

# iC-MU150 EVAL MU2M

## 3-TRACK NONIUS EVALUATION KIT DESCRIPTION

preliminary



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### ORDERING INFORMATION

Type	Order Designation	Description Options
Evaluation Kit	iC-MU150 EVAL MU2M	Evaluation kit includes board MU2M equipped with two iC-MU150 DFN16-5x5 and an two EEPROMs (see Figure 6)
Evaluation Board	iC-MU EVAL MU1D	Evaluation board suitable to eval kit MU1M and MU2M, the board is needed to connect MU2M to a PC via MB4U or MB5U adapter
PC Adapter	iC-MB4 iCSY MB4U iC-MB5 iCSY MB5U	High Performance BiSS-to-PC Adapter (USB) High Performance Galvanic Isolated BiSS-to-PC Adapter (USB)

Note: Using a high performance PC adapter (BiSS - USB) is required for the automatic calibration feature of the GUI software.

### BOARD MU2M

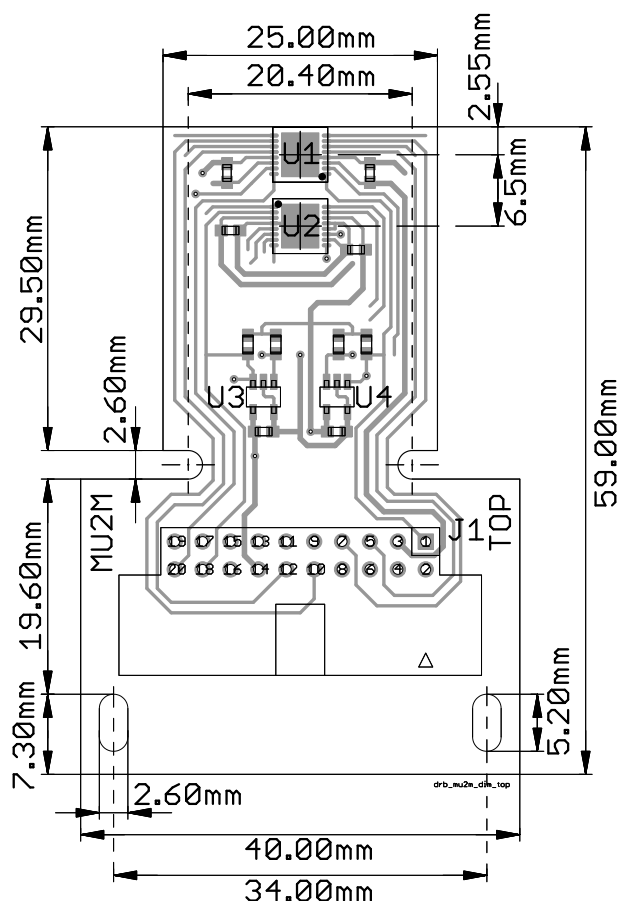


Figure 1: Component side

### TERMINAL DESCRIPTION

- J1 Signal output connector (pin configuration suitable to connector J1 of board MU1D)

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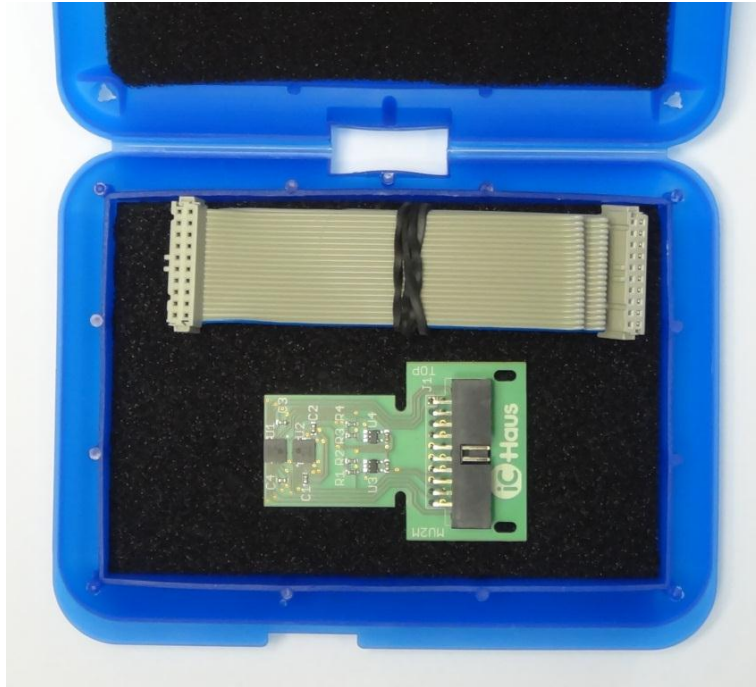


