

# UCM-94/1

## 3G/GPRS Modem for RTU32 Series

Data Sheet

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**BRODERSEN**

simplifying systems



## INTRODUCTION

UCM-94/1 is an industrial 3G/UMTS/GPRS Modem designed for use with the Brodersen RTU32 Series.

The UCM-94 support quad band GSM/GPRS/EDGE and triple band UMTS/HSPA modem that enables Brodersen RTUs to communicate wireless telemetry data and SMS over public and private APN.

3G/GPRS/UMTS/HSPA connection management and maintenance is controlled by the RTU logic and provide an open wireless network connection for any network based communication protocol like Modbus TCP, IEC60870 or DNP3.

Main communication and power interface is USB 2.0 and the UCM-94 has a covered built-in SIM card slot. External antenna is connected via the SMA antenna connector to provide good field strength to ensure reliable communication links.

In addition the UCM-94 has a watchdog interface for hard resetting the modem.

## FEATURE LIST

Benefits and features:

- Industrial terminal
- Triple-band 850/1900/2100 MHz (3G)
- Quad-band 850/900/1800/1900MHz (GSM)
- UMTS, HSPA
- EDGE , GPRS
- USB 2.0 Interface (also power interface)
- SIM card slot with cover
- Watchdog control interface
- DIN rail mounting



## VERSIONS / ORDERING CODES

Order code UCM-94/1

## TECHNICAL DESCRIPTION

### General

The UCM-94 industrial 3G/GPRS modem is designed for working with the Brodersen RTU32 Series. Via modem drivers in the RTUs it establish connection over 3G/GPRS to remote host/Servers. When a connection is established a new network connection is available for any network driver's support by the actual RTU.

The modem drivers control both connection details and maintain and monitor the connection. The connection management can be configured to be done automatically at power up or it can be controlled from the PLC logic.

The UCM-94 has a DC input for enabling the watchdog. It is provided to handle known problems with network provider system that occasionally can go into a dead lock – and the only way out is a complete hardware reset (power cycle) of the modem.

Using default RTU32 open Real Time Operating System it offers access and support to a wide range of standard network protocols like TCP/IP, UDP, HTML, FTP, SNTP, SNMP, SMTP.

### Basic Setup and Configuration

The RTU32 Series products support UCM-94 modem handling and control.

The modem control is enabled from the website configuration page under the Modem Settings menu. If enabled, the modem can be configured to establish 3G/GPRS connection automatically at power up or 100% controlled by the PLC runtime .

In addition the website page provide information about current modem state, signal strength.



Configuration webpage

When controlled via the PLC application, PLC Functions are available for starting and stopping the connection, and ready diagnostic information like current field strength etc.



## TECHNICAL SPECIFICATIONS

### GENERAL

#### LED indicator:

LED indicator on the front will light up when power is applied via USB. When the UCM-94 is powered, the LED will indicate the different modem states;

Red: Power on

Slow Flash: Connected to operator

fast Flash: Connected to Ethernet

Led flashes Green: Modem connected to GPRS

Led flashes Blue: Modem connected to UMTS

Protection: IP20

Mounting: DIN rail (EN50022)

Housing: Black corrosion protected aluminum housing.

Dimensions & Weight:

WxHxD: 40x110x60mm in basic version

Weight: 0.2kg

#### Standards:

GSM/GPRS/EDGE: 850/900/1800/1900MHz

UMTS: 2100MHz

#### Transfer rate:

UMTS DL:	Max 7.2Mbps
UMTS UL:	Max. 5.76Mbps

**SMS:** Mobile Originated  
Support both receive and send SMS via AT command.

**Antenna:** External antenna via SMA connector.

#### SIM Card:

SIM card holder: SIM slot under cover.

#### Power supply:

Supply voltage: 5V via USB

#### Watchdog interface:

Apply 10-60VDC to activate the watchdog.

#### Environmental conditions:

Ambient temperature conditions:	Operating -20 - +55°C Storage conditions: -40 - +70°C
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Dry heat:	IEC 68-2.2, Bb test.
Cold:	IEC 68-2.1, Ab test.
Change of temp.: test.	IEC 68-2.14, Na/Nb test.
Damp heat cyclic:	IEC 68-2.30, Db test.
Damp test:	IEC 68-2.56, Cb test.
Sinusoidal vibration:	IEC 68-2.6, Fc test.
random vibration:	IEC 68-3.36, Fdb test.

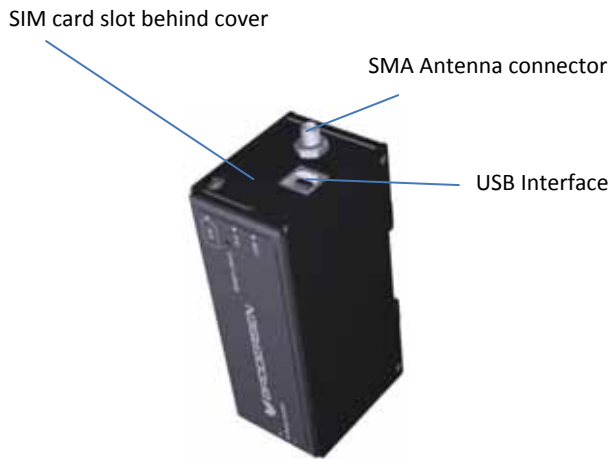
**Protection:** IP20

**Mounting:** 35mm DIN-rail, EN50022.

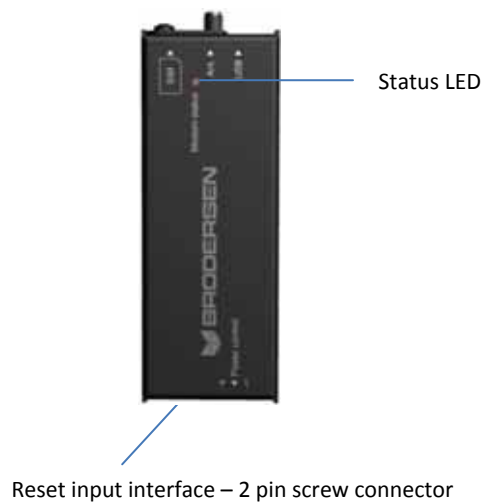


## INTERFACE OVERVIEW

### Top view



### Front view



**NOTE: This data sheet is subject to change without any prior notice!**