



More Precision

induSENSOR MSC7802 // 2-channel controller for inductive displacement sensors



2-channel controller for inductive displacement sensors

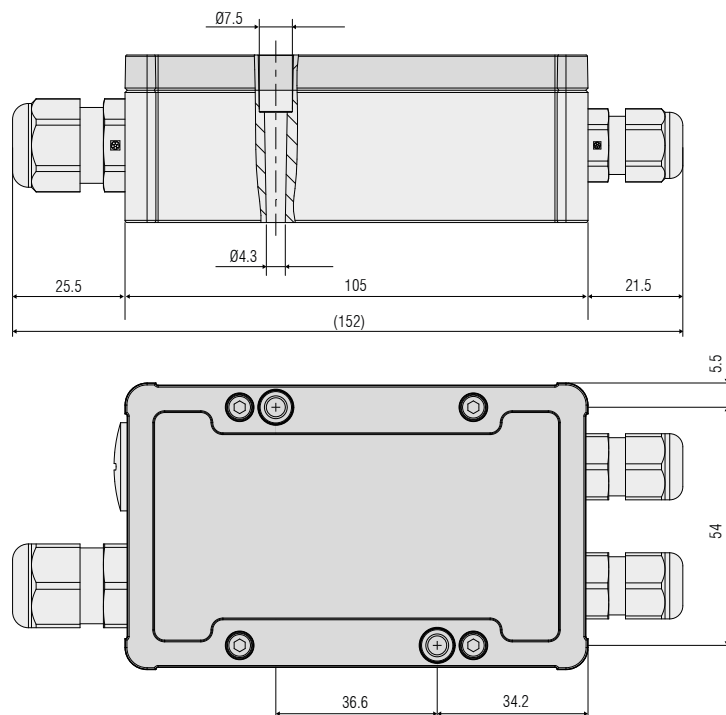
indu**SENSOR** MSC7802



- Compact and robust aluminum housing (IP67)
- High resolution and linearity
- Universal application - compatible with LVDT and half-bridge sensors
- Ideal for serial applications in machine building and automation
- User-friendly set up and configuration via buttons or software

The new MSC7802 controller is designed to be operated with DTA (LVDT) and LDR measuring gauges and displacement sensors. Due to its robust aluminum housing protected to IP67, this 2-channel controller is predestined for industrial measurement tasks. A large variety of compatible, inductive displacement sensors and gauges from Micro-Epsilon combined with an optimized price/performance ratio opens up numerous fields of applications in automation technology and machine building. The controller is ideally suited to multi-channel applications and can be easily set via buttons or software.

MSC7802



Dimensions in mm, not to scale

Model		MSC7802
Resolution ¹⁾	DTA series	13 bits (0.012 % FSO) at 50 Hz 12 bits (0.024 % FSO) at 300 Hz
	LDR series	12 bits (0.024 % FSO) at 50 Hz 11 bits (0.048 % FSO) at 300 Hz
Frequency response (-3dB)		300 Hz (adjustable only via software)
Linearity		$\leq \pm 0.02$ % FSO
Temperature stability	DTA series	≤ 100 ppm FSO/K
	LDR series	≤ 125 ppm FSO/K
Supply voltage		14 ... 30 VDC (5 ... 30 VDC ²⁾)
Max. current consumption		80 mA
Input impedance ³⁾		> 100 kOhm
Analog output ⁴⁾		(0)2 ... 10 V; 0.5 ... 4.5 V; 0 ... 5 V (Ra > 1 kOhm) or 0(4) ... 20 mA (load < 500 Ohm)
Connection		Sensor: screw terminal AWG 16 up to AWG 24; with ferrule up to AWG 28 or 5-pin M9 connector Supply/signal: screw terminal AWG 16 up to AWG 24; with ferrule up to AWG 28 or 5-pin M12 connector
Installation		2x mounting holes for M4
Temperature range	Storage	-40 ... +85 °C
	Operation	-40 ... +85 °C
Shock (DIN-EN 60068-2-27)		40 g / 6 ms in 3 axes, 2 directions and 1000 shocks each 100 g / 5 ms in 3 axes, 2 directions and 9 shocks each
Vibration (DIN-EN 60068-2-6)		± 1.5 mm / 5 ... 57 Hz in 3 axes, 10 cycles each ± 20 g / 57 ... 500 Hz in 3 axes, 10 cycles each
Protection class (DIN-EN 60529)		IP67 (plugged)
Material		Aluminum die casting
Weight		approx. 280 g
Compatibility		full-bridge sensor/LVDT (DTA series) and half-bridge sensor (LDR series)
No. of measurement channels		2

