## Electrical specifications

| Order Information | |
|---|---|
| type | SMS-MULTI-IO |
| cat. no. | 16039.2 |
| Weight | 285gr |

| Input / Output Data | * of measured value |
|---|---|
| 8 multifunctional analog/dig. inputs | 0..10V / 0(4)..20mA / RTD / 24VDC |
| resolution / accuracy (V / I / RTD) | 10mV / ±(10mV+0,3%*); 20uA / ±(20uA+0,4%*); NI1000: 0,1°C / ±2,5°C or PT100(0): 0,1°C / ±2,5°C |
| input resistance (0..10V) | resistor type: fixed, 220 kOhm (the resistor plug-in socket must be empty) |
| input resistance ( 0(4)..20mA) | resistor type: plug-in (Ri), 50 Ohm ± 0,1%. (resistor not included) |
| reference resistance (RTD) | resistor type: plug-in (Rt), sensor dependant ± 0,1% (5k11 for Ni/Pt100(0) -40..+120°C)(resistors not included) |
| input current (Dig.input (10-30VDC)) | min. @10V: 46uA / typ. @24V: 2,6mA / max. @30V: 3,9mA (the resistor plug-in socket must be empty) |
| UI throughput speed | 500ms |
| input thresshold Dig.input | LO < 3,5V / HI > 5,5V |
| 2 analog outputs | 0...10V DC |
| load resistance / current per channel | > 1kOhm / < 10mA |
| resolution / conversion error | 10mV / ± (30mV + 0,5%*) |
| 4 relay outputs | 2 x NO contact, 2x CO contact, 250V~ |
| rated / inrush current (ohmic load) | 8A / 12A |
| max. power rating | 2000VA |
| life span @ 23°C and ohmic load | Electrical: at rated / 2A load: 1 x $10^5$ / 4 x $10^5$ cycles. Mechanical: 30 x $10^6$ cycles |
| max. switching frequency | 6 $min^{-1}$ at rated current, 1200 $min^{-1}$ at no load |
| contact material / test voltage | AgNi 0,15 / 4kV |

| GSM Data | |
|---|---|
| Frequency (MHz) | 850/900/1800/1900 |
| Sensitivity | –106 dBm (typical) |
| Transmit power | Class 4 (2W@850/900 MHz), Class 1 (1W@1800/1900 MHz) |
| Antenna | 50 Ohm impedance, SMA connector |

| General Data | |
|---|---|
| module power supply | 20..28V DC |
| module current (max) | 275 mA DC |
| operating / storage temperature | -20°C...+50°C / -20°C...+70°C |
| CE marking | Low Voltage Directive (LVD) 2006/95/EC, according requirements of EN 50178<br>EMC Directive 2004/108/EC, according requirements of EN 55011 and EN 61326-1<br>R&TTE 1999/5/EC according requirements ETSI EN 301-511 V9.0.2 |
| conductor cross section / strip length | 0,2 - 2,5 mm² screw clamp connection / 6mm |
| mounting / installation position | DIN-rail TS35 or direct mounting / any |
| module size LxWxH (TS 35 / direct) | 88 x 95 x 60 / 58 mm |
| insulating material / flammability class | Housing: noryl. Terminals: polyamid 6.6 V0 / UL94-V0 |
| protection degree (DIN 40050) | IP 20 |
| installation guidelines | for mounting-, wiring- and installation instructions, see Manual |

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## Quick Start Guide

The SMS-MULTI-IO is a compact remote telemetry and control system.

The various I/Os are monitored and controlled by SMS communication through the GSM network.
The SMS-MULTI-IO can also be integrated into a modbus driven application.
Every defined input status change (digital) or reached level (analog) sends a SMS notification to a selected group of users. The outputs are set by simply sending an SMS to the SMS-MULTI-IO.
I/Os are defined by an easy to use PC configuration program.

