



SMART COMMUNICATION

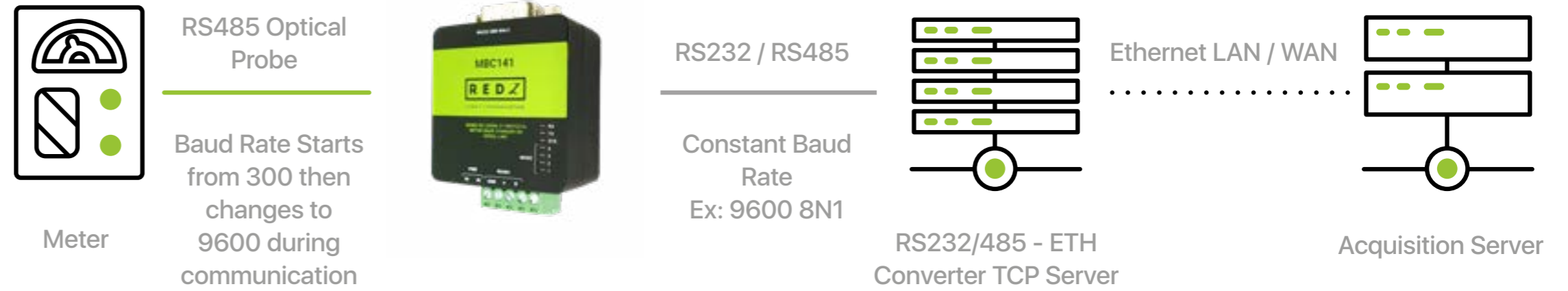
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# MBC141 IEC62056-21 Protocol Auto Baud Changer

With RS232 DB9 Male on Modem Side  
and RS485 2 Wire Connection on Meter Side





# Main Features

- Dual Power Input: Can be powered over RS232 line or external power input
- Wide range power input: 3,3V – 28V DC
- Wide operating temperature range from -40 to 85 °C
- Very Small form factor, only 2.1 x 4.2 x 4.4cm
- Firmware upgradable over serial line

**MBC Series IEC62056-21 Protocol Auto Baud Changer are designed to be used with IEC meters**

The meters that supports IEC62056-21 has baud change over during transmission may be hard to monitor over remote modems. MBC Series IEC62056-21 Protocol Auto Baud Changer makes this implementation possible and easy. It detects the protocol transferred from modem side to meter side and vice versa and automatically changes baud rate based on protocol definition during transmission. It can for example be used to remotely read meters via optical probe remotely.

# Technical Specifications

## Interface and Indicators



RS232 Connector

DB9 Male RS232 Connector. Only Tx-Rx-GND for data transmission

2 – Rx

3 – Tx

5 – GND

RS485 Connector

Terminal Connector for 2 wire RS485 connection and GND

Operation Mode Selection Switch

Selects the operating mode of the device

Mode Selection	Modem Side Communication Parameters	Meter Side Communication Parameters
Mode 1 (LED 1 ON)	19200 8N1	Starts with 300 baud rate and changes during transmission to target baud rate based on IEC62056-21 protocol
Mode 2 (LED 2 ON)	9600 8N1	
Mode 3 (LED 3 ON)	19200 7E1	
Mode 4 (LED 4 ON)	9600 7E1	



## Indicators

### LED Indicators

Following LEDs available to show system status.

