SIEMENS

Data sheet

6ES7531-7LH00-0AB0



SIMATIC S7-1500, analog input module AI 16xU BA, 16-bit resolution accuracy 0.5%, 16 channels in groups of 16, common mode voltage 4 V DC, diagnostics, hardware interrupts; delivery including infeed element, shield bracket and shield terminal: front connector (screw terminals or push-in) to be ordered separately

Product type designation A1 8AU BA HW functional status From FS01 Firmware version V10.0 • FW update possible Yes Product function V10.0 • I&M data Yes; I&M0 to I&M3 • Isochronous mode No • Prioritized startup No • Adjustment of measuring range scalable No • Scalable measured values No • STEP 7 TIA Portal configurable/integrated from version V16 with HSP 312 / V17 • STEP 7 Tonfigurable/integrated from version V5.5 SP3 / - • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - • Operating mode - • Oversampling No • MSI Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Power loss, typ. 0.75 W Analog inputs 16 • For voltage measurement	General information	
Firmware version V1.0.0 • FW update possible Yes Product function Yes • I&M data Yes; I&M0 to I&M3 • sochronous mode No • Massuring range scatable No • Scalable measured values No • Steep 7 TIA Portal configurable/integrated from version V16 with HSP 312 / V17 • STEP 7 Ton Form GSD version/GSD revision V1.0.0 / V5.1 • PROFIBUS from GSD version/GSD revision V1.0.0 / V5.1 • PROFIBUS from GSD version/GSD revision V2.3 / - Operating mode • Oversampling • MSi Yes CiR - Configuration in RUN Yes Reparametrization possible in RUN Yes Power loss, typ. 0.75 W Analog inputs 16 • For Sulage measurement 16 permissible input voltage for voltage input (destruction infinit), max. 12 V; 12 V continuous, 30 V for max. 1 s Imput ranges (rated values), voltages No • 0 to +5 V No • 0 to +5 V No • 10 to 5 V Yes - Input resistance (1 V to 5 V) 10 MΩ	Product type designation	AI 16xU BA
• FW update possible Yes Product function	HW functional status	From FS01
Product function i&M data i isochronous mode i rointized startup No i Adjustment of measuring range scalable i Adjustment of measuring range i STEP 7 TIA Portal configurable/integrated from version · STEP 7 Configurable/integrated from version · STEP 7 configurable/integrated from version · STEP 7 configurable/integrated from version · STEP 7 configurable/integrated from version · STEP 7 configurable/integrated from version · STEP 7 configurable/integrated from version · Step 7 configurable/integrated from version · V16 with HSP 312 / V17 version · STEP 7 configurable/integrated from version V1.0 / V5.1 version/GSD revision V2.3 / - Operating mode · Oversampling visit version version/GSD revision V2.3 / - Operating mode · Oversampling vers calibration possible in RUN Ves calibration possible in RUN Ves calibration possible in RUN Power loss, typ. 0.85 W Power loss, typ. 0.85 W Power loss, typ. 0.75 W Analog inputs fl · For valtage measurement 16 · For valtage input voltage input (destruction limit), max. Imput ranges (rated values), voltages vist vist version vist vist version vist vist vers vi	Firmware version	V1.0.0
• I&M data Yes; I&M0 to I&M3 • Isochronous mode No • Prioritized startup No • Measuring range scalable No • Scalable measured values No • Adjustment of measuring range No • StEP 7 TIA Portal configurable/integrated from version V16 with HSP 312 / V17 • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode • • Oversampling No • MSI Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN No Power loss 0.85 W Power loss, typ. 0.75 W Analog inputs 16 • For voltage measurement 16 • Persisble input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Ilmput ranges (rated values), voltages • 0 to +5 V • 0 to +5 V No • 0 to +5 V No • 0 to +10 V No • 1 V to 5 V Yes - Input resistance (1 V to 5 V) 10 MΩ	FW update possible	Yes
• Isochronous mode No • Prioritized startup No • Measuring range scalable No • Scalable measured values No • Adjustment of measuring range No • Adjustment of measuring range No • StEP 7 TIA Portal configurable/integrated from version V16 with HSP 312 / V17 • STEP 7 Ton FD rule Portal configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V10 / V5.1 • PROFIBUS from GSD version/GSD revision V2.3 / - Operating mode • • Oversampling No • MSI Yees CiR - Configurable in RUN Yees Reparameterization possible in RUN Yees Power available from the backplane bus 0.85 W Power loss, typ. 0.75 W Analog inputs 16 • For voltage measurement 16 permissible input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Imput ranges (rated values), voltages No • 0 to +5 V No • 0 to +5	Product function	
• Prioritized startup No • Measuring range scalable No • Scalable measured values No • Adjustment of measuring range No Engineering with V16 with HSP 312 / V17 • STEP 7 TIA Portal configurable/integrated from version V5.5 SP3 /- • STEP 7 configurable/integrated from version V5.5 SP3 /- • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 /- Operating mode • • Oversampling No • MSI Yes Calibration possible in RUN Yes Calibration possible in RUN No Power Operation mode • Oversampling No • MSI Yes Calibration possible in RUN No Power loss 0.85 W Power loss 0.75 W Analog inputs 16 • For voltage measurement 16 • For voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages No • 0 to +5 V No • 0 to +10 V	● I&M data	Yes; I&M0 to I&M3
• Measuring range scalable No • Scalable measured values No • Adjustment of measuring range No Engineering with • • STEP 7 TIA Portal configurable/integrated from version V16 with HSP 312 / V17 • version • • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode • • Oversampling No • MSI Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Power loss 0.85 W Power loss 0.75 W Analog inputs 16 • For voltage measurement 16 • For voltage for voltage input (destruction Infim), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages No • 0 to +5 V No • 0 t	 Isochronous mode 	No
• Scalable measured values No • Adjustment of measuring range No Engineering with	 Prioritized startup 	No
