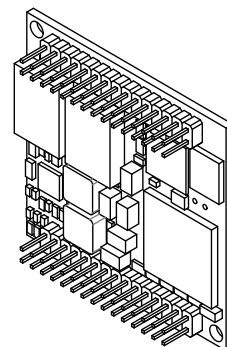


RM-MVB10/1x

MVB Controller module

- 1 × MVB EMD or ESD double-line device attachment
- MVB designed in accordance with IEC 61375-3-1 Ed.1
- 1 × host interface (parallel bus / UART / LPC)
- 3 × diagnostic LEDs
- Power supply 3,3 V DC
- Design meets the EN 50155 standard



TECHNICAL DATA

Host interface	1 ×
Operation mode	Parallel / UART / LPC
Communication speed	Depends on the type of interface
Galvanic separation	No
Logic levels	3,3 V LVTTTL *)
MVB interface	1 × (2 redundant lines)
Class	Class 1 / 2 / 4 without MD / 4 **)
Communication speed	1,5 Mbps ±0,01 %
Medium type	EMD or ESD ***)
Galvanic separation	Yes
Galvanic separation strength	500 V AC / 1 minute ****)
Power supply	3,3 V DC
Power consumption	60 mA at 3,3 V DC
Others	
Connection	2 × 30 pin dual row header
Cover protection rate	IP00
Operating temperature	-40 °C to 85 °C
Storage temperature	-40 °C to 85 °C
Max. ambient humidity	< 95 % non-condensing
Weight	18 g
Dimensions (w × h × d)	(50,0 × 48,0 × 12,0) mm

*) Inputs are not 5 V tolerant

**) See ordering information for proper designation

***) User selectable by external components

****) Insulation must not be used for dangerous voltage separation

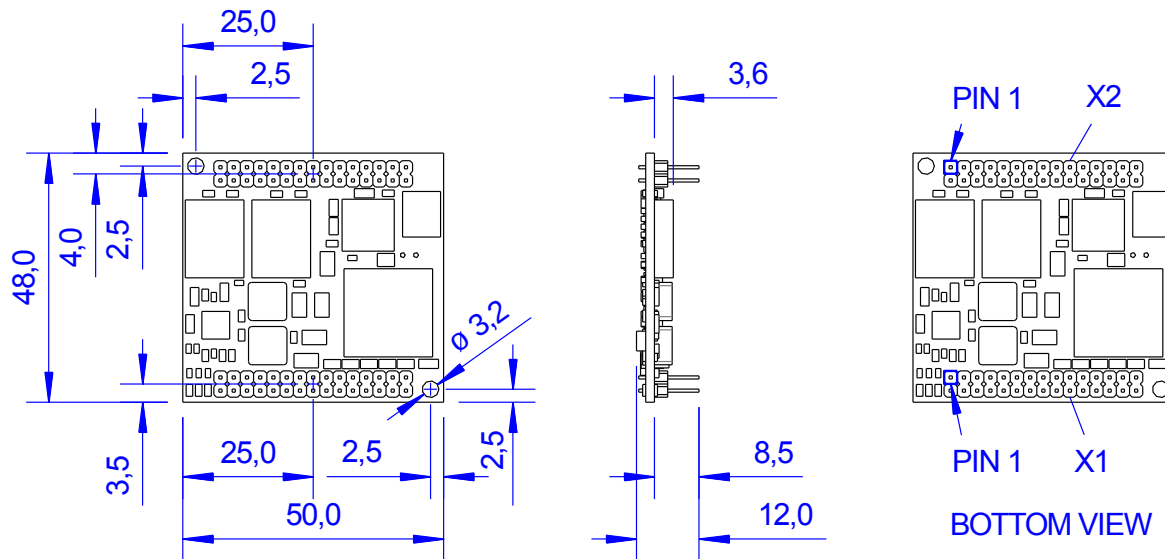
ORDERING INFORMATION

RM-MVB10/1x	MVB Controller, datasheet, quality certificate, production test report, insulation test report
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MVB capabilities

