

Zelio Logic 2 SR2COM01 Communications Interface

Help for using the Operations folder
11/2005



Help for using the Operations folder

Overview

Introduction The **Operations folder** is a text file generated by the Zelio Soft 2 programming workshop when transferring the program to the remote station. This operations folder summarizes all the information concerning program alarm messages for that remote station.

This document describes the structure of the Operations folder. It explains how to use the file to send commands from a mobile phone via SMS to remote stations.

Content

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Prerequisites



In order to send commands, you must:

- have a portable phone capable of sending SMS messages,
 - enable caller ID so you can be identified by the communications interface.
 - know the recipients' and/or the maintenance manager's access key.
-

Safety Information

Important information

NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates an imminently hazardous situation, which, if not avoided, **will result** in death, serious injury, or equipment damage.

WARNING

WARNING indicates a potentially hazardous situation, which, if not avoided, **can result** in death, serious injury, or equipment damage.

CAUTION

CAUTION indicates a potentially hazardous situation, which, if not avoided, **can result** in injury or equipment damage.

PLEASE NOTE

Electrical equipment should be serviced only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material. This document is not intended as an instruction manual for untrained persons.

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Presentation of the Operations folder

Structure of the Operations folder

Introduction Here we describe the information provided by each of the sections in the Operations folder.

Section The Operations folder contains the following sections:

Section	Content
Header	<ul style="list-style-type: none"> • Date, • Name and telephone number of the remote station, • Title and version of the program in the remote station.
PROG PHONE BOOK	Program recipients directory.
DATE FORMAT	Date format to use in commands.
MESSAGES	Program alarm settings.
PREDEF MESSAGES	Settings of alarms triggered by the detection of an error in the logical module or the communications interface.
ORDERS	List of modify/read commands.
PREDEF ORDERS	List of control commands.
ERR ZELIO2	Meaning of the logical module error codes.
ERR ZELIO2COM	Meaning of the communications interface error codes.

Header Header example:

```

//*****
ZELIO2COM  a DATE 09/06/2005 15:40
//*****
//*****
b STATION1 +3367418... c
//*****
//*****
d PROG CtrlTank VERSION 1.2 e
//*****
//*****

```

Prompt	Element
a	Date the operations file was created.
b	Name of the remote station.
c	Telephone number of the remote station.
d	Name of the program loaded in the remote station.
e	Version number of the program loaded in the remote station.

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Structure of the Operations folder, Continued

PROG PHONE BOOK

The **PROG PHONE BOOK** section contains the program recipients directory. It lists the recipients' names, telephone number or e-mail addresses, and indicates whether each recipient is authorized to send commands to edit program variables.

Example of the **PROG PHONE BOOK** section:

```
//*****
// PROG PHONE BOOK
//*****
Maintenance1 +33678.....
Maintenance2 +33670.....
PC            +33671.....
//*****
```

a
b
c

Prompt	Element
a	Recipient names.
b	Telephone numbers or e-mail addresses of each recipient.
c	Commands for modifying program variables: <ul style="list-style-type: none"> • NO CONTROL: the recipient is not authorized to modify program variables. • CONTROL: the recipient is authorized to modify program variables.

DATE FORMAT

The **DATE FORMAT** section specifies the date syntax.

Example:

```
//*****
// DATE FORMAT YY/MM/DD
//*****
```

- A Y represents a digit in the year.
- An M represents a digit in the month.
- A D represents a digit in the day.

The date 05/09/29 in a message represents September 29, 2005.

Continued on next page

Structure of the Operations folder, Continued

MESSAGES

The **MESSAGES** section contains the list of program alarm messages and specifies the recipients for each message.

Example of the **MESSAGES** section:

```

//*****
// MESSAGES
//*****
//-----
// OFF->ON
//
// Manager      NO AR
// Maintenance1 AR
// Warning: Tank is Full. Pressure=_____bar PumpON=___
//-----
// OFF->ON
//
// Manager      NO AR
// PC           NO AR
// Warning: Tank is Empty.
//-----
...

```

Diagram annotations: **a** points to the condition 'OFF->ON'; **b** points to the recipient list 'Manager Maintenance1'; **c** points to the recognition options 'NO AR' and 'AR'; **d** points to the message body 'Warning: Tank is Full...'; **e** points to the recipient list 'Manager PC' of the second message.

Prompt	Element
a	Condition for generating the message.
b	Recipients of the first message.
c	Recognition option of each recipient: <ul style="list-style-type: none"> • NO AR: Recognition option for this recipient was not activated. • AR: Recognition option for this recipient was activated.
d	The message subject and body.
e	Information about the next message.

