



# Solar Monitor SM3-UMTS Module Specification



The **3G UMTS / HSPA and GSM / GPRS / EDGE** module can be used for **fast data transfers**, where a connected cpu is responsible for data stream or module's embedded Internet protocols are used to handle application data, which are sent to the module with AT commands. Module can be put into a sleep mode.

RF Parameters	
Frequency Band	UG95-EU: 900 / 2100 MHz@UMTS 900 / 1800 MHz@GSM UG95-US: 850 / 1900 MHz@UMTS (3G only) HSUPA: Release 7 (category 6) HSDPA: Release 7 (category 8) EDGE: DL only GPRS: Multi-slot Class 33 UMTS: Release 99 / 7 GSM: Release 99 / 4
Transmitting Power	Class 4 (33 dBm ± 2 dB) for EGSM 900 Class 1 (30 dBm ± 2 dB) for DCS 1800 Class 3 (24 dBm + 1.7 / -3.7 dB) for UMTS 850 / 900 / 1900 / 2100
Receiving Sensitivity	-110 dBm@UMTS 900 / 2100 -110.5 dBm@UMTS 850 / 1900 MHz -110.5 dBm@DCS 1800 -109.5 dBm@EGSM 900
Certificates	Anatel, CCC , CE, Deutsche Telekom, FAC, FCC, GCF, IC, ICASA, IFETEL, JATE, PTCRB, RCM, RCM, TELEC, Telefonica
Data and protocols	
Transmission Data	<b>HSDPA cat8: Max 7.2 Mbps</b> <b>HSUPA cat6: Max 5.76 Mbps</b> UMTS: Max 384 kbps (DL & UL) EDGE: Max. 296 kbps (DL) / 236.8 kbps (UL) GPRS: Max. 107 kbps (DL) / 85.6 kbps (UL) CSD: 14.4 kbps
HSPA / UMTS Features	Compliant with 3GPP Release 7 WCDMA data rate is compliant with 3GPP R4 384kbps (DL & UL) Support both QPSK and 16-QAM modulations

GSM / GPRS / EDGE Features	GPRS: Support GPRS multi-slot class 33 Coding scheme: CS-1, CS-2, CS-3 and CS-4 Maximum of 4 Rx time slots per frame
	EDGE: Support EDGE multi-slot class 33 Support GMSK and 8-PSK for different MCS (Modulation and Coding Scheme) Coding scheme: MCS 1-9 (DL only)
	CSD: CSD transmission rates: 14.4 kbps non-transparent USSD (Support Unstructured Supplementary Services Data)
Internet	TCP, UDP, PPP, SSL FTP(S), HTTP(S), SMTP(S), NTP, NITZ, PING MMS, MUX
PPP	PAP (Password Authentication Protocol) CHAP (ChallengeHandshake Authentication Protocol)
<b>Aerial and SIM</b>	
RF Connector	SMA (male)
SIM Card	SIM and USIM: 1.8 V, 3 V
<b>Communication Interface</b>	
RS232	RJ12 connector and HBUS (in a DIN rail, bottom pluggable, no external wires needed) <sup>1</sup>
Max. Distance	12 m
<b>Baud Rate</b>	300 bps ~ <b>921.600 bps</b>
Autobauding	4.800 bps ~ 115.200 bps
Flow Control	RTS / CTS
Signals	6-wire on UART interface, no CD, no DSR
Firmware Upgrade	Supported via UART
<b>Electrical parameters</b>	
Power Supply	9-35 V DC, typ. 0.3 W @ 12V <sup>2, 3</sup>
Sleep Mode (RF part)	1.1 mA @ GSM, DRX=9 1.7 mA @ UMTS, DRX=9
<b>Mechanical Parameters</b>	

- Interface connectors are mutually exclusive. The HBUS interface is intended to be used with the SM2-MU unit module. With the RJ12 connector the SM2-GSM module can be used as an individual GSM/GPRS modem with automatic power management by the DTR signal.
- There is no need for additional power supply if the module is connected with the HBUS to the SM2-MU. In this case appropriate power supply for the SM2-MU should be selected to provide sufficient power for all modules on the HBUS.
- During transmission, there can be consumption peak bursts up to 11 W.

Dimensions	35.6 x 89.7 x 62.2 mm
Mounting	DIN rail
Screw Terminals	0.5 mm <sup>2</sup> - 1.5 mm <sup>2</sup> cable cores
Protection Rating	IP20
Extended Temperature Range	-40°C ~ +85°C
LED diodes	Status, GSM network

## Mechanical Dimensions