FSO = Full Scale Output

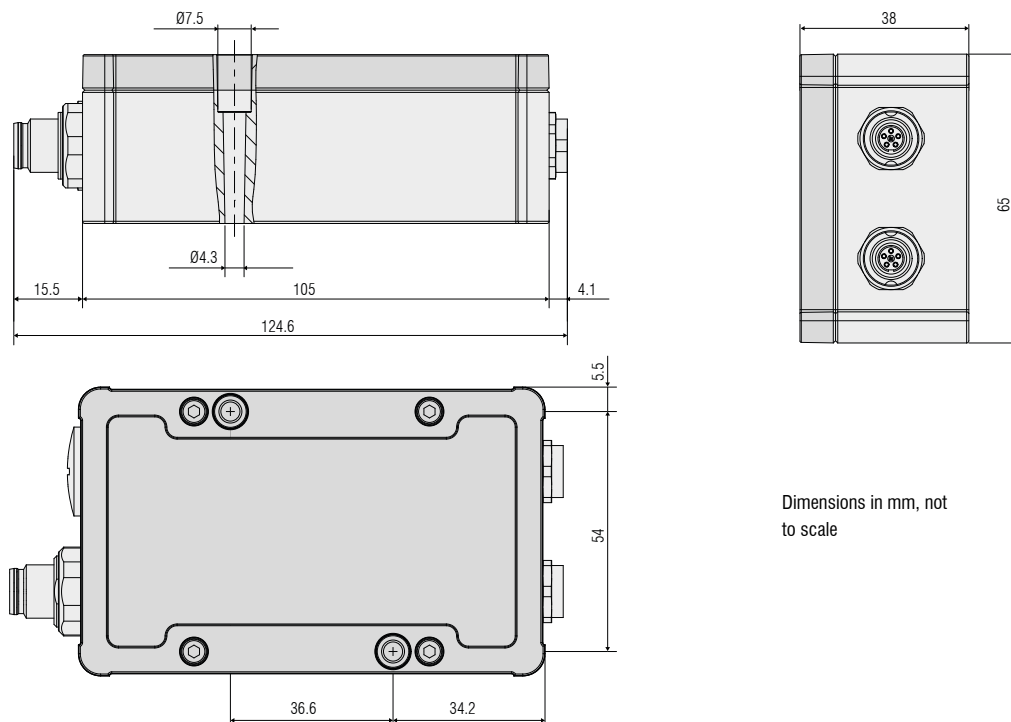
¹⁾ Noise: AC RMS measurement via RC low-pass filter of the 1st order with $f_c = 5$ kHz

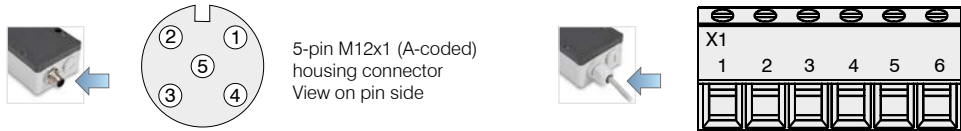
²⁾ With technical restrictions of the output signal (load and signal span)

³⁾ Sensor side

⁴⁾ With controllers including a current output, the output signal is limited to approx. 21 mA

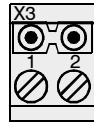
MSC7802(010)





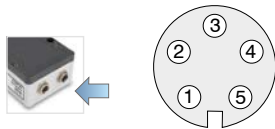
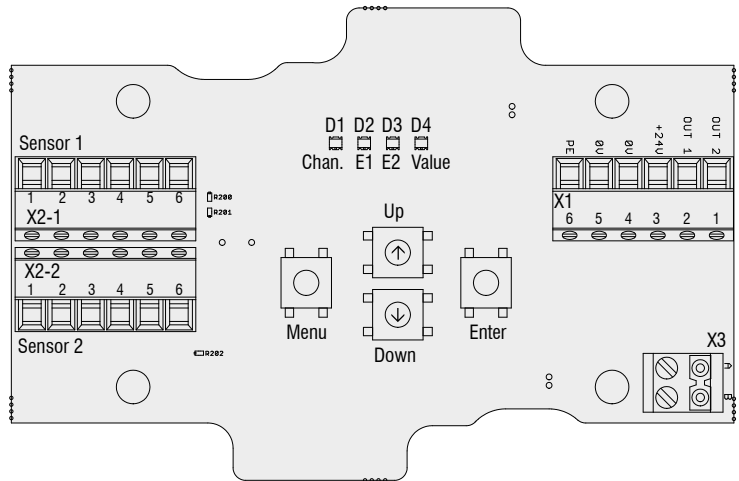
5-pin M12x1 (A-coded) housing connector
View on pin side

Pin assignment of supply and analog output	Connector variant		Cable gland	
Assignment	5-pin	Color (cable: PC5/5-IWT)	Pin X1	Color (cable: PC7400-6/4)
Analog output for channel 2	2	White	1	Green
Analog output for channel 1	4	Black	2	Yellow
Supply voltage	1	Brown	3	White
GND (supply and signal mass)	3	Blue	4	Brown
Not assigned	5	Gray	5	-
Shield (housing)	-	Cable shield via connector	6	Cable shield

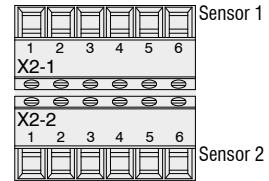


Pin assignment digital interface RS485

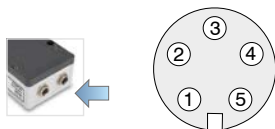
Assignment	Pin X3
RS485 A	1
RS485 B	2



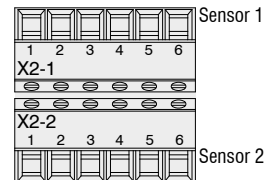
5-pin housing socket M9
(Binder, Series 712)
View on pin side



Pin assignment Sensors 1 & 2 (LVDT)	Connector	Cable gland			
Assignment	Pin 5-pin	Pin X2-x	DTA-x-CA-x DTA-x-CR-x Cable C701-x	DTA-x-CA-x	DTA-xG8-x
Shield	Housing	1	Shield	-	Shield
Secondary center tap	5	2	Gray	Gray	Gray
Secondary +	1	3	White	White	Black
Secondary -	2	4	Brown	Black	White
Primary +	3	5	Green	Green	Blue
Primary -	4	6	Yellow	Yellow	Brown



5-pin housing socket M9
(Binder, Series 712)
View on pin side



Pin assignment Sensors 1 & 2 (LDR)	Connector	Cable gland		
Assignment	5-pin	Pin X2-x	LDR-x-CA	Cable C7210-x
Shield	Housing	1	-	-
Secondary center tap	5	2	Green	Black
Secondary +	1	3	White	Brown
Secondary -	2	4	Brown	Blue
Primary +	3	5	-	-
Primary -	4	6	-	-