Telemetry module MT-020, thanks to its very attractive cost to feature ratio, is well suited for use in small sites remote monitoring systems. It allows monitoring, diagnosis and control of remote devices via text messages (SMS and e-mail), CLIP calls and using data packet transmission of GPRS network. Configurable text messages with a fixed or variable content (e.g. containing current measurement value) are convenient way to provide information to the monitoring center or directly to the defined staff phone numbers. Alarm messages can be generated on binary inputs and binary outputs state change, when measured analog values crosses alarm threshold, by timer and counter flags.

Communication via GPRS enables secure and reliable communication with higher-order applications (SCADA, database) allowing to expand the capabilities of the monitoring system using remote communication with difficult to access or distant sites.

Industrial design, practical I/O resources and easy-to-use software tools as well as the possibility of remote management of module via SMS commands or GPRS are the biggest advantages of MT-020. Direct connection of temperature sensors lowers the cost of building system.

MT-020 can be powered from a DC voltage source (9-30 VDC) or directly from the mains transformer (12-18 Vrms AC). Integrated circuit which controls and charges external battery ensures continuous system operation during power failures. Dedicated power output allows providing power to external sensors when operating from backup power source.

 Optionally module can be produced with 3G modem and/or external sensors when operating from backup power source. Battery ensures continuous system operation during power failures. Dedicated power output allows providing power to external sensor.

Resources
- 4 optoisolated binary inputs
- 2 potential less outputs with common ground
- Quad-band GSM/GPRS modem (optionally 3G modem)
- 1-Wire inputs (2)
- Analog inputs (2)
- Binary inputs and outputs (4/2)
- USB port
- DIN rail mounting
- Configurable via SMS – no PC needed
- Build-in SLA battery charger
- MIM option available
- SMA antenna connector
### Technical Data

#### General
- Dimensions (length x width x height): 105 x 86 x 58 mm
- Weight: 300 g
- Mounting type: DIN Rail 35 mm
- Operating temperature: -20 to +55 °C
- Protection class: IP40

#### Power
- Power voltage range: 9 – 30 VDC, 12 – 18 Vrms AC
- Current for 12 VDC: Idle 0.05 A, Max 2.00 A
- Current for 24 VDC: Idle 0.03 A, Max 1.50 A

#### Binary inputs I1 – I4
- Signal voltage range: 0 – 30 VDC
- Input resistance: 12.7 kΩ
- Input ON (1) voltage: > 9 VDC
- Input OFF (0) voltage: < 3 VDC
- Minimum pulse duration: 10 ms

#### Outputs Q1 – Q2
- Output type: NPN switch to GND
- Recommended load current for one output: 50 mA
- Max. load current for one output: 250 mA
- Resistance in ON state: 3 Ω max.
- Max. load current for both outputs powered from VOUT1: 150 mA

#### Analog/Pt100 input AN1 – temperature measurement
- Sensor type: Pt100, 2- or 3-wired
- Wire resistance compensation: yes (applies only to 3-wire sensor)
- Measurement range: -40 to +200 °C
- Accuracy: ±1 °C

#### Analog/NTC input AN2 – temperature measurement
- Sensor type: NTC 10 k
- Measurement range: -25 to +55 °C
- Accuracy: ±1 °C (depending on used sensor)

#### Analog inputs AN1, AN2 – voltage measurement
- Measurement range: 0 – 5 V/0 – 10 V
- Maximum input voltage: 18 V
- Input dynamic impedance: 150 kΩ typ.
- Accuracy: ±1.5 % max.
- Nonlinearity: ±1 % max.

#### Analog inputs AN1, AN2 – current measurement
- Measurement range: 4 – 20 mA
- Maximum input current: 50 mA max.
- Input dynamic impedance: 100 Ω typ.
- Voltage drop at 20mA: 2 V max.
- Accuracy: ±1.5 % max.
- Nonlinearity: ±1 % max.

#### Backup battery input ACCU
- Nominal battery voltage: 6 V
- Battery type: Lead-acid/gel
- Max. charging current: 0.4 A (1.3 Ah), 0.8 A (3.0 Ah)

#### Power output VOUT1 (stabilized)
- Output voltage: configurable – 12 V or 20 V
- Max. load current for 20 V: 150 mA

#### Power output VOUT2 (non-stabilized)
- Output voltage: Vpower – 2 V
- Max. load current: 50 mA

#### Drawings and dimensions (all dimensions in millimeters)

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### Supplementary information:

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