Description	Syntax	Comments
Reset device	RD	
Set factory defaults	FD	
Set device name	DN:n	n: device name
Create user	UN:p	p: phone number
Delete user	UD:p	p: phone number
Enable user DO control	UCE	
Disable user DO control	UCD	
Create call user	CUN:p	p: phone number
Delete call user	CUD:p	p: phone number
Enable response SMS	RSPE	
Disable response SMS	RSPD	
Set password	PWD:p	p: password
Set digital relay output DO	OiON	i: DO number
Reset digital relay output DO	OiOFF	i: DO number
Set DO pulse duration	Oi:d	i: DO number, d: duration (0-79200 sec)
Enable DO 1 system mode	O1SYSON	
Disable DO 1 system mode	O1SYSOFF	
Set digital input DI alarm mode	IiAM:a	i: DI number, a: alarm mode (0: positive transition, 1: negative transition)
Set digital input DI alarm delay	Ii:d	i: DI number, d: delay (0-9999 sec)
Set DI alarm message	Ei:s	i: DI number, s: alarm messages (up to 64 characters)

Description	Syntax	Comments
Get device status	DS?	
Get signal quality	SQ?	
Get event log entries number	EL?	
Get event log entry	ELE?n	n: event number (1-max events)
Get users	USR?	
Get I/O configuration	IOC?	
Get current I/O state (DI/DO)	ST?	

CE

This Class B Digital device complies with Canadian ICES-003

FC

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

ARC-10

Alarming & Remote Control unit

User Guide

infinite

Page

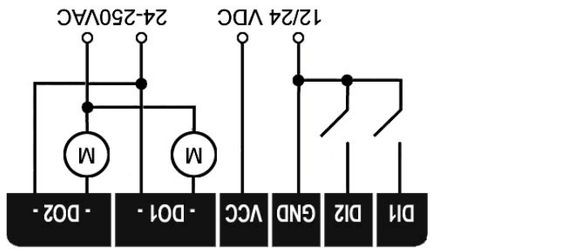
ARC-10 is an easy to use, DIN rail mounted controller unit for alarming and remote control using SMS. The unit has a built in 2G/4GGSM/GPRS modem, 2 digital inputs, 2 power relay outputs and a serial RS-232 port. Up to 250 users can be configured to switch a relay output with a toll-free phone call (e.g. for opening the garage door or a parking barrier). Ten users can be configured as alarm recipients in case of an alarm situation on the digital inputs.

2.1 SIM card

Use an activated SIM card of a GSM network provider.The PIN of the card has to be deactivated. You can use a common mobile phone to deactivate the PIN. A PIN can be configured at a later time. Slide the card into the card reader.

Note: Always be sure to power down the unit before inserting or removing the SIM card!

2.2 Power supply & I/O Connections



Be sure to power the unit with an appropriate power supply.

Unit type	Power supply
ARC-10-12	12VDC, 0.5A min, +/- 10%
ARC-10-12	24VDC, 0.5A min, +/- 10%

3.1 Easy setup

Power up the unit and wait until the Status LED begins flashing, which means that the unit has established a connection to the GSM network. Make a phone call to the unit. Your phone number is thereafter registered in the unit. You will receive an alarm SMS in case of an alarm condition and be able to switch Output 1 (DO1) with a toll free call.

3.2 Advanced setup: Configuring with SMS

The unit parameters can be configured and comissioned by sending SMS containg configuration commands. The general SMS format is the following:

PWCM

PW: Password, 4 numeric characters

CM: ASCII Command with optional parameters.

Example:

`1234O2ON`

3.2.1 Configuring a digital input for alarming

The DI configuration command sets the active input signal transition for alarm triggering:

`IiAM:a`

i: DI number (1-2)

a: Transition selection (0: positive, 1: negative)

3.2.2 DI Alarm Delay

The command sets the delay time for alarm state recognition. Any transition

occuring during the delay time is rejected.