**Features:**

- 8 multi-functional analog/digital inputs: 0..10V, 0(4)..20mA, RTD (eg. Ni1000, PT1000, PT100), 24VDC
- 2 Analog outputs: 0...10V DC
- 4 relay outputs 2x NO contact, 2x CO contact 250V/8A
- LED status indication for all I/Os (except analog inputs)
- SMS status report for all I/Os
- SMS control for all outputs
- SMS notification on status change at inputs
- SMS notification on power up and power loss
- Easy to use PC configuration program

## Note

This document is a quick start guide. For further details the complete manual can be downloaded at:
http://www.conta-clip.com/en/service/

## Placing the SIM card

KEEP ESD PRECAUTIONS IN MIND WHEN OPENING THE MODULE!

To open the module set the antenna at a right angle to the front of the module. Then lift the lid with a small flat screwdriver.

Gently remove the LED PCB by lifting it from its headers.

Place a SIM card into the SIM card holder on the inside of the module. When a SIM card with PIN code is inserted the PIN code must be entered in the configuration interface.

Replace the LED PCB and lid.

Connect the module to the 24VDC power supply.

During power up the 'RUN' LED should stop blinking and the 'COM' LED should light up after 10 seconds. The module is now ready for use.

## Configure and connecting the module

Download and install the configuration interface:
http://www.conta-clip.com/en/service/

Connect the module with the supplied communication cable to an USB port on a PC. Connect the opposite end to the module.

Start the configuration program and it will connect to the module. The module is now ready for configuration.

The wiring configuration for I/O and power is shown at the top of the module.

## Led status

| | | |
|---|---|---|
| The Led 'Run' indicates module activity: | Flash | = searching for modem |
| | ON | = power ON and modem detected |
| | OFF | = no power / no CPU activity |
| The Led 'Com' indicates network activity: | green ON | = connected to GSM network |
| | green Flash | = roaming GSM network |
| | green OFF | = no connected to GSM network |
| The Led 'Busy' indicates modem activity: | ON | = modem currently busy |

## Default message structure

n = channel number
x = digital: 0= off, 1= on, 2= don't change, 3= toggle
analog: xxxx & yyyy = 0000 to 1000 (0 to 10,00VDC)

| | | |
|---|---|---|
| **Get status of ALL IOs:** | SMS: | **RALL** |
| | Answer: | 'read DO1=x, DO2=x, DO3=x, DO4=x'<br>'read UI1=xxx, UI2=xxx, ..... UI8=xxx'<br>'read AO1=xxx, AO2=xxx' |
| **Write multiple DOs:** (Digital Outputs) | SMS: | **WMDO**xxxx |
| | Answer: | 'status DO1=x, DO2=x, DO3=x, DO4=x' |
| **Write single DO:** | SMS: | **WDO**nx |
| | Answer: | 'status DOn=x' |
| **Read multiple DOs:** | SMS: | **RMDO** |
| | Answer: | 'read DO1=x, DO2=x, DO3=x, DO4=x' |
| **Read single DO:** | SMS: | **RDO**n |
| | Answer: | 'read DOn=x' |
| **Read multiple UIs:** (Universal Inputs) | SMS: | **RMUI** |
| | Answer | (digital): 'read UI1=x, UI2=x, .... UI8=x'<br>(analog): 'read UI1=xxxx, UI2=xxxx, .... UI8=xxxx' |
| **Read single UI:** | SMS: | **RUI**n |
| | Answer | (digital): 'read UIn=x'<br>(analog): 'read UIn=xxxx' |
| **Write multiple AOs:** (Analog Outputs) | SMS: | **WMAO**xxxxyyyy |
| | Answer: | 'status AO1=xxxx, AO2=yyyy' |
| **Write single AO:** | SMS: | **WAO**nxxxx |
| | Answer: | 'status Aon=xxxx' |
| **Read multiple AOs:** | SMS: | **RMAO** |
| | Answer: | 'read AO1=xxxx, AO2=xxxx' |
| **Read single AO:** | SMS: | **RAO**n |
| | Answer: | 'read AOn=xxxx' |
| **Module Reset:** | SMS: | **WRESET** |
| | Answer: | Powercycle message |

NOTE: DOn /UIn/AOn can be replaced by a user given name with the configuration interface.
NOTE: Correct sending and receiving of data depends on the network quality of your provider.