Figure 2: Evaluation kit iC-MU150 EVAL MU2M

**CONNECTOR AND TERMINAL PINOUT****J1: Signal output**

<b>PIN</b>	<b>Name</b>	<b>Function</b>
1	SCL_U1	EEPROM interface U1, clock
2	SDA_U1	EEPROM interface U1, data
3	VPA	Analog supply voltage
4	GND	Ground
5	PB0_U1	Port B MU1, Pin 0: Digital I/O, analog output configurable
6	PB1_U1	Port B MU1, Pin 1: Digital I/O, analog output configurable
7	PB2_U1	Port B MU1, Pin 2: Digital I/O, analog output configurable
8	PB3_U1	Port B MU1, Pin 3: Digital I/O, analog output configurable
9	PA3_U1	Port A MU1, Pin 3: Digital I/O, configurable
10	PA2_U1	Port A MU1, Pin 2: Digital I/O, configurable
11	PA1_U1	Port A MU1, Pin 1: Digital I/O, configurable
12	PA0_U1	Port A MU1, Pin 0: Digital I/O, configurable
13	GND	Ground
14	VPD	Digital supply voltage
15	MTD_U2	Multiturn interface MU2, data
16	MTC_U2	Multiturn interface MU2, clock
17	SCL_U2	EEPROM interface MU2, clock
18	SDA_U2	EEPROM interface MU2, data
19	MTD_U1	Multiturn interface MU1, data
20	MTC_U1	Multiturn interface MU1, clock

### CIRCUIT DESCRIPTION

The iC-MU150 evaluation board MU2M features a 20-pin connector. A ribbon cable could be connected to the evaluation board MU1D (see Figure 6). A 3-track nonius system linear or rotary (radial magnetize) can be evaluate using the board MU2M.