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Structure of the Operations folder, Continued

PREDEF MESSAGES

The **PREDEF MESSAGES** section contains the list of alarm messages triggered by the detection of an error (in the logical module or the communications interface) and specifies their settings.

Example of the **PREDEF MESSAGES** section:

```

//*****
// PREDEF MESSAGES
//*****
//-----
// Manager          NO AR
// Maintenance2     AR
// Firmware error ERR=
// Condition for generating the message : All
// Zelio2 COM errors
//-----
// Manager          NO AR
// PC                NO AR
// ...

```

Prompt	Element
a	Message recipients.
b	Recognition option of each recipient: <ul style="list-style-type: none"> • NO AR: Recognition option for this recipient was not activated. • AR: Recognition option for this recipient was activated.
c	The message subject and body.
d	Condition for generating the message.
e	Information about the next message.

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Structure of the Operations folder, Continued

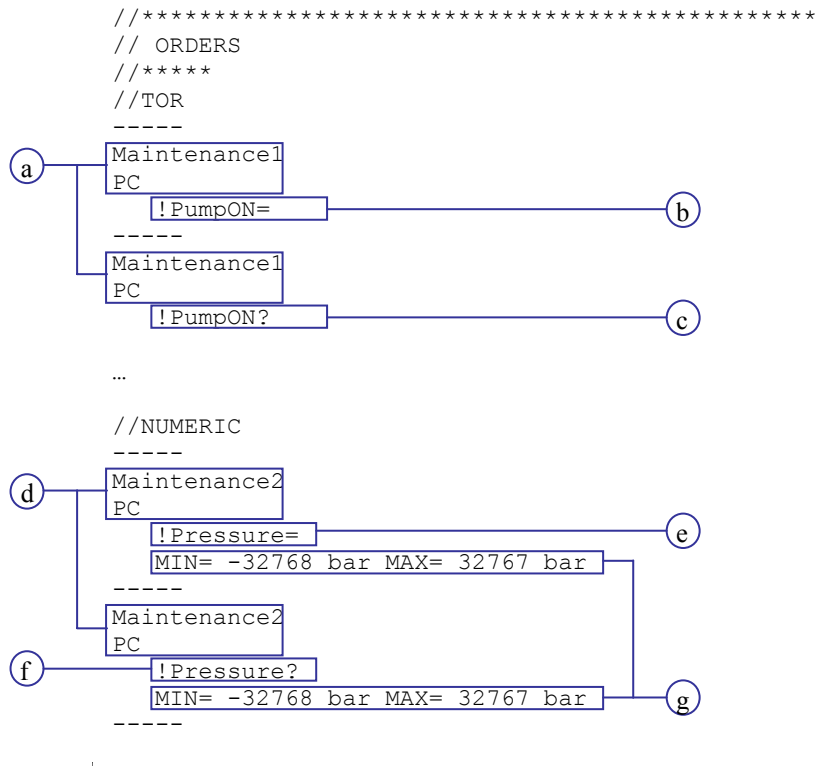
ORDERS

The **ORDERS** section lists the read/modify commands available and specifies which recipients can use each command.

The **ORDERS** section is divided into 2 subsections:

- **TOR** subsection: list of read/modify commands for discrete variables,
- **NUMERIC** subsection: list of read/modify commands for digital variables.

Example of the **ORDERS** section:



Prompt	Element
a	Recipients authorized to use the read/modify commands of the "PumpON" variable.
b	Command for modifying the "PumpON" variable.
c	Command for reading the "PumpON" variable.
d	Recipients authorized to use the read/modify commands of the "Pressure" variable.
e	Command for modifying the "Pressure" variable.
f	Command for reading the "Pressure" variable.
g	Authorized range of values for editing the "Pressure" variable.

