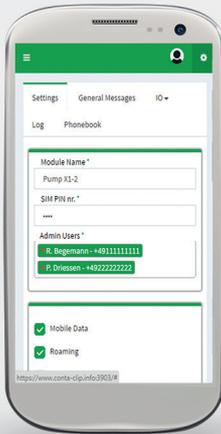


CONTA ELECTRONICS

GSM-PRO2

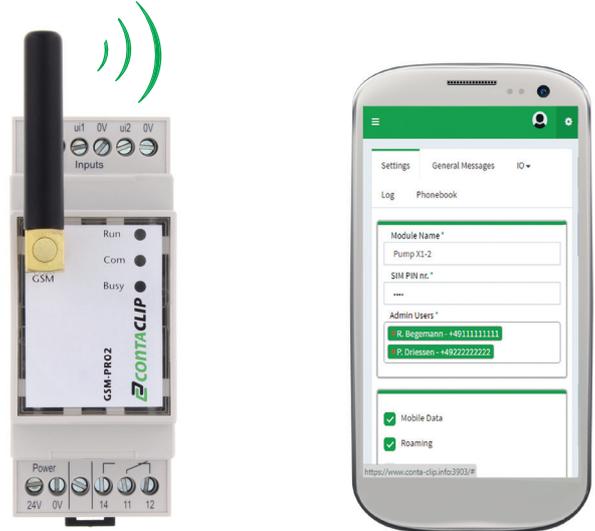


GSM-PRO2: the perfect communicator

CONTA-CLIP's **GSM-PRO2** module provides a **2G/3G** remote control and maintenance solution which allows you to monitor and control decentralized facilities.

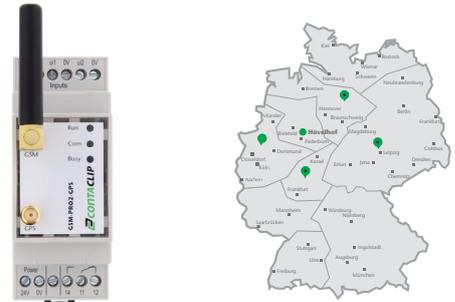
The **GSM-PRO2** module informs you when your process has achieved a user-defined status or limit value. Digital and analogue inputs values can also be transmitted via e-mail or SMS (text message). The digital relay outputs can be switched using an SMS sent from the decentralized control room or from the service technician. So the process can be monitored and controlled remotely. Android and iPhone apps are available to make the monitoring and control functions of the **GSM-PRO2** modules even easier to operate.

A user-friendly browser-based application can be used to configure the module's inputs and outputs and their required functions.



GSM-PRO2-GPS

The **GSM-PRO2-GPS** module has integrated GPS functionality with an external antenna connection. The module can determine its exact position at any time. So the user can see the location on a map using a web browser. This enables you to easily and continually monitor the positions of mobile facilities or machines.



Input and output

Both **GSM-PRO2** modules are equipped with two multi-function inputs, one relay output and one pulse counter input. The pulse counter input can process a maximum of 1000 pulses per second, so that for example a photovoltaic system or a kWh meter can be connected.



Expansion modules

The **GSM-PRO2** modules also provide the option for expanding the number of available inputs and outputs. Up to 15 I/O expansion modules, in 4 different versions, can be controlled for each module. The built-in plug connector supplies power and control functionality for the modules. The expansion modules can also be configured with the user-friendly browser-based application.



OTA (over-the-air) capabilities

In many systems or machines, some parameters or user entries may need to be changed after the installation is completed. In such cases you may also need to change parameters on the **GSM-PRO2** module. The **GSM-PRO2** module features OTA (over-the-air) functions for just such instances.

OTA configuration

Whether you're adding a new phone number of a user, a new I/O setting, a change in the module name or any other change: the settings on all **GSM-PRO2** modules can easily be changed from remote locations around the world.

OTA firmware updates

The **GSM-PRO2** can also update its firmware using OTA. So modules with different versions can always be kept up to date.



Logging functionality

Is your process running optimally? What happened last week? How many hours has the machine been running this week? The extensive logging functionality of the **GSM-PRO2** module allows you to log events that have taken place at a facility or a machine over a defined period of time. The log files can be transferred to the PC using a USB cable. Or you can have the log files automatically sent to your e-mail address or displayed via a web-based portal.

