

CONTA-ELECTRONICS

SMS MODULE



SMS module SMS MULTI-I/O

The **SMS-MULTI-I/O** module can be used whenever the status of process parameters must be monitored. It is a key component for remote communications within industrial building automation and facilities (such as hydro-electric stations, wind farms and photovoltaic systems).

Several application possibilities:



Wind power

Wind power plants are often widely dispersed over terrain that is difficult to access, such as in remote rural areas or coastal installations. In addition to planned facility maintenance, the service department requires a permanent flow of process information to stay up-to-date. The **SMS-MULTI-I/O** module makes it possible to transmit current information whenever a malfunction has occurred or when a specified parameter limit has been reached. The service technician then promptly receives the information he needs and can react quickly to ensure that the process continues to function smoothly.

Agriculture

Modern agriculture has integrated a high degree of automation into its processes. Poultry farms, for example, require precise temperature control to ensure the health of chicks. A significant temperature fluctuation can have fatal consequences for the young poultry.

The SMS module can be connected directly to a PT1000/NI1000 temperature sensor and the required information can be sent directly to the farmer via a text message. He then receives the exact values and is promptly notified of any changes so that he can take action immediately without being constantly on-site.



The production environment

Many production facilities operate around the clock under different worker shifts. Often there are few if any operating personnel working directly in the production process. Malfunctions at the production level cost time and money if they are not avoided or detected promptly. The **SMS-MULTI-I/O**-module from **CONTA-CLIP**, with its many digital and analog I/Os, offers indispensable assistance for times when no worker is available directly on-site.



Level monitoring

Many industrial processes require a constant feed of raw materials.

Thus it is extremely important to keep sufficient raw materials in stock in order to ensure that the facility is constantly supplied with the required quantity of materials. Any shortage or excess in the feed amount could result in a shutdown of the entire facility.

To prevent such an outage, the **SMS-MULTI-I/O** module can be used to send an alert when a critical facility point is reached. The technician assigned to the process can then take action appropriate to the current status information received.

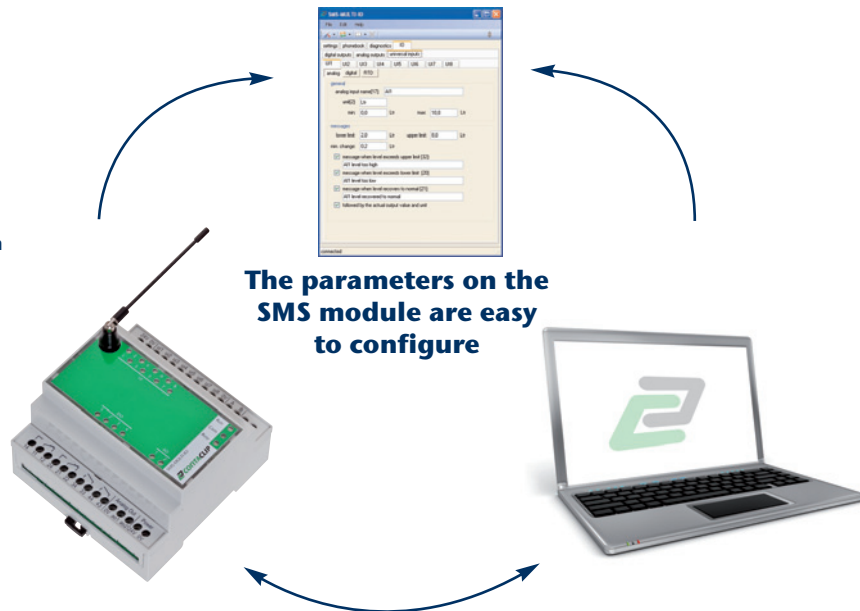
Configuration software

The user-friendly software that comes with the **SMS-MULTI-I/O** module is easy to understand and does not require any prior programming experience.