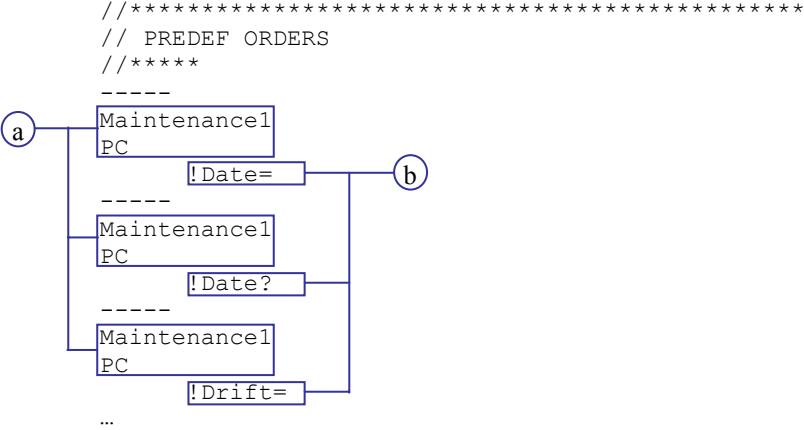
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Structure of the Operations folder, Continued

PREDEF ORDERS

The **PREDEF ORDERS** section lists the control commands.

The figure below illustrates the start of the **PREDEF ORDERS** section:



Prompt	Element
a	Recipients authorized to use the following control command.
b	Control commands, see Sending control commands , page 12.

ERR ZELIO2

The **ERR ZELIO2** section provides the meaning of the logical module error codes.

ERR ZELIO2COM

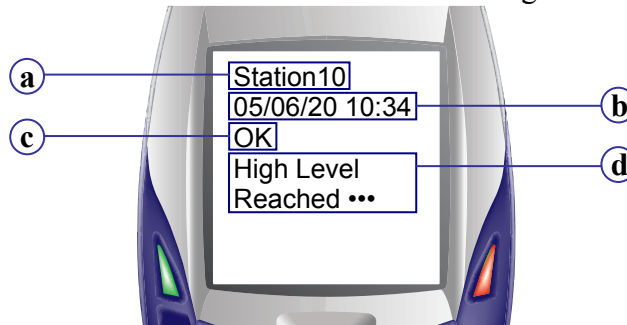
The **ERR ZELIO2COM** section provides the meaning of the communications interface error codes.

Receiving an alarm message

Receiving an alarm message without Recognition

Introduction Here we describe the structure of an alarm message when it is received by a recipient without the **Recognition** option.

Structure The figure below shows the structure of an alarm message without recognition:



Prompt	Element
a	Name of the remote station (30 characters maximum).
b	Date and time the message was sent.
c	Recognition authorized by previous recipients.
d	The message subject and body.

Recognition authorized

Possible values of the **Recognition authorized by previous recipients** field:

- **OK**: one of the previous recipients is a recipient **with recognition**, and he **acknowledged** receipt of the alarm message,
 - **NOK**: one of the previous recipients is a recipient **with recognition**, but he **did not acknowledge** receipt of the alarm message,
 - **<Empty>**: all the previous recipients are recipients **without recognition**.
-

Receiving an alarm message with Recognition

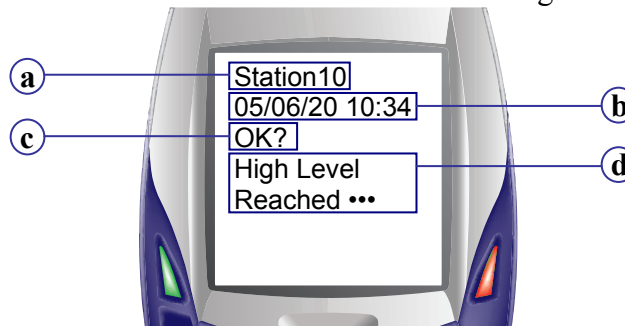
Introduction

When an alarm message is received, if you are a recipient with the **Recognition** option activated, you must acknowledge receipt of the alarm message. To do so, you must send back a **Recognition** message.

Reminder: the Operations folder indicates whether you are a recipient with recognition activated, see **MESSAGES**, page 6 and **PREDEF MESSAGES**, page 7.

Structure

The figure below shows the structure of an alarm message with recognition:



Prompt	Element
a	Name of the remote station (30 characters maximum).
b	Date and time the message was sent.
c	Recognition request.
d	The message subject and body.

Recognition syntax

The recognition command is: **OK** (uppercase letters mandatory).

Note:

To write a recognition message, you can either:

- use the **Reply** function of your mobile phone,
- write a new SMS.

Writing and sending the SMS

To write the body of the SMS **recognition** message, follow these steps:

Step	Action
1	Enter the recipients' access key for the remote station.
2	Enter the ! character
3	Enter the recognition command OK .
4	Send the SMS message to the remote station (its telephone number is included at the start of the Operations folder).

Example:

SMS recognition message: **1234.....!OK**

Note: for further information on how to enter and send an SMS message from your mobile phone, refer to its documentation.