- 1 MVB class 1 (device status + process data)
- 2 MVB class 2 (device status + process data + message data)
- 3 MVB class 4 without message data (device status + process data + bus administrator)
- 4 MVB class 4 (device status + process data + message data + bus administrator)

PHYSICAL DIMENSIONS AND TERMINAL LOCATIONS



TERMINALS ASSIGNMENT

Connector	Assignment
X1	Host interface
X2	MVB interface / JTAG / ISP

CONNECTOR X1 (HOST INTERFACE)

Terminal	Operation mode			Assignment
	Parallel	UART	LPC	
1	GND	GND	GND	Ground
2	GND	GND	GND	Ground
3	D0	RXD	LAD0	Data 0 / received data / LPC AD0
4	D1	HOLD_TX	LAD1	Data 1 / hold module transmission input / LPC AD1
5	D2	BAUDS0	LAD2	Data 2 / baud rate select 0 / LPC AD2
6	D3	BAUDS1	LAD3	Data 3 / baud rate select 1 / LPC AD3
7	3.3V	3.3V	3.3V	Power
8	3.3V	3.3V	3.3V	Power
9	D4	BAUDS2	FRAME_N	Data 4 / baud rate select 2 / LPC frame
10	D5	RXTXC	LPC_CLK	Data 5 / external UART clock / LPC clock
11	D6	PEN	–	Data 6 / parity enable / –
12	D7	EPS	–	Data 7 / even parity select / –
13	A0	–	–	Address 0 / – / –
14	A1	–	–	Address 1 / – / –
15	A2	–	–	Address 2 / – / –
16	CE_N	–	–	Chip select / – / –
17	3.3V	3.3V	3.3V	Power
18	3.3V	3.3V	3.3V	Power
19	RD_N	TXD	–	Read request / transmitted data / –
20	WR_N	HOLD_RX	–	Write request / hold host transmission output / –
21	RESET_N	RESET_N	RESET_N	Reset input
22	RDY_N	TX_DIR	–	Data ready output / transmitter enable / –
23	GND	GND	GND	Ground
24	GND	GND	GND	Ground
25	INT_N	–	SERIRQ	Interrupt output / – / Serial IRQ line
26	MODE 0	MODE 0	MODE 0	Operation mode select 0
27	MODE 1	MODE 1	MODE 1	Operation mode select 1
28	MODE 2	MODE 2	MODE 2	Operation mode select 2
29	GND	GND	GND	Ground
30	GND	GND	GND	Ground

RM-MVB10/1x

MVB Controller module

CONNECTOR X2 (MVB INTERFACE)

Terminal	Label	Assignment	Terminal	Label	Assignment
1	Shield	MVB cable shield	16	B.5V	Power supply to ext. term.
2	Shield	MVB cable shield	17	Shield	MVB cable shield
3	A.0V	Power supply to external terminator	18	Shield	MVB cable shield
4	A.P.ESD	Non-inverted MVB bus line with RS485 level	19	n.c.	Not connected
5	A.P.EMD	Non-inverted MVB bus line with RS485 level	20	n.c.	Not connected
6	A.N.ESD	Inverted MVB bus line with RS485 level	21	TCK	JTAG clock
7	A.N.EMD	Inverted MVB bus line with RS485 level	22	GND	JTAG/ISP ground
8	A.5V	Power supply to external terminator	23	TDO	JTAG data output
9	Shield	MVB cable shield	24	JPWR	JTAG power output
10	Shield	MVB cable shield	25	TMS	JTAG mode select
11	B.0V	Power supply to external terminator	26	RxD	ISP interface RXD
12	B.P.ESD	Non-inverted MVB bus line with RS485 level	27	TRST	JTAG reset
13	B.P.EMD	Non-inverted MVB bus line with RS485 level	28	TxD	ISP interface TXD
14	B.N.ESD	Inverted MVB bus line with RS485 level	29	TDI	JTAG data input
15	B.N.EMD	Inverted MVB bus line with RS485 level	30	GND	JTAG/ISP ground