



USER MANUAL

« INPUT-OUTPUT » MODE

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10. « INPUT-OUTPUT » MODE

10.1. INTRODUCTION

It is assumed that the reader of this document will previously have read the chapter [1 Introduction to NEWEL3](#). It contains all the basic information indispensable to understand this document and the concept of the NEWEL3 series.

This manual describes the operation of slaves as **"Input-output" modules**. Parameter **[r1]** of the basic configuration is set to 3 in this case.

10.2. GENERAL DESCRIPTION. BASIC CONNECTION.

In this mode, inputs 4-6 can be used as digital or analogue inputs for PT1000 temperature sensors. It is also possible to connect sensors 0-10V, 4-20mA or gas sensor DC-CO₂ (DC24D / DE). The diagrams below show some examples of possible connections.

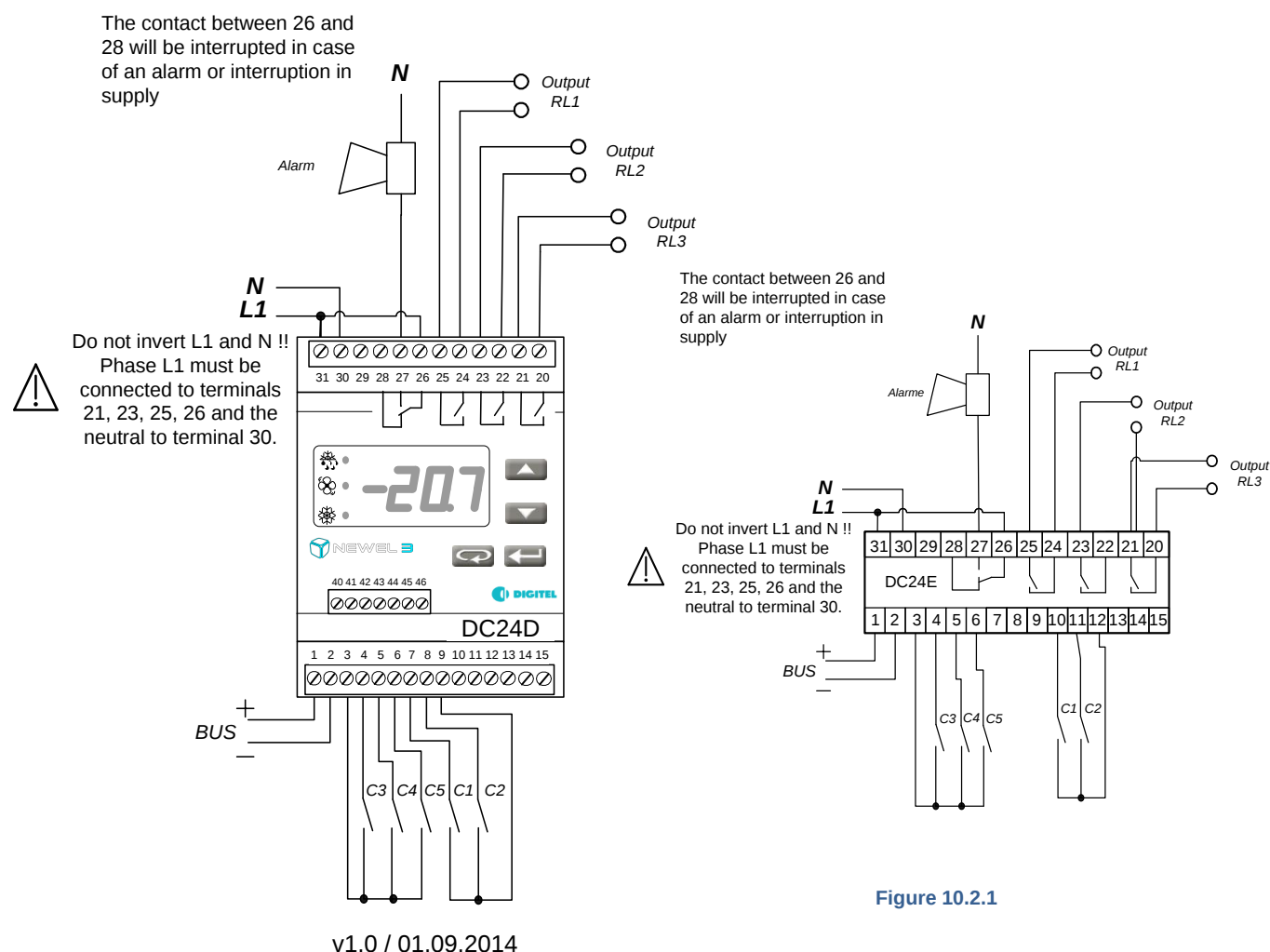


Figure 10.2.2

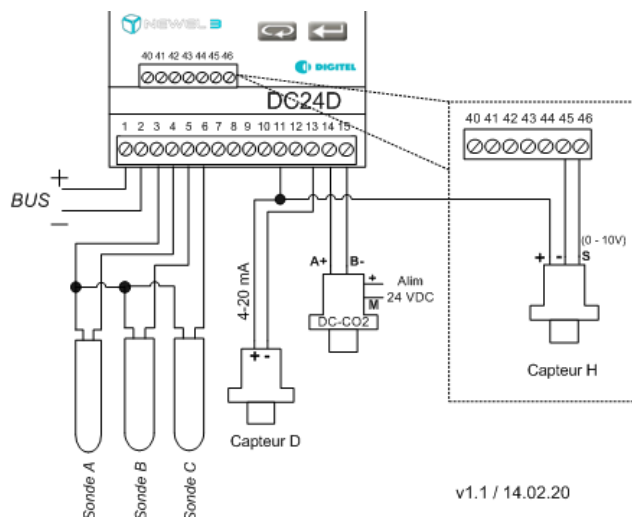


Figure 10.2.3

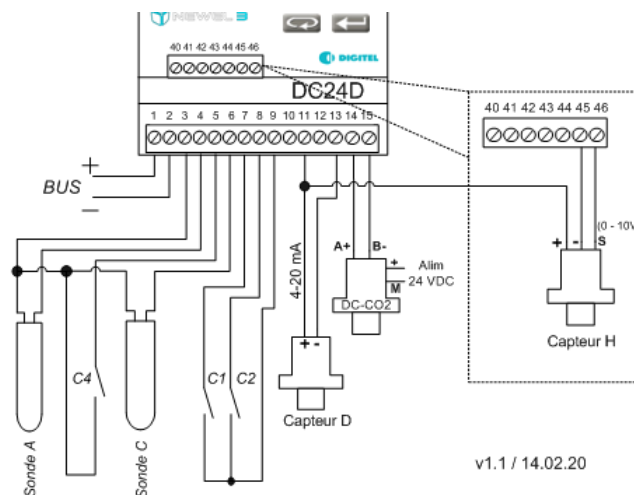


Figure 10.2.4

Modules can monitor the status of five floating contacts, C1 to C5.