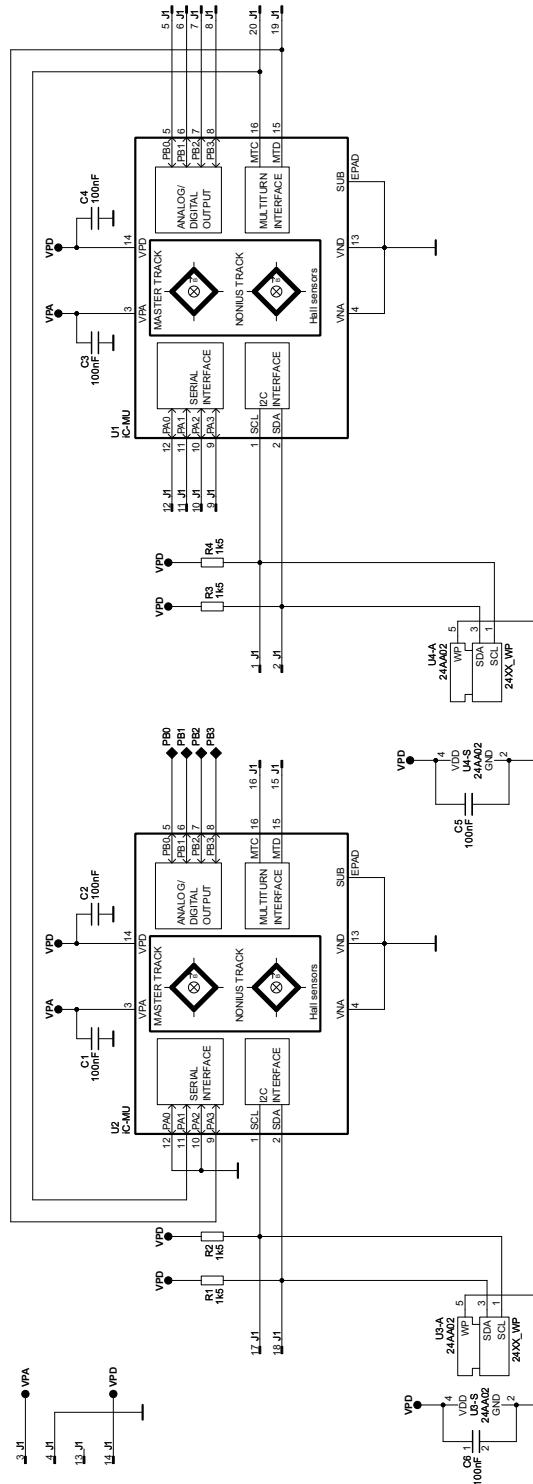
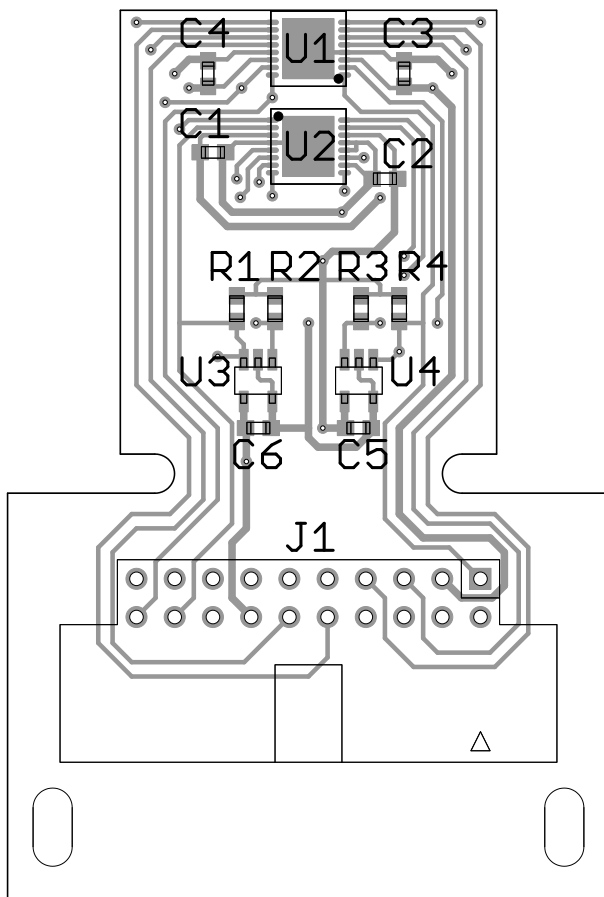


