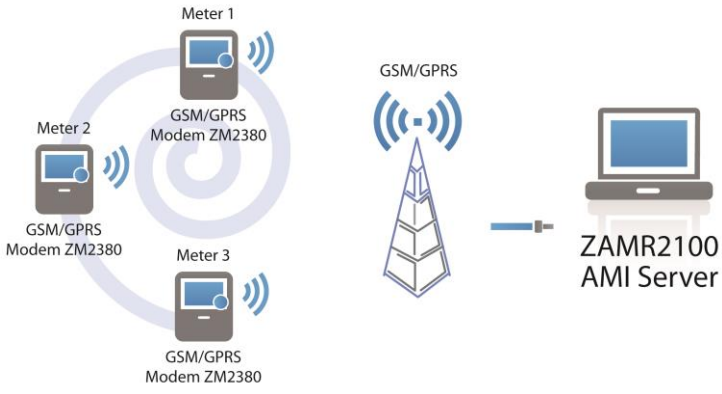
ZM2380-3G UMTS WCDMA Module

GSM / GPRS MODULE

A Modem for Uninterrupted 2-way Communication between the Central Station & a Cluster of Meters Onsite

Originally designed to go into an Elster A1700 programmable poly-phase energy meter, the ZM2380-3G is an industrial grade UMTS-based mobile data communication modem providing data connectivity on HSDPA, WCDMA, EDGE and GPRS networks. It is easily modifiable to fit into any meter that comes with an RS232 interface. This modem facilitates the polling and transfer of data from a cluster of meters on one hand and the execution of commands from the central site on the other — the processes of which are fully transparent to the meter protocol. The two-way communication is carried out via the GSM Circuit-Switched Data (CSD) or HSDPA, WCDMA, EDGE and GPRS Packet-Switched data network. Under Packet-Switched data operation, the ZM2380-3G works with the AMI server ZAMR2100 to ensure an "Always On" TCP connectivity by periodically reporting the IP address and meter data to the system in order to maintain a continuous



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IP link. This is to ensure uninterrupted two-way communication between the central office and the associated meters, and thereby facilitate remote metering management.

A built-in temperature sensor inside the modem pre-empts potential issues resulting from extreme weather conditions; and the digital input detects abnormality in electric currents and voltage to ensure stable power supply.

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Key Features

- Compatible with Elster A1700 electric meters and any meter with RS232 interface
- GSM CSD/GPRS dual mode operation
- UMTS (WCDMA) Packet-Switched data
- 5VDC power supply
- LED indicators for Mobile operation
- Fully transparent to meter protocol
- Support Mobile IP network socket server
- Ambient temperature reporting
- Digital input for meter alarm
- Support AT command
- Support Embedded TCP/IP stack

Technical Data

GSM/GPRS Bands

Standards

E-GSM 900MHz/GSM 850MHz , Class 4 (2W)
DCS 1800MHz/PCS 1900MHz , Class 1 (1W)
GSM Phase 2
GPRS Class 10

RF Performance

Receiver
Reference sensitivity:
E-GSM900 & GSM850: ≤-104dBm
DCS1800 & PCS1900: ≤-102dBm
Selectivity:
Selectivity at 200 kHz: > +9dBc
Selectivity at 400 kHz: >+41dB
Linear Dynamic Range: 63dB
Co-channel Rejection: 9dBc

Transmitter
Max. Output Power:
E-GSM900 & GSM850: 33dBm ± 2dB
DCS 1800 & PCS1900: 30dBm ± 2dB
Min. Output Power:
E-GSM900 & GSM850: 5dBm ± 5dB
DCS 1800 & PCS1900: 0dBm ± 5dB

WCDMA Bands

Standards

3GPP Release 5
UMTS (WCDMA) 2100, Class 3 (0.25W)
UMTS (WCDMA) 900, Class 3 (0.25W)

RF Performance

Receiver
Reference sensitivity
(RMC DL 12.2 kbps; 0.1% BER):
UMTS (WCDMA) 2100: -108 dBm
UMTS (WCDMA) 900: -108 dBm
Transmitter
Maximum Output Power:
UMTS (WCDMA) 2100: 24 dBm
UMTS (WCDMA) 900: 24 dBm

Antenna Connection

Antenna Connector : F Connector
Recommended Antenna:
Gain: 3dBi
VSWR: ≤1.5

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Programming

Support AT command

Protocol

Support embedded TCP/IP stack

Data Interface

Standard: RS232 DB23 female
Adapter: DB25 to RJ45 port adapter
Data Rate: 2400bps – 19200 bps

SIM Card interface

Mini-SIM Card Holder (1.8V/3V interface)

Status Indicator

LED1 : Power
LED2 : Network Status
LED3 : RSSI
LED4 : CSD/GPRS (For GSM modem Only)
LED5 : RF Data (apply to ZM2380R only)
LED6 : RF Status (apply to ZM2380R only)

Electrical

Power Supply : 5V – 14VDC

Operating temperature

-20°C - +80°C

Dimensions

L x W x H : 93mm x 64mm x 31mm

Compliance

RoHS and CE Compliant

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