

M-Bus 60-400 Converters & Repeaters Data Sheet

M-Bus Converters (C05 - C08)

C05 C06 C07 C08



Features

- Serial ports RS232 and RS485
- Up to 400 simultaneously connected slave devices
- ESD protection for the RS232/485 data line
- 3000 VDC isolation protection
- Power supply: +12 to +30 VDC or 24 VAC
- Transmission speed up to 9600 bps
- Tx, Rx, power and M-Bus load LED indicators
- RS485 embedded termination 120 ohm
- Operating temperatures: -40°C to +60°C
- DIN-rail mounting
- Dimensions: 90x56.4x35,6 mm
- 3 years warranty
- Customization of OEM is welcomed

Introduction

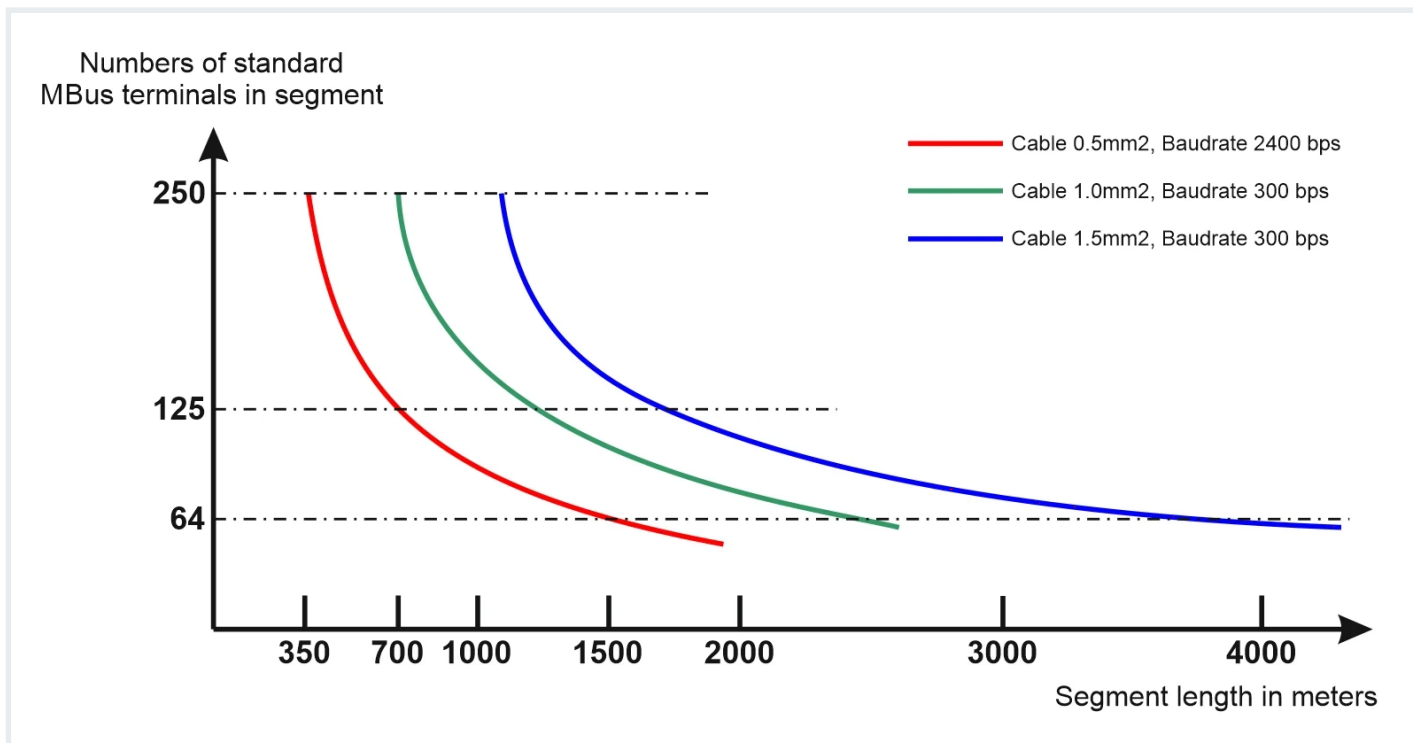
C05 - C08 is a family of products that are reliable M-Bus electrical standard converters. They enable communication in master mode with many (60-400) simultaneously connected slave devices and can work as M-Bus repeaters letting to broaden the range of the interface, while simultaneously making the quality better and supporting the safety of the communication. Dedicated EMC integrated circuits guarantee improved connection quality by limiting the impact of interference typical for an industrial environment.