Figure 3: Circuit diagram MU2M

### ASSEMBLY PART LISTS

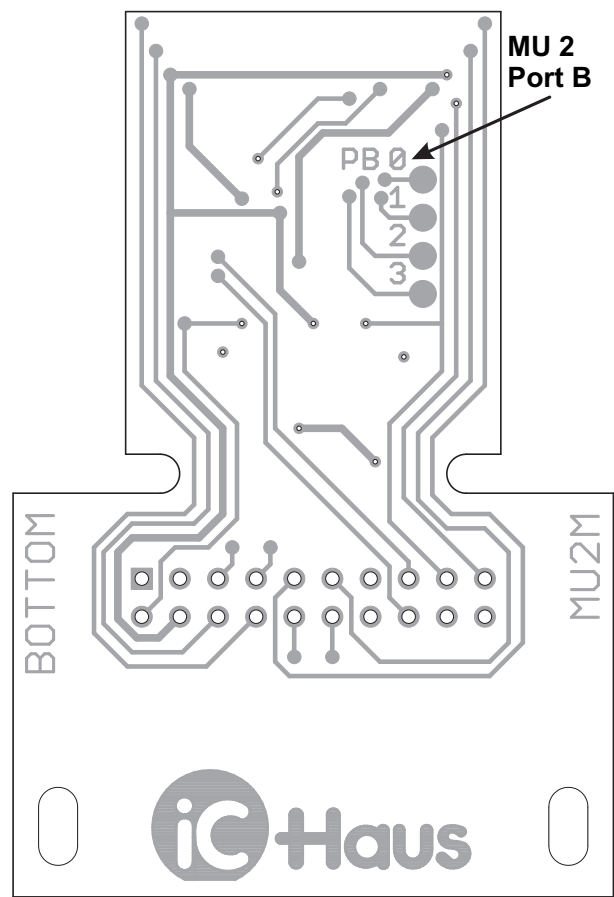
Device	Value (typical)	Comment
C1 - C6	100 nF (0603)	Capacitors X7R 16V
R1 - R4	1.5 k $\Omega$ (0603)	I <sup>2</sup> C pull-up resistors 1%
U1	iC-MU150 DFN16-5x5	iC-MU150 Device 1 (ST, segment/master track)
U2	iC-MU150 DFN16-5x5	iC-MU150 Device 2 (MT, nonius/master track)
U3	24LC16B (SOT23)	EEPROM 16k connected to U2
U4	24LC16B (SOT23)	EEPROM 16k connected to U1
J1	20 pol.	Connector WSL 2x10 90 deg