Depending on the programming of the respective parameters **[C1]**, **[C3]**, **[C5]**, **[C7]** and **[C9]**, these contacts operate as alarm contacts on closing (value 0) or an alarm on opening the contact (value 1). The alarm delays must be introduced into parameters **[C2]**, **[C4]**, **[C6]**, **[C8]** and **[C10]**, respectively.

When the parameter is 3, the corresponding contact does not switch on the alarm. Its status may, however, be viewed on the screen of the monitoring.

Parameters **[C1]** and **[C3]** can also be programmed to 4. In this case, the corresponding contact (contact C1 for **[C1]** and contact C2 for **[C3]**) is used for energy metering.

[C1]	Function of contact C1 (Settings menu)
[C2]	Alarm delay on contact C1 (Settings menu)
[C3]	Function of contact C2 (Settings menu)
[C4]	Alarm delay on contact C2 (Settings menu)
[C5]	Function of contact C3 (Settings menu)
[C6]	Alarm delay on contact C3 (Settings menu)
[C7]	Function of contact C4 (Settings menu)
[C8]	Alarm delay on contact C4 (Settings menu)
[C9]	Function of contact C5 (Settings menu)
[C10]	Alarm delay on contact C5 (Settings menu)
[L1]	Command for relay RL1 (Outputs menu)
[L2]	Command for relay RL2 (Outputs menu)
[L3]	Command for relay RL3 (Outputs menu)