Sending commands

Sending control commands

Introduction **Control commands** are used to read/modify the logical module configuration settings on the remote station and to verify its status.

DANGER

RISK OF UNEXPECTED EQUIPMENT OPERATION

Sending commands to a remote station may lead to modification of the status of the outputs or accidental enabling of controlled equipment.

It is important to:

- Know how the commands will affect the process or the controlled equipment,
- Take any preventive measures necessary to ensure safety when making modifications.

Failure to follow this instruction will result in death, serious injury, or equipment damage.

Prerequisites



To be able to use **control commands**, you must have been included in the list of recipients authorized to carry out control commands.

See **PROG PHONE BOOK**, page 5.

For more information, see the on-line help of the Zelio Soft 2 programming software.

Continued on next page

Sending control commands, Continued

Control Commands

The table below describes the valid control commands and their syntax:

The command:	is used to:
Date=YYMMDD	modify the date of the logical module (YY: year from 02 to 99, MM: month from 01 to 12, DD: day from 01 to 31).
Date?	request the date of the logical module.
Drift=XXX	modify the weekly drift of the logical module clock (in seconds per week, included between – 31 and + 31, sign is mandatory).
Drift?	request the weekly drift of the logical module clock (in seconds per week).
Hour=HHMM	modify the time of the logical module (HH: hour from 00 to 23, MM: minutes from 00 to 59).
Hour?	request the time of the logical module.
PROG?	request the name and version of the program.
STATE=RUN	set the logical module of the remote station to Run state.
STATE=STOP	set the logical module of the remote station to Stop state.
STATE?	request the state of the remote station's logical module.
SW=MMS	modify the date of the summer to winter Daylight Savings Time change (MM: month from 01 to 12 and S: Sunday number, from 1 to 5).
SW?	request the date of the summer to winter Daylight Savings Time change.
WS=MMS	modify the date of the winter to summer Daylight Savings Time change (number of month between 01 and 12 and number of the Sunday between 1 and 5)
WS?	request the date of the winter to summer Daylight Savings Time change.

Reminder: the Operations folder lists the control commands available for each user, see **PREDEF ORDERS**, page 9.

Note: use only **one** control command per SMS message.

Writing and sending the SMS

To write the body of the SMS message, follow these steps:

Step	Action
1	Enter the recipients' access key for the remote station.
2	Enter the ! character
3	Enter the desired control command using the syntax described above.
4	Send the SMS message to the remote station (its telephone number is included at the start of the Operations folder).

Example:

SMS control command: **1234••••!Date?**

Note: for further information on how to enter and send an SMS message from your mobile phone, refer to its documentation.

Sending read/modify commands

Introduction You can read or modify program variables from a mobile telephone.

⚠ DANGER

RISK OF UNEXPECTED EQUIPMENT OPERATION

Sending commands to a remote station may lead to modification of the status of the outputs or accidental enabling of controlled equipment.

It is important to:

- Know how the commands will affect the process or the controlled equipment,
- Take any preventive measures necessary to ensure safety when making modifications.

Failure to follow this instruction will result in death, serious injury, or equipment damage.

Prerequisites



To be able to use the **read command** for a variable:

- the variable must be declared as **Read and modifiable**,
- you must have been included in the list of recipients having read access to this variable.

To be able to use the **modify command** for a variable:

- you must have modification control,
- the variable must be declared as **Read and modifiable**,
- you must be included in the list of recipients having write access to this variable.

For more information, see the on-line help of the Zelio Soft 2 programming software.

Read/modify commands

The **read/modify** available depend on the application programmed on the remote station.

Reminder: the Operations folder lists the **read/modify** commands available for each user, see **ORDERS**, page 8.

Continued on next page

Sending read/modify commands, Continued

Command syntax

Write the **read/modify** commands as described below:

- To **read** a variable: add the character ? behind the name of the variable.
Example: to read the variable called Nb, enter the command **Nb?**.
- To **modify** a variable: add the character = then the new value behind the name of the variable.
Example: to modify the variable called Nb and give it 100 as a new value, enter the command **Nb=100**.

Note: you can send multiple read/modify variable commands in the same SMS message, by separating each command with a space (within the limit of the 160 characters).
--

Writing and sending the SMS

To write the body of the SMS message, follow these steps:

Step	Action
1	Enter the recipients' access key for the remote station.
2	Enter the ! character
3	Enter the desired read/modify command(s) while using the syntax described above.
4	Send the SMS message to the remote station (its telephone number is included at the start of the Operations folder).

