DMP40, DMP40S2

Digital Precision Measuring Amplifier

Special features

- Accuracy class: 0.0005
- DMP40: 1-chanel-system, max. 8 transducers
- DMP40S2: 2-chanel-system, max. 16 transducers, simultaneous measurement with 2 tranducers each, master / specimen
- Resolution of signals to the physical limits > 1,000,000 digits
- 225 Hz carrier frequency method, EMC protection, CE mark
- high-performance, digital filters
- Individual linearization
- 100 % computer controllable (RS-232, RS-422/485)

Block diagramm



ext. temperature)





Specifications

Туре		DMP40	DMP40S2
Accuracy class		0.0005 ¹⁾ 0.005 ²⁾	
Number of amplifiers		1	2
Transducers that can be connected		8 SG full bridges	2 x 8 SG full bridges
Transducer excitation voltage Ub	V	2.5; 5; 10	
Carrier frequency	Hz	225 ±100 ppm	
Transducer resistance per amplifier			
at U _b = 2.5 V; 5 V	Ω	302000	
at $U_b = 10 V$	Ω	604000	
Transducer cable length	m	< 200	
Measurement ranges	mV/V	±2.5; ±5; ±10	
Digital filters up to 16th order	Hz	100.03 (15 steps)	
Display resolution	digit	> 1,000,000	
Common-mode rejection	dB	> 120	
Input resistance	MΩ	10	
Sampling range per amplifier	1/s	1.275	
Tare range		total measurement range	
Linearization of transducer characteristic		211 Points	
Linearity deviation			
referred to full scale value	%	< 0.0005	
Influence of a 10 K change in nom. temperature range			
on the zero point (referred to full scale value)	%	< 0.0002	
on sensitivity (referred to full scale value)	%	< 0.0005	
Short-term drift over 5 min, after 2 h warm-up	ppm	max. ±2, typ. ±1	
Long-term drift over 24 h, after 2 h warm-up	ppm	max. ±5, typ. ±2	
Nominal temperature range	°C	0+40	
Operating temperature range	°C	0+50	
Storage temperature range	°C	-10+60	
Operating voltage (mains voltage)	V	230 (115) ±10 %, (5060 Hz)	
Power consumption	VA	approx. 40	approx. 60
Weight	kg	approx. 14	approx. 15
Dimensions (W x H x D)	mm	458 x 171 x 367	
Connection for			
Tranducers		8 x DB-15S	2 x 8 x DB-15S
Limit outputs, control signal inputs		DB-25S	
Computer interface RS-232		DB-9S	
Computer interface RS-422/485		DB-9S	
	1	1	

¹⁾ At 10 V excitation voltage; measurement range 2.5 mV/V; transducer resistance 350 Ω ; cable length < 10 m

²⁾ With influence of electromagnetic field according to EN 50082-1

Fields of application

- Calibration measurements for quality management to comply with DIN-ISO 9000, especially for comparison measurements.
- Measurements under difficult conditions, extreme disturbance rejection.
- Precision measurements using SG-transducers.

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