1 – Mode 1 LED

2 – Mode 2 LED

3 – Mode 3 LED

4 – Mode 4 LED

5 – System LED: Blinks every second

6 – Tx LED: Sending data from Modem Side to Meter Side

7 – Rx LED: Receiving data from Meter Side to Modem Side

## Firmware Upgrade

Upgrade over Serial Line

**Available from Modem side Serial Line**

RS232 on MBC141

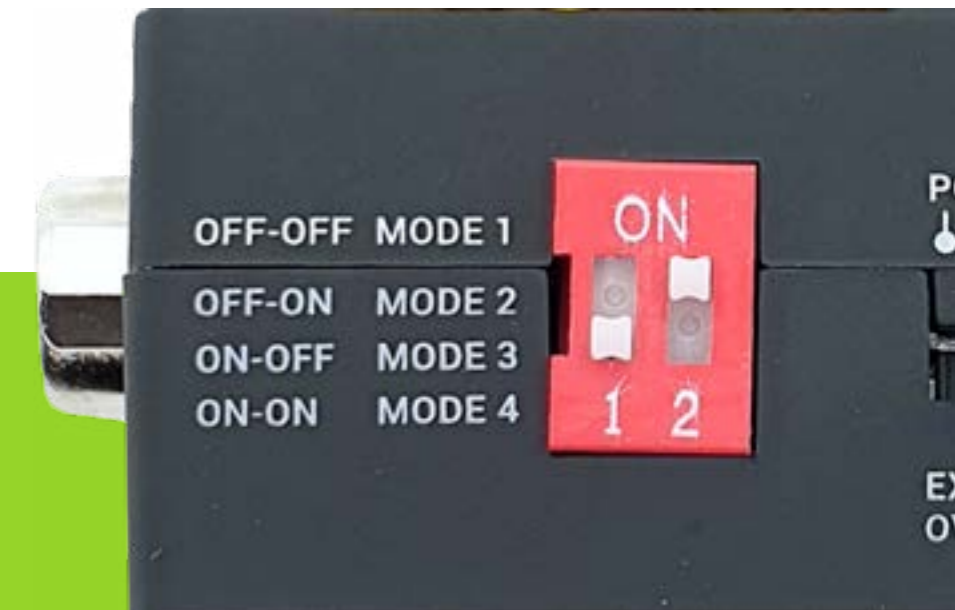
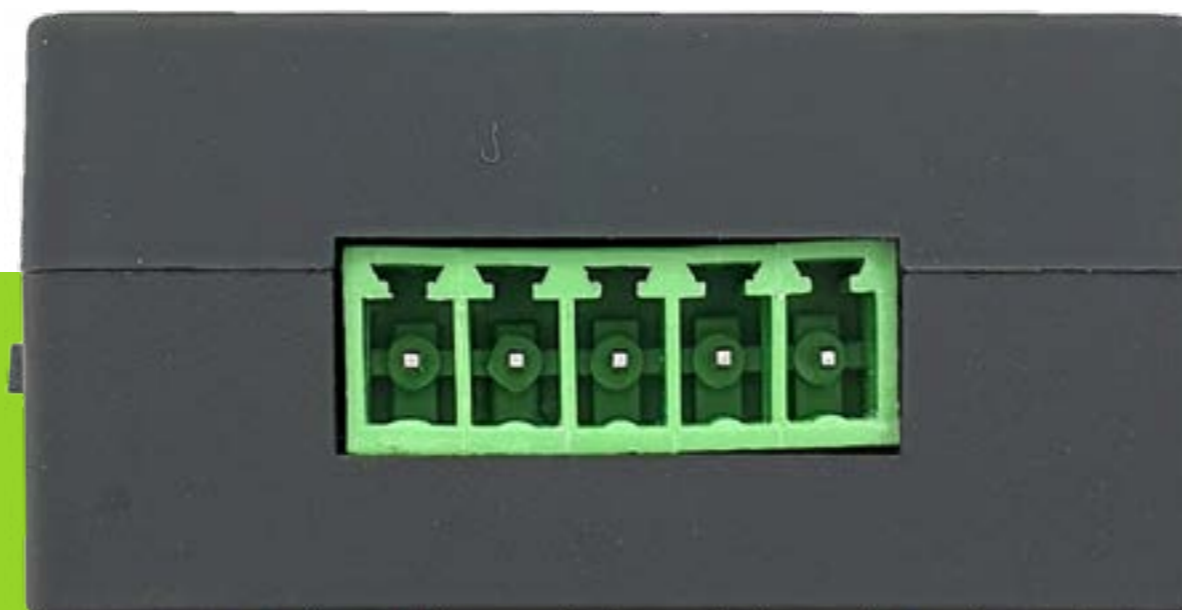
Device must be on operating mode 19200 8N1 for firmware upgrade process

## Physical & Environmental Characteristics

Enclosure	ABS, IP40
Dimensions	21 × 42 × 44 (h × w × d) mm
Weight	~ 60 g
Storage Temperature	– 55 to 125 °C
Operating Temperature	– 40 to 85 °C
Operating Humidity	5% to 95% Non-condensing

## Power

Power Input Over RS232 (switch selectable)	Device Can be powered over PIN4 and/or PIN8 of RS232 DB9 Male Interface
Power Input Selection Switch	Switch must be in proper position Input power By External Power Source or Input power By RS232 Line pins (4 and/or 8) selectable
Power Input	3,3V – 28V DC
Reverse Polarity Protection	Available
Thermal Shutdown Protection	Available



# Ordering Information

**MBC141**  
**Modem side RS232, Meter side RS485**  
**IEC 62056-21 Protocol**  
**Meter Baud Changer on Serial Line**

## Product Selection

Model	3.3 – 28V DC Power input	Power Input via RS232 Serial Line	Operating Mode Selections	Modem Side RS232 DB9 Female Connector	Modem Side RS485 Terminal Connector	Power Input Type Selection	Firmware Upgrade Over Serial Line
MBC141	●	●	●	●		●	●
MBC144	●		●		●		●