Specifications

Redisage PN		C05	C06	C07	C08
Converter ports	Serial	1 x RS232 & 1 x RS485			
	M-Bus master	up to 60 slaves	up to 120 slaves	up to 200 slaves	up to 400 slaves
	M-Bus slave	1 x M-Bus slave			
Power	Voltage	12-30 VDC / 24 VAC			
	Max. power	5 W	8 W	15 W	30 W
Frame ground connection		yes			
Serial interface	RS232	TxD, RxD, GND			
	RS485	A, B			
3000 VDC isolation side		RS232, RS485, M-Bus slave			
Baud rate		up to 9600 bps			
LED indicators		communication Tx, Rx, power, M-Bus load, error			
RS485 termination		120 ohm manually enabled			
Connector	RS232	3-pin terminal block max. 2.5 mm ² wire			
	RS485	3-pin terminal block max. 2.5 mm ² wire			
	Power	3-pin terminal block max. 2.5 mm ² wire			
	M-Bus	3-pin terminal block max. 2.5 mm ² wire			
Transmission Distance	RS485	max. 1,200 m at 9.6 kbps; max. 400 m at 115.2 kbps (Belden 9841 2P twisted-pair cable, if different cables are used, the transmission distance may change)			
	RS232	max. 15 m at 115.2 kbps			
	M-Bus	see: M-Bus max. transmission distance			

Redisage PN	C05	C06	C07	C08
Mounting and enclosure	DIN rail, plastic PA - UL 94 V0, black/green			
Temperatures	-40°C to +60°C operating and storage			
Humidity	10 - 90% RH, non-condensing			
ESD protection	±4 kV contact discharge / ±8 kV air discharge			
Certification	CE, RoHS			