Event log

- Logs all the communication of the module

Analogue log

- Logs the process values of the analogue inputs

Counter for the operating hours

- Logs the time that an input or output is activated

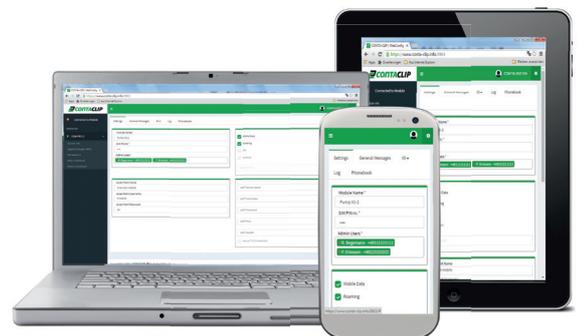
Smartphone app

CONTA-CLIP's iPhone and Android smartphone apps for the **GSM-PRO2** modules provide a simple and fast solution so that you can get an overview of each distributed system and application. This app can show you the status of all inputs and outputs from one or more **GSM-PRO2** modules. They also allow you a degree of control over the process. Module outputs can be controlled easily and directly using this app. The app's buttons provide an intuitive control interface (for controlling a heater, motor, water pump, etc.).

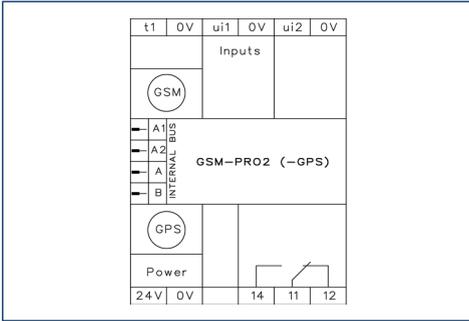


Web portal software

The **GSM-PRO2**, like most SMS modules, are often used as stand-alone units in the field. These modules are put to use at various remote locations even though they normally have configurations which are very similar. It is often quite helpful to have one overall view of the status of all modules used in the field. The new **GSM-PRO2** web-based portal software from **CONTA-CLIP** offers you precisely this possibility. All modules in the field can now be easily monitored and run from a single local site or control panel.



Circuit diagram



GSM-PRO2



GSM-PRO2-GPS



TYPE	GSM-PRO2	Qty.	GSM-PRO2-GPS	Qty.
Cat. no.	16368.2	1	16369.2	1
Size LxWxH (TS 35 / direct mount)	88 x 36 x 67 / 65 mm (without antenna)		88 x 36 x 67 / 65 mm (without antenna)	
Weight	97 g		100 g	
Input/output data				
2 multi-function (analogue /digital) inputs	0...10V / 0(4)...20mA/ 24VDC (4...0VDC)			
Resolution / accuracy (0...10V)	20 mV / ±(20 mV + 0.3% of the measured value)			
Input resistance (0...10 V)	80 kOhm			
Input current (dig. inputs)	@10V: 0.2mA / @24V: 0.5mA / @30V: 0.6mA			
UI minimum pulse duration	500 ms			
Threshold of dig. inputs	Low < 2V / High > 4V			
Counter, digital input (pull-down)	1000 pulses/sec max. pull-down resistance: 24 kOhm			
Pull-down voltage source	Typically 10...30 VDC, unregulated, depending on the load			
Relay output	CO universal contact, 250 V ~			
Continuous current / inrush current (resistive load)	5A / 5 A			
Max. switching capacity	1200 VA at 240 VAC, 5A			
Lifespan at resistive load	Electrical: at max. load: > 1.5 x 10 ⁵ switching cycles Mechanical: 15 x 10 ⁶ switching cycles			
Max. switching frequency	6 min ⁻¹ at continuous current, 1200 min ⁻¹ at no load			
Contact material / Test voltage	AgNi / 4kV			
GSM specifications				
General	2G: Quad-band GSM Bands: 850, 900, 1800 and 1900 MHz 3G: Five-band UMTS (WCDMA/FDD) bands: 800, 850, 900, 1900 and 2100 MHz			
SIM card	Nano SIM			
Antenna	50 Ohm impedance, SMA plug			
GPS data				
Frequency	-		1575...1587 Mhz	
Time to first fix (@ -140 dBm)	-		Hot < 2s, Warm < 35s, cold < 46s	
Antenna	-		50 Ohm impedance, SMA plug	
Voltage active antenna	-		3V @ RF plug	
Bus specifications				
Bus protocol / Interface	Modbus RTU / RS485, half-duplex, non-insulated			
General specifications				
Voltage supply	10...30V DC			
Current consumption	275 mA DC @ 24V DC			
Backup power	Internal maintenance-free supercap capacitor			
Operation / storage temperatures	-20°C...+50°C / -20°C...+70°C			
Max. relative humidity	80%, non-condensing			
DIN-VDE specifications	Low-Voltage Directive (LVD) 2014/35/EC, in compliance with EN 50178			
Electromagnetic properties	Directive 2014/30/EC, in compliance with EN 55011 and EN 61326-1			
Frequency spectrum	RED 2014/53/EC in compliance with ETSI EN 301-511 V9.0.2			
Wire cross-section / stripping length	0.2 - 2.5 mm ² screw terminal / 6 mm			
Assembly / installation position	TS35 DIN rail or direct mounting / any			
Material / flammability class	Housing: Noryl. Connection terminals: Polyamide 6.6 V0 / UL 94 V-0			
Protection class (DIN 40050)	IP 20			
Accessories				Qty.
GSM antenna	GSM-ANTENNA-90°			
Cat. no.	16379.2			1
GPS antenna	GSM-ANTENNA-GPS-3M-K			
Cat. no.	16380.2			1
External combi-antenna GSM + GPS	GSM-ANTENNA-EXTERNAL-GSM+GPS-SMA-3M			
Cat. no.	16381.2			1
External antenna GSM	GSM ANTENNA EXTERNAL-SMA-3M			
Cat. no.	16061.2			1
External antenna GSM	GSM ANTENNA EXTERNAL-SMA-5M			
Cat. no.	16172.2			1
External antenna GSM	GSM ANTENNA EXTERNAL-SMA-10M			
Cat. no.	16173.2			1
External antenna GSM	GSM ANTENNA EXTERNAL-SMA-3M-ECO			
Cat. no.	16139.2			1
Programming cable	GSM-USB-MICRO-cable			
Cat. no.	16382.2			1