• Adjustment of measuring range No Engineering with • STEP 7 TIA Portal configurable/integrated from version V16 with HSP 312 / V17 • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode • Oversampling • Oversampling No • MSI Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Power available from the backplane bus 0.85 W Power loss 0.75 W Analog inputs 16 • For voltage measurement 16 permissible ingut voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages 0 to +5 V No • 0 to +5 V No No • 0 to +10 V No Yes - Input resistance (1 V to 5 V) 10 MΩ	 Measuring range scalable 	No
Engineering with . • STEP 7 TIA Portal configurable/integrated from version V16 with HSP 312 / V17 version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode - • Oversampling No • MSI Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Power - Power available from the backplane bus 0.85 W Power loss - Power loss - Power of analog inputs 16 • For voltage measurement 16 • For voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages 0 to +5 V • 0 to +5 V No • 10 V No • 10 V No • 10 V Yes	 Scalable measured values 	No
• STEP 7 TIA Portal configurable/integrated from version V16 with HSP 312 / V17 • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode V2.3 / - • Oversampling No • MSI Yes Cit - Configuration in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN No Power 0.85 W Power loss, typ. 0.75 W Analog inputs 16 • For voltage measurement 16 permissible input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages No • 0 to +5 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	 Adjustment of measuring range 	No
version Version • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode • • Oversampling No • MSI Yes Cite Configuration in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN No Power available from the backplane bus 0.85 W Power loss 0.75 W Analog inputs 16 • For voltage measurement 16 imit, max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages No • 0 to +5 V No • 0 to +5 V No • 1 V to 5 V Yes - Input resistance (1 V to 5 V) 10 MΩ	Engineering with	
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• PROFINET from GSD version/GSD revision V2.3 / - Operating mode • • Oversampling No • MSI Yes CiR - Configuration in RUN Reparameterization possible in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN No Power available from the backplane bus Power loss 0.85 W Power loss 0.75 W Analog inputs 16 • For voltage measurement 16 permissible input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages No • 0 to +5 V No • 0 to +5 V No • 1 V to 5 V Yes - Input resistance (1 V to 5 V) 10 MΩ	 STEP 7 configurable/integrated from version 	V5.5 SP3 / -
Operating mode No • Oversampling No • MSI Yes CiR - Configuration in RUN Yes Reparameterization possible in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN No Power No Power loss 0.85 W Power loss, typ. 0.75 W Analog inputs 16 • For voltage measurement 16 imity, max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages 0 to +5 V • 0 to +5 V No • 0 to +10 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	 PROFIBUS from GSD version/GSD revision 	V1.0 / V5.1
• OversamplingNo• MSIYesCiR - Configuration in RUNReparameterization possible in RUNYesCalibration possible in RUNNoPowerPower0.85 WPower lossPower loss0.85 WPower lossPower loss, typ.0.75 WAnalog inputsNumber of analog inputs16• For voltage measurement16permissible input voltage for voltage input (destruction limit), max.12 V; 12 V continuous, 30 V for max. 1 sInput ranges (rated values), voltages0 to +5 V• 0 to +5 VNo• 0 to +5 VNo• 1 V to 5 VYes— Input resistance (1 V to 5 V)10 MΩ	 PROFINET from GSD version/GSD revision 	V2.3 / -
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Calibration possible in RUN No Power 0.85 W Power available from the backplane bus 0.85 W Power loss 0.75 W Analog inputs 0.75 W Number of analog inputs 16 • For voltage measurement 16 permissible input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages 0 to +5 V • 0 to +5 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	CiR - Configuration in RUN	
Power Power available from the backplane bus 0.85 W Power loss 0.75 W Power loss, typ. 0.75 W Analog inputs 16 • For voltage measurement 16 permissible input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages • 0 to +5 V • 0 to +10 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	Reparameterization possible in RUN	Yes
Power available from the backplane bus 0.85 W Power loss 0.75 W Analog inputs 0.75 W Analog inputs 16 • For voltage measurement 16 permissible input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages • 0 to +5 V • 0 to +5 V No • 0 to +10 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	Calibration possible in RUN	No
Power loss Power loss, typ. 0.75 W Analog inputs 16 Number of analog inputs 16 • For voltage measurement 16 permissible input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages 0 to +5 V • 0 to +5 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	Power	
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Analog inputs 16 Number of analog inputs 16 • For voltage measurement 16 permissible input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages 0 to +5 V • 0 to +10 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	Power loss	
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permissible input voltage for voltage input (destruction limit), max. 12 V; 12 V continuous, 30 V for max. 1 s Input ranges (rated values), voltages No • 0 to +5 V No • 0 to +10 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	Number of analog inputs	16
limit), max. Input ranges (rated values), voltages • 0 to +5 V • 0 to +5 V • 0 to +10 V • 1 V to 5 V - Input resistance (1 V to 5 V) 10 MΩ	 For voltage measurement 	16
• 0 to +5 V No • 0 to +10 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ		12 V; 12 V continuous, 30 V for max. 1 s
• 0 to +10 V No • 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	Input ranges (rated values), voltages	
• 1 V to 5 V Yes — Input resistance (1 V to 5 V) 10 MΩ	• 0 to +5 V	No
- Input resistance (1 V to 5 V) $10 \text{ M}\Omega$	• 0 to +10 V	No
	• 1 V to 5 V	Yes
• -1 V to +1 V Yes	— Input resistance (1 V to 5 V)	10 ΜΩ
	• -1 V to +1 V	Yes