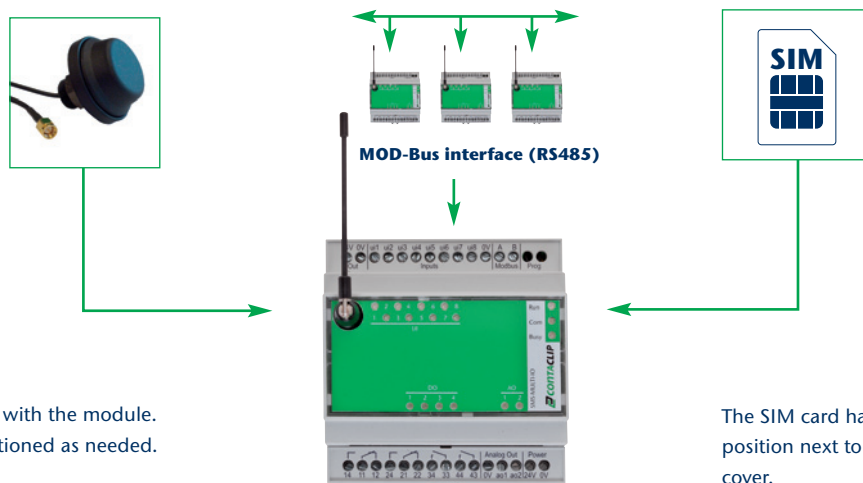
A module can be configured and this data can be exported. This allows you to easily import parameters into a new project for batch configuration with project parameter sets.

The software has a diagnostics function which displays f.e. the strength of the signal.

The integrated address book allows you to save many different telephone numbers. Up to five contacts from this address book can then be selected for notification. These people will then receive an SMS message when there is a change of status on the module, and they can switch outputs themselves.



Additional specifications



A flexible antenna is delivered with the module. It can rotate 360° and be positioned as needed.

An external antenna can also be attached outside of the switchgear cabinet (with a cable length not longer than 2.5 m). Normally it is installed on the switchgear cabinet itself and thus fixed in position securely.

The standard SMS modules come with a Modbus interface.

This allows the module to easily be integrated into a RS485 Modbus network as a remote signaling component.

The SIM card has a secure and simple contact position next to the circuit board under the front cover.

This prevents unauthorized personnel from removing or changing the card in any way.

An overview of the features

- Status information of inputs per SMS message
- Outputs can be switched or controlled with an SMS signal
- The status of all defined inputs and outputs can be queried
- Cyclical querying of input and output status is also possible
- Alert per SMS when the power supply returns after a power outage
- 8 multi-function digital/analog/RTD inputs
- 4 digital outputs and 2 analog outputs
- Plug and Play software
- Modbus interface
- SIM card is securely installed inside the housing
- With the external power supply / backup battery module (SMS-PS) a warning message can be send after the main power is lost



SMS MODULE

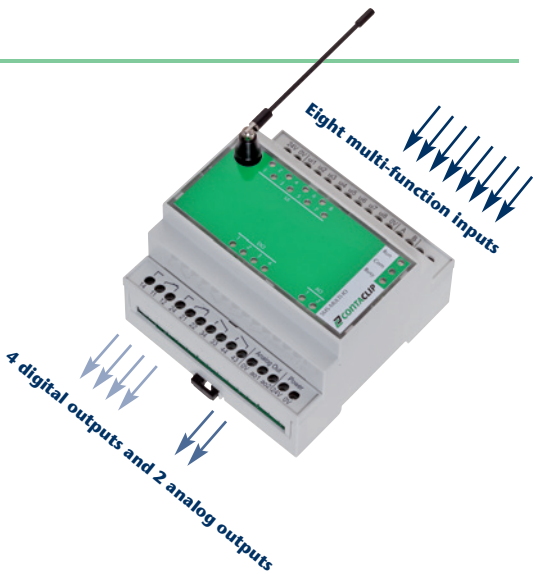
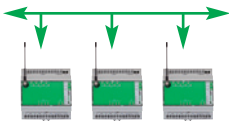
CONTA-CLIP's new **SMS-MULTI-I/O** module provides a solution for remotely monitoring and controlling processes by means of SMS signals.

The service technician is informed over the GSM network if a process has reached a specified status. The digital and analog inputs values can also be transmitted via SMS text message. If the values indicate a critical status, the **SMS-MULTI I/O**-module gives the service technician the option to switch the analogue and digital outputs by SMS.

This enables him to take action immediately without being constantly on-site. The accompanying software can be used to easily set the parameters for the inputs and outputs.

The SMS modules is equipped with a Modbus interface. The module can be used stand alone, but can also be used as remote module in your control of system.