Outputs RL1, RL2 and RL3 are configurable to obtain one of the following operations:

- Timing relay operation on switching off
- Relay controlled by a timer
- Regulation controlled by one of the probes (thermostat, pressure switch, humidistat etc.) or a network variable
- Regulation or monitoring using digital sensors connected on the local RS485 bus
- Logical operations between a timer and a control (e.g. temperature control engages only during store opening hours)
- Grouped alarm messages
- Remote-controlled relay

These features are available only in the presence of a central unit "DC58" and their parameters must be programmed with TelesWin software. (They are not accessible through the programming buttons).

Outputs RL1, RL2 and RL3 may also be controlled by the respective input contacts C3, C4 and C5. For example, programme the parameter "Parameters / Settings / Function of contact C3" to "Control RL1 with delay". Then, programme the output trigger delay with the parameter "Switch off delay of output RL1". The operation will be as follows: when contact C3 is closed, output RL1 closes. After reopening input contact C3, output RL1 reopens after the delay programmed in the parameter "Switch off delay of output RL1". The same operations are available for inputs C4 and C5 to control relays RL2 and RL3 with a time delay.

Here are two examples:

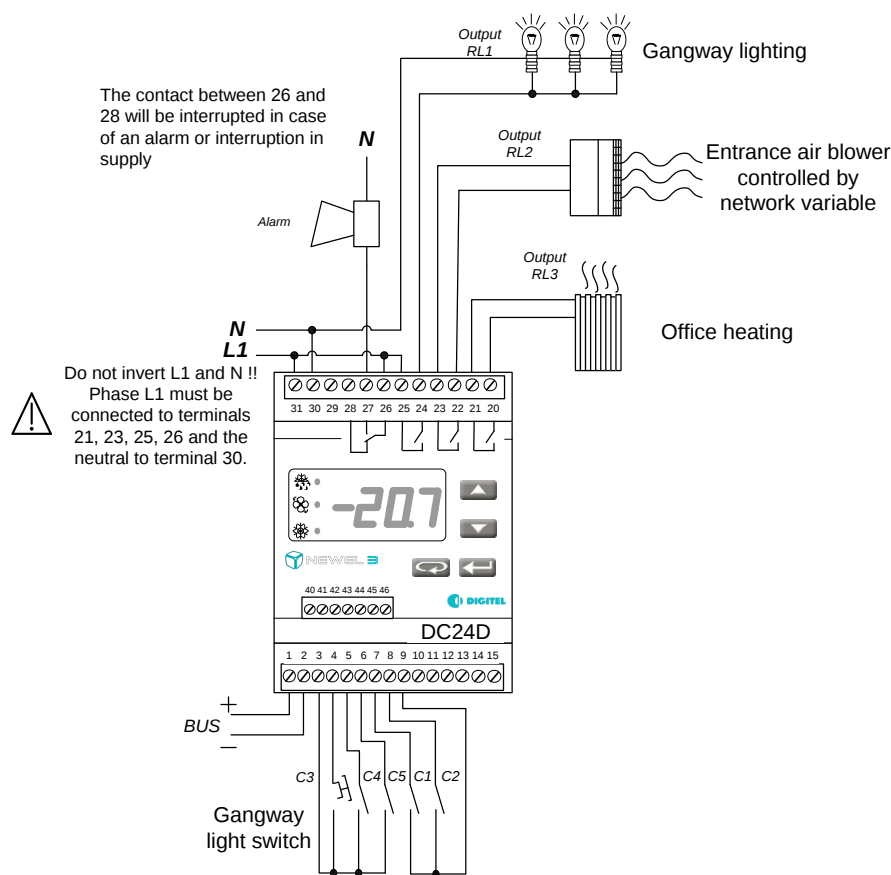


Figure 10.2.5

In this example, output RL1 controls the lighting in an aisle depending on the state of a motion sensor, which is connected to input contact C3. When the motion sensor sends a signal, the light switches on for the time programmed in parameter "Output trigger delay RL1"

Output RL2 is controlled by a variable network called "Outside temperature". For more information on the network variables, refer to section ["11.13.10 Network variables"](#)

Output RL3 is controlled by a timer and sensor C. It can be set to regulate the heating in an office between 20.0 and 21.0 °C only during business hours by programming the timer. Outside these hours, the heating will stop.

