



WM1.84 controllable I/O module

Quick Start Guide



The WM1.84 is a compact remote telemetry and control system.

The various I/Os are monitored and controlled by SMS / E-mail communication through the GSM network.

Every defined input status change (digital) or reached level (analogue) sends a SMS / E-mail notification to a selected group of users. The outputs are set by simply sending an SMS to the DK-MONITOR WM1.84. I/Os are defined by an easy to use PC configuration program.

Features:

- 8 multi-functional analog/digital inputs: 0..10V, 24VDC
- 4 relay outputs CO contact 250V/5A
- LED status indication for all I/Os
- SMS / E-mail status report for all I/Os
- SMS control for all outputs
- SMS / E-mail notification on status change at inputs
- SMS notification on power loss
- SMS / E-mail notification on power up
- Easy to use PC configuration program



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Electrical specifications

Order Information	
Type	DK-Monitor WM1.84
Weight	275gr
Input / output Data	
8 multifunctional analog / dig. Inputs	0..10V/24VDC (4..30VDC)
resolution / accuracy (0..10V)	20mV / $\pm 20\text{mV} \pm 0,3\%$
input resistance (0..10V)	46kOhm
input current digital inputs	@10V:0,3mA / @24V:0,8mA / @30V:10mA
UI minimal pulse length	800msec (without transmitting)
input threshold digital inputs	Low < 2V / High > 4V
4 relay outputs	4x CO contact 250V \sim / 5A (Ohmic load)
max power rating	1200VA at 240VAC, 5A
GSM Data	
Frequency	850/900/1800/1900 MHz
Sensitivity	-108dBm@850/900MHz / -107dBm@1800/1900MHz (typical)
Transmit power	Class 4 (2W@850/900MHz). Class 1 (1W@1800/1900MHz)
Antenna	500Ohm impedance, SMA connector
General Data	
module powersupply	10-30VDC
module current	275mA DC@24VDC
reference out	4,7V $\pm 10\%$ /20mA
power backup	Internal maintenance free supercap
operating / storage temperature	-20C..+50C / -20C..+70C
max relative humidity	80% non condensing
CE marking	LowVoltageDirective (LDV) 2006/95/EC
	EMC Directive 2004/108/EC
	R&TTE 1999/5/EC
conductor cross section / striplength	0,2-2,5mm ² screwclamp connection
mounting / installation position	DIN-rail TS35 or direct mouting / any
modulesize LxWxH	88x95x60 (without antenna)
insulating material / flammability class	Housing noryl. therminals: polyamid 6.6 V0 / UL94-V0
protection degree (DIN40050)	IP20



Note

This document is a quick start guide. Contact us for the complete manual.

Placing the SIM card



KEEP ESD PRECAUTIONS IN MIND WHEN OPENING THE MODULE!

To open the module lift the lid with a small flat screwdriver.

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

Replace the lid and connect the antenna.

Connect the module to the 24VDC power supply. After 10 seconds the first LED's activate.

After 90 seconds the 'RUN' LED should stop blinking the module is now ready for use.

Configure and connecting the module

Connect the module with a USB cable to the PC.

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 = starting up
ON = ready for use

The Led 'Com' indicates network activity: green ON = connected to GSM network
green Flash = roaming GSM network
green OFF = not connected to GSM network
red ON = error

The Led 'Busy' indicates modem activity: ON = module currently busy



Default message structure

n = channel number

x = digital: 0= off, 1= on, 2= don't change, 3= toggle

Get status of ALL IOs: SMS: **RALL**
Answer: 'read: DO1=x, DO2=x, DO3=x, DO4=x'
'UI1=xxx, UI2=xxx, UI8=xxx'

(Digital Outputs)

Write multiple DOs: SMS: **WMDOxxxx**
Answer: 'status DO1=x, DO2=x, DO3=x, DO4=x'

Write single DO: SMS: **WDOnx**
Answer: 'status DO=n=x'

Read multiple DOs: SMS: **RMDO**
Answer: 'read DO1=x, DO2=x, DO3=x, DO4=x'

Read single DO: SMS: **RDOn**
Answer: 'read DO=n=x'

(Universal Inputs)

Read multiple UIs: SMS: **RMUI**
Answer (digital): 'read UI1=x, UI2=x, UI8=x'
(analog): 'read UI1=xxxx, UI2=xxxx, UI8=xxxx'

Read single UI: SMS: **RUIn**
Answer (digital): 'read UI=n=x'
(analog): 'read UI=n=xxxx'

Module Reset: SMS: **WRESET**
Answer: Powercycle message

NOTE: DO_n /UI_n 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.