Table 1: Board MU1M



dra\_mu2m Assy\_top

Figure 4: Board MU2M - top side



drb\_mu2m\_dim\_bot

Figure 5: Board MU2M - bottom side

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### APPLICATION EXAMPLE

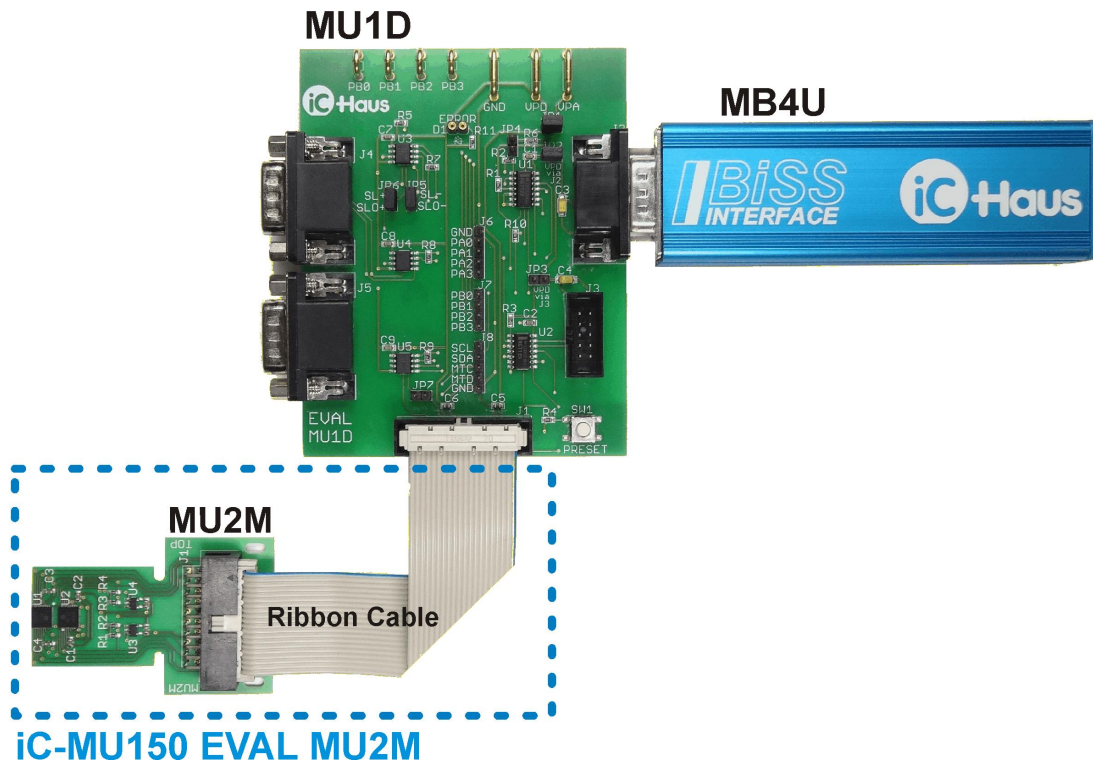


Figure 6: iC-MU150 eval kit parts

Required eval kit parts:

1. iC-MU150 EVAL MU2M
2. iC-MU EVAL MU1D
3. iC-MB4 iCSY MB4U or iC-MB5 iCSY MB5U
4. Magnetic 3-track target

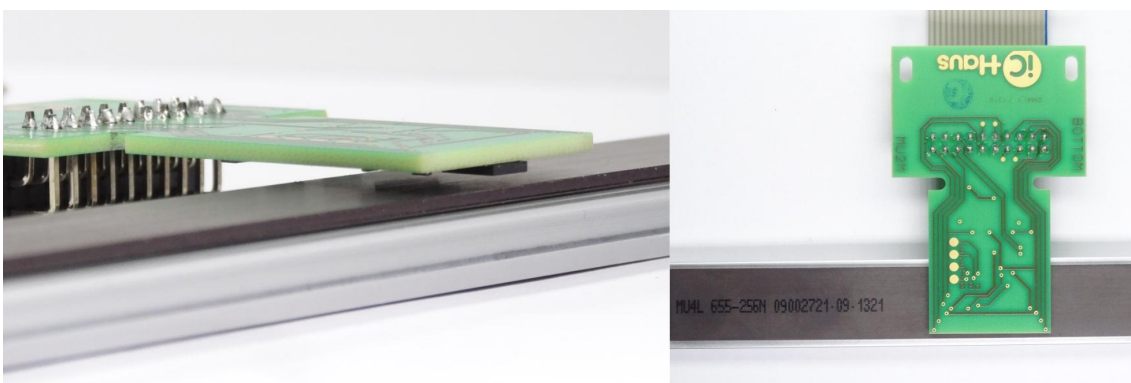


Figure 7: MU2M with magnetic 3-track tape

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### RELATED PRODUCTS AND DOCUMENTATION

Item	Description	Documentation and Information
iC-MU150 DFN16-5x5	Magnetic off-axis absolute position encoder, pole pitch 1.5mm	<a href="http://www.ichaus.de/product/iC-MU150">http://www.ichaus.de/product/iC-MU150</a>
iC-MU DFN16-5x5	Magnetic off-axis absolute position encoder, pole pitch 1.28mm	<a href="http://www.ichaus.de/product/iC-MU">http://www.ichaus.de/product/iC-MU</a>
iC-MU EVAL MU1D	Evaluation board suitable for MU1M and MU2M	
iC-MB4 iCSY MB4U	High Performance BiSS-to-PC Adapter (USB)	<a href="http://www.ichaus.de/product/MB4U">http://www.ichaus.de/product/MB4U</a>
iC-MB5 iCSY MB5U	High Performance Galvanic Isolated BiSS-to-PC Adapter (USB)	<a href="http://www.ichaus.de/product/MB5U">http://www.ichaus.de/product/MB5U</a>

### REVISION HISTORY

Rel.	Rel. Date*	Chapter	Modification	Page
A1	2016-09-20		Initial version	

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\* Release Date format: YYYY-MM-DD