

Spare part SIMATIC DP, Electronics module for ET 200S, 2 AI
RTD 15 mm width, 15 bit+sign Pt100 STD; Pt100 KL; NI100 STD;
NI100 KL; 150 ohm; 300 ohm; 600 ohm; Cycle time 110 ms/channel
with SF LED (group fault)



Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V; From power module
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	30 mA
from backplane bus 3.3 V DC, max.	10 mA
Output voltage	
Power supply to the transmitters	
• present	Yes
• short-circuit proof	Yes
Power loss	
Power loss, typ.	0.6 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.	9 V
Constant measurement current for resistance-type transmitter, typ.	1.5 mA
Cycle time (all channels) max.	Number of active channels per module x basic conversion time
Input ranges (rated values), resistance thermometer	
• Ni 100	Yes; Standard/climate
• Input resistance (Ni 100)	2 000 k Ω
• Pt 100	Yes; Standard/climate
• Input resistance (Pt 100)	2 000 k Ω
Input ranges (rated values), resistors	
• 0 to 150 ohms	Yes
• Input resistance (0 to 150 ohms)	2 000 k Ω
• 0 to 300 ohms	Yes
• Input resistance (0 to 300 ohms)	2 000 k Ω
• 0 to 600 ohms	Yes
• Input resistance (0 to 600 ohms)	2 000 k Ω
Characteristic linearization	
• parameterizable	Yes; for Pt100, Ni100
— for resistance thermometer	Pt100, Ni100
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; 150 ohms: 14 bit; 300, 600 ohms: 15 bit, Pt100, Ni100: 16 bit
• Integration time, parameterizable	Yes
• Integration time (ms)	16,7 / 20 ms
• Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz
• Conversion time (per channel)	110 ms; 110 / 130 ms
Smoothing of measured values	
• parameterizable	Yes; In four stages by means of digital filtering
• Step: None	Yes; 1x cycle time
• Step: low	Yes; 4x cycle time
• Step: Medium	Yes; 64x cycle time
• Step: High	Yes; 128x cycle time
Encoder	
Connection of signal encoders	
• for current measurement as 2-wire transducer	

- Burden of 2-wire transmitter, max.
- for resistance measurement with two-wire connection
- for resistance measurement with three-wire connection
- for resistance measurement with four-wire connection

750 Ω

Yes; Line resistances are included in the measurement, jumpers on TR

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Yes

Errors/accuracies

Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.005 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Resistance thermometer, relative to input range, (+/-)	0.6 %
Basic error limit (operational limit at 25 °C)	
• Resistance thermometer, relative to input range, (+/-)	0.4 %
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.	70 dB
• Common mode interference (USS < 2.5 V), min.	90 dB

Isochronous mode

Isochronous operation (application synchronized up to terminal)	No
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Interrupts/diagnostics/status information

Diagnostic messages	
• Wire-break	Yes; Wire break is detected only on constant current lines
• Group error	Yes
• Overflow/underflow	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes

Parameter

Remark	4 byte
Diagnostics wire break	Disable/enable (wire break is detected only on constant current lines)
Measurement type/range	deactivated/150 ohms/; 300 ohms/600 ohms/; Pt100 climatic/ Pt100 standard; Ni100 standard / Ni100 climatic
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable

Potential separation	
Potential separation analog inputs	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
Permissible potential difference	
between MANA and M internally (UISO)	75 V DC/60 V AC
Isolation	
Isolation tested with	500 V DC
Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm
Weights	
Weight, approx.	40 g
last modified:	08/16/2019