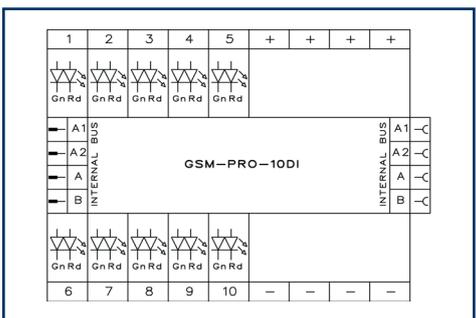
Digital input module

- 10 digital inputs 24 V
- One status LED per input

GSM-PRO-10DI



Circuit diagram



Type
Cat. no.

GSM-PRO-10DI
16375.2

Qty.
1

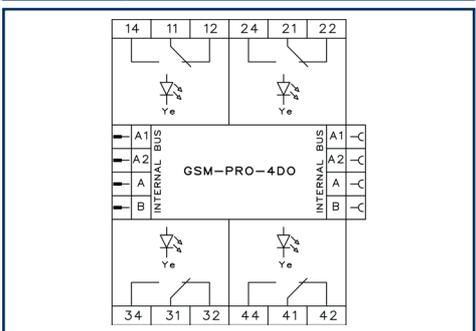
Digital output module

- 4 relay outputs, each with a CO contact
- Max. continuous current per relay 16A (contact material for high inrush current)
- A yellow status LED for each channel

GSM-PRO-4DO



Circuit diagram



Type
Cat. no.

GSM-PRO-4DO
16378.2

Qty.
1

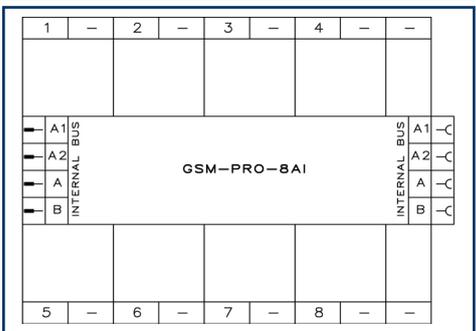
Analogue input module

- 8 multi-function analogue inputs 0...10 V, 0(4)...20 mA, NTC, RTD (PT1000 / NI1000)
- Individual per-input configuration

GSM-PRO-8AI



Circuit diagram



Type
Cat. no.

GSM-PRO-8AI
16377.2

Qty.
1

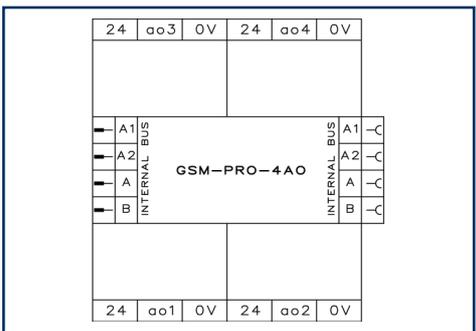
Analogue output module

- 4 analogue outputs, 0...10 V

GSM-PRO-4AO



Circuit diagram



Type
Cat. no.

