 16 bits, ± 5 V: 16 bits
• Integration time, parameterizable	Yes
• Interference voltage suppression for interference frequency f1 in Hz	60 / 50 Hz / no
• Conversion time (per channel)	0.04 ms; Without noise suppression 17/20 ms per channel with error
Smoothing of measured values	
• parameterizable	Yes; In 4 stages: 1 x, 4 x, 16 x, 32 x cycle time
• Step: None	Yes; 1x
• Step: low	Yes; 4x
• Step: Medium	Yes; 16x
• Step: High	Yes; 32x
Encoder	
Connection of signal encoders	
• for voltage measurement	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.003 %/K
Crosstalk between the inputs, min.	-100 dB

Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.01 %
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.1 %; 0.2% without interference frequency suppression
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.05 %; 0.1% without interference frequency suppression
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	90 dB
• Common mode interference (USS < 2.5 V) , min.	100 dB
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes
Interrupts/diagnostics/status information	
Alarms	
• Hardware interrupt	Yes
Diagnostic messages	
• Wire-break	Yes; Measuring range 1 to 5 V only
• Group error	Yes
• Overflow/underflow	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
Parameter	
Remark	12 bytes, 4 bytes in compatibility mode
Measurement type/range	deactivated / $\pm 5 \text{ V}$ / 1 to 5 V / $\pm 10 \text{ V}$
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable
Potential separation	
Potential separation analog inputs	
• between the channels	No; however, increased permissible potential difference between the inputs.
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
Permissible potential difference	
between the inputs (UCM)	140 V DC/100 V AC
Isolation	
Isolation tested with	500 V DC
Dimensions	
Width	15 mm

Height	81 mm
Depth	52 mm
Weights	
Weight, approx.	45 g
last modified:	05/22/2018