MOD-Bus interface (RS485)



Inputs



The **SMS-MULTI-I/O**-module features eight multi-function inputs. You can choose the input – digital (24 V DC); analog (4 – 20 mA, 0 – 10 V) or RTD (NI1000, PT1000) – so that almost any type of signal transmitter can be connected.

A designated person or group from the built-in address book will then be notified with an SMS message if a specified status changes on the input side. Using the software, you can easily specify the notification status, the person or group to be notified, and the content of the SMS.

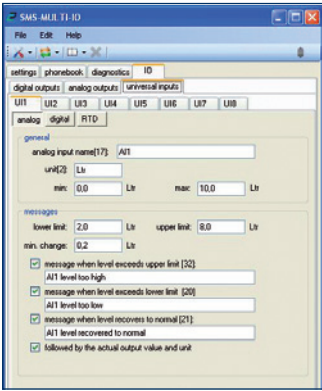
You can also query the current status of the process or machine simply by sending a query SMS message. The query message can specify specific inputs or all inputs.

Analog inputs

The required measurement units can be custom defined on the analog inputs (i.e., kg, bar, etc.). You can then monitor an analog process and have an SMS message sent out under different circumstances:

- When an input exceeds a specified max. limit,
- When an input goes below a specified min. limit,
- When an input returns to a normal status.

If you are monitoring the temperature (RTD), you can specify all three of the above criteria and query them with an SMS.



The inputs are easy to configure!

You can stay up to date with just one SMS message.

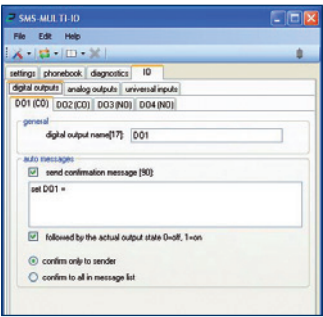


Outputs

The **SMS-MULTI-I/O**-module features two analog outputs (0 – 10 V) and four relay outputs (2x CO, 2x NO). The versatility of the outputs enables machine and facility functions to be controlled even when you are not on-site.

Outputs can be configured so that only authorized personnel (those designated users in the system's address book) are allowed to operate or change them.

The status of one or more outputs can be queried with a single SMS text message. When a process requires a control pulse, the outputs can be switched with an SMS.



The output parameters are easy to configure



Control your facilities and machines remotely with a single SMS message!



SMS-MULTI-I/O

- TS 35 or direct mounting
- Enclosed housing, with width of 88 mm
- Screw connection
- Status displays on the **SMS-MULTI-I/O** module



LED 'Run' displays module activity

Blinking = looking for modem

On = power supply okay and modem has been found

Off = no power supply and no CPU activity

LED 'Com' displays activity on the GSM network

Blinking = roaming GSM network

On = connection with GSM network

Off = no connection with GSM network

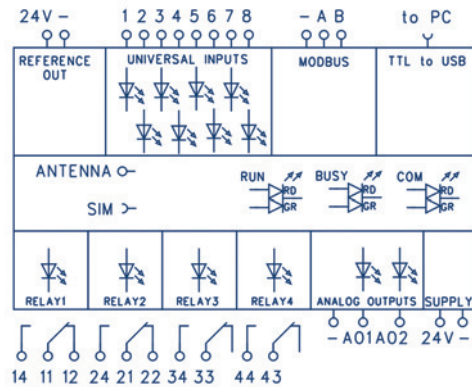
LED 'Busy' displays activity on the GSM network

On = modem is functioning

LED status displays for all inputs and outputs

(except for the analog outputs)