`Ii:d`

i: DI number (1-2)

d: Delay time in seconds (0-9999)

i: DI number (1-2)

d: Delay time in seconds (0-9999)

3.2.3 Setting DI alarm message texts

You can set a custom message text for each digital input to be included in an SMS alarm as a descriptive reason. The command to configure a text message is:

`Ei:s`

i: DI number (1-2)

s: Text message (Up to 64 characters)

3.2.4 User setup

Up to 500 users can be declared to switch the DO1 digital output by means of a toll free call. The respective SMS command to declare a call user is:

`CUN:p`

p: Phone number (15 characters)

A call user can be deleted using command:

`CUD:p`

p: Phone number (15 characters)

Up to ten alarm recipients can be declared using command:

`UN:p`

p: Phone number (15 characters)

An alarm recipient can be deleted using command:

`UD:p`

p: Phone number (15 characters)

3.2.5 Controlling the device outputs

Alarm recipient users can control the device outputs via SMS commands.
User control of the device outputs can be enabled using command:

`UCE`

The following command disables user output control:

`UCD`

Output DO1 has two remote control modes:
A toll free call control mode, selected by the command:

O1SYSON

An SMS control mode, selected by the command:

O1SYSOFF

Output DO2 is SMS controlled only.
An output relay can be switched using command:

`OiON`

i: DO number (1-2)

Note: DO1 can be switched on and off only if in SYSOFF Mode.
An output relay can be switched off by the command:

`OiOFF`

i: DO number (1-2)

Each output relay can be activated in monostable (pulse) or steady mode:

`OiD`

i: DO number (1-2)

d: Pulse duration (0-79200 sec). Steady switching is selected using value ‘0’

3.2.6 Setting Factory defaults:

`FD`

The command resets all configuration parameters to the factory default values.

3.2.7 Naming the unit

You can specify a unit name for identification purposes. The unit name will be used instead of the default name (ARC-10) in alarm SMS messages.

`DN:n`

n: Device name (up to 15 characters)

3.2.8 Password administration

The default password is ‘1234’. The password can be changed using command:

`yyyyPWD:xxxx`

yyyy: The last 4 digits of the device IMEI number.

xxxx: The new password selection (4 numeric characters)

3.2.9 SMS Response

A command SMS can be answered by the unit with a respective response SMS. The SMS response can be enabled or disabled using the commands **RSPE** (Enable) and **RSPD** (Disable) respectively.

3.2.10 Comissioning commands

A set of comissioning commands is available for verification purposes, as configuration, signal quality & device status verification, etc. The commands are answered using dedicated response SMS messages.

3.3 Setup using an ASCII terminal

1. Power up the unit connecting the DC power adaptor.
2. Connect the unit to a PC by using the special RS232 cable
3. Use a terminal program like Windows Hyperterminal to pass the ASCII commands to the unit.

Example:

PWCM

PW: Password, 4 numeric characters

CM: ASCII Command with optional parameters.

eg. 1234O1ON

The terminal settings should be: Baud rate: 115200 bps, Data bits: 8, Parity: none, Stop bits: 1, Flow control: Hardware.

3.4 Alarm SMS format

Typical alarm SMS contents is:

<Unit name> <Carriage Return>
<DI Alarm Message>

Example:

ARC-10
Door alarm

4.1 Hardware

Power supply	12/24 VDC, 0.5A +/- 10%
Temperature	-20 to 85 ºC
Current draw	Average 40 mA, Peak 2A
Digital inputs	2, potential free contact inputs
Digital outputs	2, relay 250V, 10A (AC1)
Serial port	RS232C, 9600 to 115200 bps
Indications	LED, GSM network status
GSM Modem	Quad band (850/900/1800/1900MHz)
Dimensions	
Weight	0.6 kg

4.2 Factory set parameters

Digital input (1,2) alarm state	0 (positive transition)
Digital input alarm delay	5 sec
Default Alarm message text	DI Alarm i (=1,2)
DO 1 remote control mode	SYSON
DO pulse duration	2 sec
Password	1234
Response SMS	Enabled
Device Name	ARC-10