Examples:

SMS with a read command: **1234.....! PumpON?**

SMS with a modify command: **1234.....! Nb=100**

SMS with several read/modify commands:

1234.....! PumpON? Nb=25 Pressure?

Note: for further information on how to enter and send an SMS message from your mobile phone, refer to its documentation.
--

Sending specific commands

Introduction

Specific commands allow the maintenance manager to modify the access keys, names, email addresses and telephone numbers of recipients of alarm messages sent by the remote station.

⚠ DANGER

RISK OF UNEXPECTED EQUIPMENT OPERATION

Sending commands to a remote station may lead to modification of the status of the outputs or accidental enabling of controlled equipment.

It is important to:

- Know how the commands will affect the process or the controlled equipment,
- Take any preventive measures necessary to ensure safety when making modifications.

Failure to follow this instruction will result in death, serious injury, or equipment damage.

Specific commands

The table below describes the valid commands to write specific SMS command messages:

The command:	is used to:
ADR= NAME=	modify the name, email address, or telephone number of a recipient.
KEY=	modify the recipients' access key for the remote station.

Command syntax

Write specific commands as described below (fields between <> represent user data, the < and > characters should not be entered, and the ␣ character represents a space):

- To modify the name of a recipient associated with an existing email or telephone number, enter the command
ADR=<EmailOrTelephone>␣NAME=<NewRecipientName>
- To modify the recipients' access key for the remote station, enter the command **KEY=<NewAccessKey>**.
- To modify the telephone number associated with an existing recipient, enter the command **NAME=<NameOfRecipient>␣ADR=<NewNumber>**
- To modify the email address associated with an existing recipient, enter the command **NAME=<NameOfRecipient>␣ADR=<NewEmail>**

Reminder: the Operations folder contains the recipient names and telephone numbers, see **PROG PHONE BOOK**, page 5.

Note: use only **one** specific command per SMS message.

Continued on next page

Sending specific commands, Continued

Writing and sending the SMS

To write the body of the SMS message, follow these steps:

Step	Action
1	Enter the maintenance manager's access key for the remote station.
2	Enter the ! character
3	Enter the specific command required, using the syntax described above.
4	Send the SMS message to the remote station (its telephone number is included at the start of the Operations folder).

Examples:

Modify the telephone number associated with the recipient Maintenance1:
9876.....!NAME=Maintenance1 ADR=+33610.....

Modify the recipient's access key:
9876.....!KEY=2345.....

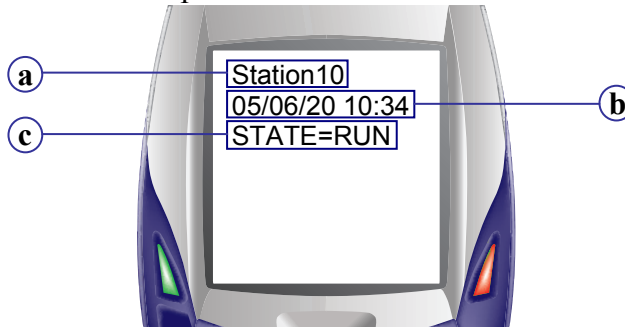
Note: for further information on how to enter and send an SMS message from your mobile phone, refer to its documentation.

Response of a remote station to a command

Command result messages

Introduction Here we describe the structure and syntax of the responses from a remote station to control commands, read/write commands, or specific commands.

Structure of a response Below, the structure of a response to a command:

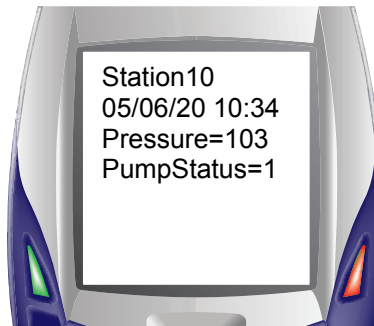


Prompt	Element
a	Name of the remote station (30 characters maximum).
b	Date and time the command result was sent.
c	Response to the command

Result of read Examples of responses from the remote station to read commands:

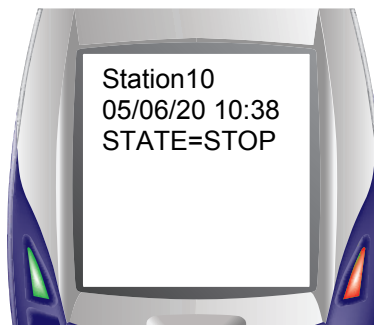
Command: **1234.....!Pressure? PumpStatus?**