SMS-MULTI-I/O



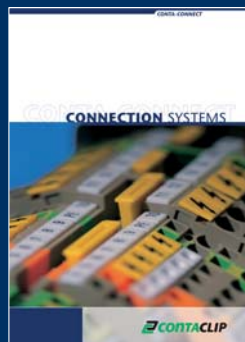
Type	SMS-MULTI-I/O
Cat. no.	16039.2
Size (L x W x H) with TS 35 x 7.5	88 x 95 x 77 mm
Weight	285 g
Input specifications	
8 multi-function analog/digital inputs	0...10 V / 0(4)...20 mA / RTD / 24 V DC (default: 8xRTD)
Resolution / Accuracy	10 mV / $\pm(10 \text{ mV} + 0.3\%*)$; 20 μA / $\pm(20 \mu\text{A} + 0.4\%*)$; NI1000: 0.1 °C / $\pm 2.5^\circ\text{C}$ or PT1000: 0.1 °C / $\pm 2.5^\circ\text{C}$
Input resistance (0 – 10 V)	Resistor type: fixed attached, 220 kOhm
Input resistance (0(4) – 20 mA)	Resistor type: Plug-in (Ri), 250 Ohm $\pm 0.1\%.*$
Reference resistance (RTD)	Resistor type: plug-in (Rt), depending on sensor $\pm 0.1\%$ (5k11 for Ni/Pt1000 -40...+120°C)**
Input current of digital inputs (10 – 30 V DC)	min. @10 V: 46 μA / typ. @24 V: 2.6 mA / max. @30 V: 3.9 mA
Output specifications	
2 analog outputs	0...10 V DC
Load resistance / Current per channel	> 1 kOhm / < 10 mA
Resolution / Conversion error / Offset	10 mV / $\pm 30 \text{ mV} + 0.5\%*$ / < 250 mV
4 relay outputs	2 x NO contact, 2x NC contact 250 V~
Rated current / Inrush current (ohmic load)	8 A / 12 A
Max. power rating	2000 VA
Life span at 23 °C and ohmic load	Electrical: rated / 2 A load: 1×10^5 / 4×10^5 cycles. Mechanical: 30×10^6 cycles
Max. switching frequency	6 min ⁻¹ at rated current, 1200 min ⁻¹ at no load
Contact material / Test voltage	AgNi 0.15 / 4 kV
GSM specifications	
Frequency	850/900/1800/1900 MHz
Sensitivity	-106 dBm (typical)
Transmit power	Class 4 (2 W@850/900 MHz), Class 1 (1 W@1800/1900 MHz)
Antenna	50 Ohm impedance, SMA plug
Bus specifications	
Bus protocol / Interface	Modbus / RS485, half-duplex, non-insulated
Bus topology / Cable length, max	multi-drop / 500 m
Data transmission rate / Bus nodes, max.	19 k2 bps / 64
Terminating resistor	Integrated terminating resistor (220 Ohm), activated by jumper (default: off)
Protective circuitry	Integrated transient protection
Connection medium	Shielded twisted-pair cable (refer to SMS-MULTI-I/O manual)
General specifications	
Voltage supply	20...28 V DC
Current consumption	275 mA DC
Operating temperature / Storage temperature	-20 °C...+50 °C / -20 °C...+70 °C
DIN-VDE regulations	Low-Voltage Directive (LVD) 2006/95/EC, in compliance with EN 50178
Electromagnetic properties	EMC Directive 2004/108/EC, in compliance with EN 55011 and EN 61326-1
Frequency spectrum	R&TTE 1999/5/EC in compliance with ETSI EN 301-511 V9.0.2
Connection type	Screw
Connection cross-section	0.2 - 2.5 mm ²
Stripping length	6 mm
Material: Housing / Connecting terminals	Noryl / polyamide 6.6
Flammability class per UL94	V0
Protection class	IP 20
Installation guidelines	Refer to manual
Accessories	
External antenna	GSM-SMA 2.5 m
Cat. no.	16061.2
Programming cable	Cable/USB-TTL/3V3
Cat. no.	16062.2
Power supply with battery backup	SMS-PS
Cat. no.	16065.2

Input voltage 85...264 V AC or 24 V DC
Integrated backup battery to generate power down message

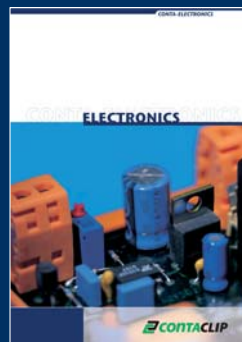
* Of measured value

** Resistor not included in delivery

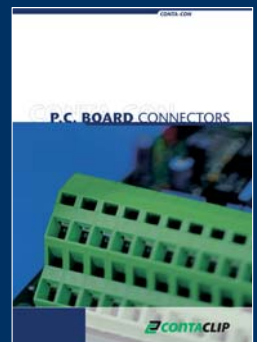
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