GSM-PRO-4AO
16376.2

Qty.
1

GSM-PRO-10DI 16375.2				GSM-PRO-4DO 16378.2				GSM-PRO-8AI 16377.2				GSM-PRO-4AO 16376.2				Technical Documentation																															
				8				Multi-function analogue inputs				0...10V / 0 (4)...20mA / RTD. Default: RTD input. Input can be configured via plug-in resistors																																			
				•				Input resistance (0...10V)				Resistor: fixed (200 ohms)																																			
				•				Input resistance (0(4)...20mA)				Resistor: plug-in (Ri), 250 Ohm ± 0.1% (resistor is not included)																																			
				•				Input resistance (RTD)				Resistor: plug-in (Rt), depending on sensor ± 0.1%, default: 5k11 for Ni/Pt1000 RTD sensors -40 ° C...+120 ° C																																			
				•				Resolution / conversion error (0...10V)				10bit / ± (10mV + 0.3% of measured value)																																			
				•				Resolution / conversion error (0(4)...0mA)				10bit / ± (20uA + 0.4% of measured value)																																			
				•				Resolution / conversion error (RTD)				14bit / ± (0.4°C + 0.5% of measured value)																																			
				•				Temperature coefficient				< 0.02%/°C																																			
10								Digital input				Active high (connect power supply voltage or VDD (+) on the module to the input)																																			
				•				Input voltage				24V DC (10...30V)																																			
				•				Logic '0'				<3V																																			
				•				Max. frequency				20Hz																																			
				•				Min. pulse length				15ms																																			
				•				Impedance				58 kOhm																																			
				•				VDD (+) output				Can only be used for the inputs																																			
				•				LED status display				Bi-colour LED for each input (green / red / off, programmable)																																			
				4				Analogue output				0...10 V DC, short-circuit and overvoltage protection (24V)																																			
				•				Load resistance / Current per channel				> 1 kOhm / < 10mA																																			
				•				Resolution / Conversion error				10bit / ± (30 mV + 0.5% of measured value)																																			
				•				Temperature coefficient				< 0.02%/°C																																			
				•				LED status display				Yellow LED. Light intensity is dependent on output value; < 1.5V = unlit																																			
4								Relay output																																							
				•				Contact type				4 x 1CO																																			
				•				Max. switching voltage				250V~																																			
				•				Continuous current / inrush current (resistive load)				16A / 80A (20ms)																																			
				•				Max. module current (all relays)				32A																																			
				•				Max. switching capacity				4000 VA																																			
				•				Electrical lifespan at rated load / 2A load				1 x 10 ⁵ / 7 x 10 ⁵ switching operations @ 23°C and resistive load																																			
				•				Mechanical lifespan				30 x 10 ⁵ switching operations																																			
				•				Max. switching frequency				6 min ⁻¹ at continuous current, 1200 min ⁻¹ at no load																																			
				•				Contact material				AgSnO ₂																																			
				•				Test voltage coil/contact				5 kV																																			
				•				LED status display				Yellow																																			
								Bus specifications																																							
•				•				•				•				Bus protocol / Interface																Modbus RTU / RS485, half-duplex, non-insulated															
•				•				•				•				Bus topology / Max. cable length																Multi-drop line / 500 m															
•				•				•				•				Data transmission rate / Bus nodes, max.																19k2 bps / 64															
•				•				•				•				Terminating resistor																Integrated terminating resistor, activated by jumper (default: off)															
•				•				•				•				Protective circuitry																Integrated transient protection															
•				•				•				•				Bus connection																Integrated plug connection (modules mounted without a gap, no cabling required)															
•				•				•				•				Bus connector (not incl.)																Pluggable male or female screw connector 0.2...1.0 mm ² , Stripping length: 7 mm															
•				•				•				•				Connection medium																Shielded twisted pair cable															
																General specifications																															
•				•				•				•				LED status display(bi-colour)																run - no communication - error															
•				•				•				•				Voltage supply																20...28V DC (Power bus connector: 5A max.)															
30				100				50				57				DC current consumption																... mA typical @ 24V DC (all outputs active @ full load)															
•				•				•				•				Operation / storage temperatures																0°C...+50°C / -20°C...+70°C															
•				•				•				•				Relative humidity																90% max., non-condensing															
•				•				•				•				CE marking																Low-Voltage Directive (LVD) 2014/35/EC, in compliance with EN 50178															
•				•				•				•				Connection cross-section / Stripping length																EMC Directive 2014/30/EC, in compliance with EN 55011 and EN 61326-1															
•				•				•				•				Assembly / Installation position																0.2 - 2.5 mm ² screw connection / 6 mm															
•				•				•				•				Size (L x W x H)																TS35 DIN rail or direct mounting / any															
53				53				53				36				Insulating material / Flammability class																... x 95 x 60 mm															
•				•				•				•				Construction																Housing and I/O terminals: Polycarbonate; Bus connector: Polyamide 6.6 / UL 94 V-0															
•				•				•				•				Protection class (DIN 40050)																Row-mounted installation without gaps (renewed external power needed every 15 modules)															
121				154				117				64				Weight, g																IP 20															