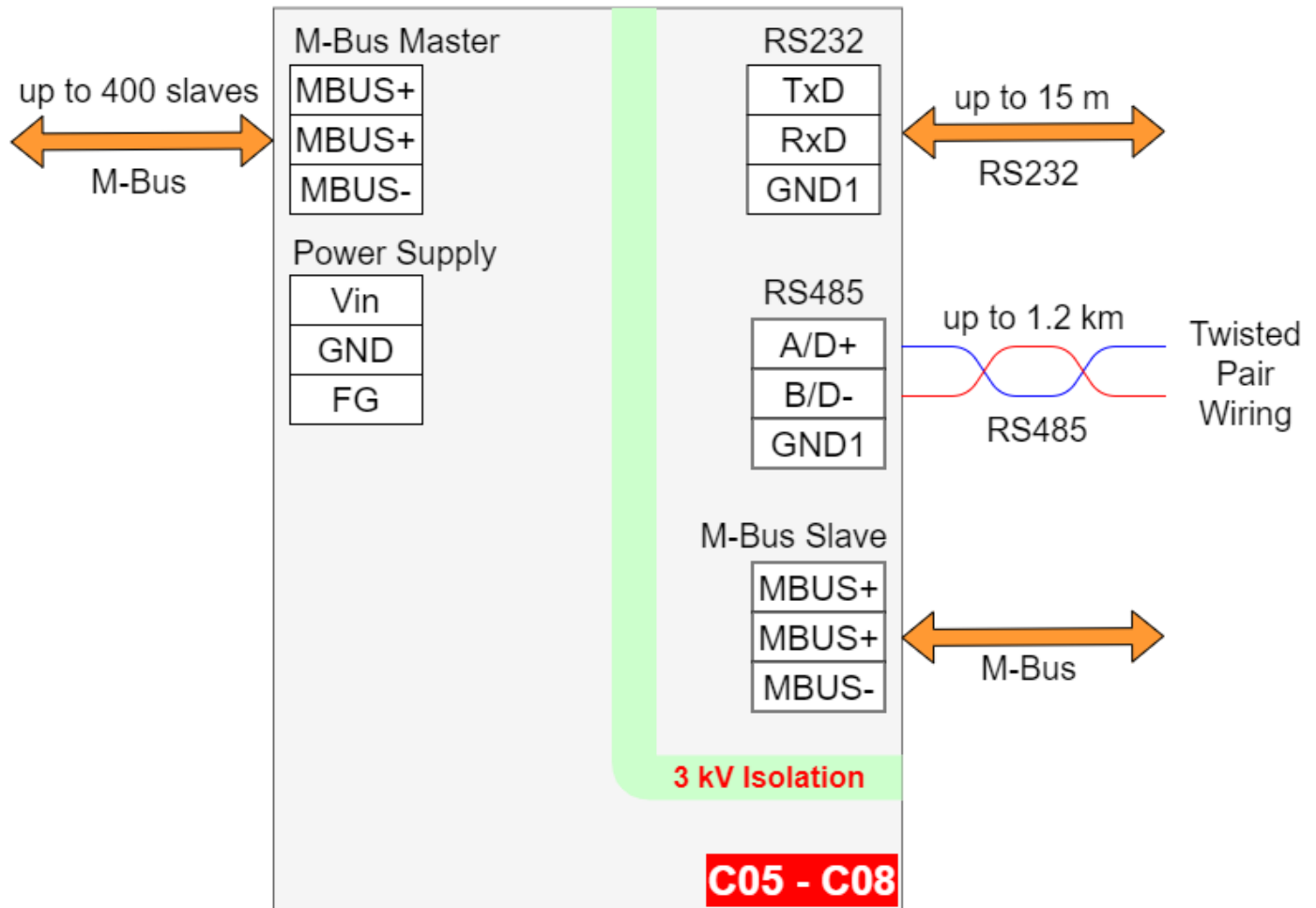
M-Bus max. transmission distance



Variants

C05 - C08 M-Bus Converter with M-Bus repeater functionality

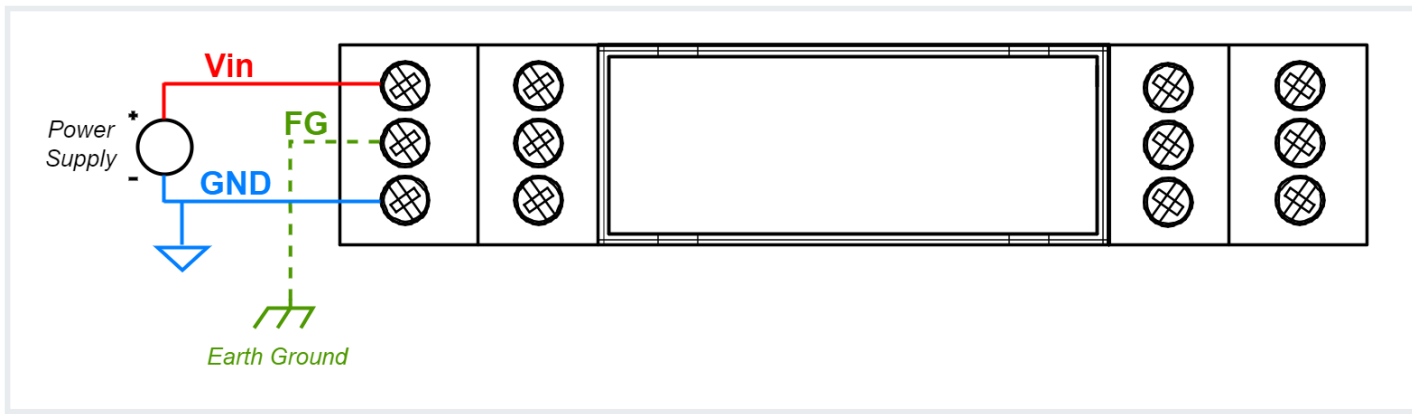
C05-C08 M-Bus Converter with M-Bus Repeater functionality



