

M-Bus Series Products

RS-232/422/485 to M-Bus Converter

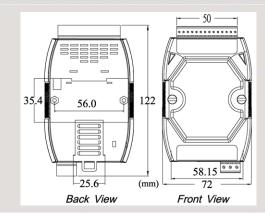








I-7590



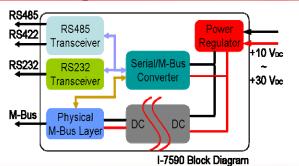
Dimensions

The M-Bus ("Meter-Bus") is a European standard for remote reading of meters. It is usable for most types of consumption meters as well as for various sensors and actuators. The I-7590 is specially designed for M-Bus slave device. It offers RS-232, RS-422 and RS-485 three kinds of communication way. On hardware the I-7590 has two rotary switches for serial port and M-Bus port baud rate. On communication the I-7590 uses transparent communication. Through these two designs, it is easy to communicate with any standard M-Bus slave.

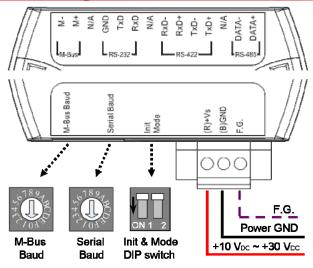
Features

- Baud rate: Adjustable by rotary switch from 300 to 115200 bps, and provides 6 kinds for user-defined
- Serial baud and M-Bus baud are each independently
- Default serial port data format: Data bit 8, Parity none, Stop bit 1
- Default M-Bus port data format: Data bit 8, Parity even, Stop bit 1
- Support up to 100 M-Bus slaves
- ±4kV ESD protection
- Short-circuit protection on the M-Bus
- Update firmware from serial port
- Provide PWR, MTX and MRX 3 LED indicators
- Watchdog inside
- Use transparent communication

Block Diagram



Pin Assignments



Rotary switch & DIP switch Selection

Switch Value	0	1	2	3	4	5
Baud [bps]	300	600	1200	2400	4800	9600
Switch Value	6	7	8	9	A~F	
Baud [bps]	19200	38400	57600	115200	User-defined	

V ON 1	2

1 Init	2 Mode	Description	
OFF	OFF	Run Firmware	
OFF	ON	Configure	
ON	OFF	Update Firmware	

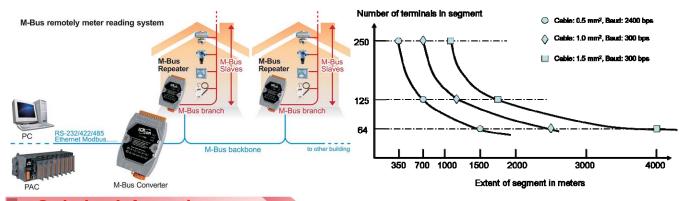




Hardware Specifications

Channel number 1 Baud Rate (bps) 300 to 2400 bps and user-defined baud (selected by rotary switch and utility tool) Data bit 5, 6, 7, 8 Stop bit 1, 2 Parity None, Even, Odd, Space, Mark Isolation 3750 Vrms for photo-couple Current Protection Short-circuit protection UART Interface Channel number 1, RS-232 / RS-422 / RS-485 (can't be used simultaneously) Baud Rate (bps) Adjustable M-Bus bus baud rate from 300 bps to 115200 bps or configurable user-defined baud rate Data bit 5, 6, 7, 8 Stop bit 1, 2 Parity None, Even, Odd, Space, Mark Bias Resistor Adjustable by switch for RS-422 and RS-485 LED PWR: Power Indicator MTX: M-Bus Data Transmitted Indicator MRX: M-Bus Data Received Indicator MRX: M-Bus Data Received Indicator MRX: M-Bus Data Received Indicator Watchdog IC (0.8 seconds) ESD Protection Contact ±4 kv class B Power Power Supply Unregulated +10 ~ +30 VDC Protection Power reverse polarity protection, Over-voltage protection Power Consumption 1.8 W @ 24 VDC (with 1 slave device), 11.8 W @ 24 VDC (with 100 slave devices) Mechanism Installation DIN-Rail Dimensions 122mm x 72mm x 33mm (L x W x H) Environment Operating Temperature -25 to 75 °C Storage Temperature -30 to 80 °C Humidity 10 to 90% RH, non-condensing	M-Bus Interface			
Data bit 1, 2 Parity None, Even, Odd, Space, Mark		1		
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Hardware Module Watchdog Watchdog IC (0.8 seconds) ESD Protection Contact ±4 kv class B Power Power supply Unregulated +10 ~ +30 VDC Protection Power reverse polarity protection, Over-voltage protection Power Consumption 1.8 W @ 24 VDC (with 1 slave device), 11.8 W @ 24 VDC (with 100 slave devices) Mechanism Installation DIN-Rail Dimensions 122mm x 72mm x 33mm (L x W x H) Environment Operating Temperature -25 to 75 °C Storage Temperature -30 to 80 °C	LED			
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Installation DIN-Rail Dimensions 122mm x 72mm x 33mm (L x W x H) Environment Operating Temperature -25 to 75 °C Storage Temperature -30 to 80 °C	Power Consumption	1.8 W @ 24 VDC (with 1 slave device), 11.8 W @ 24 VDC (with 100 slave devices)		
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Operating Temperature -25 to 75 °C Storage Temperature -30 to 80 °C	Dimensions	122mm x 72mm x 33mm (L x W x H)		
Storage Temperature -30 to 80 °C	Environment			
	Operating Temperature	-25 to 75 °C		
• •	Storage Temperature	-30 to 80 °C		
	Humidity	10 to 90% RH, non-condensing		

Applications



Ordering Information

I-7590 CR RS-232 / RS-422 / RS-485 to M-Bus Convertor (RoHS)