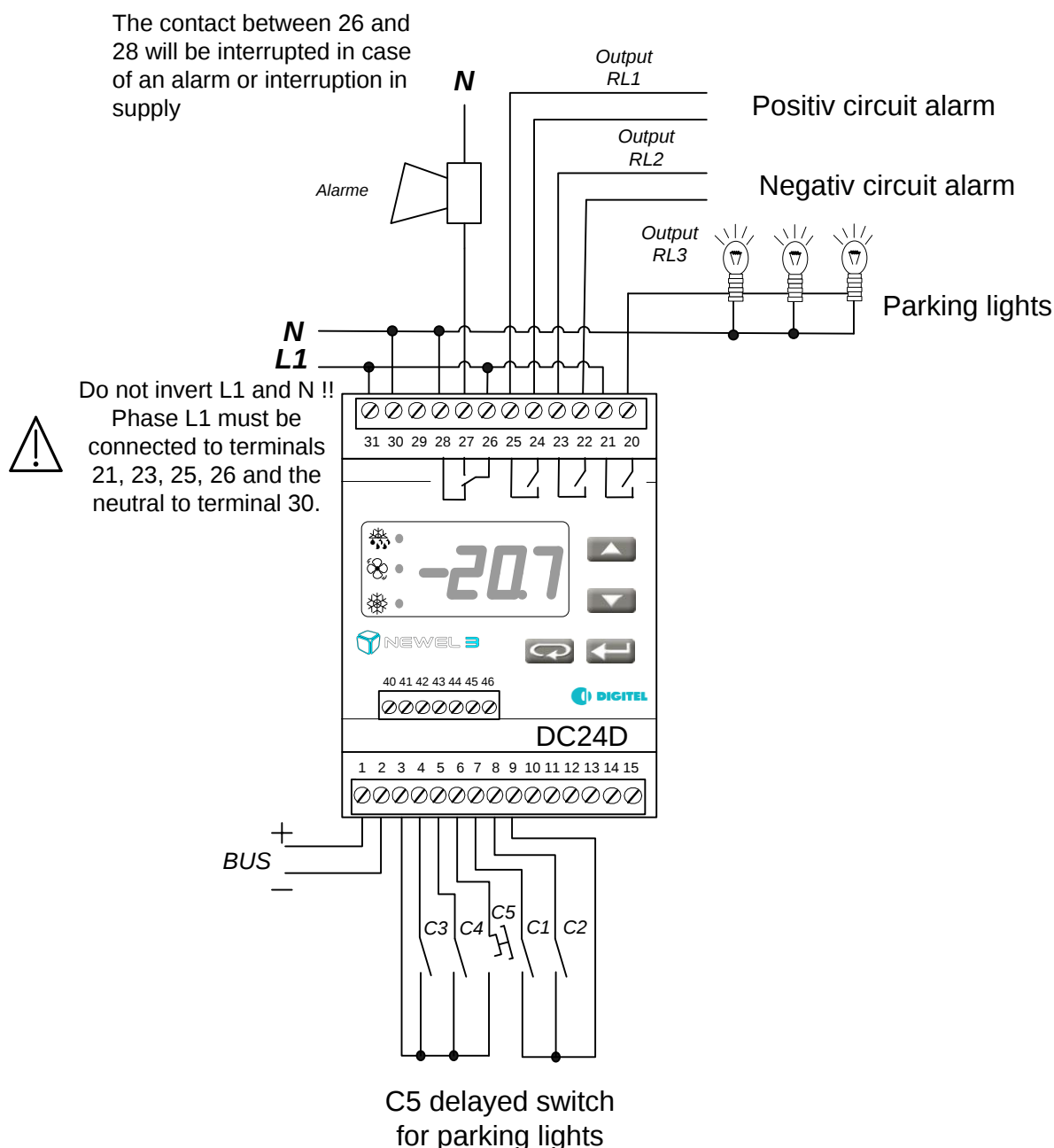


Figure 10.2.6

In this diagram, outputs RL1 and RL2 serve as grouped alarm outputs. All alarms of units belonging to the positive circuit are indicated by output RL1. All alarms of units belonging to the negative circuit are indicated by output RL2. For more information on grouped alarms, refer to the documentation [12.13.11 Grouped alarms](#)

Output RL3 controls the lighting in a car park. During business hours, the light is always on, programmed with a timer. During closed hours, the light turns on only when the switch connected to C5 is pressed. The light turns on for the time set by the parameter "Switch off delay of output RL3".