Frame ground FG

Electronic circuits are constantly prone to electrostatic discharge ESD. Redisage Electronics modules feature a design for the frame ground terminal block FG. The frame ground provides a path for bypassing ESD, which provides enhanced static protection ESD abilities and ensures the module is more reliable. Connecting FG terminal block to the earth ground will bypass the ESD disturbances outside the device so will provide a better level of protection against ESD.

Frame Ground FG connection reference drawing is provided below.



If earth ground is not available FG can be left floating or it can be connected with the power supply GND.

Pin assignments

C05 MBus 60 Converter Repeater

123456789012345

Power: --- 12-30V/DC <1W
~ 24V/AC
Temperature: -40°C +60°C
Ports: 1xRS232 1xRS485
1xMBus up to 60 slaves
MBus repeater function
REV1 MADE IN EU

6 Gnd1	12 MBus	18 Gnd1	24 Gnd1
5 A1	11 MBus	17 S1	23 Tx1
4 B1	10 Gnd	16 S2	22 Rx1
NC	NC	NC	21 Gnd
			20 FG
			19 Vin

1 Port 1 terminator	3 Bias -	ON	VE
2 Bias +	4 NC	1	2
		3	4

Redisage ELECTRONICS

C06 MBus 120 Converter Repeater

012345678901234

Power: --- 12-30V/DC <1W
~ 24V/AC
Temperature: -40°C +60°C
Ports: 1xRS232 1xRS485
1xMBus up to 120 slaves
MBus repeater function
REV1 MADE IN EU

6 Gnd1	12 MBus	18 Gnd1	24 Gnd1
5 A1	11 MBus	17 S1	23 Tx1
4 B1	10 Gnd	16 S2	22 Rx1
NC	NC	NC	21 Gnd
			20 FG
			19 Vin

1 Port 1 terminator	3 Bias -	ON	VE
2 Bias +	4 NC	1	2
		3	4

Redisage ELECTRONICS

C07 MBus 200 Converter Repeater

123456789012345

Power: --- 12-30V/DC <1W
~ 24V/AC
Temperature: -40°C +60°C
Ports: 1xRS232 1xRS485
1xMBus up to 200 slaves
MBus repeater function
REV1 MADE IN EU

6 Gnd1	12 MBus	18 Gnd1	24 Gnd1
5 A1	11 MBus	17 S1	23 Tx1
4 B1	10 Gnd	16 S2	22 Rx1
NC	NC	NC	21 Gnd
			20 FG
			19 Vin

1 Port 1 terminator	3 Bias -	ON	VE
2 Bias +	4 NC	1	2
		3	4

Redisage ELECTRONICS

C08 MBus 400 Converter Repeater

123456789012345

Power: --- 12-30V/DC <1W
~ 24V/AC
Temperature: -40°C +60°C
Ports: 1xRS232 1xRS485
1xMBus up to 400 slaves
MBus repeater function
REV1 MADE IN EU