Response:



Command: **1234.....!STATE?**

Response:

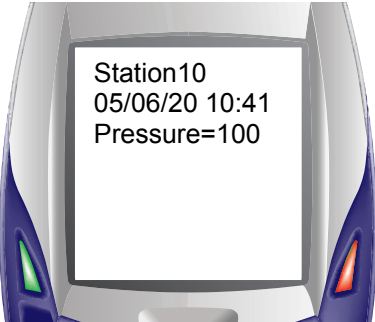


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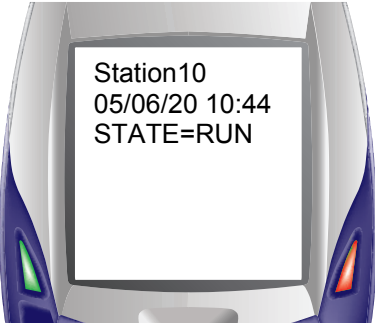
Command result messages, Continued

Confirmation of modification Examples of responses from the remote station to modify commands:

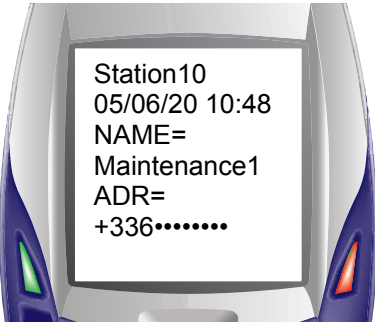
Command: **1234.....!Pressure=100**
Response:



Command: **1234.....!STATE=RUN**
Response:



Command: **9876.....!NAME=Maintenance1 ADR=+336.....**
Response:



Error Messages

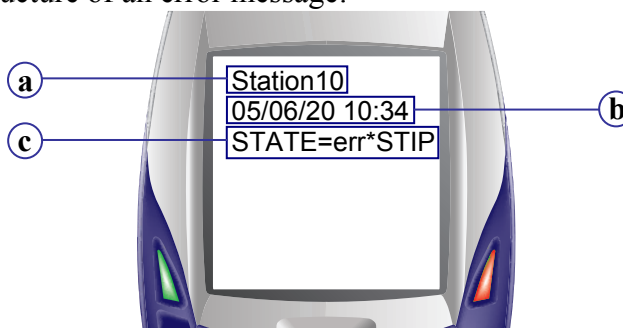
Introduction

There are 3 types of error messages:

- **general error messages:** concern errors generated when the logical module or the communications interface have faults and cannot process the command received,
- **error messages related to the command syntax:** generated if the user incorrectly input a command, or a variable name,
- **error messages related to invalid commands:** generated if the user:
 - requests entry of a new value outside the authorized range.
 - sends a command he is not authorized to use.

Error message structure

Below, the structure of an error message:



Prompt	Element
a	Name of the remote station (30 characters maximum).
b	Date and time the message was sent.
c	Error message.

General error messages

General error messages provide the error code preceded by the string **ERRZ2=** for a **logical module** error or **ERRZ2C=** for a **communications interface** error.

Examples:

- The logical module of the remote station has an error condition: **ERRZ2=51** (the logical module detected a watchdog overflow).
- The communication module of the remote station has an error condition: **ERRZ2C=43** (the communications interface detected a loss of power).

Reminders

- The meanings of the **logical module error codes** are provided in the Operations folder in the **ERR ZELIO2** section.
- The meanings of the **communications interface error codes** are provided in the Operations folder in the **ERR ZELIO2COM** section.

Continued on next page

Error Messages, Continued

Command syntax

In the response, the incorrectly entered command or inexistent variable is preceded by the string **err***.

Examples:

- The command **STATE=STIP** was sent, the response will contain **STATE=err*STIP** because the **STIP** parameter does not exist.
- The command **CS=100** was sent, with the inexistent variable name **CS** , the response will contain **err*CS=100**.

Reminder: the Operations folder lists the **read/modify** commands available for each user, see **ORDERS**, page and **PREDEF ORDERS**, page

Invalid commands

In the response, the invalid parameter or the unauthorized command will be preceded by the string **err***.

Example:

The command **C=5999** is sent (the variable called **C** was defined as between 50 and 5000), the response will contain **C=err*5999**.

Reminder: the Operations folder lists the commands available for each user, and specifies the authorized range for variables, see **ORDERS**, page and **PREDEF ORDERS**, page .
