

SIEMENS

Product data sheet

6ES7144-4JF00-0AB0


SIMATIC DP,
ELECTRONIC MODULES FOR ET200PRO 4 AI RTD
HIGH FEATURE,
PT100;
PT200;
PT500;
PT1000;
NI100;
NI200;
NI500;
NI1000;
CHANNEL DIANOSTICS;
INCLUSIVE BUS MODULE,
CONNECTING MODULE IO 6ES7194-4..00-0AA0
MUST BE ORDERED SEPERATELY

Supply voltage	
Load voltage L+	
Rated value (DC)	24 V
Reverse polarity protection	Yes ; against destruction
Input current	
from backplane bus 3.3 V DC, max.	10 mA ; typ.
Power losses	
Power loss, typ.	0.7 W
Address area	
Address space per module	
Address space per module, max.	8 byte
Analog inputs	
Number of analog inputs	4
Cycle time (all channels) max.	83 ms ; 83 ms at 50 Hz; 69 ms at 60 Hz
Technical unit for temperature measurement adjustable	Yes

Input ranges	
Voltage	No
Current	No
Thermocouple	No
Resistance thermometer	Yes
Resistance	Yes
Input ranges (rated values), resistance thermometers	
Cu 10	No
Ni 100	Yes
Input resistance (Ni 100)	10000 kΩ
Ni 1000	Yes
Input resistance (Ni 1000)	10000 kΩ
Ni 120	Yes
Input resistance (Ni 120)	10000 kΩ
Ni 200	Yes
Input resistance (Ni 200)	10000 kΩ
Ni 500	Yes
Input resistance (Ni 500)	10000 kΩ
Pt 100	Yes
Input resistance (Pt 100)	10000 kΩ
Pt 1000	Yes
Input resistance (Pt 1000)	10000 kΩ
Pt 200	Yes
Input resistance (Pt 200)	10000 kΩ
Pt 500	Yes
Input resistance (Pt 500)	10000 kΩ
Input ranges (rated values), resistors	
0 to 150 ohms	Yes
Input resistance (0 to 150 ohms)	10000 kΩ
0 to 300 ohms	Yes
Input resistance (0 to 300 ohms)	10000 kΩ
0 to 600 ohms	Yes
Input resistance (0 to 600 ohms)	10000 kΩ

0 to 3000 ohms	Yes
Input resistance (0 to 3000 ohms)	10000 kΩ
Resistance thermometer (RTD)	
Characteristic linearization	
for resistance thermometer	Ptxxx, Nixxx
Characteristic linearization	
Parameterizable	Yes
Cable length	
Cable length, shielded, max.	30 m
Analog value creation	
Measurement principle	integrating
Integrations and conversion time/ resolution per channel	
Resolution with overrange (bit including sign), max.	15 bit ; at 150, 300, 600 und 3000 ohms; otherwise 15 bits + sign
Integration time, ms	20 / 16,667
Interference voltage suppression for interference frequency f1 in Hz	50/60 Hz
Conversion time (per channel)	20.625 ms ; 20.625 ms at 50 Hz; 17.25 ms at 60 Hz
Smoothing of measured values	
Parameterizable	Yes
Step: None	Yes ; 1 x cycle time
Step: low	Yes ; 4 x cycle time
Step: Medium	Yes ; 16 x cycle time
Step: High	Yes ; 64 x cycle time
Encoder	
Connection of signal encoders	
for resistance measurement with 2-conductor connection	Yes ; Line resistances are also measured
for resistance measurement with 3-conductor connection	Yes
for resistance measurement with 4-conductor connection	Yes
Errors/accuracies	
Linearity error (relative to input area)	+/- 0.05 %
Temperature error (relative to input area)	+/- 0.002 %/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	
Resistance-type thermometer, relative to input area	+/- 0.175 %
Basic error limit (operational limit at 25 °C)	
Resistance-type thermometer, relative to input area	+/- 0.125 %
Interference voltage suppression for $f = n \times (f_l \pm 1\%)$, f_l = interference frequency	
Series mode interference (peak value of interference < rated value of input range), min.	50 dB
common mode voltage (USS < 2.5 V), min.	70 dB ; Interference voltage < 5 V
Interrupts/diagnostics/status information	
Diagnostic messages	
Wire break	Yes
Group error	Yes
Overflow/underflow	Yes
Diagnostics indication LED	
Group error SF (red)	Yes
Parameter	
Diagnosis: wire break	1
Load voltage	No
Measurement type/range	R4L / R3L / R2L/ TR4L / TR3L / TR2L
Interference frequency suppression	50/60 Hz
Group diagnostics	1
Overflow/underflow	1
Unit	Degrees C / Degrees F
Galvanic isolation	
Galvanic isolation analog inputs	
between the channels	No
between the channels and the backplane bus	Yes
Permissible potential difference	
between the inputs (UCM)	5 Vpp AC

between MANA and M internally (UISO)	500 V DC
Isolation	
Isolation checked with	500 V DC
Dimensions	
Width	45 mm
Height	130 mm
Depth	35 mm
Weight	
Weight, approx.	150 g
Status	Jul 17, 2012