6 Gnd1	12 MBus	18 Gnd1	24 Gnd1
5 A1	11 MBus	17 S1	23 Tx1
4 B1	10 Gnd	16 S2	22 Rx1
NC	NC	NC	21 Gnd
			20 FG
			19 Vin

1 Port 1 terminator	3 Bias -	ON	VE
2 Bias +	4 NC	1	2
		3	4

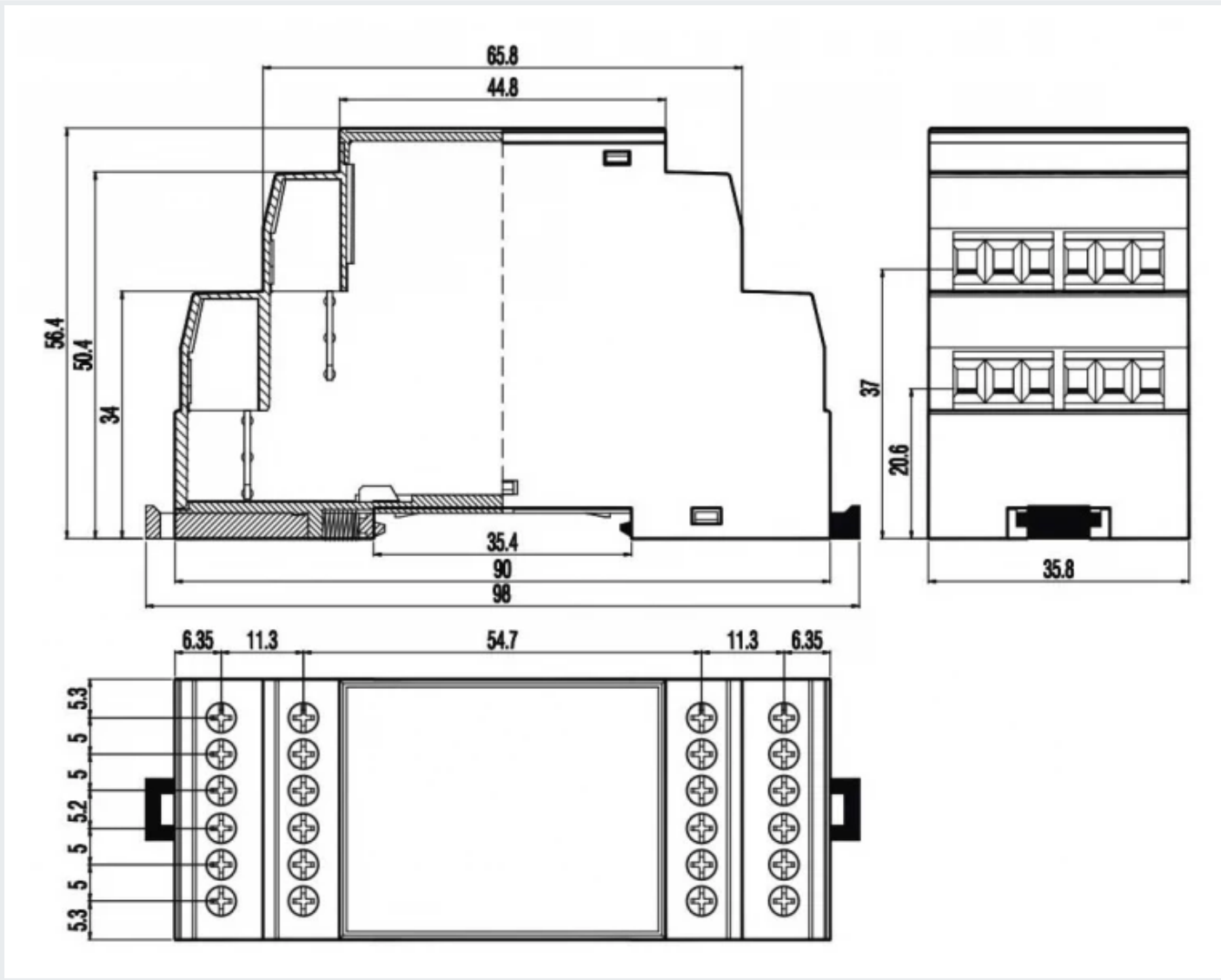
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Enclosure dimensions

2U Module Enclosure

98 x 35.8 x 56.4

Units: mm



Additional notes

Related information and links		
Ordering information	Accessories	Similar products

Products family sample photo



<https://redisage.com>

DISCLAMER NOTES

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

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SC-D

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