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— Input resistance (-1 V to +1 V)	10 MΩ
• -10 V to +10 V	Yes
— Input resistance (-10 V to +10 V)	10 MΩ
• -2.5 V to +2.5 V	No
• -25 mV to +25 mV	No
• -250 mV to +250 mV	No
• -5 V to +5 V	Yes
— Input resistance (-5 V to +5 V)	10 MΩ
• -50 mV to +50 mV	No
 -500 mV to +500 mV 	No
• -80 mV to +80 mV	No
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
 Integration time, parameterizable 	Yes
 Integration time (ms) 	2,5 / 16,67 / 20 / 100 ms
Basic conversion time, including integration time	10 / 24 / 27 / 107 ms
(ms)	
 additional conversion time for wire-break monitoring 	4 ms (to be considered for 1 to 5 V measurement)
Interference voltage suppression for interference	400 / 60 / 50 / 10 Hz
frequency f1 in Hz	
Smoothing of measured values	
 parameterizable 	Yes
Step: None	Yes
Step: low	Yes
Step: Medium	Yes
Step: High	Yes
• Step. High	
Encoder	
Encoder	Yes
Encoder Connection of signal encoders	
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies	Yes
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-)	Yes 0.1 %
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-)	Yes 0.1 % 0.006 %/K
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max.	Yes 0.1 % 0.006 %/K -50 dB
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-)	Yes 0.1 % 0.006 %/K
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input	Yes 0.1 % 0.006 %/K -50 dB
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	Yes 0.1 % 0.006 %/K -50 dB
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range	Yes 0.1 % 0.006 %/K -50 dB 0.1 %
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-)	Yes 0.1 % 0.006 %/K -50 dB 0.1 %
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-)	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 %
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 =	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 %
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-)	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = • Series mode interference (peak value of	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = • Series mode interference (peak value of interference < rated value of input range), min.	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency 40 dB
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = • Series mode interference (peak value of interference < rated value of input range), min.	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency 40 dB 4 V
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = • Series mode interference (peak value of interference < rated value of input range), min.	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency 40 dB 4 V
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = • Series mode interference (peak value of input range), min. • Common mode voltage, max. • Common mode interference, min.	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency 40 dB 4 ∨ 60 dB
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = • Series mode interference (peak value of interference < rated value of input range), min.	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency 40 dB 4 V 60 dB
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = • Series mode interference (peak value of interference < rated value of input range), min.	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency 40 dB 4 V 60 dB Yes
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = • Series mode interference (peak value of interference < rated value of input range), min.	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency 40 dB 4 V 60 dB
Encoder Connection of signal encoders • for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, max. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = • Series mode interference (peak value of interference < rated value of input range), min.	Yes 0.1 % 0.006 %/K -50 dB 0.1 % 0.5 % 0.3 % interference frequency 40 dB 4 V 60 dB Yes Yes Yes Yes; two upper and two lower limit values in each case
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RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
MAINT LED	No
 Monitoring of the supply voltage (PWR-LED) 	No
 Channel status display 	Yes; green LED
 for channel diagnostics 	Yes; red LED
 for module diagnostics 	Yes; red LED
Potential separation	
Potential separation channels	
 between the channels 	No
 between the channels, in groups of 	16
 between the channels and backplane bus 	Yes
Permissible potential difference	
between the inputs (UCM)	8 V DC
Between the inputs and MANA (UCM)	4 V DC
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	-30 °C
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-30 °C
 vertical installation, max. 	40 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	250 g

last modified:

1/19/2021 🖸