Data Sheet

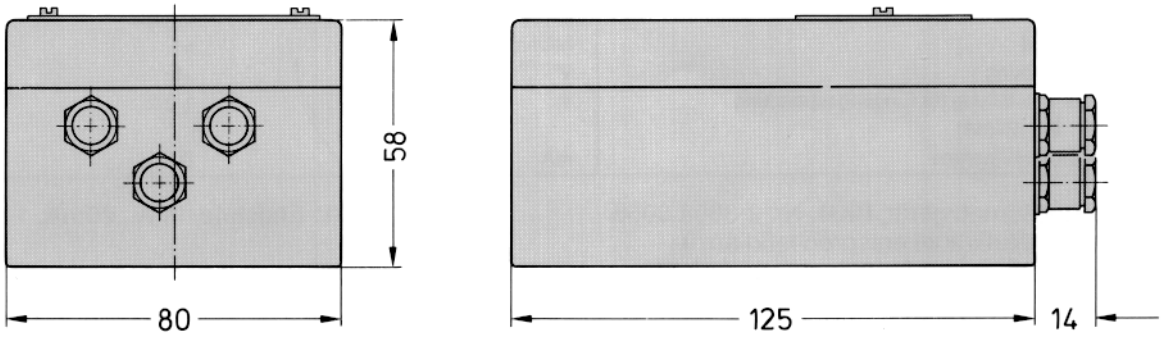
MC2A, MC3

Measuring amplifiers for inductive and strain gage full–bridge

Special features

- **Analog carrier frequency amplifier for industrial automation and process control**
- **Two switchable measuring ranges**
- **Integral limit value switch**
- **Easy operation and installation**
- **Dustproof and hoseproof housing**
- **+4...+20 mA output stage (option)**

Dimensions (in mm; 1 mm= 0.03937 inches)



Specifications

Type		MC2A	MC3
Accuracy class	%	0.1	
Transducers which can be connected			
Inductive transducers (half bridge)	mH	8...20	–
Strain gage transducers (full bridge)	Ω	–	300...1400
Maximum cable length	m	100	25
Bridge excitation voltage	Vrms	2.0 ± 10%	2.0 ± 3%
Carrier frequency	kHz	5 ± 8%	1 ± 5%
Number of measuring ranges		2	2
Measuring ranges, switchable (factory setting)	mV/V	±8; ±80	±2; ±0.2
Continuous fine adjustment	%	±20	±20
Bridge balancing range (factory setting)	mV/V	±9	±0.1
Measuring frequency range (-1 dB)	Hz	0...100	0...30[1)]
Phase transit time	ms	1.7	3.5
Rise time	ms	2.5	5
Overshoot with square wave voltage	%	5	0
Output (asymmetrical)			
Nominal voltage (impressed)	V	±5	
Permissible load resistance	Ω	>2500	
Internal resistance	Ω	>5	
Maximum current	mA	±2	
Residual carrier voltage	%	<1	
Operating voltage (DC)	V	10.5...26	
Maximum current consumption	mA	<60; typ. 50	
Effect of a change of 10 V in the operating voltage in the range of 10.5 ... 26 V on			
sensitivity	%	<0.02	
zero point	%	<0.02	
Limit value switch with collector output			
Limit value setting range	V	0...+5	
Adjustable hysteresis	mV	25	
Temperature effect on the switching point per 10K in the nominal temperature range	%	<0.2; typ. 0.1	
Maximum switching voltage	V	+28	
Maximum switching current	mA	50	
Optional current output stage			
Nominal current	mA	+4...+20	
Permissible burden	Ω	0...400	
Internal resistance	MΩ	>1	
Maximum voltage	V	+8	
Tolerance on the setting for the input voltage 0 V(+4 mA)...5 V(+20 mA)	%	±0.2	
Maximum current consumption	mA	80	
Temperature effect per 10 K in the nominal temperature range on			
sensitivity	%	<0.2; typ. 0.1	
zero point			
in the meas. range of 8 mV/V or 0.2 mV/V, at output	mV	<20	<6.5
in the meas. range of 80 mV/V or 2 mV/V, at output	mV	<3.5	<2
Nominal temperature range	°C [°F]	–20...+60 [–4...+140]	
Service temperature range	°C [°F]	–20...+60 [–4...+140]	
Storage temperature range	°C [°F]	–20...+75 [–4...+167]	
Long term drift over 48 h (after 1 h warm up time)	µV/V	<20	<0.2
Weight, approx.	g	600	
Degree of protection		IP 65	
Mounting		2 through holes for screwes ∅ 4 mm	
Housing material		diecast aluminum enclosure	

1) 0 ... 65 Hz at –3dB

Option: 4 mA...20 mA output stage, 1-MC3/Z01

Hottinger Baldwin Messtechnik GmbH

Im Tiefen See 45 · 64293 Darmstadt · Germany
Tel. +49 6151 803-0 · Fax: +49 6151 803-9100
E-mail: info@hbm.com · www.hbm.com

measure and predict with confidence

B0706–1.3 en