These are only examples; numerous operations are possible with the input-output mode.

10.1. PARAMETERS

Basic configuration

Sym.	Lvl.	Function	comments	Default value	Value applied
PAS	0	Password		0	
r1	3	Mode of operation <i>0 = Cooling unit 1 = Management of compressors 2 = Universal regulation 3 = Monitoring 4 = Management of evaporators 2, 3, etc.</i>		3	
AD	3	Module's address <i>Don't modify when the module is connected to a DI58 / DC58 central unit</i>			

Parameters

Sym.	Lvl.	Function	comments	Default value	Value applied
PAS	0	Password		0	
Réglages	C1	Function of contact C1 <i>0 = alarm upon closure 1 = alarm upon opening 2 = suspension of monitoring of all contacts upon closure of C1 3 = display 4 = energy meter 5 = reserved</i>		0	
	C2	Alarm delay for C1 [min] Number of pulses per kWh	C1 = 0 ou 1 C1 = 4	30.0 1.0	
	C3	Function of contact C2 <i>0 = alarm upon closure 1 = alarm upon opening 2 = suspension of monitoring of all contacts upon closure of C5 3 = display 4 = energy meter 5 = reserved</i>		0	
	C4	Alarm delay for C2 [min] Number of pulses per kWh	C2 = 0 ou 1 C2 = 4	30.0 1.0	
	C5	Function of contact C3 <i>0 = alarm upon closure 1 = alarm upon opening 3 = display 2, 4 = reserved, 5 = probe A</i>		0	
	C6	Alarm delay for C3 [min]	C5 = 0 ou 1	30.0	
	C7	Function of contact C4 <i>0 = alarm upon closure 1 = alarm upon opening 3 = display 2, 4 = reserved, 5 = probe B</i>		0	
	C8	Alarm delay for C4 [min]	C7 = 0 ou 1	30.0	
	C9	Function of contact C5 <i>0 = alarm upon closure 1 = alarm upon opening 3 = display 2, 4 = reserved, 5 = probe C</i>		0	
	C10	Alarm delay for C5 [min]	C9 = 0 ou 1	30.0	
Sorties	L1	Command of relay RL1 0 = open, 1 = closed		0	
	L2	Command of relay RL2 0 = open, 1 = closed		0	
	L3	Command of relay RL3 0 = open, 1 = closed		0	

Gen.	o8	2	Level 1 password (user)		0	
	o9	2	Level 2 password (operating engineer)		0	
	o10	2	Level 3 password (administrator)		0	

Alarms	A1C	2	Code of most recent alarm
	A1d	2	Day of most recent alarm
	A1b	2	Month of most recent alarm
	A1H	2	Hour of most recent alarm
	A1M	2	Minute of most recent alarm
	A2C	2	Code for last alarm but one
	A2d	2	Day of last alarm but one
	A2b	2	Month of last alarm but one
	A2H	2	Hour of last alarm but one
	A2M	2	Minute of last alarm but one
	A...C		etc., up to 5 alarms

Alarm Codes

Alarms	Alarm Codes	
	5	Alarm on contact C3
	6	Alarm on contact C4
	7	Alarm on contact C5
	13	Alarm on contact C1
	14	Alarm on contact C2
	18	Failure CO2 Sensor
	19	Warning – high CO2 concentration. Address 20
	20	Alarm – too high CO2 concentration. Address 20
	21	Warning – high CO2 concentration. Address 21
	22	Alarm – too high CO2 concentration. Address 21
	23	Failure CO2 Sensor. Address 21
	24	Warning – high CO2 concentration. Address 22
	25	Alarm – too high CO2 concentration. Address 22
	26	Failure CO2 Sensor. Address 22